



Appendix II-M1

Visual Impact Assessment (VIA) – Wind Turbine Area

Note:

On March 26, 2021, Atlantic Shores Offshore Wind, LLC (Atlantic Shores) submitted a Construction and Operations Plan (COP) to BOEM for the southern portion of Lease OCS-A 0499. On June 30, 2021, the New Jersey Board of Public Utilities (NJ BPU) awarded Atlantic Shores an Offshore Renewable Energy Credit (OREC) allowance to deliver 1,509.6 megawatts (MW) of offshore renewable wind energy into the State of New Jersey. In response to this award, Atlantic Shores updated Volume 1 of the COP to divide the southern portion of Lease OCS-A 0499 into two separate and electrically distinct Projects. Project 1 will deliver renewable energy under this OREC allowance and Project 2 will be developed to support future New Jersey solicitations and power purchase agreements.

As a result of the June 30, 2021 NJ BPU OREC award, Atlantic Shores updated Volume I (Project Information) of the COP in August 2021 to reflect the two Projects. COP Volume II (Affected Environment) and applicable Appendices do not currently include this update and will be updated to reflect Projects 1 and 2 as part Atlantic Shores' December 2021 COP revision.

Technical Report

Visual Impact Assessment

Wind Turbine Area

Atlantic Shores Offshore Wind

OCS-A 0499

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GLOSSARY/LIST OF ACRONYMS AND ABBREVIATIONS

ADLS	Aircraft Detection Lighting Systems
AIS	Automatic Identification System
AMSL	Above Mean Sea Level
AOWL	Aviation Obstruction Warning Lights
BIWF	Block Island Wind Farm
BLM	Bureau of Land Management
BOEM	Bureau of Ocean Energy Management
COP	Construction and Operations Plan
Cross Section	A profile of the terrain that illustrates sources of visual screening along a line of sight between the proposed Project and a specific viewer/resource location.
DEM	Digital Elevation Model
DSM	Digital Surface Model
EDR	Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C.
FAA	Federal Aviation Administration
Ft	Feet
GIS	Geographic Information System
GPS	Global Positioning System.
HRVEA	Historic Resources Visual Effects Analysis
KOP	Key Observation Point
Lidar	Light Detection and Ranging
LSZ	Landscape Similarity Zone. Area of similar landscape/aesthetic character based on patterns of landform, vegetation, water, land use, and user activity.
m	Meter (1 meter = 3.38 feet)
mi	Statute mile (1 mile = 1.61 kilometers = 0.87 nautical miles)
MCS	Management Classification System
MSL	Mean Sea Level

MW	Megawatt = One million watts
nm	Nautical Mile (1 nm = 1.15 statute mile)
NHPA	National Historic Preservation Act of 1966
NHL	National Historic Landmark
NJDEP	New Jersey Department of Environmental Protection
NJDEP-HPO	New Jersey Department of Environmental Protection - Historic Preservation Office
NLCD	National Land Cover Dataset. Land cover types classified and mapped by U.S. Geological Survey
NNL	National Natural Landmark
NPS	National Park Service
NRHP	National Register of Historic Places
NWR	National Wildlife Refuge
NCDC	National Climatic Data Center
OCS	Outer Continental Shelf
OSS	Offshore Substation
The Project	Atlantic Shores Offshore Wind Farm
PDE	Project Design Envelope
RPM	Revolutions Per Minute
RV	Recreational Vehicle
SHPO	State Historic Preservation Offices
SLR	Single Lens Reflex
SQC	Scenic Quality Classification
SRHP	State Registers of Historic Places
Offshore Cable	Atlantic Shores Offshore Wind cable located offshore located beneath the seafloor which connects the Offshore Substation to the landfall site
TNC	The Nature Conservancy
UAS	Unmanned Aircraft System
USACE	U.S. Army Corps of Engineers

USCG	U.S. Coast Guard
USDA	U.S. Department of Agriculture
USDOI	U.S. Department of the Interior
USDOT	U.S. Department of Transportation
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UXO	Unexploded Ordnance
VIA	Visual Impact Assessment
Viewshed	Area of potential Project visibility defined by maximum structure height and mapped topography, vegetation, and structures within the study area.
VRAP	Visual Resource Assessment Procedure
WEA	Wind Energy Area
WMA	Wildlife Management Area
WTA	Wind Turbine Area
WTG	Wind Turbine Generator
ZVI	Zone of Visual Influence
3D	Three Dimensional

1.0 INTRODUCTION

Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C. (EDR) prepared this Technical Report on behalf of Atlantic Shores Offshore Wind, LLC (Atlantic Shores) to assess potential visual impacts associated with the Atlantic Shores Offshore Wind Project to onshore resources. This report was prepared in support of the Atlantic Shores Offshore Wind Federal Construction and Operations Plan (COP).

As proposed, the Project will be located in federal waters on the Outer Continental Shelf (OCS), in Bureau of Ocean Energy Management (BOEM) Renewable Energy Lease Areas OCS-A 0499 (Lease Area). The proposed wind energy generation facility will be located in the southern portion of the Lease Area, measuring approximately 159.4 sq mi (413 sq km). This area will contain the major visible components of the Project and is henceforth referred to as the Wind Turbine Area (WTA). The only visible components within the WTA include up to 200 wind turbine generators (WTGs), four mid-sized offshore substations (OSS), and one large OSS (the Project [see Inset 1.1-1]). Separate reports have been completed to assess the visible onshore components of the Atlantic Shores Offshore Wind Project (EDR, 2021a and EDR, 2021b). Components of the Project that will not result in visible infrastructure during operation such as inter-array cables, the submarine export cable, and onshore interconnection cables are not considered in this VIA.

At its closest point, the WTA is approximately 8.7 mi (14 km) from the New Jersey shoreline (as measured from the northernmost edge of Brigantine City in Atlantic County). The WTA is also 9.4 mi (15.1 km) east of Atlantic City, 16.3 mi (26.2 km) east of Ocean City, 25.3 mi (40.7 km) south of Barnegat Light Borough, and 35.7 mi (57.5 km) northeast of Wildwood (Inset 1.1-1). The purpose of the Visual Impact Assessment (VIA) is to analyze the potential visibility of the proposed Project and determine the difference in landscape and seascape visual quality with and without the Project in place. Specifically, the study:

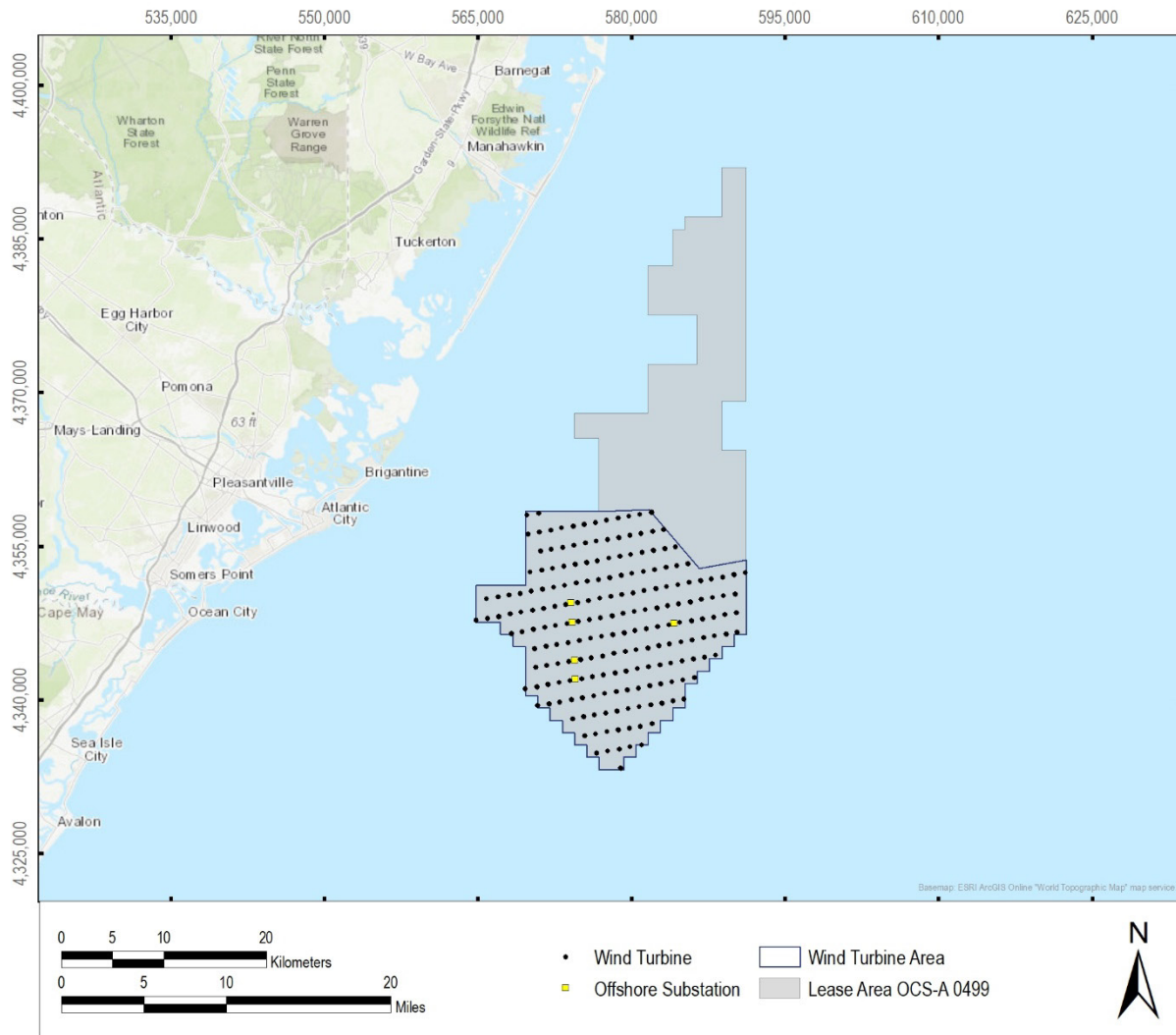
- Describes the appearance of the visible components of the proposed Project.
- Defines the character and visual quality of the landscapes within the Project's Visual Study Area (VSA).
- Defines the types and sensitivity of viewer groups within the VSA.
- Inventories existing visually sensitive public resources within the VSA.
- Evaluates potential Project visibility within the VSA.
- Identifies key views for visual assessment.
- Illustrates what the Project will look like from representative key observation points (KOPs).
- Assesses the potential visual impacts associated with the proposed Project.

The VIA was prepared with oversight and input provided by landscape architects, planners, and visual experts experienced in the preparation of VIAs. It is also consistent with the policies, procedures, and guidelines contained in established VIA methodologies (see Literature Cited/References section), and in

accordance with the Visual Impact Assessment Study Plan – Offshore (Attachment A) prepared in collaboration with, and accepted by, BOEM.

1.1 Proposed Project

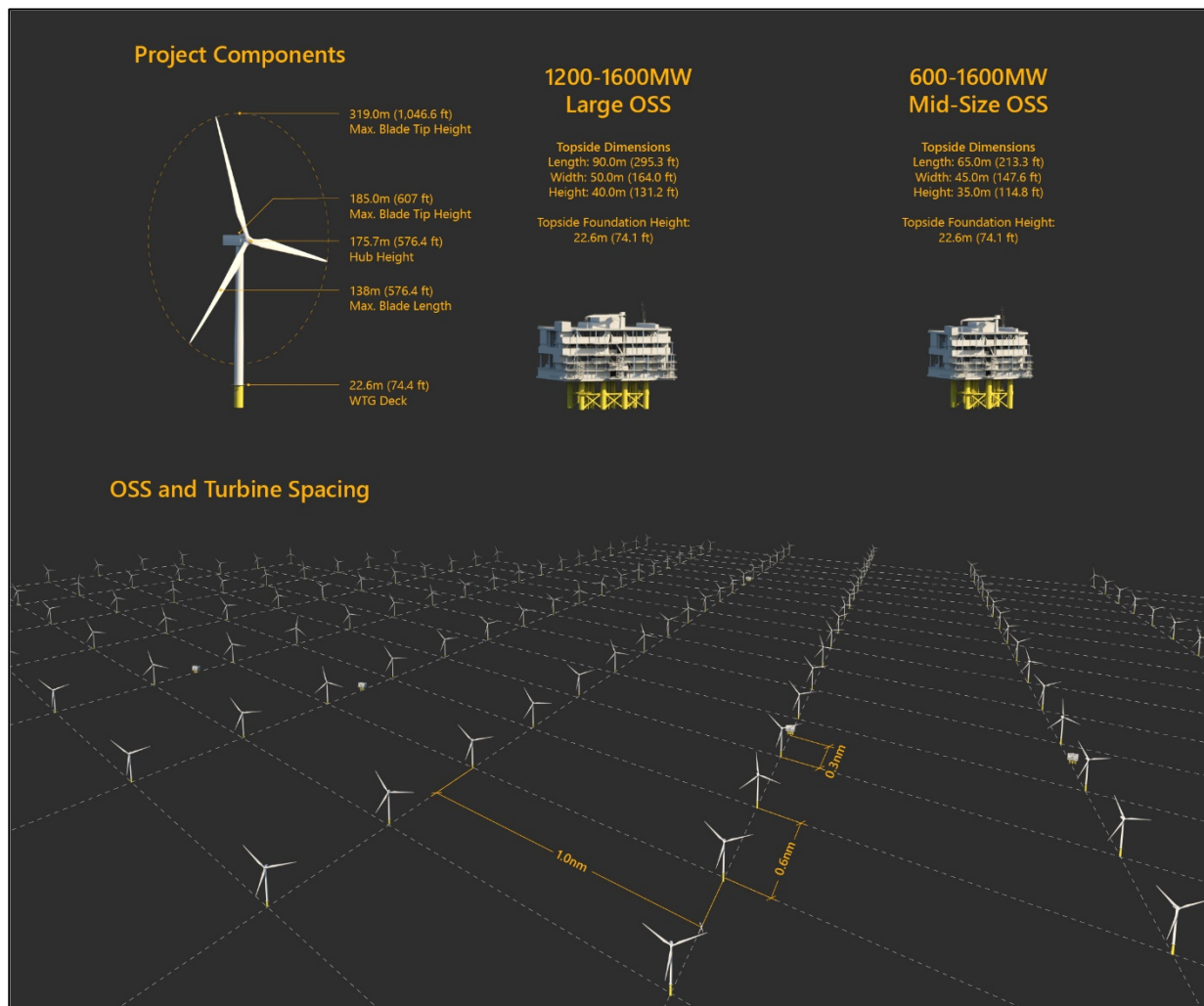
Atlantic Shores has applied a Project Design Envelope (PDE) approach to describe the Project facilities and activities. A PDE is defined as “*a reasonable range of project designs*” associated with various components of a project (e.g., foundation and WTG options) (BOEM 2018). In accordance with the PDE evaluation approach, the assessment of project effects must include the maximum design case for all project development scenarios. Consistent with BOEM’s *Draft Guidance Regarding the Use of a Project Design Envelope in a Construction and Operations Plan* (2018), this VIA considers a maximum design case layout. The layout represents the largest geographic footprint that could be occupied by visible structures and, therefore, the largest percentage of the visible horizon from shoreline locations that may be affected by The Project. The maximum design case components are described below.



Inset 1.1-1 – Lease Area OCS-A 0499 and Preliminary Turbine Array

This VIA also evaluates the largest WTG dimensions currently under consideration, which provides a conservative assessment of theoretical WTG visibility from onshore locations. The maximum sized WTG under consideration is represented by a 20-megawatt (MW) turbine, with dimensions as indicated in Inset 1.1-2. WTGs will be aligned in a uniform grid with rows in an east-northeast to west-southwest orientation spaced 1.0 nautical mile (nm) (1.15 mi; 1.9 km) apart, and rows in an approximately north to south orientation spaced 0.6 nm (0.69 mi; 1.1 km) apart (Inset 1.1-2), within an area measuring approximately 159.4 sq mi (413 sq km). The OSS foundations will be located along the same east-northeast rows as the proposed WTGs, with the same 1.15 mi (1 nm) separation distance between the structures. Inset 1.1-1

illustrates the layout considered in this VIA. The dimensions of all components represented in this VIA are shown in Inset 1.1-2, Tables 1.1-1, and Table 1.1-2.



Inset 1.1-2 Computer Model of Project Components

Table 1.1-1 Proposed WTG Dimensions Envelope

WTG Component/Parameter	Minimum (15 MW)	Maximum (20 MW)
		Considered in VIA
Turbine Height [from Mean Sea Level (MSL)]	889 ft (271 m)	1047 ft (319 m)
Hub Height (from MSL)	495 ft (151 m)	574 ft (175 m)
Air Gap (MSL) to the Bottom of the Blade Tip	76 ft (23 m)	76 ft (23 m)
Base (tower) Diameter (at the bottom)	26 ft (8 m)	33 ft (10 m)
Base (tower) Diameter (at the top)	20 ft (6 m)	28 ft (8.5 m)
Nacelle Dimensions (length x width x height)	72 ft x 46 ft x 30 ft (22 m x 14 m x 9 m)	82 ft x 52 ft x 39 ft (25 m x 16 m x 12 m)
Blade Length	384 ft (117 m)	453 ft (138 m)
Maximum Blade Width	20 ft (6 m)	33 ft (10 m)
Rotor Diameter	787 ft (240 m)	919 ft (280 m)

Table 1.1-2 Proposed OSS Dimensions Envelope

OSS Component/Parameter	Maximum Design Scenario	
		Considered in VIA
Energy Capacity	1,200-1,600 MW	600-1,600 MW
Number of OSSs Considered in the Array	4	5
Maximum dimension of topside (LxWxH)	295 ft x 164 ft x 131 ft (90 m x 50 m x 40 m)	213 ft x 148 ft x 115 ft (65 m x 45 m x 35 m)
Maximum height of OSS topside above MLLW	74 ft (22.6 m) above MSL	

Each WTG will consist of four major components: the foundation, the tower, the nacelle, and the rotor (Inset 1.1-4). The height of the tower, or “hub height” (height from the water’s surface to the center of the rotor) will be approximately 574 feet (175 m) above mean sea level (AMSL). The nacelle sits atop the tower, and the rotor hub is mounted to the nacelle. Assuming a maximum 919 feet (280 m) rotor diameter, the total WTG height (i.e., height AMSL at the highest blade tip position) will be approximately 1,047 feet (319 m).

Foundation: For the purpose of this VIA, it was assumed that each of the WTGs will be supported by a monopile foundation secured with a single steel pile driven into the sea floor. The monopile foundation at MSL is a 39.4-foot (12 m) diameter tubular steel structure, upon which the tower transition will be mounted. The foundation will extend above the water surface, and the exposed portion of the foundation will be yellow in color. A boat landing and hoist will be affixed to the foundation with a stairway connecting the landing to a railed deck at the base of the tower.

Tower: The towers used for this Project are tapered hollow steel structures manufactured in three sections. The assembled towers have a diameter of approximately 33 feet (10 m) at the base and 28 feet (8.5 m) at the top. Two amber U.S. Coast Guard (USCG) navigation lights will be mounted on the deck at the base of each tower. In accordance with the BOEM and Federal Aviation Administration (FAA) obstruction marking standards, the turbine will be painted a light grey (RAL 7035) to pure white (RAL 9010). Additionally, the tower will be equipped with a minimum of three low intensity (L-810) red flashing aviation obstruction

warning lights (AOWL) at the approximate mid-section of the tower which will operate during nighttime hours only.

Nacelle: The main mechanical components of the WTG are housed in the nacelle. These components include the drive train, generator, and transformer. For the purpose of this study, the nacelle is assumed to have maximum dimensions of approximately 82 feet (25 m) long, 52 feet (16 m) wide, and 39 feet (12 m) in height. Two AOWL are proposed to be located on top of the nacelle, in accordance with BOEM and FAA guidelines. These will be medium intensity, flashing red lights (L-864) that are operated only at night, and will be synchronized with the L-810 lights located at the mid-tower position, and described above. It is assumed that the nacelle will be the same color as the tower and will not include any obvious lettering, logos, or other exterior markings. Where applicable, the lighting parameters presented in the VIA follow the current BOEM guidance for the lighting and marking of WTGs in order to evaluate the potential nighttime visual impacts associated with the Project. However, lighting requirements may change based on final BOEM/FAA recommendations.

Rotor: A rotor assembly is mounted on the nacelle to operate upwind of the tower. The rotor consists of three composite blades, each approximately 453 feet (138 m) in length. The three-bladed rotor assembly will be light grey to white in color (consistent with the tower) and will have a maximum diameter of 919 feet (280 m). The rotor blades are rotated along their axis, or “pitched”, to enable them to operate efficiently at varying wind speeds. The rotor can spin at varying speeds, but typically rotates at a rate around 10 revolutions per minute (RPM).

The OSSs will be enclosed structures. Currently, three OSS options are under consideration. Depending on the final OSS design there will be up to 10 small OSSs, up to five medium, or up to four large OSSs. In order to illustrate the range of sizing options, this VIA considers both the medium and large OSS options with the medium measuring up to 213 feet long by 148 feet wide and a height of 115 feet (65m x 45m x 35m), and the large measuring up to 295 feet long by 164 feet wide and a height of 131 feet (90 m x 50 m x 40 m). Transition from OSS foundation to OSS topside is expected to occur at approximately 74 feet (22.6 m) AMSL for both OSS options included in the VIA. For the purpose of this VIA, it is assumed that OSSs will be mounted on an 8-legged piled jacket foundation. A diagram illustrating the appearance and dimensions of the WTG and OSS evaluated in this study are presented in Insets 1.1-2 and 1.1-3.



Inset 1.1-3 – Diagram of Project Components

1.2 Existing Visual Character

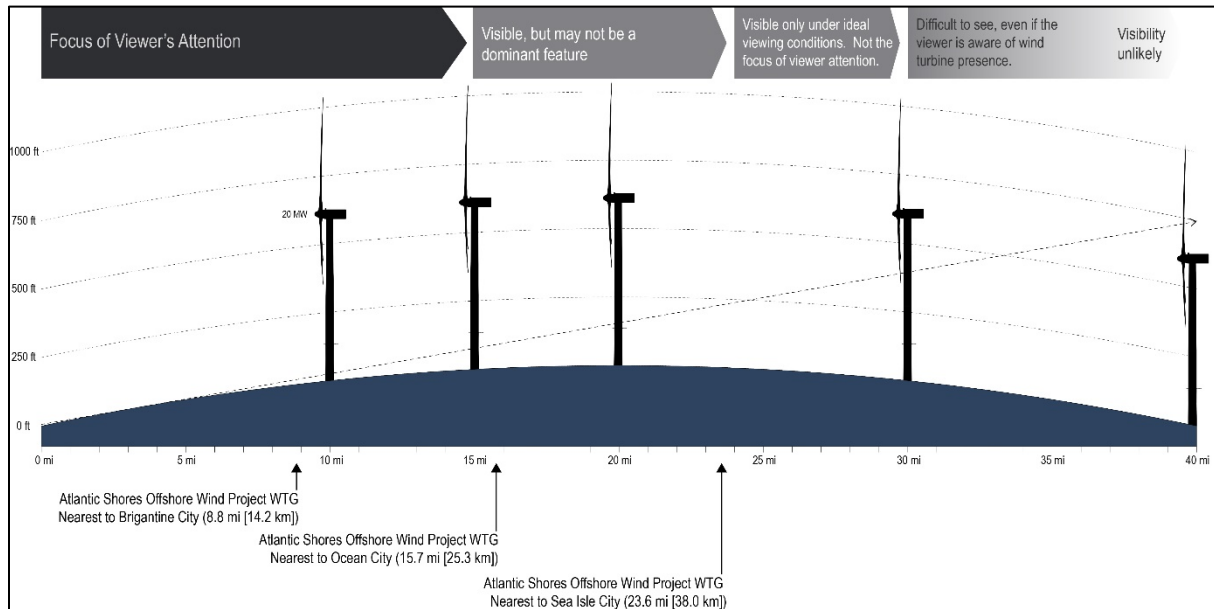
The existing visual character includes the identification of a visual study area (VSA), establishment of distance zones, definition of viewer and user groups, a landscape inventory and identification of landscape similarity zones (LSZs), and the identification of visually sensitive resources (VSRs). Additionally, the definition of the existing landscape character relies on the establishment of zones of visual influence (ZVI) which identifies the geographic areas of potential Project visibility. This important step focuses the VIA on locations in which the Project will be visible and therefore, may present potential visual impacts. Each of these steps and analyses draw from established visual assessment methodologies which have adapted by EDR to suit the unique circumstances associated with offshore wind projects. The unique circumstances

considered for offshore wind farms include the development of very large VSAs which encompass large land areas and a multitude of landscape types and viewers. The methods employed for each analysis and inventory are described below.

Definition of the Visual Study Area and Zone of Visual Influence

Currently, a standard VSA for offshore wind farms has not been expressly defined in regulatory guidance documents. However, *Information Guidelines for a Renewable Energy Construction and Operations Plan* (COP) (BOEM, 2020) indicates that visual impacts should be evaluated using photo simulations from locations within “the onshore viewshed from which renewable energy structures, whether located offshore or onshore, would be visible.”

This statement suggests that the VSA should include all areas with any level of potential Project visibility. The first step in defining the maximum extent of WTG visibility in an offshore setting is to determine the likely physical threshold based on the screening effect of the curvature of the earth and visual acuity of the human eye. Observations of constructed offshore wind facilities are also useful in determining WTG visibility diminishment thresholds, but these studies have only been conducted on projects with smaller WTGs. For example, EDR completed observations of the operational Block Island Wind Farm (BIWF) which utilizes five WTGs with a maximum height of 589 feet (458 feet lower than the Project WTGs). These observations suggest that based on this smaller technology, the WTGs will generally become completely screened by curvature of the earth and/or atmospheric perspective at a distance between 35 and 40 miles, depending on the elevation of the viewer. A study completed in Europe, *Offshore Wind Turbine Visibility and Visual Impact Threshold Distances* (Sullivan, et al., 2013) concluded that offshore wind facilities were judged to be a major focus of visual attention at distances up to 10 mi (16 km); were noticeable to casual observers at distances of almost 18 mi (29 km); and were visible with extended or concentrated viewing at distances beyond 25 mi (40 km) (Sullivan et al., 2013). Again, the Project considers WTGs that are significantly taller than those included in this study and a calibration of this study is not appropriate given the fact it is based on observation and does not include any specific occupational statistics. However, these studies are still relevant in that the most influential limiting factor in WTG visibility from open coastal locations is atmospheric perspective. Moisture and atmospheric particles will always have a significant influence on visibility over the ocean regardless of the size of the technology. However, it is anticipated that when viewed under clear weather conditions, the visual prominence of larger WTGs will extend over a greater distance and could be the focus of viewer attention beyond 10 miles. However, considering the technology under consideration for the Project, it is anticipated that visibility from beach level will include a portion of the WTG blades at a distance of 40 miles (64 km) (see Inset 1.2-1). As such, it is anticipated that a 40-mile visual study area is a conservative study area for the Project. This is also supported by standard human visual acuity thresholds. Assuming a maximum resolution of the human eye is conservatively 28 seconds of an arc or 0.008 angular degrees (Deering, 2019) at 40 miles, human vision can resolve an object that is approximately 30 feet in diameter. The WTGs considered in this VIA have a maximum blade width of 33 feet, suggesting that at a distance of 40 miles, they would be near the maximum threshold of potential visibility and would not result in impacts to onshore resources.



Inset 1.2-1 Turbine Visibility

Based on the research described above, it is anticipated that visibility of the Project WTGs will diminish completely at a distance of 40 miles (64 km) from ground-level vantage points. However, the VSA identified for the Project was expanded to include the Cape May Lighthouse since this is a prominent, elevated structure and includes a frequently visited viewing platform which offers commanding views of the landscape and ocean. Additionally, rather than generate a buffer of the WTA, the VSA represents an area that is 40 miles (64 km) from the boundary of the entire Lease Area. As such the VSA includes areas beyond the theoretical limits of visibility. This expanded VSA will provide BOEM with a better metric for evaluating potential cumulative visual impacts of future development within the Lease Area. The VSA is illustrated in Figure 1.2-1.

This VSA includes approximately 6,562.1 square miles (16,995.9 sq. km) of open ocean, 2,298.9 square miles (5954.2 sq. km) of land (including inland water bodies), and over 139.4 linear miles (224.4 linear km) of ocean shoreline in New Jersey. The VSA includes all or portions of 109 municipalities in New Jersey. The location and extent of the VSA is illustrated in Figure 1.2-1.

Figure 1.2-1 Visual Study Area and Zone of Visual Influence

(1 Pages)

Zone of Visual Influence (ZVI)

Within this VSA, a relatively small portion of onshore locations would actually have open views that would include some portion the WTGs. To accurately define an inclusive and reasonable ZVI within the VSA, EDR identified the potential geographic areas of Project visibility by running a preliminary light detection and ranging (lidar) viewshed analysis within the VSA. The viewshed model considered vegetation, buildings/structures, topography, and the curvature of the earth in order to delineate those areas that may have potential views of the highest portions of the WTGs (i.e., blade tips in the upright position). The viewshed analysis results indicated that, up to 288.3 square miles or 12.5 percent of the land area within the VSA, could have potential views of the Project from ground-level vantage points. Generally, the areas of potential Project visibility occur along the majority of the eastward facing shoreline defined by the barrier islands. In areas where the barrier islands that lack intensive development, large areas of visibility occur within the inland bays, the adjacent western shore, and throughout portions of the marshes and river deltas west of Great Bay, west of Beach Haven and Great Egg Harbor, West of Ocean City. For the purposes of the VIA, this area was defined as the ZVI and represented the areas in which further analysis was warranted to determine the degree of Project visibility and visual impact. The location and extent of the ZVI is illustrated in Figure 1.2-1. A comprehensive description of the viewshed analysis used to define the ZVI is provided in Section 3.1.

1.2.1 Distance Zones

Three distinct distance zones were defined for the VSA. Based on the Bureau of Land Management (BLM) *Best Management Practices for Reducing Visual Impacts of Renewable Energy Facilities on BLM-Administered Lands* (BLM, 2013) these zones include the Foreground-Middle Ground (0-5 miles), Background (5-15 miles), and Seldom Seen (>15 miles). However, it was determined that when considering views of offshore WTGs, Seldom Seen may not be an accurate representation for views beyond 15 miles (since studies show offshore WTGs to be visible out to 25 miles). Therefore, the name of this zone has been changed to "Extended Background". It is important to note that all Foreground-Middle Ground views within the VSA would only be available to those travelling on the open ocean in commercial vessels, passenger boats, or pleasure craft. Consistent with BLM guidance, distance zones for this VIA are described as follows:

- Foreground-Middle Ground: 0 to 5 miles. Within the foreground (0.5 mile), a viewer is able to perceive details of an object with clarity. Surface textures, small features, and full intensity and value of color can be seen on foreground objects. Beyond the foreground (0.5-5miles) a viewer can perceive individual structures and trees but not in great detail. This is the zone where the parts of the landscape start to join together; individual hills become a range, individual trees merge into a forest, and buildings appear as simple geometric forms. Colors will be clearly distinguishable but will have a bluish cast and a softer tone than those in the foreground. Contrast in color and texture among landscape/seascape elements will also be reduced. On the ocean, the majority of discernable features occur within the Foreground-Middle Ground Zone due to the effects of curvature of the earth and due to the fact that nearshore activities tend to be concentrated within this zone.

- **Background:** 5 to 15 miles. The background defines the broader regional landscape/seascape within which a view occurs. Within this distance zone, the landscape and features on the ocean are simplified; only broad landforms are discernible. Atmospheric conditions often render objects on the landscape/seascape an overall bluish color and they tend to appear unclear causing the objects to begin to blend with the background colors, giving them a fuzzy appearance. Objects on the ocean, such as boats, buoys, and platforms may become completely screened by curvature of the earth at distances greater than 5 miles. In less frequent circumstances, larger features on the ocean horizon may exhibit the “mirage effect” in which images of the viewed objects appear displaced (floating above the water’s surface) and can become very difficult to identify. At these distances, texture has generally disappeared, and color has flattened, but large patterns of vegetation are discernible. Silhouettes of one land mass set against another and/or the skyline are often the dominant visual characteristics in the background. Where landscape features are visible beyond the ocean surface (such as islands and peninsulas), they typically contribute to scenic quality by providing a softened backdrop for foreground-middle ground features, an attractive vista, or a distant focal point.
- **Extended Background:** Over 15 miles. At distances beyond 15 miles curvature of the earth becomes a significant factor in visibility, and those objects that are visible become less prominent in the overall landscape and seascape due to their relative size, occupation of the horizon, and deterioration of visibility due to atmospheric perspective¹. For casual viewers, the Project may be difficult to discern to under less than ideal viewing conditions. During high humidity, fog, and other weather events, visibility at these distances may be significantly diminished or completely eliminated.

1.2.2 Viewer/User Groups

The population potentially affected by the Project are referred to as viewer/user groups. This VIA identifies four broad categories of users that are likely to experience changes within the landscape and seascape with varying sensitivities. However, invariably there will be overlap within each user group and individuals within a user group may have a wide range of opinions and preferences regarding proposed landscape and seascape changes. Despite a wide range of landscape exposure for each user group, the broad categories presented below describe the types of users that are most likely to be exposed to the Project. Their sensitivity to visual change, while a personal attribute, is influenced by their activity, duration of view, and exposure to changes in the landscape or seascape.

1.2.2.1 Local Residents

Local residents include people who live, work, recreate, and travel within the VSA. They generally view the landscape from their yards, homes, local roads, places of recreation, and employment. Residents are typically concentrated in the inland/beachfront residential areas, and village and town centers, but often enjoy the local beaches, inland bays, forests, and the numerous outdoor recreational resources within the VSA. Except when involved in local travel or recreation, residents are likely to be stationary and have frequent or prolonged views of the landscape. Local residents are also likely to have the greatest awareness of changes to the landscape due to the repeated, long-duration exposure to the landscape and seascape

¹ Atmospheric perspective refers to the effect the atmosphere has on the appearance of an object as viewed from a distance.

in which they live. This is particularly true for residents that live near the ocean or those that have the opportunity to experience the coastal landscape on a regular basis. While their activity and sensitivity to change in the landscape and seascape may vary, local residents are likely to have greatest personal investment in their community and the surrounding landscape, and therefore have the greatest sensitivity to visual change.

1.2.2.2 Through Travelers

Travelers passing through the VSA view the landscape from motor vehicles on their way to other destinations. Through travelers are typically moving, have a relatively narrow field of view oriented along the axis of the roadway, and are destination oriented. Drivers on major roads in the area such as Garden State Parkway and the Atlantic City Expressway will generally be focused on the road and traffic conditions but will have the opportunity to observe roadside scenery. Passengers in moving vehicles will have greater opportunities for prolonged off-road views than drivers, and therefore may be more aware of the quality of surrounding scenery. Through travelers who are not residents of the area or vacationers are less likely to be particularly sensitive to visual change. However, along this portion of the Atlantic Coast, through travel occurs relatively infrequently due to fact that most of the major highways found within the VSA lead to and from the coastal communities. Occasionally, through travelers may also take advantage of the ferry from Cape May, New Jersey to Lewes, Delaware. Passengers on the ferries are likely to have a higher sensitivity to visual change since the viewer is not driving and can be fully engaged with the scenery and surroundings.

1.2.2.3 Tourists/Vacationers

Tourists and Vacationers consist of out-of-town vacationers and seasonal/weekend residents who come to the area for the purpose of experiencing its scenic and recreational resources. These viewers include sightseers, families on vacation, casino visitors, and weekend/seasonal homeowners. They may view the landscape on their way to a destination (i.e., on a roadway or boat) or from the destination itself. Some, such as weekend and seasonal homeowners, may spend extended time in the area. Atlantic City hosts a large number of tourists [116 million tourists annually (Tourism Economics, 2019)] who partake in resort activities such as gambling, dining, and nightlife. Often this category of tourist may spend relatively little time outdoors and as little as 24 hours in the VSA. Other vacationers are typically involved in a variety of outdoor activities, including bird watching, bicycling, swimming, recreational boating, fishing, and more passive recreational activities (such as, picnicking, beachcombing, kite flying, or walking). Recreational users are generally considered to have relatively high sensitivity to aesthetic quality and landscape character. They will often have continuous views of landscape features over relatively long periods of time, and scenic quality generally enhances the quality of any outdoor recreational activity even though these individuals may not be specifically involved in sight-seeing. Therefore, this view/user group may be particularly sensitive to visual change. Vacation homeowners, tourists, and recreational users will be concentrated in and around the ocean shoreline, but also use interior portions of the VSA and public lands on the mainland.

1.2.2.4 Fishing Community

The fishing community is represented by recreation and commercial fishermen who work in and experience the coastal and open ocean environment on a regular basis. The commercial fishing community typically engages in focused activity associated with various methods of catching fish and shellfish, including setting gear such as longlines, trawl nets, and pots or traps. Inshore fishing is restricted to the bays, coves, beaches, and waters along the coast. Offshore fishing occurs many miles offshore along the outer continental shelf, including the Project Lease Area. The recreational fishing community is active in both inshore and offshore

settings. Despite the focused activity associated with harvesting seafood, the fishing community is particularly sensitive to changes to the visual seascape since there is often nothing in their immediate environment except for open ocean and horizon. The fishing community can have prolonged visual exposure to the seascape and coastal environment, in which fleets spend hours to days setting gear and harvesting fish.

1.2.3 Landscape Inventory

The landscape inventory portion of this VIA defines a broad regional landscape character in terms of the general physiographic setting of the entire VSA. The physiographic setting is then broken into subcategories largely driven by geographic location, but also visual character. As with many coastal locations, there is a distinct character shift as one travels inland from the coast. As such, the VSA is broadly defined by the barrier islands, mainland, inland bay landscapes, as well as the open ocean/seascape. Each of these broad regions includes a diverse range of specific visual components that define the visual character of the VSA. These landscape types, or areas of homogenous visual character are defined as landscape similarity zones (LSZs). The regional and local landscape character is described below.

Regional Landscape

The Regional Landscape as established in the *USACE Visual Resources Assessment Procedure (VRAP)* (Smardon et al., 1988) is intended to cover a broad “...area in which landforms, water resources, vegetation, and climate tend to exhibit common characteristics...”. Broadly defined, the VSA is entirely contained within the New Jersey Outer Coastal Plain, a subregion of the Embayed Portion of the Coastal Plain Physiographic Province. This region, which covers 4,667 square miles of New Jersey. It is roughly bounded by Trenton to Monmouth Junction in the north, the Delaware River and Delaware Bay on the west, and the Atlantic Ocean to the east (Dalton, 2003). The region is generally defined by excessively drained sandy soils, with relatively low fertility, giving rise to the distinctive pinelands forests, which thrive in these conditions. The Outer Coastal Plain watershed, influenced by the gradual decline in elevation approaching the ocean drains into the back barrier coastal lagoons and directly into the New York Bight Province of the Atlantic Ocean (USFWS, 1997). Topography within this province consists of gradual sloping terrain from the uplands to a relatively flat level plain near the inland lagoons and the shoreline. Elevations within the Outer Coastal Plain (within the VSA) range from below sea level to approximately 223 ft. (68 m).

According to the 2016 U.S. Geological Survey (USGS) National Landcover Dataset (NLCD) the landward VSA primarily consists of forested land (55.2%) which includes woody wetlands and evergreen, deciduous, and mixed forests. Other prominent landcover types include high, medium, and low intensity development (11.9%), and open water associated with inland and coastal bays (10.3%). The landward study area can be further delineated into mainland, barrier island, and inland bays. Each of these regional landscape types is described below and listed in Table 1.2-1.

Table 1.2-1 Regional Landscapes

Regional Landscape	Total Area within VSA (square miles)	Total Area Within the ZVI (square miles)	Percent of Regional Landscape with Potential Turbine Visibility
Ocean	6,558.7	5,792.6	88.3
Inland Bay	168.2	131.3	78.1
Barrier Island	95.8	46.7	48.7
Mainland	2,037.7	112.1	5.5

Atlantic Ocean

The Atlantic Ocean within the VSA includes the Hudson Shelf Valley and portions of the Delaware Bay. The viewshed analysis results suggest that approximately 88.3 percent of this regional landscape occurs within the ZVI. The Ocean regional landscape is characterized by broad expanses of open water and depending on weather conditions, the texture of the ocean surface can range from smooth to choppy, and its color can range from blue, to silver, to dark gray. The ocean in this area is a working water landscape that supports regular and repeated activity, including recreational and commercial fishing, commercial shipping, ferry transportation, pleasure boating and sailing, and associated maritime activities. These activities are typically visible from the mainland and barrier islands when occurring in nearshore areas and features such as jetties, buoys, channel markers, and warning lights are common features near ports and bay entrances.

Inland Bays

Open water associated with the inland bay portion of the VSA primarily includes the barrier island back bays such as Great Egg Harbor Bay, Great Bay, Absecon Bay, Barnegat Bay, and the rivers that feed them (Great Egg Harbor River and Mullica River). The viewshed analysis results suggest that approximately 78.1 percent of this regional landscape occurs within the ZVI. The open water rivers and bays support emergent wetland salt marshes which are the primary landcover along the mainland coast and are represented by state WMAs such as Tuckahoe, Cape May Coastal Wetland, Absecon, Great Bay Boulevard, and Manahawkin.

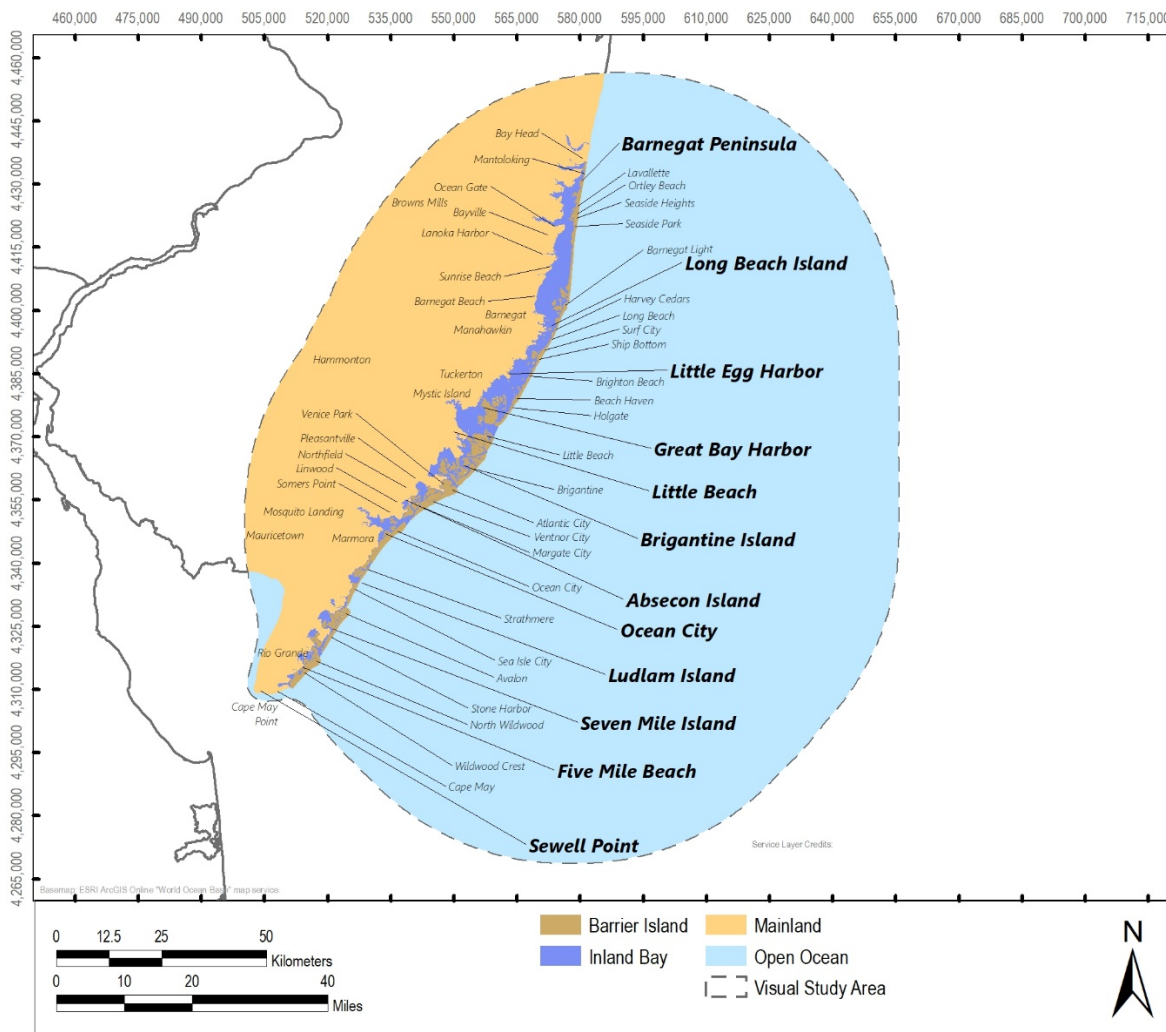
Barrier Islands

Barrier islands make up the majority of the eastern portion of the landward VSA and include the Barnegat Peninsula, Long Beach Island, Little Beach, Brigantine Island, Absecon Island, Ocean City, Ludlam Island, Seven Mile Island, Five Mile Beach, and Cape Island. The viewshed analysis suggests that approximately 48.7 percent of this regional landscape occurs within the ZVI. According to the NLCD, the Barrier Islands are primarily made up of emergent wetlands (34%), open water (23%), and low, medium, and high intensity developed land (32%). The remaining areas are typically transitional cover types such as, woody wetlands, scrub/scrub, forest, and barren land which all occur in very discrete areas throughout the barrier islands. Analysis of the lidar topographic data suggests that elevation within the barrier beaches and islands is relatively flat, and ranges from below sea level to a maximum of approximately 39 ft (12 m) AMSL which occurs on the vegetated dunes in the Borough of Avalon in the southern portion of the VSA. It should be

noted that significant efforts are underway to stabilize dunes along the barrier island coast and elevations may fluctuate based on the progression of dune nourishment and storm event destruction. However, elevations generally average approximately 2 ft (0.6 m) regardless of the variable dune topography. Vegetation on the barrier beaches and islands is typically characterized by a mix of scrub forest, grassy dunes, and salt marshes. Developed areas generally include seasonal and year-round homes, villages, roads, boardwalks, and marinas. The barrier island beaches have variable levels of development ranging from large cities with high-rises (Atlantic City on Absecon Island) to small beach communities with vacation homes (Lavallette Borough on Barnegat Peninsula) to undeveloped dune landscapes, beaches, and marshland, including Island Beach State Park, North Brigantine Natural Area, Corson's Inlet State Park, Cape May Coastal Wetlands Wildlife Management Area (WMA), and Edwin B. Forsythe National Wildlife Refuge (NWR).

Mainland

The New Jersey mainland area covers approximately 2,037 sq mi (5277 sq km) and makes up the entire western portion of the VSA. The viewshed analysis suggests that approximately 5.5 percent of this regional landscape occurs within the ZVI. It extends from Asbury Park in the north to Hammonton in the west and Cape May to the south. In inland bay portion of the VSA borders most of the eastern side of the mainland. According to the NLCD, the mainland is primarily composed of forest (62%), developed land (19%), and emergent wetlands (8%). The remaining 11% is relatively evenly distributed between pasture/cultivated crop land, barren land, open water, scrub/shrub, and herbaceous cover which are generally scattered throughout the VSA in small pockets. Within the mainland portion of the study area, elevations range from sea level along the coast to a high point of 226 feet (69 m) AMSL which occurs in the northwestern portion of the VSA at Colliers Mills WMA in Jackson Township, Ocean County. Generally, elevations average approximately 59 ft (18 m) throughout the mainland portion of the VSA with lower elevations occurring near the inland bay and ocean coast. The mainland portion of the VSA is intensively developed on both sides of the Garden State Parkway. The development begins as a narrow band surrounding the highway in the southern portion of the VSA which becomes more expansive in the northern portion of the VSA. Beyond these more densely developed areas forested areas associated with the pine barrens ecosystem are the dominant land cover. In the western portion of the mainland, low intensity development, such as large lot residential use (often times in proximity to cultivated cropland) are interspersed amongst the forested areas. More significant expanses of cultivated cropland are found along the western edge of the VSA with the highest concentration in Hammonton Town and surrounding communities.



Inset 1.2-2 – Regional Landscape Definition

Landscape Similarity Zones

Landscape and/or seascape types, referred to in this report as Landscape Similarity Zones (LSZs), are defined based on the similarity of visual features, such as landform, vegetation, water, and land use patterns. While regional landscapes are likely to exhibit diversity across a larger area, LSZs should demonstrate a fairly homogenous visual character. Defining and delineating the landscape/seascape types found in the Project ZVI provides a useful framework for the analysis of existing visual resources and viewer settings.

EDR defined 18 distinct LSZs within the ZVI, as listed in Table 1.2-2. These LSZs were identified in accordance with established visual assessment methodologies (Smardon et al., 1988; U.S. Department of Agriculture [USDA] Forest Service, 1995; U.S. Department of Transportation [USDOT] Federal Highway Administration, 1981; U.S. Department of Interior [USDOI] Bureau of Land Management, 1980).

The process of mapping the LSZs was based on land use/land cover designations within the New Jersey Department of Environmental Protection (NJDEP) Land Use/Land Cover 2015 (2019 Update) dataset. The designations within this highly granular dataset were grouped and generalized based on common characteristics and adjacency in order to approximate the spatial extent of each LSZ within the VSA. For example, various types of forest were grouped together into the Forest LSZ along with small pockets of differing land uses within forested areas (provided they did not match the characteristics of any other LSZ). The Town/Village Center LSZ was not readily identifiable based on this dataset alone and was instead delineated based on zoning data for Atlantic, Cape May, Monmouth, and Ocean Counties. The Oceanfront Residential and Bayfront Residential LSZs were identified based on their land use designation in combination with their location within 100 feet of qualifying features such as ocean, beach, dunes, bays, or salt marshes. The Atlantic City LSZ was defined based on geographic location and the presence of specific development types such as large high-rise buildings, dense development, and grided streets, as identified on aerial imagery. The process of delineating and refining all LSZ boundaries also relied upon review of aerial imagery, street-view photography, and fieldwork data. During final review of LSZ mapping (which focused on the ZVI), manual corrections were made in locations where the previously described process did not result in the appropriate LSZ designation. The resulting map is illustrated in Figure 1.2-2 (Sheets 1-7), along with representative photos of each LSZ provided as part of the LSZ descriptions below.

The general landscape character, land use, viewer/user groups, and types of views available from each of the LSZs that occur within the ZVI are described below. It is important to note that many of these LSZs also have an integral seascape component (i.e., views of the ocean) that is a major contributing factor to the visual composition and scenic quality of the LSZ. Use of these LSZs to assist in defining the baseline scenic quality for the VSA and ZVI is an appropriate methodology for projects located offshore but visible from onshore LSZs.

Table 1.2-2 Landscape Similarity Zones

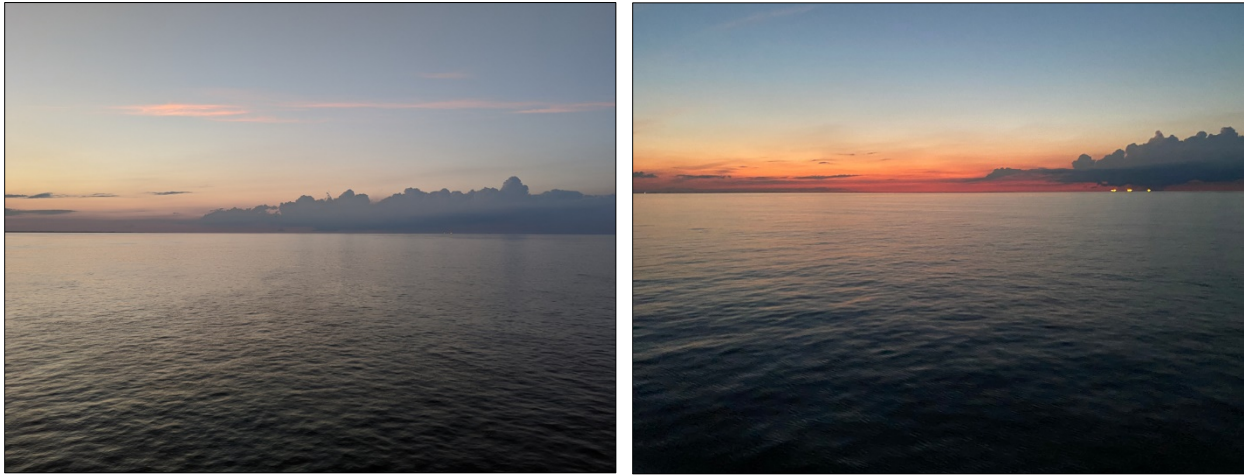
Landscape Similarity Zone	Total Area within VSA (square miles)	Total Area Within the ZVI (square miles)	Percent of LSZ with Potential Turbine Visibility
Open Water/Ocean	6,558.7	5,792.6	88.3
Undeveloped Bay	213.2	156.2	73.3
Oceanfront Residential	6.7	3.8	57.4
Salt Marsh	203.3	112.0	55.1
Commercial Beachfront	0.8	0.4	48.6
Undeveloped Beach	7.1	3.2	45.4
Atlantic City	3.4	0.4	12.5
Industrial	47.7	2.6	5.4
Bayfront Residential	3.9	0.2	5.3

Landscape Similarity Zone	Total Area within VSA (square miles)	Total Area Within the ZVI (square miles)	Percent of LSZ with Potential Turbine Visibility
Dredged Lagoon	15.5	0.5	3.0
Limited Access Highway	11.7	0.3	2.9
Recreation	25.3	0.6	2.5
Inland Open Water	27.8	0.7	2.5
Commercial Strip Development	35.4	0.4	1.3
Inland Residential	277.8	1.1	0.4
Town/Village Center	2.8	<0.1	0.3
Forest	1,316.9	2.1	0.2
Agriculture	95.1	<0.1	<0.1

Figure 1.2-2 Landscape Similarity Zones

(6 Pages)

1.2.3.1 Open Water/Ocean



Inset 1.2-3 – Examples of the Open Water/Ocean LSZ

Within the ZVI, this zone includes the open water of the Atlantic Ocean off the coast of New Jersey and portions of Delaware Bay. The defining characteristic of this LSZ is the presence of open water as a dominant foreground element in all directions. The open expanse of water can be relatively calm and flat or may occasionally include rolling swells and white caps. Human-made features in the water are limited but may include occasional jetties, buoys, and boats. Views into this LSZ cross the open water and often extend to the horizon. Views from within this LSZ toward shore contain various components of other LSZs including undeveloped beach associated with oceanfront parks and natural areas, and human-made features associated with oceanfront residential and oceanfront commercial zones. These can include buildings, boardwalks, amusement parks, and city skylines, particularly those associated with Atlantic City and Ocean City. The open water LSZ may also include views of LSZs occurring further inland, including forested areas and salt marsh. The visibility, breadth, and detail of these features generally corresponds to the viewer's distance from shore. Features such as the Atlantic City's high-rises would likely be visible from significant distances within the open water LSZ, but visibility of lower profile features such as beaches and forest would likely diminish completely once a few miles offshore. Human activity on the water can be extensive, especially near major ports, inlets, navigation channels, and in proximity to marinas during the recreation season. This activity includes pleasure boating, merchant shipping, commercial and recreational fishing, and various water sports. Activity beyond the nearshore is typically concentrated within the designated shipping lanes located between 4 and 10 miles offshore.

1.2.3.2 Undeveloped Beach



Inset 1.2-4 – Examples of the Undeveloped Beach LSZ

This LSZ is characterized by shoreline areas with minimal development and includes rolling, vegetated dunes which lead to an open sandy beach that slopes gently to the water line. In some instances, human-made features such as break walls, or stone jetties extend from the beach out into the ocean, but the remainder of the landscape generally lacks evidence of development. The undeveloped beaches within the ZVI are located on both barrier islands and islands within the back bays. Undeveloped beaches include Island Beach State Park on Barnegat Peninsula, portions of the Edwin B. Forsythe NWR such as Holgate Nature Conservatory and Short Island (also known as Pullen Island), North Brigantine State Natural Area, Corson's Inlet State Park, Stone Harbor Point, Cape May NWR, and Malibu Beach WMA. The defining characteristic of this LSZ is an unobstructed, water-level view up and down the shoreline and across open water as one looks out to sea, with minimal to no encroachment of human-made structures or infrastructure in the foreground view. Views from undeveloped beaches may also overlook inlets with visibility of neighboring islands. Some of the beaches (e.g., Island Beach State Park) are maintained by state or federal agencies, and therefore may include some human-made elements, including signage, fencing, and paved areas. However, these items are mainly clustered around public access points and are often screened by coastal dunes. Viewer activity in this area is primarily recreational, and include swimming, sun-bathing, birdwatching, wildlife observation, walking, beachcombing, fishing, and surfing. The Undeveloped Beach LSZ provides opportunities for uninterrupted views of the ocean backed by vegetated dunes which minimize the opportunity for inland views. Often, the views over the water will include 180 degrees or more of uninterrupted ocean, generally extending to the horizon. During the summer season, these views will often include a large number of beach goers and associated beach and ocean activity. However, the undeveloped beaches tend to be less crowded than the Commercial Beachfront LSZ, or the Atlantic City LSZ, described below. As such, viewers within the Undeveloped Beach LSZ have greater opportunities for views without distracting foreground features.

1.2.3.3 Undeveloped Bay



Inset 1.2-5 – Examples of the Undeveloped Bay LSZ

Within the ZVI, this LSZ includes the expansive bodies of water west of the barrier islands and is characterized by an expanse of open water primarily bordered by the Salt Marsh, Dredged Lagoon, Bayfront Residential, and Forest LSZs. The Undeveloped Bay LSZ hosts a diversity of wildlife which often animates the open water and shoreline. The Undeveloped Bay LSZ typically flows through protected ecological areas such as the Absecon WMA, Cape May NWR, Edwin B Forsythe NWR, Manahawkin WMA, and Great Bay Boulevard WMA. Views from and into the bay are typically framed by the primarily developed barrier islands, natural islands within the bay, or mainland landforms in the distance. These visible landforms may include human-made features such as housing developments, high rise buildings (Atlantic City), lighthouses, bridges, water towers, and utility/communication towers. The waters within this LSZ receive significant use by motorized and nonmotorized recreational boats, which are generally concentrated within the managed navigation channels of the bays. Areas outside the channels generally have a lower intensity of human activity. Views from within the Undeveloped Bay LSZ are generally panoramic and extend long distances, out to and sometimes beyond the barrier islands that separate the bays from Atlantic Ocean. However, as one travels inland on the bays, vegetation within the salt marsh, barrier island development, and even vegetated sand dunes can limit outward visibility due to the lack of elevated vantage points within the bays.

1.2.3.4 Oceanfront Residential



Inset 1.2-6 – Examples of the Oceanfront Residential LSZ

This LSZ is characterized by year-round and seasonal homes, inns and hotels, and some large multi-unit buildings situated along the ocean shoreline. The defining characteristic of this zone is a broad, often elevated view (particularly from multi-story residences) of the ocean from a residential setting, with direct access to an adjacent beach. It is common for these residences and buildings to be separated from the beach by dunes, characterized by gently undulating sand features dominated by dune grasses and low shrubs in variable stages of succession. Wooden slat sand fencing is often present in this setting to protect the dunes from migration. Homes within this zone tend to be two to three-stories and are typically larger than the nearby homes further inland. However, smaller oceanfront beach cottages occur in older communities such as Beach Haven and Sea Isle City. Housing stock in this zone covers a wide range of styles including shingled cottage cape, Victorian, and modern. Structures in this LSZ are universally situated and designed to take advantage of beach access and ocean views. Common beachfront architectural elements include decks, awnings, skylights, extensive window banks, complex rooflines, and fencing that separates properties. Properties separated from the beach by dunes and/or vegetation typically include boardwalk or sand paths to the beach, which traverse the dunes. Landforms in this LSZ are level to gently undulating, and surrounding vegetation includes a mix of coastal scrub, dunes, and maintained residential landscaping. Large trees are generally lacking. Typical user activity within this zone includes a combination of residential and recreational activities, such as home and yard maintenance, local travel, sight-seeing, and beach recreation by members of the public. By its very nature, this LSZ has open panoramic views of the Atlantic Ocean, primarily from the upper floors of the homes, where balconies and rooftop decks are often situated specifically to take advantage of the ocean views. However, the dunes as well as the often continuous line of shorefront structures limit ground-level views to the ocean. Regardless, the ocean is an integral and defining feature of this LSZ, through a variety of senses including sight, sound and smell.

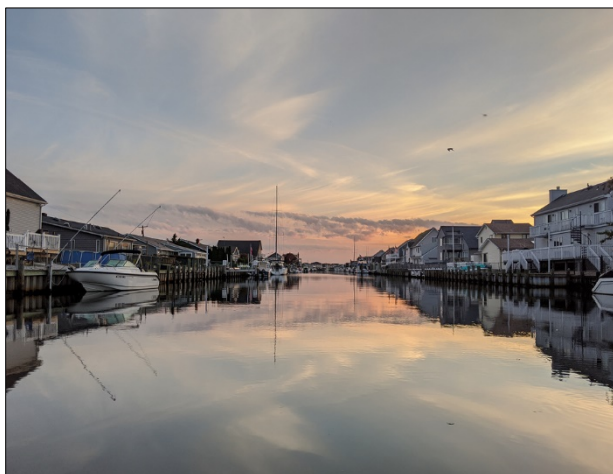
1.2.3.5 Bayfront Residential



Inset 1.2-7 – Examples of the Bayfront Residential LSZ

This LSZ occurs in conjunction with naturally occurring bays, rivers, and coves. It is characterized by seasonal and year-round residences which are situated along the waterfront. The LSZ is often bordered by an adjacent Salt Marsh LSZ, or the waterfront at the edge of the neighborhood street grid. This zone is commonly found on the northwest side of the barrier islands, or on the mainland along salt marshes, bays, or the rivers that feed them. The Bayfront Residential LSZ frequently appears as suburban residential development from the street, incorporating homes and lawns stitched together with sidewalks, street trees, and neighborhood roads. Glimpses of bays or rivers may be available between densely situated homes. Housing types include single family homes, duplexes, and town homes. Often the residential neighborhoods are flanked by sandy beaches, marinas, and/or break-walls. The bay-facing side of properties in this LSZ are designed to maximize water usage and views by incorporating decks, porches, docks, boat lifts, and other boating facilities. This LSZ is visually separated from the Atlantic Ocean by the barrier islands which are typically dominated by the Oceanfront Residential, Undeveloped Beach, Commercial Beachfront, or Atlantic City LSZs. Often, oceanfront development becomes a significant feature in the views from the Bayfront Residential LSZ. These views are typical from within the Bayfront Residential LSZ along the western shore of Absecon Bay, Reeds Bay, and Lakes Bay. However, where the shoreline is not dominated by development (west of Little Egg Harbor and north of Great Bay), extensive outward views across the bays or rivers can be available from within this LSZ and often extend over the Undeveloped Bay and occasionally beyond the barrier island dunes to the Ocean. Along with typical residential activities, user activity in this zone includes boating, and recreation activities such as fishing and nature viewing.

1.2.3.6 Dredged Lagoon



Inset 1.2-8 – Examples of the Dredged Lagoon LSZ

This LSZ typically occurs in conjunction with the Undeveloped Bay or Salt Marsh LSZs and is characterized by residential neighborhoods with seasonal and year-round homes situated along an artificial dredged waterway. Marinas associated with the housing developments are sometimes included in this LSZ. Neighborhoods in this LSZ are arranged along a tight, well-organized grid of local streets and water channels that run between the backyards of adjacent residences. Individual homes have private docks along these channels which provide access to the adjacent waterway. The separation of land created by water channels and roadways ending in cul-de-sacs allows individual streets to function as discrete neighborhoods, which together, comprise a larger residential community. Consequently, communities within this zone have a more spacious and spread-out character when compared to the neighboring landlocked subdivisions within the ZVI. Depending on a residence's position within the zone, outward views across open expanses of water may be available, but in general views from this LSZ are screened or tightly framed by nearby residences and moored boats. Properties on the periphery have more extensive views of the bay, salt marsh, and occasionally the ocean beyond the intervening barrier islands. However, outward water-level views from the dredged channels are generally completely screened by the structures that line the channels. Examples of the Dredged Lagoon LSZ within the ZVI include developments in Beach Haven West, Sunrise Beach, and Windsor Park. Typical user activities in this LSZ include residential activities, boating, and fishing.

1.2.3.7 Inland Residential**Inset 1.2-9 – Examples of the Inland Residential LSZ**

The Inland Residential LSZ includes residential development located inland of the Oceanfront and Bayfront Residential LSZs. This zone is characterized by low-, medium-, and high-density residential neighborhoods which occur throughout the VSA and ZVI. Development patterns in this LSZ include quaint walkable neighborhoods with sidewalks along streets which typically run perpendicular to the ocean or bays and abut the Oceanfront, Bayfront Residential, or Dredged Lagoon LSZs. This LSZ also includes sprawling suburban subdivisions which primarily occur within the mainland portions of the VSA, where the presence of the ocean and bays becomes less apparent due to the screening provided by adjoining Forest, Village/Town Center, and Commercial Strip Development LSZs. While residential structures such as homes and apartments are the main building type in this LSZ, schools and school grounds, and occasional commercial structures within a neighborhood may also be included. The common visual characteristics of this LSZ are relatively closely situated homes and limited outward views. Home types within this LSZ include single and multifamily residences which vary in size, age and style. Although outward views from this LSZ are typically restricted by vegetation and buildings/structures within and surrounding the neighborhood, where this LSZ occurs closer to the Ocean, views down residential roadway corridors with minimal vegetation may extend to adjacent dunes, and/or the ocean and bays. Typical user activities in this LSZ include home and yard use/maintenance and local travel.

1.2.3.8 Town/Village Center



Inset 1.2-10 – Examples of the Town/Village Center LSZ

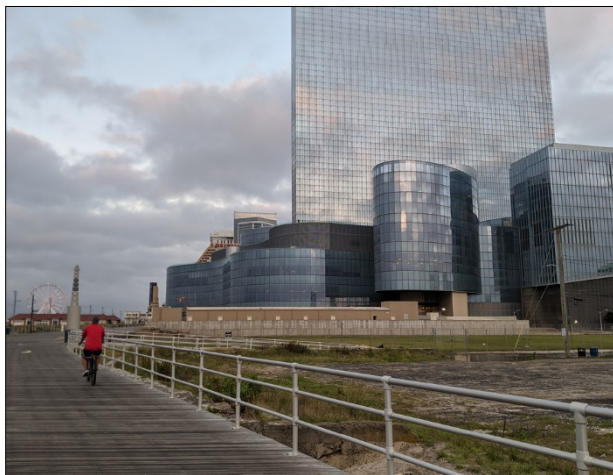
The Town/Village Center LSZ includes well-defined town/village center areas which occur in small pockets on the barrier islands and larger villages on the mainland. This zone is characterized by moderate- to high-density residential and commercial development occurring along a main street or cluster of mixed use blocks. This human-scale development features ample street trees, detailed streetscape treatments, massed commercial properties featuring vibrant window displays, and public amenities such as benches, water features, and public art. Examples of this LSZ within the ZVI include town center areas within Sea Isle City and the City of Brigantine. Buildings within the town centers include churches, town halls, libraries, and large mixed use properties. They are generally surrounded by residential buildings which increase in density near the ocean and bay shorelines. In popular beach towns, tightly spaced commercial buildings and structures that cater to seasonal visitors and/or tourists may be the dominant feature within the Village/Town Center LSZ. Buildings are generally 2 to 3 stories in height and are organized along a grid which focuses views along the streets. Vegetation within this zone is typically limited to regularly placed street trees and successional vegetation associated with vacant land parcels. The landscape is dominated by human-made elements, including buildings, cars, pavement (roads, parking lots, and sidewalks), light posts, and other infrastructure. Long-distance outward views are generally only available along the outskirts of Village/Town Center LSZ, and these views are usually at least partially screened by existing buildings/structures and/or vegetation. Most of the well-defined Village/Town Center areas within the VSA on mainland New Jersey occur at historic centers of commerce in former villages now consolidated into larger towns with more sprawling commercial and residential development along the periphery. These inland examples of the Town/Village Center LSZ do not typically occur within the ZVI. However, the aforementioned beach communities in Sea Isle City, Margate City, Ventnor City, and Brigantine occur on the barrier islands and may have discrete, tightly framed outward views toward the ocean. Users within the Town/Village Center LSZ typically include residents and tourists shopping, dining, and sightseeing. During the summer months, these areas can become crowded with tourists, as the commercial offerings typical of this LSZ draw tourists and vacationers from nearby beaches and neighborhoods.

1.2.3.9 Commercial Strip Development



Inset 1.2-11 – Examples of the Commercial Strip Development LSZ

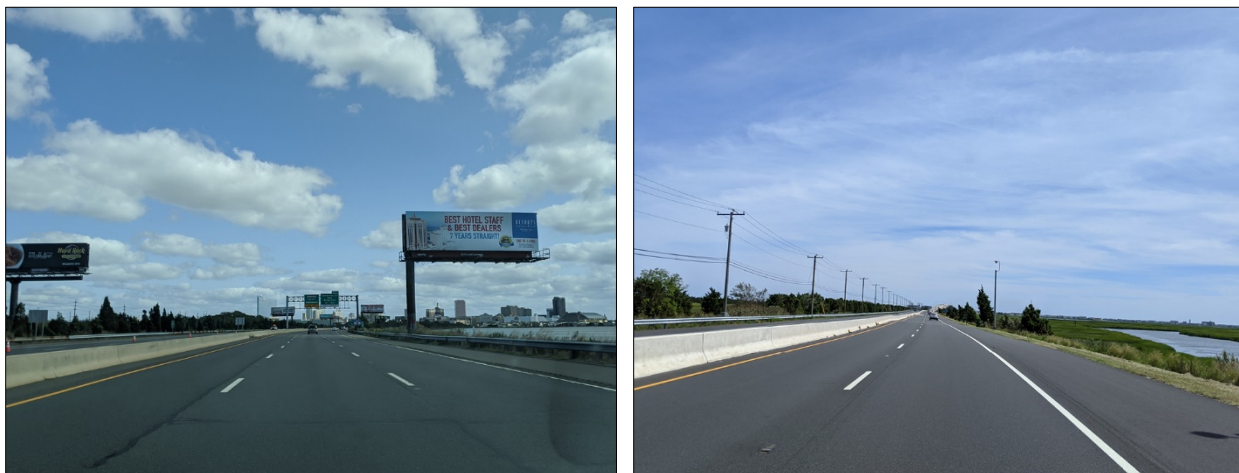
This LSZ typically occurs inland but may be connected to the waterfront by way of the Oceanfront Commercial LSZ or Oceanfront Residential LSZ. It includes strip commercial development located along wide boulevards, around the edges of village centers, and sporadically throughout the VSA. The visual character of this LSZ is generally defined by modern, unadorned strip or stand-alone building stock, on-site parking, and circulation patterns favoring vehicular modes of transportation. Vegetation is limited to landscaped grounds, sparse street tree plantings, and narrow grassy medians and tree plantings within and adjacent to paved areas. Properties within this zone typically include retail businesses, restaurants, convenience stores, automobile dealers, shopping centers, malls, and office buildings. Outdoor commercial uses such as marinas and amusement parks may also be categorized within this LSZ. Foreground and middle ground views often appear cluttered when multiple properties utilize large, colorful signage along roadways. Views can also look stark, for example, when a series of stand-alone office buildings are set deeply into parking lots. Examples of this LSZ within the ZVI can be found on the mainland in proximity to the Garden State Parkway as it crosses through the VSA and on the barrier island communities of Seaside Heights Borough, Ship Bottom Borough, Beach Haven Borough, Brigantine City, Margate City, or Wildwood Crest Borough. This LSZ is typically bordered by the Inland Residential and Town/Village Center LSZs. The presence of commercial structures, visual clutter, and the neighboring developed LSZs generally eliminates the opportunity for outward views from within this LSZ. However, when the Commercial strip Development LSZ borders the Oceanfront Residential LSZ, discrete, tightly framed outward views may be available from streets oriented toward the ocean. Users within this zone generally include residents and tourists involved in destination driven activities such as dining or shopping.

1.2.3.10 Atlantic City**Inset 1.2-12 – Examples of the Atlantic City LSZ**

The Atlantic City LSZ occurs on Absecon Island within Atlantic City, primarily east of Albany Avenue (US Route 40). This LSZ is defined by an eclectic mix of large casino/hotel properties, single family homes, multi-family residential complexes, large and small commercial properties, traditional mixed use downtown structures, vacant lots, boardwalk, and beach. A wide range of urban uses are present in a variety of conditions. Traditional or expected city center patterns of development are frequently interrupted by urban renewal demolition, poorly maintained structures, or new construction. There is a general gradient in which casinos located closer to the boardwalk and beach, are backed by large chain hotels and motels, mixed use commercial, then residential townhouses and apartments finally giving way to small lot single-family residences. However, casinos and affiliated tourist accommodations/attractions such as hotels, shopping, and amusement areas are scattered throughout this LSZ. The resulting scene is visually complicated as multiple land uses and building styles are observable from almost any viewpoint, a condition exacerbated by a high concentration of vacant lots scattered throughout the zone. Human activity is high, especially on the boardwalk and beaches which act as frontage to the large casinos. Large crowds primarily reflect casino visitors, tourists, and those employed to maintain this industry (including a variety of staff and maintenance workers). Activity within this LSZ, beyond the beach, boardwalk, and casino area, primarily involves city residents conducting the routines of daily living. Outward views from this LSZ are available from the bayfront shoreline looking out toward the Salt Marsh or Undeveloped Bay LSZs, or from the boardwalk, beach, or upper stories of the taller hotel, casino, or apartment complex properties looking out toward the Ocean. The boardwalk area in this LSZ has a prominent commercial component that not only lines the inland beach front, but also extends across beaches and over the ocean in the form of large adventure piers/amusement parks containing midway areas and a variety of carnival rides accented by flashing and colorful light features. Beaches in this area during the tourist season (Memorial Day to Labor Day) are heavily trafficked with a near constant presence of crowds bringing with them a variety of colorful beach equipment such as beach umbrellas, chairs, towels, and a need for trash receptacles, lifeguard chairs, and maintenance equipment storage sheds. Individual beaches not separated by dunes often blend together due to the high and continuous volume of users, however, some locations are dedicated to specific activities such as beach

volleyball or extensions of hotel bars. These locations generally offer views to the horizon, but these views are frequently interrupted by the presence of large structures and piers that extend up to 800 feet into the ocean, eliminating major portions of the horizon from view. Views within this LSZ beyond those associated with the ocean/beach and tourist activity are more typical of a city center developed primarily in the late 19th and early 20th century and heavily affected by the policies and practices of Urban Renewal. This translates to 2-3 story mixed use structures with commercial businesses at street level and apartments above on major transit corridors. Tightly spaced two or three family homes occur on the minor cross-streets interspersed with 1950s style public housing, modern infill, and vacant lots. At the outskirts of this dense urban area, single family residences provide transition to a more suburban development pattern. Within the interior areas of the Atlantic City LSZ outward views are restricted by the dense urban development and typically do not extend beyond the immediate foreground. Views toward the ocean are entirely blocked by the presence of high-rise buildings which crowd the waterfront.

1.2.3.11 Limited Access Highway



Inset 1.2-13 – Examples of the Limited Access Highway LSZ

The Limited Access Highway LSZ includes primary, high-volume vehicular travel corridors that briefly enter the ZVI and are dominated by automobiles, pavement, guardrails, and signs. Within the ZVI, this zone is represented by fragments of State Route 444/Garden State Parkway and the Atlantic City Expressway. Views from within this LSZ are generally focused on the roadway and associated traffic. Travel is at moderate to high speed, and outward peripheral views are fleeting. The surrounding scenery is variable but dominated by adjacent buildings/structures and trees, with limited elevated long-distance views available. When this LSZ passes through the Undeveloped Bay LSZ via bridges, views of the bays, marshes and surrounding LSZs become available, along with long-distance views in the direction of the ocean.

1.2.3.12 Forest



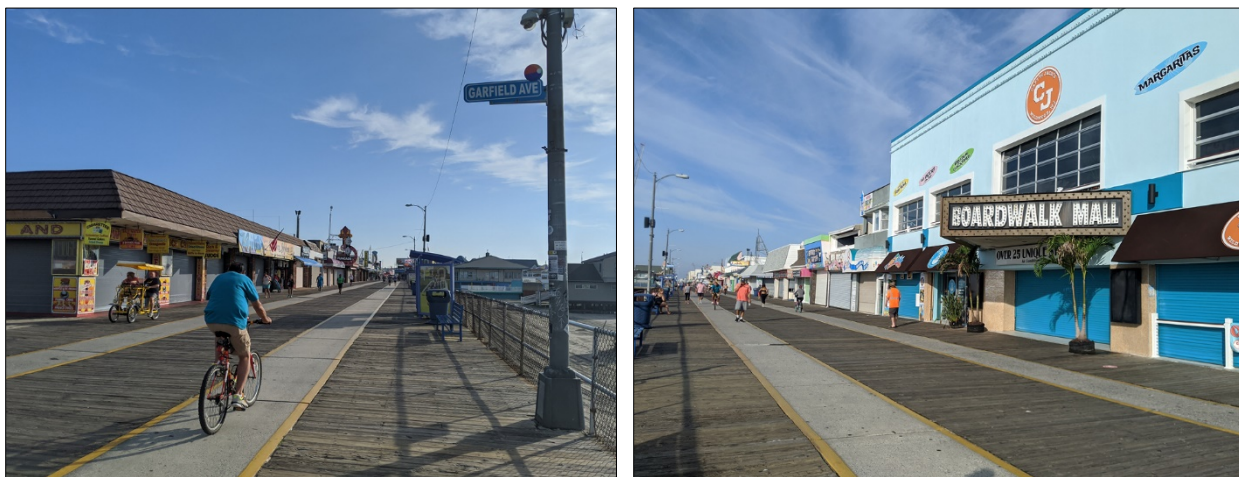
Inset 1.2-14 – Examples of the Forest LSZ

The Forest LSZ contains tracts of forestland which occur sporadically throughout the ZVI. Within this LSZ two primary forest types are represented; the New Jersey Pine Barrens (including the Atlantic Coastal pine barrens ecosystem) and the coastal scrub (maritime) forests which typically occur in association with the Salt Marsh LSZ and provide a transition into the pine barrens. The New Jersey Pine Barrens typically include pitch pine and scrub oak forests. The forest understory is made-up of mixed shrubs, saplings, and herbaceous vegetation including orchids and other unique plant species. Due to environmental protections or lack of development suitability, these forest areas typically occur between inland residential areas and the Undeveloped Bay LSZ. The Forest LSZ also frequently coincides with protected lands such as the Tuckahoe WMA and Manahawkin WMA which occur within a small portion of the ZVI. Larger tracts of forestland with public access points typically include maintained recreation areas, such as state parks or nature preserves such as Island Beach State Park in Seaside Park. Scattered residences, local roads, small fields, and wetlands may occur within this zone but are subordinate to the visual dominance of the surrounding forest. Landform within this zone is relatively flat, although gently rolling topography is present in places. Notable areas of forest land within the ZVI include portions of the Swan Bay WMA, Stafford Forge WMA, and Bass River State Forest. The maritime forest is characterized by dense woody and herbaceous vegetation, typically less than 20 feet in height, providing a transition between bayfront salt marshes and taller inland forests. Long-distance views within the Forest LSZ are generally partially to fully screened by the forest overstory. When present, outward views typically occur on the periphery of the Forest LSZ. This is particularly true where the Forest LSZ abuts emergent wetlands or open water associated with the Undeveloped Bay or Salt Marsh LSZs where the vegetation becomes more stunted and sparse. Occasional observation towers situated within the Manahawkin WMA also provide opportunities for sweeping views from above the treetops over the bays and to the ocean. Users within the Forest LSZ include recreationalists and tourists who enjoy activities including hiking, fishing, birdwatching, hunting, and sightseeing.

1.2.3.13 Salt Marsh**Inset 1.2-15 – Examples of the Salt Marsh LSZ**

This LSZ is characterized by coastal ponds and marshes that are connected to inlets or bays with one or more relatively narrow channels allowing tidal water to periodically flood portions of the LSZ. This LSZ occurs commonly along the bayside coastlines of the mainland and barrier islands throughout the VSA. Within the ZVI this LSZ is represented by the Great Bay Boulevard, Absecon, Upper Barnegat Bay, and Cape May Wetlands WMAs, and portions of the Cape May and Edwin B. Forsythe NWRs. These areas are typically characterized by an expanse of low-growing herbaceous wetland vegetation interspersed with pockets of open water. Because these areas are subject to the influence of tides, they can include exposed mud banks and flats along their edges at low tide. The Salt Marsh LSZ also hosts some coastal scrub vegetation and is frequently bordered by the Forest LSZ. This transition zone may include infrequent woody shrubs and stunted trees on small upland patches. Views from within the Salt Marsh LSZ beyond these transition zones often offer sweeping views across the Undeveloped Bay LSZ. Often these views are interrupted by the barrier island development associated with Atlantic City, Beach Haven Crest, and Margate City in the middle ground or background. However, when the barrier island lacks development in areas such as the Edwin B. Forsythe NWR and Little Beach, the Salt Marsh LSZ may have views beyond the barrier islands and occasionally out into the ocean. Recreational activity in the form of boating, fishing (including clamming and crabbing), hunting and wildlife observation is common within the Salt Marsh LSZ. However, these sensitive environments do not offer developed recreational amenities.

1.2.3.14 Commercial Beachfront



Inset 1.2-16 – Examples of the Commercial Beachfront LSZ

This LSZ typically occurs in the major beach towns on the coast within the VSA. It consists of a wooden boardwalk or walkway, ocean piers, and commercial development bordering a shoreline beach or ocean. Commercial uses include adventure/amusement piers, recreation centers such as the Ocean City Music Pier and commercial structures such as snack shops or bars. Structures in this LSZ range in size from small single story snack shops to multi-story municipal structures or piers. Use and activity in this LSZ is similar to that which occurs in the Commercial strip Development LSZ, although in this case the businesses treat the boardwalk as street frontage to accommodate pedestrian rather than vehicular access. The type and intensity of activities in this LSZ are largely influenced by tourism and are seasonal in nature. These areas are used heavily during the late spring and summer months, and minimally or not at all during the fall and winter. Topography is typically level along the boardwalk, with beaches that slope gently downward toward the shoreline. Vegetation may be present in the form of ornamental shrubs, but mostly consists of dune grass along the edge of the adjacent beaches. The availability of open views toward the ocean varies within this LSZ. In some areas, views will be screened by dunes or framed by commercial structures, piers, jetties, signs, and other human-made structures. However, in other areas, such as along the sandy shorelines or looking out from a pier, viewers will be afforded open views of neighboring piers, sandy beaches, and the ocean. One side of this LSZ is always connected to the Open Ocean LSZ, with surrounding landscape on the inland side typically within the Commercial Strip Development LSZ, but also at times including the Recreation, Residential Beachfront, or Inland Residential LSZs. Examples of this LSZ within the ZVI include Wildwood City Boardwalk, Ocean City Boardwalk, Seaside Heights Boardwalk, and Point Pleasant Beach Borough Boardwalk.

1.2.3.15 Agriculture



Inset 1.2-17 – Examples of the Agriculture LSZ

This LSZ is a minor component of the VSA which is primarily found inland, outside of the ZVI. Locations of this LSZ within the ZVI include small areas within Galloway Township and Hamilton Township. Larger pockets of this LSZ located on the western edge of the VSA in Buena Vista, Hammonton, Tabernacle, and Plumsted Townships are not within the ZVI. Outside of these large areas, instances of this LSZ include smaller farm lots scattered throughout the VSA. This zone is characterized by flat stretches of field which provide open views of crops, hedgerows, livestock, farm buildings, equipment, and homes. Crops include blueberries, corn, and a variety of vegetables. Orchards and equestrian facilities are also common. These areas are viewed by farmers and farm staff working the land, families who inhabit adjacent residences, and drivers and passengers traveling on roads that cross through this LSZ. The Agriculture LSZ is most commonly adjacent to the Inland Residential and Forest LSZs, which frame or limit outward views depending on their spatial relationship.

1.2.3.16 Recreation



Inset 1.2-18 – Examples of the Recreation LSZ

The Recreation LSZ encompasses a range of areas intended primarily for outdoor leisure and play. On the mainland, these areas include golf courses, sports fields, athletic complexes, campgrounds, and inland beaches. On the barrier islands these areas include community parks, small athletic complexes their parking areas, and other developed areas within state parks. This LSZ typically contains landscaped or human-made features which support recreational activities, however the visual character of these features varies widely. Golf courses, viewed by golfers or adjacent residents, feature long, sweeping views of contoured lawns, water features, and sand traps, intentionally framed by forest edge. By contrast, barrier island parks and athletic complexes are viewed by a variety of residents and tourists who use or pass by the site. These areas tend to be more visually cluttered with parking lots, baseball diamonds, tennis and basketball courts, restroom facilities, benches, pavilions, gardens, bike racks, and other auxiliary park structures. Within the ZVI this LSZ is most commonly represented by shoreline recreation on barrier islands, locations associated with state park structures at elevations rising above the surrounding dunes and beach, and in locations where a recreation area may be situated at the end of a street oriented toward the Project. On the mainland within the ZVI this LSZ is most commonly located adjacent to the Undeveloped or Salt Marsh LSZs to provide views overlooking the bay. Views from this LSZ either look out the ocean or bay, or into a densely developed adjacent LSZ such as Commercial Beachfront, Town/Village Center, Oceanfront Residential or Bayfront Residential.

1.2.3.17 Inland Open Water**Inset 1.2-19 – Examples of the Inland Open Water LSZ**

This LSZ occurs throughout the mainland portion of the VSA. Its dominant visual feature is an open expanse of flat water that is enclosed by a vegetated shoreline. The shorelines are typically dominated by deciduous and coniferous trees but are occasionally interrupted by human-made features, such as homes, boat launches, bridges, and roads. Human activity on these waterbodies and along the shoreline includes boating, kayaking, fishing, and swimming. Shoreline trees define the visible background in most views from inland lakes and ponds. Several waterbodies associated with active or reclaimed extraction mines are also included within this LSZ. Given their inland locations and extensive vegetative screening, views to the ocean from this LSZ are rare. As such, very few inland waterbodies within the VSA also occur in the ZVI. Exceptions include, the Atlantic City Reservoir, Hawkins Creek, and several tributaries draining into the extensive network of bays though out the VSA.

1.2.3.18 Industrial/Developed



Inset 1.2-20 – Examples of the Industrial/Developed LSZ

The Industrial/Developed LSZ includes developed landscapes defined by a variety of utilitarian functions, which are visually linked by a stark, severe aesthetic. Elements commonly found in this zone include expansive open areas, pavement, utility structures and buildings, screening or security fencing, machinery, equipment, and raw materials. Land uses include airports, military grounds, mines, power stations, industrial parks, warehouses, self-storage facilities, municipal maintenance lots and transit stations. This LSZ is found throughout the VSA at a variety of scales. On the barrier islands, the Industrial/Developed LSZ is present on very small sites on the interior or bay side of the islands in the form of power stations, maintenance lots, parking areas, and small airports including Ocean City Municipal Airport and Bader Field Airport. Views from this LSZ can be extensive when the sites are large, open, and adjacent to the Salt Marsh or Undeveloped Bay LSZ, as in the case of airports. However, it is more typical for views from the Industrial/Developed LSZ on the barrier islands to be limited because the sites are small, fenced, and adjacent to densely developed LSZs such as Inland Residential or Commercial Strip Development. This condition is exemplified by municipal maintenance lots and small industrial businesses and materials storage lots. The USCG Training Center on Cape May is the singular instance of an Industrial/Developed site with available views of the Open Water/Ocean LSZ.

On the mainland, the Industrial/Developed LSZ is found throughout the VSA on larger sites. Substantial instances of this LSZ include the Monmouth Executive Airport, Joint Military Base McGuire-Dix in Lakehurst, Atlantic City International Airport, Dun Rite Sand & Gravel Mine, Lakewood Industrial Park, Woodbine Municipal Airport, and Cape May County Airport. These large sites are most commonly adjacent to the Forest LSZ, which buffers their loud, unsightly, or otherwise intrusive nature from neighboring properties. Open industrial sites offer extensive views within themselves, but the views usually extend only to the property's edge, which is typically bordered by dense forest vegetation. Smaller instances of this LSZ are scattered throughout the mainland and include recycling centers, active and abandoned mine sites, industrial parks, transit stations, military training centers, self-storage facilities, and industrial fabrication, warehouse, and distribution facilities. These sites are typically screened by Forest LSZ, except in cases when

they are adjacent to the Commercial Strip Development LSZ as a component of a regional commercial center.

In general, views into and across the Industrial/Developed LSZ are interrupted by fencing, trees, and brush, although infrequent glimpses of the stark and utilitarian interior may appear through periodic gaps in the perimeter buffer. Human activity in this zone is limited to training or work by employees of the various military operations or business enterprises. It also includes commuting when the LSZ takes the form of a transit station or parking area.

1.2.4 Visually Sensitive Resources

Visually sensitive resources (VSRs) include resources that have been identified by national, state, or local governments, organizations, and/or Native American tribes as important sites which are afforded some level of recognition or protection. Avoiding or minimizing impacts to these resources is an important consideration in the planning stages of a project. For the VIA, a desktop inventory of visually sensitive resources was prepared for the entire Project VSA. Additional resources were also identified through consultation with Project stakeholders and during the field verification process. These resources were identified, and requisite GIS layers were compiled into a database for documentation and mapping purposes. A GIS analysis was then conducted to determine how many of these resources occur within the ZVI and would require further evaluation. Attachment C lists all identified VSRs that occur within the VSA and those within the ZVI (as determined by the lidar viewshed analysis). A summary of the results of this GIS analysis for VSRs occurring within the ZVI is presented in Table 1.2-2, below.

Table 1.2-2 Visually Sensitive Resources Within the ZVI

Type of Resource	Occurrences of Resource Within ZVI
National Historic Landmarks	2
Properties Listed on the National or State Registers of Historic Places	16
Properties Determined Eligible for National or State Registers of Historic Places	43
National Natural Landmarks	1
State/Local Designated Scenic Areas and Overlooks	0
Scenic Area of Local Significance	0
State Designated Scenic Overlooks	0
National Wildlife Refuges	2
State Wildlife Management Areas	16
National Parks	0
State Parks	3
State Nature and Historic Preserve Areas	12
National Forests	0
State Forests	3

Type of Resource	Occurrences of Resource Within ZVI
National Recreation Areas and/or Seashores	0
State Beaches	0
National or State Designated Wild, Scenic, or Recreational Rivers	1
Highways Designated or Eligible as Scenic	1
National Historic/Recreation/Heritage Trails	1
State Fishing and Boating Access Sites	9
Lighthouses (not NRHP-Listed or State Historic-Listed)	2
Public Beaches	36
Environmental Justice Areas (State and Federal)	87
Ferry Routes (Occur across multiple states)	0
Seaports (Commercial Maritime Facilities)	0
Other State Land with Public Access	0
Total	234

The locations of the visually sensitive resources are illustrated in Figure 1.2-3 at the conclusion of this section. Brief descriptions of the types of visually sensitive resources that occur with the ZVI are presented below:

1.2.4.1 Historic Sites and National Historic Landmarks

Authorized by the National Historic Preservation Act of 1966 (NHPA), the National Register of Historic Places (NRHP) is maintained by the National Park Service (NPS) as part of a national program to coordinate efforts to identify, evaluate, and protect historic and archeological resources. According to the NPS website, the NRHP is the official list of designated historic places worthy of preservation, and National Historic Landmarks (NHL) are historic places that hold historic significance and are designated by the Secretary of the Interior. The New Jersey State Register of Historic Places (SRHP) is maintained by the State Historic Preservation Office (SHPO) and includes resources that the state has determined are worthy of preservation, but which have either not been determined eligible for inclusion or have not been evaluated for listing in the NRHP. A *Historic Resources Visual Effects Analysis* (HRVEA) prepared for the Project (EDR, 2021) contains additional details on S/NRHP and NHL properties and districts within the VSA.

Within the ZVI, EDR identified 43 historic districts and individual properties listed or eligible for listing on the S/NRHP and two properties or districts listed as National Historic Landmarks (NHL). These properties include historic districts, homes, lighthouses, churches, and government buildings (see also EDR, 2021). The two NHL sites include the Atlantic City Convention Hall in Atlantic City and Lucy the Margate Elephant in Margate City. The resources occur approximately 11.4 mi and 14.4 mi from the Project, respectively.

1.2.4.2 National Natural Landmarks

The National Natural Landmarks (NNL) Program identifies sites that contain outstanding biological and geological resources and encourages the conservation of these areas (NPS, 2021). Manahawkin Bottomland

Hardwood Forest is the only designated NNL within the ZVI and is located approximately 21.0 miles from the Project at its nearest point.

1.2.4.3 National Wildlife Refuges

The National Wildlife Refuge (NWR) System, managed by the U.S. Fish and Wildlife Service (USFWS), is a system of public lands and waters set aside to conserve the nation's fish, wildlife, and plants (USFWS, 2021). Two NWRs occur within the ZVI. The Edwin B. Forsythe NWR is located along the northern coast of New Jersey, approximately 9.2 miles from the nearest proposed WTG. The Cape May NWR, located in southern New Jersey, is located 22.9 miles from the Project at its nearest point.

1.2.4.4 State Wildlife Management Areas

There are 16 State Wildlife Management Areas (WMAs) within the ZVI. These state-owned lands are managed to provide wildlife habitat and accommodate wildlife-related recreation (hunting, bird watching, etc.). The closest WMA to the WTGs is the Absecon WMA, located along the central New Jersey coast, approximately 10.3 miles from the nearest proposed WTG.

1.2.4.5 State Parks

Three State Parks occur within the ZVI. Corson's Inlet State Park is located along the southern New Jersey Coast, approximately 21.3 miles from the Project at its nearest point. This oceanfront park offers hiking, fishing, crabbing, boating, and sunbathing (NJDEP, 2020). Island Beach State Park and Barnegat Lighthouse State Park are both located along New Jersey's northern coast at approximately 26.9 miles and 27.2 miles, respectively, from the nearest WTG. Island Beach State Park is a 10-mile-long barrier island between the Atlantic Ocean and Barnegat Bay that offers swimming, picnicking, bicycling, horseback riding, sailboarding, surfing, scuba diving, and hunting (NJDEP, 2020b). Just to the south is Barnegat Lighthouse State Park, which features the Barnegat Lighthouse, as well as recreational opportunities such as hiking trails, fishing, wildlife viewing, and picnicking (NJDEP, 2020c).

1.2.4.6 State Nature Preserves

Twelve State Nature Preserves occur within the ZVI. The closest nature preserve to the Project is North Brigantine State Natural Area, located approximately 8.9 miles from the nearest proposed WTG. The natural area is located on the central New Jersey coast and is part of the longest stretch of undeveloped barrier island beach in the state. It provides shorebird habitat, coastal dunes, and rare species habitat. The natural area also provides recreational opportunities such as walking, wildlife viewing, sunbathing, and fishing (NJDEP, 2018).

1.2.4.7 State Forests

Three State Forests occur within the ZVI. Bass River State Forest, located approximately 18.0 miles from the nearest WTG, is the closest State Forest to the Project. The forest provides recreational opportunities such as hiking, picnicking, camping, and hunting, as well as swimming, fishing, boating, and canoeing on Lake Absegami (NJDEP, 2020d). Wharton State Forest is located approximately 23.7 miles at its closest point from the Project. The forest is the largest single tract of land within the New Jersey State Park System, totaling 122,880 acres, and includes rivers and streams for canoeing, hiking trails, unpaved roads for mountain biking and horseback riding, and lakes, ponds, and fields for wildlife viewing (NJDEP, 2020e). Belleplain State Forest is located approximately 26.7 miles from the Project. The forest was established for recreation, wildlife

management, timber production, and water conservation and includes Lake Nummy, a popular swimming, boating, and fishing area (NJDEP, 2020f).

1.2.4.8 National or State Designated Wild, Scenic, or Recreational Rivers

The National Wild and Scenic Rivers System was created by the Wild and Scenic Rivers Act of 1968 to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition. Congressionally designated wild and scenic rivers are managed by the Department of Agriculture (Forest Service) or Department of the Interior (Bureau of Land Management, Fish & Wildlife Services, National Park Service). Within the ZVI there is one such designated resource, the Great Egg Harbor Wild and Scenic River, located approximately 19.6 miles at its closest point from the Project.

1.2.4.9 Highways Designated or Eligible as Scenic

One Scenic Byway, the Southern Pinelands Natural Heritage Trail, is located within the ZVI approximately 16.7 miles at its closest point from the Project. The state-designated scenic byway is a 130-mile route located in the Pinelands National Reserve in southern New Jersey (NJDOT, 2018).

1.2.4.10 National Trails

The New Jersey Coastal Heritage Trail was established by federal legislation under Public Law 100-515 in 1988 to promote awareness, stewardship, and protection of natural and cultural resources along 300 miles of New Jersey's Atlantic coast and Delaware Bay. The trail is managed in cooperation by the National Park Service, the State of New Jersey, and many other public and private organizations. The trail is divided into five regions and links significant natural and cultural sites, with a focus on maritime history, coastal habitats, wildlife migration, historic settlements, and relaxation and inspiration (NPS, 2012). The destinations along the trail have been identified in other VSR categories.

1.2.4.11 State Fishing and Boating Access

Within the ZVI, there are nine state-owned and/or -managed fishing and boating access sites. The majority of these sites provide access to the bays and sounds of the Atlantic Ocean, and all are at least 11.5 miles from the Project.

1.2.4.12 Lighthouses

There are two lighthouses that are not designated NRHP historic sites within the ZVI. Tucker's Island Lighthouse is the lighthouse located closest to the Project, at approximately 17.8 miles from the nearest proposed WTG. Sea Girt Lighthouse is located approximately 52.8 miles from the Project.

1.2.4.13 Public Beaches

There are 36 public beaches within the ZVI (in addition to the previously mentioned State Beaches). The nearest of these beaches, Atlantic City Beach, is approximately 10.4 miles from the nearest proposed WTG.

1.2.4.14 Environmental Justice Areas

Implemented in 1994 by Executive Order 12898 - Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations has a purpose of directing attention to a project's environmental and human health effects on minority and low-income populations. While this order addresses actions undertaken by federal agencies, states have additionally identified parameters to define Environmental Justice areas at the state level to mitigate the potential for disproportionately high and

adverse human health or environmental impacts on minority, low-income, and/or Indian tribes and indigenous communities and populations from state actions. There are 87 Environmental Justice Areas identified within the ZVI, the closest (340010101052) is located in Atlantic City, approximately 9.9 miles from the nearest WTG.

Although not formally inventoried, it should be noted that the ZVI also includes other public resources that could be considered regionally or locally significant or sensitive due to the type or intensity of land use they receive. These include local park and recreational facilities, campgrounds, golf courses, local nature preserves, tourist attractions, fish and game clubs, schools, churches, cemeteries, areas of concentrated human settlement, and heavily traveled roads. Ocean bays and sounds within the ZVI could also be considered sensitive visual resources. These areas provide recreational opportunities, such as boating, fishing, kayaking, cruising, swimming, and wildlife viewing, and historic villages along these bays offer waterfront dining, shopping, and other tourist attractions and accommodations.

Figure 1.2-3 Visually Sensitive Resources Within The ZVI

(8 pages)

2.0 ASSESSMENT METHODOLOGY

EDR developed a document titled *Visual Impact Assessment Procedure Atlantic Shores Offshore Wind, LLC* which outlines the assessment procedure included in this VIA. This document was provided to BOEM, NJDEP, and several other permitting agencies and stakeholders for comment. Beginning in May of 2020, EDR and Atlantic Shores entered discussions with BOEM's visual subject matter expert to ensure the VIA procedure would be acceptable to the lead permitting agencies. This comment period extended to January 2021 and resulted in a mutually agreeable procedure for assessing the potential visual impacts associated with the Project. The procedure document is included in Attachment A of this VIA.

The specific techniques used to assess potential Project visibility and visual impacts are described in the following section.

2.1 Visibility Assessment Methodology

In order to identify and inventory those locations within the Project VSA where it may be possible to view the proposed WTGs from ground-level vantage points an assessment of potential Project visibility was completed. This visibility assessment included the following two levels of analysis:

1. Viewshed analysis, which is a desktop procedure designed to identify geographic areas of potential Project visibility, and
2. Field verification, which included several visual experts visiting the VSA to determine the validity of the viewshed analysis results, document views from within the ZVI, and confirm the LSZ boundaries and characteristics.

2.2 Viewshed Analysis

A viewshed analysis was conducted to determine the possible extent of Project visibility (ZVI) within the VSA. This analysis relies on lidar data, the development parameters of the Project, and the physical limits of visibility to determine areas of potential Project visibility. The viewshed analysis developed for this VIA was based upon a highly detailed digital surface model (DSM) of the VSA generated from lidar data², which includes the elevations of land features, buildings, trees, and other objects large enough to be resolved by lidar technology (Inset 2.1-1). A bare-earth digital elevation model (DEM), representing topography only, was also created in order to make corrections to the DSM and to the initial viewshed result (see discussion below). The DSM and DEM were both created with a horizontal resolution of 9.8 ft (3 m) to allow direct comparison of ground elevation with the elevation of surface features (such as buildings and vegetation).

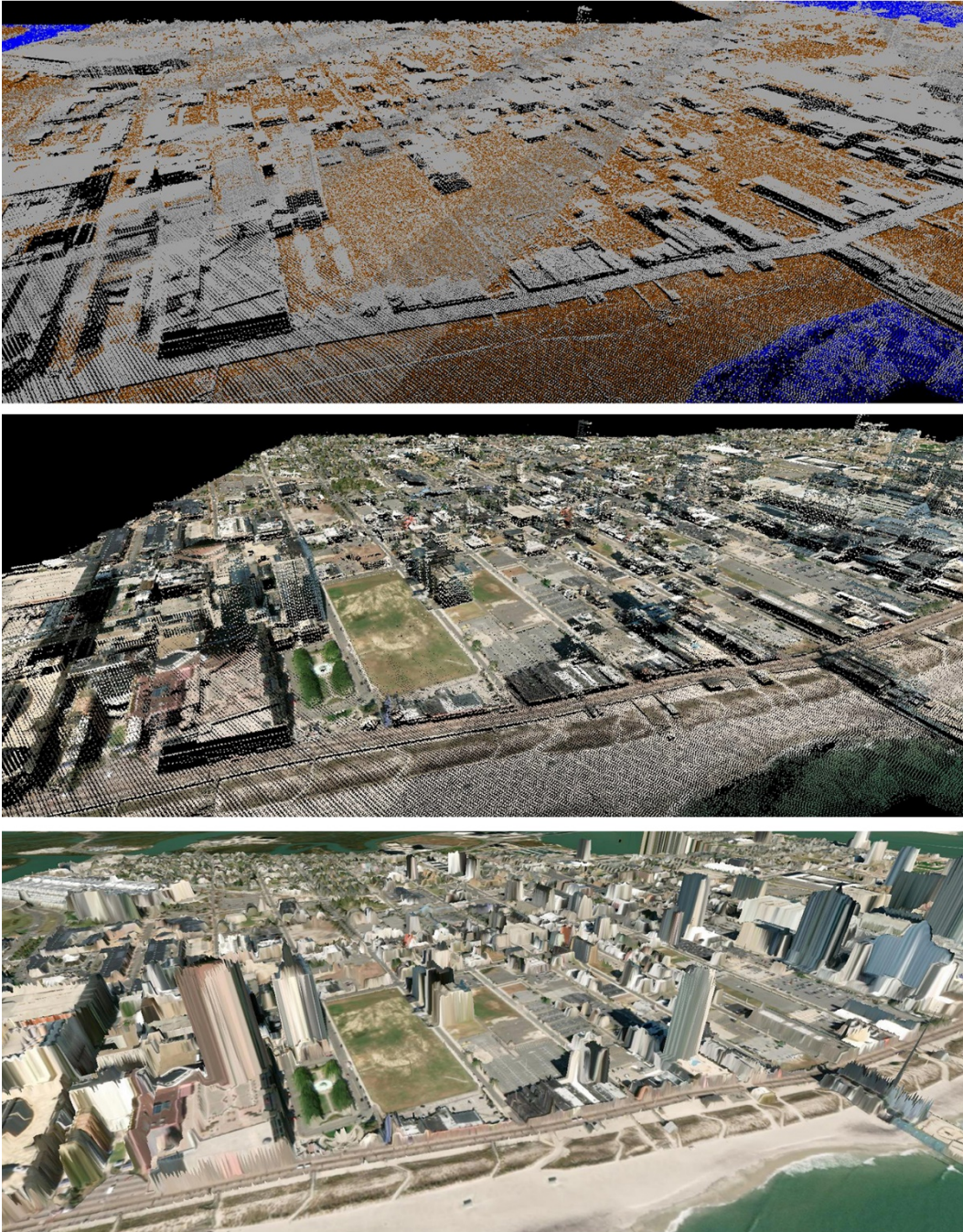
Transmission lines and road-side utility lines that are reflected in the lidar data are mis-represented in the initial DSM as solid walls/screening features. In order to correct this inaccuracy, DSM elevation values within transmission line corridors and within 50 ft (15 m) of road centerlines were replaced with DEM bare earth elevation values. To account for some small lidar data gaps, USGS 10-meter resolution DEM and NLCD data

² Lidar data availability varies throughout the VSA, requiring the use of more than one data source. The following four lidar datasets were incorporated into the DSM: NOAA 2014, USGS 2015, Cumberland County 2008, and American Recovery and Reinvestment Act (ARRA) 2010.

were used to complete the DSM lidar model. The DSM was then used as a base layer for the viewshed analysis, which was conducted using ESRI ArcPRO® software.

The analysis of potential Project visibility within the VSA was based on 200 points representing the WTG locations currently under consideration (using latitude and longitude coordinates provided by Atlantic Shores), an assumed maximum blade tip height of 1,047 feet (319 m), and an assumed viewer height of 6 feet (1.83 m). This maximum blade tip height was used to define the maximum area of potential visibility, also referred to as the Project ZVI. An additional viewshed analysis was completed to assess the potential visibility of the AOWL (FAA lights) on the nacelle at a height of 607 feet (185 m).

Once the initial viewshed analysis was complete, a conditional statement was used within ArcGIS® to set Project visibility to zero in locations where the DSM elevation exceeded the bare earth (DEM) elevation by 6 feet or more, indicating the presence of vegetation or structures that exceed viewer height. This was done because: 1) without this adjustment in locations where trees or structures are present in the DSM the viewshed would reflect visibility from the treetops or building roofs, which is not the intent of this analysis; and 2) ground-level vantage points within buildings or areas of vegetation exceeding 6 feet in height will generally be screened from views of the Project. The resulting viewshed analysis provides an exceptionally accurate prediction of Project visibility from onshore resources. However, changes to vegetation (such as growth or clearing) earthwork, and the addition or removal of structures since the lidar data were collected may result in minor visibility discrepancies.



Inset 2.1-1 Raw Lidar Point Cloud (top), Colored Point Cloud (center), Processed DSM (bottom)

2.2.1 Field Verification

Potential visibility of the proposed Project was evaluated in the field between July and September of 2020. The purpose of this exercise was to verify the existence of direct lines of sight to the water in the direction of the proposed Project from representative KOPs and other sites with potential Project visibility, as

indicated by viewshed analysis. Field review was also used to obtain photographs from selected KOPs for subsequent use in the development of visual simulations. Fieldwork was completed under a range of sky conditions (overcast to clear), but during the KOP photography visibility was recorded as being 10 miles or greater in all instances.

At each of the KOPs, EDR's field crew selected an appropriate photo location based on the availability of an open view toward the Project site, appropriate composition, lighting, and, if possible, the inclusion of distinctive foreground features that allow recognition of the viewpoint by the public. In some cases, photos were taken from multiple viewpoints at a single KOP to cover a range of compositions and perspectives. At each viewpoint, a series of overlapping photos extending from 180 to 200 degrees of the visible seascape and landscape were obtained in five-degree increments. A tripod-mounted, full frame digital single lens reflex (SLR) camera with a resolution of 30.4 megapixels and a 50-millimeter lens was used for all photos. This focal length is the standard used in VIAs because it most closely approximates normal human perception of spatial relationships and scale in the landscape. Additionally, high-resolution video was taken at each of the simulated KOPs for use in video animations demonstrating the WTGs and environment in motion.

For views lacking background alignment features (i.e., identifiable landscape features with known locations), the field crew utilized global positioning system (GPS) equipment with sub-meter accuracy to document the location of each KOP and foreground reference features (e.g., buildings, fences, flag poles) visible in the photos. Where such features were lacking, temporary stakes or flagging were installed, and their locations documented. Precise locations of these features allow accurate camera alignment during the development of visual simulations. It also assures that the resulting simulations have a high degree of accuracy in terms of WTG location and perceived size relative to other landscape features.

Attachment D includes a list and photolog depicting each KOP visited during field review for the Project. It should be noted that all KOPs are named utilizing the initials of the legal municipal boundary in which they occur. For example, AC04 represents the fourth KOP collected in the City of Atlantic City.

2.3 Visual Impact Assessment Methodology

With the degree of potential Project visibility established, data collected during the inventory process was then used to determine the visual impact of the proposed WTGs on the seascape, landscapes, and viewers within the ZVI. This assessment involved selecting representative KOPs within the ZVI, creating computer models of the proposed WTGs, and preparing computer-assisted visual simulations of the proposed Project. These simulations were then used to characterize the type and extent of visual impact resulting from Project construction and operation.

The visual impact of the Project was evaluated using a variation of the VIA procedure outlined in the *USACE Visual Resources Assessment Procedure (VRAP)* (Smardon et al., 1988). However, given the nature of offshore wind projects, which largely occur outside of the location where the Project is being viewed, the VRAP methodology has been modified by EDR in consultation with BOEM. The VRAP Process and modifications applied within this VIA are described in detail below.

2.3.1 Selection of Key Observation Points

EDR identified specific viewpoints prior to, and during, the field verification process as representative KOPs with the potential for development of visual simulations. In addition, Atlantic Shores, LLC and EDR had

discussions with various agencies and stakeholders prior to and throughout field verification. This included the NJDEP, BOEM, and several local stakeholders. The representative KOPs identified through this process, noted as selected KOP or candidate KOP, are listed in Attachment D.

Based on the consultation described above, the photos captured during field verification, and a review of data regarding viewer activity and sensitive public resources, EDR selected a total of 13 unique KOP locations within the Project ZVI for the development of the visual simulations. The KOPs were selected based upon the following criteria:

- They were identified as KOPs by federal, state, local, or tribal officials/agencies as important visual resources, either in prior studies or through direct consultation.
- They provide clear, unobstructed views toward the Project site (as determined through field verification).
- They illustrate the most open views available from historic sites, designated scenic areas, and other VSRs within the ZVI.
- They are representative of a larger group of candidate KOPs of the same type or in the same geographic area.
- They illustrate typical views from LSZs where views of the WTGs are most likely to be available.
- They illustrate typical views of the proposed Project that will be available to representative viewer/user groups within the ZVI.
- They illustrate typical views from a variety of geographic locations and under different lighting conditions to illustrate the range of visual change that could occur with the Project in place.

Locations of the selected KOPs are shown in Figure 2.2-1. Information regarding each of these selected KOPs is summarized in Table 2.2-2 and 2.2-4.

2.3.2 Represented Viewer Groups in KOP Selection

The following describes the variability of viewer groups and viewer activities encompassed by the KOPs selected for visual simulations. Appendix E2 lists the individual KOPs and viewer groups represented.

Five of the selected KOPs, including Seaside Park Borough Boardwalk (SPB01), Beach at Long Beach Island Arts Foundation (LBT03), Beach Haven Historic District (BHB01), North Brigantine Natural Area (BC02), and Jim Whelan Boardwalk Hall (AC02) represent residents, tourists, and fishermen. Each of these viewers have ample opportunity for easterly views toward the Project. Activities include sightseeing, sunbathing, and shore fishing which all involve long-duration, repeated exposure views to the east, over the open ocean. Other activities such as active recreation on the beach result in short-term or even fleeting views over the water. Where applicable, several viewers also engage in boardwalk activities such as walking, dining, and shopping. In these instances, views may be fleeting and occasional where breaks in the dunes offer outward views, but viewers are generally oriented in a north to south direction, parallel to the shoreline.

The KOP from Edwin B. Forsythe NWR at the Woodmansee Estate (LAT01) specifically addresses visibility from a residential neighborhood which has unique viewing circumstances. The Woodmansee Estate does not typically attract tourists or recreation users due to the lack of public amenities for parking. However, the residents of the Woodmansee Estate bordering the Edwin B. Forsythe NWR have opportunities for views over the inland bay and toward the ocean to the south. Views from within this area are typically long

duration, stationary, and repeated suggesting an elevated level of viewer sensitivity. This location may also represent numerous boaters that use the inland bay channels to travel to and from the ocean. These viewers are expected to have short-duration and often fleeting views while travelling within the designated channels running north to south.

One KOP from Bass River State Forest (BRT01) will be most frequently used by residents and tourists who come to this location for a variety of activities, including hiking, camping, picnicking, and wildlife viewing (particularly bird watching). However, this KOP is not centered around the hub of accommodated activities which are generally contained to the forested areas north of the KOP. Therefore, this KOP represents a potential view that would be seen by more active recreationalists engaged in bird watching, hiking, or skiing. Views across the backwater bays are limited from within the main state forest and therefore views toward the Project would be minimal from these locations. This particular KOP is most likely to represent occasional, short duration views oriented in an east-west direction.

Great Bay Boulevard WMA/Rutgers Field Station (LEHT02) represents typical views experienced by residents, tourists, and fishermen. This location is accessed by an informal parking area and woodland trail that ends at this inland beach. No amenities are provided for users of this space, but visitors (typically local residents) use it frequently for shoreline fishing. The viewers that use this space will generally be focused on views to the southeast and south where the Atlantic City skyline is prominent in the background. Views toward the ocean are generally of long-duration and repeated in nature.

The Ocean Casino Resort Sky Garden (AC04) represents typical elevated views experienced residents and tourists that frequent the numerous resources along the Atlantic City coast. Generally, the sky deck is used as a viewing platform and event space for the Ocean Casino Resort which hosts dining, gambling, and sightseeing activities, but may also represent the type of view expected from numerous hotel balconies along the coastline. Viewers that approach this elevated location are typically viewing due east as well as north and south to observe activity on the boardwalk below. These views can be described as occasional and relatively long duration with concentrated viewing over the ocean.

The view from Lucy the Margate Elephant (MC02) and Cape May Lighthouse (LT02) provide representative views from specific tourist destinations and from which there are no similar public vantage points nearby. Although vastly different elevations, these KOPs represent places where people go to see a view and to explore a very specific place. MC02 has a much more focused viewshed to the east, while Cape May Lighthouse (LT02) has an intermittent panorama spanning 360 degrees and including the Delmarva peninsula. Although, very different views, the user intent and experience are similar. These types of views are generally occasional and of relatively short duration, but the views are experienced by a vast number of tourists throughout the year.

The KOP from Gillian's Wonderland Pier (OC04) provides a unique vantage point that includes residents and tourists who engage in a wide variety of activities, including passive and active recreation at the amusement park and on the beach, shopping, and dining on the boardwalk. These types of activities are likely to result in occasional to fleeting views toward the ocean due to the north and south orientation to the water. Conversely, sunbathers, shoreline fishermen, and sightseers are likely to focus their gaze over the ocean to the east more regularly. Although, the abundant activity on the boardwalk and amusement park are also likely to draw viewer attention frequently during the busiest times of the season.

The KOP from Townsend's Inlet Bridge (SIC02) is a representative view that would be typically experienced by people travelling in cars, running, walking, or riding bikes. This bridge provides an elevated vantage point that is typically fleeting and short duration in nature. Given the high volume of traffic that travels this route, it is not particularly inviting for prolonged viewing. However, nearby beaches below the bridge provide opportunities for sunbathing, passive and active recreation, and shoreline fishing.

Table 2.2-2 KOPs Selected for Visual Simulations

KOP	KOP Name	Location	Latitude, Longitude (WGS 84)	LSZ	Distance to The Project (Miles/km)
SPB01	Seaside Park Borough Boardwalk	Seaside Park Borough, Ocean County, New Jersey	39.93533° N, 74.07164° W	Commercial Beachfront	39/62.8
LAT01	Edwin B. Forsythe NWR at the Woodmansee Estate	Lacey Township, Ocean County, New Jersey	39.83711° N, 74.15082° W	Dredged Lagoon	32.2/51.8
LBT03	Beach at Long Beach Island Arts Foundation	Long Beach Township, Ocean County, New Jersey	39.72895° N, 74.12058° W	Oceanfront Residential	24.9/40.1
BRT01	Bass River State Forest	Bass River Township, Burlington County, New Jersey	39.57672° N, 74.40830° W	Salt Marsh	18.5/29.8
BHB01	Beach Haven Historic District	Beach Haven Borough, Ocean County, New Jersey	39.56188° N, 74.23540° W	Oceanfront Residential	13.5/21.7
LEHT02	Great Bay Boulevard WMA/Rutgers Field Station	Little Egg Harbor Township, Ocean County, New Jersey	39.50913° N, 74.32038° W	Salt Marsh	11.9/19.2
BC02	North Brigantine Natural Area	Brigantine City, Atlantic County, New Jersey	39.42954° N, 74.33968° W	Undeveloped Beach	9.0/14.5
AC04	Ocean Casino Resort – Sky Garden	Atlantic City, Atlantic County, New Jersey	39.36225° N, 74.41353° W	Atlantic City	10.5/16.9
AC02	Jim Whelan Boardwalk Hall (Atlantic City Convention Center NHL)	Atlantic City, Atlantic County, New Jersey	39.35245° N, 74.43817° W	Atlantic City	11.4/18.3
MC02	Lucy the Margate Elephant NHL	Margate City, Atlantic County, New Jersey	39.32088° N, 74.51170° W	Commercial Development Strip	14.4/23.2
OC04	Gillian's Wonderland Amusement	Ocean City, Cape May County, New Jersey	39.27510° N, 74.56878° W	Commercial Beachfront	17.2/27.7
SIC02	Townsend Inlet Bridge	Sea Isle City, Cape May County, New Jersey	39.11919° N, 74.71579° W	Open Water/Undeveloped Bay	27.4/44.1

KOP	KOP Name	Location	Latitude, Longitude (WGS 84)	LSZ	Distance to The Project (Miles/km)
LT02	Cape May Point State Park	Lower Township, Cape May County, New Jersey	38.93300° N, 74.96038° W	Recreation	45.0/72.4

Figure 2.2-1 Location of Key Observation Points

(1 page)

2.3.3 Visual Simulations

To show anticipated visual changes associated with the proposed Project, high-resolution, georeferenced, three dimensional (3D) models of the Project components were prepared and used to create realistic photographic simulations of the Project from each of the KOPs. The photographic simulations were developed by constructing a 3D computer model of the proposed WTGs, Project layout, and OSSs based on design specifications and coordinates provided by Atlantic Shores. The 3D model included 20 MW WTGs, which is the largest technology under consideration for the Project. Details regarding the WTG and OSS dimensions and a diagram of the 3D model are included in Section 1.1.

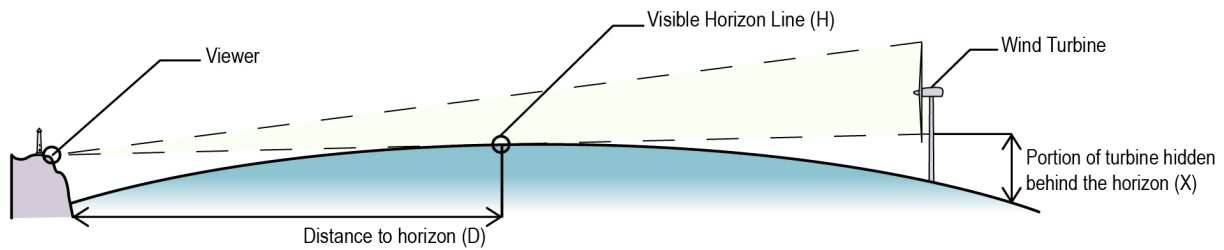
Photographic Alignment Process

To create the visual simulations, the location, bearing, and camera data used to photograph each KOP are entered into a georeferenced 3D workspace to create a virtual camera matching the exact specifications of the field camera. At this point, the GPS survey data collected in the field (Section 2.2.1) are entered into the 3D workspace to establish foreground reference points with known locations. These data were superimposed over photographs as seen through the virtual camera from each of the viewpoints, and minor camera changes (height, roll, bearing) were made as necessary to align all known reference points within the view. In addition, the existing built and natural environment present in the view is constructed in the 3D workspace using aerial photographs, lidar data, and DEM data. This alignment process ensures that Project elements are shown in proportion, perspective, and proper relation to the existing landscape elements in the view. Consequently, the alignment, elevation, dimensions, and scale of the modeled Project components are accurate and true in their relationship to other landscape elements in each photo.

Wind Farm Model

The next step involves positioning the WTG layout in each of the aligned views at the appropriate distance in front of, at, or below the horizon (depending on the distance from the viewer). This was done by first determining the distance to the horizon (ocean/sky interface) visible in the photograph. This is accomplished by entering the viewer position and elevation into the Haversine Formula, which uses the radius of the earth (corrected for refraction)³ to calculate the mathematical distance to the horizon (D), or the point at which the sky meets the water (see Inset 2.3-1, below). This distance is then used to draw a horizontal line (virtual horizon) in the 3D model representing the mathematical horizon line, which is visible through the virtual camera. The virtual horizon is then precisely aligned to the visible horizon (D) in the photograph by making minor adjustments to the virtual camera target on the vertical axis. With the virtual horizon aligned to the photographed horizon, the positions of the individual WTGs are placed relative to this horizon line. The Haversine Formula was then used to determine each turbine's position, relative to the horizon (X). For example, if the WTG appears in front of the horizon, the returned value is zero and the WTG will be placed at the horizon. If the WTG appears behind the visible horizon, the returned value will be a negative number (-X). This value was then applied to the turbine's vertical position in the model so that it appears below the visible horizon at the -X value.

³ Refraction values assume "typical" viewing conditions and do not account for atmospheric anomalies such as the mirage effect which is typically rare and of short duration but may temporarily increase turbine visibility.



Inset 2.3-1 Curvature of the Earth and Refraction Diagram

Daytime Environmental Conditions

After the model was created, the proposed exterior color/finish of the WTGs was added, and the appropriate sun angle was simulated based on the specific date, time, and location at which each photo was taken. This information allows the computer to accurately illustrate highlights, shading, and shadows for each individual component of the Project shown in the view. All simulations show the WTGs with rotors oriented toward the viewer, to illustrate the largest potentially visible surface area of the Project. The simulations illustrate the Project using a standard 50 mm camera lens which presents an approximately 40-degree horizontal field of view and a 27-degree vertical field of view. As mentioned previously, this is the standard focal length used in VIAs, because it most closely approximates normal human perception of spatial relationships and scale in the landscape. As mentioned in Section 2.3.1, the selection of KOPs was partly based on the availability of a clear, unobstructed view of the proposed Project. However, even under the clearest possible day, atmospheric perspective (diminishment caused by moisture and particulate matter in the atmosphere) will reduce the visibility of the WTGs and OSSs. Therefore, to account for this visibility diminishment, slight hazing was applied to the simulations to account for the atmospheric conditions present in the existing conditions photograph. To accomplish this, a “z-depth” was created for each of the simulations which simulates the diminishment of visibility over distance. This step is an important consideration for the realism of the visual simulations. However, it should also be noted that the conditions presented in the visual simulations illustrate exceptionally clear conditions, and therefore the applied hazing was generally minimal. It is also worth noting that visibility over 10 miles, as illustrated in the simulations, is not the typical viewing condition within the VSA. Further discussion of atmospheric conditions and their effect of visibility is included in Section 2.5.4.

Nighttime Environmental Conditions

To prepare nighttime simulations, EDR obtained data on the proposed AOWL from the *FAA Advisory Circular 70/7460-1M*, and the *Draft Proposed Guidelines for Providing Information on Lighting and Marking of Structures Supporting Renewable Energy Development* (BOEM, 2019) which set guidelines for the lighting of WTGs (FAA, 2020). In addition, EDR documented views of the operational BIWF to determine the appearance of the warning lights at night at distances beyond 20 miles. Computer modeling and camera alignment for the nighttime photos were conducted in the same manner described for the daytime simulations. However, modifications of the nighttime photos (e.g., compositing foreground and background images obtained using different shutter speeds) was required in some cases to create a realistic representation of a nighttime view. These modifications included the reduction of “hotspots” which can be caused by the cameras inability to accurately expose a light source in a very dark scene. Under very dark conditions, the center of a light

source may appear light red to white, depending on the camera distance relative to the light source. However, actual observations of the lights suggest that they appear uniform across the entire source of light. To account for this, a lower exposure photograph was taken to represent the lights at each viewpoint. These lights were then transposed to the properly exposed night scene.

It was assumed that all lights will flash in a synchronized manner, as currently set forth by FAA guidelines. Nighttime simulations therefore show all WTGs with their lights on illustrating maximum illumination. However, Section 3.3 discusses technology being considered by Atlantic Shores to reduce the overall activation time of the AOWL. Due to the effects of the curvature of the earth and refraction, USCG navigation lights on the WTGs were only considered in views that had a direct line of sight to the deck at the WTG base, which is approximately where the USCG lights would be located. The complete set of photographic simulations developed for this VIA is provided in Attachment E.

Video Simulations

As discussed in Section 2.2.1, during the field review EDR recorded 60 seconds of video to capture the motion and sound present at each KOP. EDR then used this footage to produce animated simulations for five KOPs using the same viewpoint alignment process described above for the still simulations. However, rather than rendering a single frame representing a single point in time, multiple frames were rendered while the 3D turbine blades were in motion. Each individual rendering of the WTGs was placed in sequence to give the impression of blade rotation. Additionally, the aviation obstruction lights were animated to flash at a rate of 30 flashes per minute for the nighttime video simulation. The 3D renderings of the Project were then superimposed over the baseline video. Changes to environmental variables such as sunrise were accomplished by adjusting the color, hue, and saturation of the video to achieve the desired lighting condition for the corresponding time of day. To simulate the path of the sun in each scene, a digital lighting system that replicated the sun was placed into the scene and animated to follow the azimuth and altitude of the sun throughout the day. Links to the video simulations are provided below in Table 2.3-1.

Table 2.3-1 Video Simulation Links

KOP ID	Location	Distance From Project	Link
BHB01	Beach Haven Historic District	13.5	https://vimeo.com/577181478/a2a5e49788
AC03	Atlantic City - Madison Hotel Nighttime	11.1	https://vimeo.com/manage/videos/577181457/ebaeb785ac
AC03	Atlantic City - Madison Hotel Daytime	11.1	https://vimeo.com/manage/videos/577181385/8c736e9768
SPB01	Seaside Park Borough	39.0	https://vimeo.com/manage/videos/577181305/56eec3ebfb
MC03	Huntington Park Margate City,	13.8	https://vimeo.com/manage/videos/577181130/2986a959db

2.3.4 Visual Impact Assessment Procedure

The visual impact of the Project was evaluated using a modified version of the VIA procedure outlined in the USACE VRAP (Smardon et. Al., 1988). This evaluation is based on a comparison of existing photographs and visual simulations from each KOP to quantify the potential visual effects resulting from the Project using a modified scoring system provided in the VRAP Manual (Smardon et al., 1988). The following section describes this assessment procedure and how it was used to complete the following assessments:

1. Establish the *Scenic Quality Classification* (SQC) of each KOP by quantitatively evaluating the baseline (existing) scenic quality of the existing view.
2. Using the same procedure, evaluate the KOPs with the Project in place (proposed view) to determine the *VIA score*.
3. Compare the existing and proposed views to describe the overall visual effect of the Project.
4. Evaluate *compatibility and contrast* resulting from the Project by determining the degree of compatibility, scale contrast, and spatial dominance at each KOP.
5. Determine the *visibility threshold level* (VTL) from each of the KOPs.

The process used to complete each of these procedures is described in detail, below.

2.3.4.1 Scenic Quality Classification

The VRAP process typically establishes a threshold acceptable visual change resulting from a proposed project by using the Management Classification System (MCS) to evaluate the visual quality/sensitivity to visual impact of each identified LSZ. However, based on consultation with BOEM, it was determined that the MCS procedure included in the VRAP was better suited to projects occurring onshore (within the affected LSZs). Given the nature of offshore wind projects, which occur outside of the LSZs where the Project is being viewed, and to avoid the broad application of averaging across an entire VSA, the methodology was adapted to apply the MCS procedure to the individual KOPs. As such, the MCS process was more appropriately titled, the Scenic Quality Classification (SQC). The SQC score for a given KOP is developed in the same manner as the MCS classification in the VRAP process. However, rather than applying to broad LSZs this SQC score will inform sensitivity to visual change at each individual KOP as well as provide allowable thresholds of visual impact resulting from the Project. The SQC definitions and visual impact thresholds are provided below in Table 2.3-1.

To ensure that the scoring of one individual or one viewpoint does not skew the results, the VRAP requires that multiple rating panel members (minimum of two) be involved, and that multiple viewpoints be evaluated. The aesthetic quality of each of the KOPs, existing and proposed conditions, was evaluated by a panel of four visual professionals (see resumes in Attachment F). Each panel member was given access to digital files including the following information:

- Rating panel guidance, including definition of terms (see Attachment G).
- Narrative descriptions and maps of each of the defined LSZs (see Section 1.2.3).
- Maps illustrating the ZVI and the Project Location (see Figure 3.3-1).
- Google Earth Placemarks identifying each KOP within the VSA.
- Existing conditions photos and simulations of the proposed project for each of the selected KOPs along with viewing instructions (see Attachment E).
- Panoramas illustrating the full field, VSRs, LSZ, distance to the Project, and the portion of Project visible from each KOP (see Attachment E).
- Rating forms to be used for KOP familiarization, SQC scoring, and Visual Impact Assessment (VIA) scoring (modified versions of the USACE VRAP Forms 4 and 6, Attachment G).

In addition, all panel members participated in a meeting to review the Project details, contents of the rating panel package, and instructions on completing the rating forms they had been provided.

To ensure the proper viewing distance of the visual simulations, each of the images presented to the panel contained a graphic scale measuring one inch long. The rating panel members were instructed to use a measuring device to ensure this scale bar was accurate whether they view the simulations on screen or printed to ensure the proper scale of the simulation. In addition, due to the distance and scale of the Project in many of the visual simulations, the panel members were instructed to zoom into the visual simulations to a maximum of 150 percent if necessary to locate and view the Project⁴. The rating panel members then evaluated the before and after views from each KOP as “distinct”, “average”, or “minimal”, and assigned each view a quantitative aesthetic quality rating. The ratings were based on the visual quality of each of six landscape components (landform, water resources, vegetation, land use, user activity, and special considerations) with and without the Project in place. These rating categories are defined as:

- **Distinct:** Something that is considered unique and is an asset to the area. It is typically recognized as a visual/aesthetic asset and may have many positive attributes. Diversity and variety are characteristics in such a resource.
- **Average:** Something that is common in the area and not known for its uniqueness, but rather is representative of the typical landscape of the area.
- **Minimal:** Something that may be looked upon as a liability in the area; meaning it basically lacks any positive aesthetic attributes and may actually diminish the visual quality of surrounding areas.

VRAP Form 6 (Viewpoint Assessment) was modified to: 1) create separate forms for the evaluation of the existing view and the view with the proposed Project in place, 2) provide clarity in evaluating Project compatibility, scale contrast, and spatial dominance, and 3) delete items that do not contribute to the assignment of a numerical VIA score to the viewpoint. The standard three-point rating system used in the VRAP does not always allow for sufficient differentiation among ratings for either existing visual quality or the magnitude of visual impact. Consequently, the panel members were allowed to rate the images on an expanded scale of 1 to 9. These scores will then be converted back to the scale used on the original Form 6 to remain consistent with the VRAP scoring and threshold values.

The following landscape/seascape factors were considered in the rating, and where applicable, their presence and influence on the view were expressed in the visual impact rating.

- **Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes. These factors are included in the VRAP methodology and will be rated quantitatively for the existing and proposed view.
- **Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape

⁴ The simulations require a high-definition monitor measuring no less than 24 inches of useable area measured on a diagonal.

is a primary determinant of visual impact. Line, form, color, and texture are directly applied to the landscape and seascape composition ratings described above. These factors will be assessed both quantitatively and qualitatively on the rating forms.

- **Focal Point:** Certain natural or human-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape. Focal points in the existing view and how those may be affected by the Project will be described on the rating form.
- **Order:** Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape or seascape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment. The Project's effect on order will be addressed in the rating panel comments.
- **Scenic or Recreational Value:** Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource. Formally designated scenic or recreational designations will be identified for the panel members, and the panel will be asked to comment on the project's potential effect on scenic or recreational resources.
- **Duration of View:** Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact. Background information for each KOP will contain a description of the user experience in terms of regional visibility and the availability of ocean views from each location. The rating panel will be asked to comment on the duration and frequency of the view presented for each KOP.
- **Atmospheric Conditions:** Clouds, precipitation, haze, and other ambient air-related conditions which affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of landscape/seascape and project components and the design elements of form, line, color, texture, and scale. Rating panel members will be asked to comment on the conditions presented in each view, as well as how Project visibility may be less or greater under conditions different from those illustrated in the selected visual simulation.
- **Lighting Direction:** Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape/seascape and project elements. Rating panel members will be asked to characterize each view as illustrating one of three possible lighting conditions (front lit, side lit, and backlit) and comment on potential conditions that may increase or decrease Project visibility.
- **Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing landscape/seascape. Perception of project scale is likely

to vary depending on the distance from which it is seen and other contextual factors. Project scale contrast will be assessed through quantitative scores built into the VRAP procedure.

- **Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint. The Project's spatial dominance will be assessed through quantitative scores built into the VRAP procedure.
- **Visual Clutter:** Numerous unrelated built elements occurring within a view can create visual clutter, which generally has an adverse effect on scenic quality. If present, visual clutter, both existing and as a result of the proposed Project will be assessed qualitatively in the rating panel comments.
- **Movement:** Moving project components can attract viewer attention. Rating panel members will be asked to comment on existing elements in the view that may draw viewer attention as well as a potential increase in noticeability of the Project resulting from the rotation of the turbine blades.

Following the panel's evaluation, each panel member's ratings were compiled to determine individual scores for each KOP. The four individual ratings were then averaged to generate a composite SQC rating for each KOP. Since Project visibility is largely limited to areas that include open water in the view, 10 of the 18 LSZs (Commercial Beachfront, Dredged Lagoon, Oceanfront Residential, Salt Marsh, Undeveloped Beach, Atlantic City, Commercial Strip Development, Open Water, Undeveloped Bay, and Recreation) and two distance zones (Background and Extended Background) were represented by the simulations. These simulations show the full range of Project visibility and visual effect that will be available from publicly accessible vantage points within the ZVI for the proposed Project.

Table 2.3-1 Scenic Quality Classifications

Scenic Quality Classification	Total Assessment Value	Acceptable Impact Threshold Reduction	Description
Preservation	17 & above	0	These areas are considered to be unique and to have the most distinct visual quality in the region. They are highly valued and are often protected by Federal and State policies and laws. These areas include wilderness areas, some natural areas, portions of wild and scenic rivers, historic sites and districts, and similar situations where changes to existing resources are restricted. While limited project activity is not precluded, it should not be readily evident. Structures, operations, and use activities should appear to be extensions of the protected resource and should faithfully represent, repeat, or reinforce the visual character of that resource.
Retention	14-18	2	These areas are regionally recognized as having distinct visual quality but may not be institutionally protected. Project activity may be evident but should not attract attention. Structures, operations, and use activities should remain subordinate to the existing visual resources and should repeat the form, line, color, texture, scale and composition characteristics of the resource.
Partial Retention	11-13	5	These areas are locally valued for above average visual quality but are rarely protected by institutional policies. Project activity may be evident and begin to attract attention. Structures, operations, and use activities should remain subordinate to the existing visual resources. Form, line, color, texture, scale, and composition may differ from but should be compatible with the visual characteristics of the existing resource.
Modification	8-10	6	These areas are not noted for their distinct qualities and are often considered to be of average visual quality. Project activity may attract attention and dominate the existing visual resource. Structures, operations, and use activities may display characteristics of form, line, color, texture, scale, and composition that differ from those of the existing visual resources. However, the project should exhibit good design and visual compatibility with its surroundings.
Rehabilitation	Below 8	8	These areas are noted for their minimal visual quality and are often considered blighted areas. Project activity should alter the existing undesirable visual resources. Structures, operations, and use activities should exhibit good design and display characteristics of form, line, color, texture, scale, and composition that contribute to making the area compatible with the visual character of adjacent higher quality landscapes.

2.3.4.2 Visual Impact Assessment Rating

Once the SQC of the existing view has been established, the same evaluation procedure was applied to the visual simulations of the operational Project using the same procedure and evaluation criteria described above. As described above, each of the visual impact scores were totaled and averaged across all four rating panel members. This resulted in a VIA score that was directly compared to the SQL score to determine the

level of visual impact at each selected KOP. If the score decreased by a factor greater than the acceptable threshold reduction (see Table 2.3-1), it is likely that under ideal viewing conditions, the Project will result in significant visual impacts to the subject KOP.

2.3.4.3 Compatibility and Contrast

To further evaluate the degree of visual impact associated with the Project, rating panel members evaluated the three impact determining factors, including compatibility, scale contrast, and spatial dominance. Each of these factors is considered for specific landscape/seascape element, including water resources, landform, vegetation, land use, and user activity. The levels of potential impact are indicated below in Table 2.3-2.

Table 2.3-2 Compatibility and Contrast Rating

Compatibility		Scale		Spatial Dominance	
1	Compatible	1	Minimal	1	Subordinate
2	Somewhat Compatible	2	Moderate	2	Co-Dominant
3	Not Compatible	3	Severe	3	Dominant

The rating panel scores were then averaged and rounded to the nearest whole number in order to determine the Project compatibility, scale contrast, and spatial dominance relative to each landscape/seascape element at each KOP.

2.3.4.4 Visibility Threshold Level

To supplement and validate VRAP results, rating panel members were asked to determine the Visibility Threshold Level (VTL) applicable to each of the KOPs and the broader regional landscape they represent. *Offshore Wind Turbine Visibility and Visual Impact Threshold Distances* (Sullivan et.al., 2013) lists six VTLs used to rate the visual prominence of several operational offshore wind farms in Europe. The VTL scores and descriptions are presented below in Table 2.2-4.

The complete set of rating panel forms is provided in Attachment G.

Table 2.2-4 Visibility Threshold Level Rating Scale

Visibility Rating	Description
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections! and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45 degrees from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.

Source: *Offshore Wind Turbine Visibility and Visual Impact Threshold Distances* (Sullivan et.al., 2013)

3.0 VISUAL IMPACT ASSESSMENT RESULTS

The results of the visual impact assessment are presented below. Section 3.1 presents the visibility assessment results as indicated by the viewshed analysis and field verification, and Section 3.2 summarizes the visual impact assessment results based on the visual simulations and rating panel review.

3.1 Potential Project Visibility

3.1.1 Viewshed Analyses

Potential Project visibility, as indicated by the viewshed analyses, is illustrated in Figure 3.1-1 and summarized in Tables 3.1-1 through 3.1-4. Within the VSA, the lidar-based viewshed analysis indicates that approximately 12.5 percent of the landward VSA could have potential views of some portion of the Project, based on the availability of an unobstructed line of sight to the tallest Project components (WTG blade tips in the upright position, see Table 3.1-1). This suggests that a majority of the VSA (87.5 percent) will not have any potential views of the Project. This lack of potential visibility occurs in locations where buildings, structures, and vegetation screen views toward the Project, but from more distant portions of the VSA curvature of the earth and topographic features also contribute significantly to the lack of visibility. Forest land is the dominant land use, covering approximately 55 percent of the landward VSA, and will significantly reduce potential Project visibility throughout the majority of the mainland areas. In areas of concentrated human settlement, such as the barrier islands, and mainland shorelines, closely situated buildings/structures will also significantly screen outward views. Considering the screening provided by buildings, structures, vegetation, and topography, potential landward Project visibility is largely restricted to the ocean shoreline, salt marshes and inland bays west of the barrier islands. Barrier islands that lack shoreline development typically have large areas of contiguous visibility extending across the inland bays and into the marshy, uninhabited areas associated with the mainland river estuaries.

Table 3.1-1 WTG Blade Tip – Land Area Viewshed Results Summary

Distance from The Project Envelope	40-Mile Radius VSA (Units in Square Miles)		
	Total Land Area	Land Area with Potential Visibility (ZVI)	Percent of Distance Zone Within Landward Study Area (%)
0 to 10 Miles	4.6 (11.8 sq. km)	3.8 (9.8 sq. km)	83.1
10 to 20 Miles	266.9 (691.4 sq. km)	155.2 (401.9 sq. km)	58.1
20 to 30 Miles	589.3 (1,526.3 sq. km)	85.7 (222.0 sq. km)	14.5
30 to 40 Miles ¹	1,438.1 (3,724.8 sq. km)	43.7 (113.2 sq. km)	3.0
Total 40 Mile Landward Study Area	2,298.9 (5,954.2 sq. km)	288.3 (746.8 sq. km)	12.5

¹This includes a small area that is greater than 40 miles from the Project Envelope, which was incorporated for evaluation of potential visibility from Cape May.

Blade Tip Viewshed Analysis Results

Within 10 miles (16 km) of the Project, the viewshed analysis suggests that 83.1 percent of the landward VSA will have potential visibility of the Project (See Table 3.1-1). Considering the tallest components of the Project, the viewshed analysis indicates that potential visibility of the Project will be available from the

majority of the coastline associated with the coastal barrier island of Brigantine (Figure 3.3-1). This includes contiguous areas of concentrated visibility on the northern tip of the island on North Beach, and portions of North Brigantine. However, heavily vegetated portions of Absecon State WMA and the dune system directly adjacent to the beach will likely be screened from views of the Project, as indicated by a narrow band extending in a northeasterly direction in the viewshed analysis. South of the Absecon State WMA, within developed portions of Brigantine City the viewshed analysis indicates significant screening resulting from closely situated homes immediately adjacent to the beach. However, potential visibility occurs along roads perpendicular to the shoreline and oriented toward the Project. These small corridors of visibility occur along the majority of roads in this portion of the VSA and extend between approximately 1,000 ft (305 m) to 3,000 ft (914 m) inland. Generally, these areas are confined to the road rights of way, but occasionally expand outward where open space occurs adjacent to the roads. This condition occurs at the Links at Brigantine Beach Golf Course where discrete corridors of visibility extend from the roads and expand outward across a portion of the fairways.

The backwater bays and salt marshes occurring to the west of the barrier islands and Brigantine Inlet are indicated by the viewshed to have full visibility of the WTG array. This includes portions of Absecon State WMA and the associated uninhabited salt marshes and bays. Detailed results of the viewshed analysis are presented below by distance from the Project. The viewshed analysis results are illustrated in Figure 3.3-1.

Within 10 to 20 mi (16 to 32 km) of the nearest proposed WTG, viewshed analysis indicates contiguous areas of potential visibility along the immediate barrier island shoreline. Within this zone, 58.1 percent of the landward VSA may have visibility of some portion of the Project (See Table 3.1-1). However, intense development immediately adjacent to the shoreline largely limits the extent of inland visibility. This condition is particularly apparent in Atlantic City, Ventnor City, Margate City, Long Port, and Ocean City to the west and southwest of the Project, as well as Beach Haven and Surf City to the Northwest of the Project. In these locations high density beachfront development, dunes, and vegetation generally restrict visibility to the immediate beach shoreline, and the interior of the barrier islands and back bay shorelines are indicated as being fully screened from view. Notable exceptions occur in the vicinity of undeveloped portions of the barrier islands such as Beach Haven Heights, Island Beach State Park, and Great Egg Harbor Inlet where areas of potential visibility extend across the entire barrier island into the inland bays.

From distances between 20 to 30 miles (32 to 48 km) from the Project the viewshed analysis indicates that potential visibility will be available from approximately 14.5 percent of the landward VSA (See Table 3.1-1). Again, within this zone, visibility is possible along the immediate barrier beaches in Ocean City, Sea Isle City, and Avalon in the southern portion of the VSA and Surf City, North Beach, Harvey Cedars, and Barnegat Light in the northern portion of the VSA. In these areas intensive beachfront development limits potential Project visibility to the beach, boardwalk, and adjacent dune system. Occasional views occur in open space areas associated with public beach parking lots and parks such as in Southern Ocean City and Barnegat Light, and along roadways oriented toward the Project and perpendicular to the shoreline which occurs minimally in Ocean City. Similar to other zones, visibility occurs again to the west of the barrier island due to the presence of open water and salt marsh which both lack significant screening features. Significant areas of potential inland bay visibility occur in Sites Sound, Townsend Sound, Ludam Bay, Carson Sound, and Peck Bay in the southern portion of the VSA and Manahawkin Bay in the northern portion of the VSA. Mainland visibility is limited to the immediate inland bay shoreline in most instances. However, exceptions occur in Bass River and Little Egg Harbor Townships where a large area of contiguous visibility is indicated in a predominantly forested area. Review of online databases and maps suggest that this visibility is the

result of low growing forest vegetation associated with the pinelands and actual visibility of the Project from this area would be very unlikely. The open area associated with the Atlantic City International Airport also includes a large area of potential Project visibility along with the Mullica, Great Egg Harbor, Tuckahoe, and Middle Rivers including the surrounding undeveloped wetlands and marshes.

From distances between 30 to 40 miles (43 to 64 km) potential Project visibility is generally limited to the barrier island shoreline and typically extends as far as the vegetated dunes before diminishing completely within the inland portions of the islands. Within this zone, potential Project visibility was indicated within 3 percent of the landward VSA. This visibility primarily occurs along the southern VSA beaches of Stone Harbor, Wildwood, and Diamond Beach and diminishes completely at the jetty north of Cape May Harbor. In the northern portion of the VSA, potential visibility of the Project occurs along portions of South Seaside Park, Seaside Heights and along undeveloped portions of the beach in the remainder of Berkeley Township. Within the 30 to 40 miles zone large areas of visibility occur beyond the barrier islands in the inland bays and adjacent mainland shoreline. The visibility from inland bay areas is consistent throughout the VSA and include portions of Richardson Sound, Cape May Wetlands, and Great Sound in the Borough of Middle Township in the southern portion of the VSA and Barnegat Bay in the northern portion of the VSA. Mainland visibility within this zone is limited to the immediate inland bay shoreline with the exception of a few very small areas of potential visibility in the vicinity of Coyle Airfield in Woodland Township.

Aviation Obstruction Warning Light (FAA) Viewshed Analysis Results

As discussed in Section 2.2, an additional viewshed analysis was completed to assess the potential visibility of the AOWL affixed to the WTG nacelle at a height of 607 feet. The FAA viewshed analysis (Figure 3.1-1) suggests that visibility of the AOWL could be available from approximately 9.0 percent of total land area within the Project VSA (Table 3.1-2). This reduction in visibility can be attributed to the lower height of the lights (relative to the blade tips) combined with the screening effects of curvature of the earth for more distant areas within the VSA. Generally, the FAA viewshed indicated visibility in a majority of the areas indicated as having blade tip visibility, but the actual footprint of the ZVI in these areas is significantly smaller and typically extend over a smaller portion of the inland bays and the more distant barrier island beachfront. This condition is most apparent in the northern and southern extent of the VSA in which the FAA viewshed visibility ends approximately 3 miles (5 km) short of the blade tip viewshed analysis. In the inland bays and mainland this same condition is apparent in the vicinity of Cape May where visibility indicated by the FAA viewshed analysis ends 10 miles (16 km) short of the visibility indicated by the blade tip viewshed analysis.

Table 3.1-2 Aviation Obstruction Light – Land Area Viewshed Results Summary

Distance from The Project Envelope	40-Mile Radius VSA (Units in Square Miles)		
	Total Land Area	Land Area with Potential Obstruction Light Visibility	Percent of Distance Zone Within Landward Study Area (%)
0 to 10 Miles	4.6 (11.8 sq. km)	3.6 (9.3 sq. km)	79
10 to 20 Miles	266.9 (691.4 sq. km)	140.1 (362.9 sq. km)	52.5
20 to 30 Miles	589.3 (1,526.3 sq. km)	51.0 (132.0 sq. km)	8.6
30 to 40 Miles ¹	1,438.1 (3,724.8 sq. km)	11.8 (30.5 sq. km)	0.8
Total 40 Mile Landward Study Area	2,298.9 (5,954.2 sq. km)	206.5 (534.8 sq. km)	9

¹This includes a small area that is greater than 40 miles from the Project Envelope, which was incorporated for evaluation of potential visibility from Cape May.

In addition to the land area visibility, Project visibility from the open ocean was also considered separately in the viewshed analysis. The blade tip viewshed analysis revealed that up to 88.3 percent of the water surface in the VSA could have some level of Project visibility (Table 3.1-3). Areas indicated as screened by the viewshed analysis include Delaware Bay on the west side of Cape May and the northern portion of the VSA where visibility diminishes due to curvature of the earth.

Table 3.1-3 Blade Tip – Water Area Viewshed Results Summary

Distance from The Project Envelope	40-Mile Radius VSA (Units in Square Miles)		
	Total Water Area	Water Area with Potential Visibility (ZVI)	Percent of Distance Zone Within Water Study Area (%)
0 to 10 Miles	957.0 (2,478.6 sq. km)	957.0 (2,478.6 sq. km)	100
10 to 20 Miles	1,164.3 (3,015.5 sq. km)	1,164.3 (3,015.5 sq. km)	100
20 to 30 Miles	1,468.6 (3,803.7 sq. km)	1,468.6 (3,803.7 sq. km)	100
30 to 40 Miles ¹	2,972.2 (7,698.1 sq. km)	2,202.8 (5,705.1 sq. km)	74.1
Total 40 Mile Water Study Area	6,562.1 (16,995.9 sq. km)	5,792.6 (15,002.9 sq. km)	88.3

¹This includes a small area that is greater than 40 miles from the Project Envelope, which was incorporated for evaluation of potential visibility from Cape May.

Based on the height of the AOWL, the FAA viewshed analysis reduced visible areas to approximately 69.3 percent of the water surface (Table 3.1-4). This reduction in visibility can be largely attributed to the curvature of the earth, which will screen views of the lights at distances beyond 35 miles when viewed from water level.

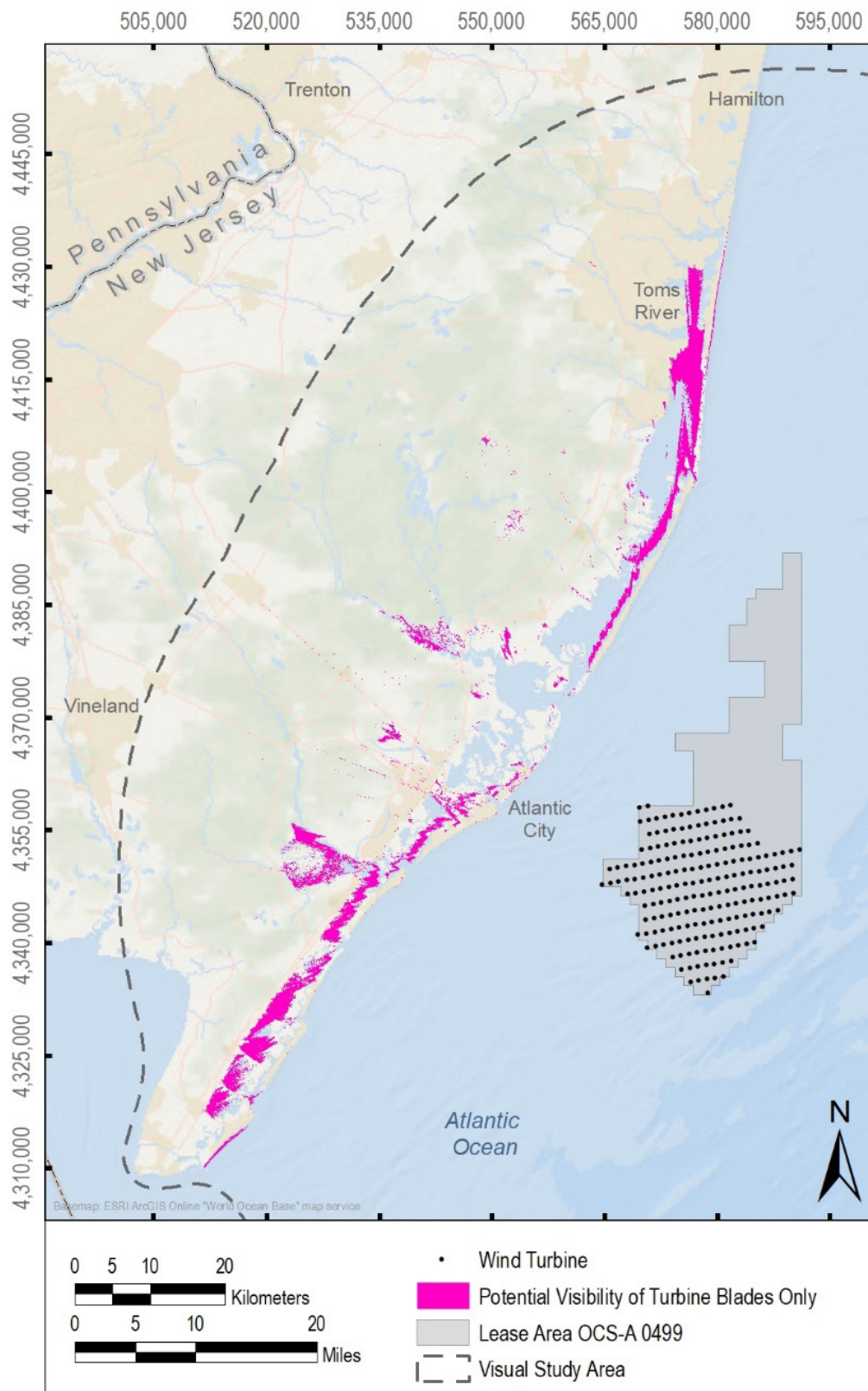
Table 3.1-4 Aviation Obstruction Light – Water Area Viewshed Results Summary

Distance from The Project Envelope	40-Mile Radius VSA (Units in Square Miles)		
	Total Water Area	Water Area with Potential Obstruction Light Visibility	Percent of Water Study Area (%)
0 to 10 Miles	957.0 (2,478.6 sq. km)	957.0 (2,478.6 sq. km)	100
10 to 20 Miles	1,164.3 (3,015.5 sq. km)	1,164.3 (3,015.5 sq. km)	100
20 to 30 Miles	1,468.6 (3,803.7 sq. km)	1,468.6 (3,803.7 sq. km)	100
30 to 40 Miles ¹	2,972.2 (7,698.1 sq. km)	960.0 (2,486.5 sq. km)	32.3
Total 40 Mile Water Study Area	6,562.1 (16,995.9 sq. km)	4,549.9 (11,784.3 sq. km)	69.3

¹This includes a small area that is greater than 40 miles from the Project Envelope, which was incorporated for evaluation of potential visibility from Cape May.

It should be noted that the viewshed analysis treats all buildings/structures and vegetation as if they are completely opaque. Therefore, small woodlots and hedgerows are indicated as fully blocking views of the Project. It is possible that views will be available from forest edges and through thin/sparse forest vegetation. However, these views will typically be at least partially obstructed by branches (even under leaf-off conditions) and would require focused, concentrated attention to see the WTGs. It is likely that at distances beyond 20 miles, even partial screening will be effective in minimizing or eliminating Project visibility. It is also important to note that the lidar data used in this analysis is from multiple years, with the latest being captured between 2008 and 2014. Therefore, the analysis does not reflect any changes that may have occurred since that time. However, any such changes are likely to be minor and could include the addition of new obstructions (new buildings and taller trees) as well as the removal of obstructions (tree cutting).

As mentioned previously, factors such as the acuity of the observer, the effects of distance, the occurrence of overcast and hazy weather conditions, and the white color and slender profile of the WTGs (especially the blades, which make up the top 453 ft [138 m] of each WTG) are not considered in this analysis. Given the narrow dimensions and limited visibility of the WTG blades, a separate analysis was completed to determine geographic areas of visibility of the blades excluding the nacelle and tower portion of the WTG. The results of the analysis suggest that 3.6 percent of the landward VSA (28.4 percent of the ZVI) would only have potential visibility of the WTG blades (see Inset 3.1-1). At distances beyond 35 miles, even if not fully screened by curvature of the earth, the blades will generally be difficult to see due to atmospheric perspective and can even be obscured by surface waves and large ocean swells. Therefore, it is unlikely that ground-level views that only include the WTG blades (i.e., the tower and nacelle is screened from view by curvature of the earth) will be available beyond 35 miles under generally clear weather conditions (see Section 3.2.2). With these factors considered, areas and duration of actual visibility will likely be more limited than indicated by the viewshed analyses. The areas where only potential WTG blade visibility is indicated include the majority of inland bays and adjacent mainland shoreline between 10 and 40 miles from the Project, including bays west of Atlantic City, Margate City, Ocean City, Sea Isle City, Avalon Borough, Wildwood, North Haven, Ship Bottom, Surf City, Barnegat Light, and Seaside Heights. Additionally, the majority of inland visibility indicated on the viewshed analysis will only include turbine blades. This includes the major river basins of the Mullica, Great Egg Harbor, and Tuckahoe Rivers and associated wetlands and marshes (see Inset 3.1-1).



Inset 3.1-1 – Portions of the ZVI that only include WTG blades

Figure 3.1-1 Viewshed Analysis Results

(3 Pages)

3.1.2 Field Verification

Field verification was conducted at 67 surveyed KOPs within the ZVI. Results of the viewshed analysis were confirmed from majority of these KOP locations. However, a few of the KOP locations were determined to not have any Project visibility based on subsequent survey alignment of the KOP. In addition, it was determined during field verification that elevated structures that are situated on or near the shoreline would offer views of the Project in some areas that were not included in the ZVI.

Practically, there are a number of factors that will influence the visibility and visual prominence of the WTGs that are not considered in the viewshed analysis. For example, a KOP from the Tuckahoe WMA (See Attachment D, Page 29) occurs within a very narrow band of Project visibility (as suggested by the viewshed analysis). However, field review and 3D alignment (see Section 2.3.2) of the view revealed that minute portions of a few WTG blade tips appeared amongst background vegetation and the Project would be indistinguishable from these screening features at this location. Similar results were revealed at the Manahawkin WMA (Attachment D, Page 12). This KOP was photographed and surveyed from an inland salt marsh overlooking the inland bay portion of the VSA. In this location the viewshed analysis suggested large areas of contiguous visibility of the Project. However, subsequent review of the survey data suggested that WTG visibility was limited to very small portions of the turbine blades amongst a background of intensive development associated with Atlantic City, the Garden State Parkway, and other intervening features. At a distance of 21.6 miles (34.8 km) from the Project, a casual observer would not be capable of distinguishing the WTGs from this location. As discussed in Section 3.1.1, it was assumed that the turbine blade tips would be very difficult to perceive at distances of 10-40 miles. This was confirmed during field review and subsequent 3D alignments. Therefore, while the viewshed analysis provides an exceptionally accurate model of theoretical Project visibility, field review determined that this analysis generally overstates Project visibility, particularly from inland locations. This is particularly the case when the Project is viewed from distant viewing locations that only include potential visibility of the WTG blade tips.

As mentioned in Section 2.2, the viewshed analysis did not consider potential turbine visibility from human-made elevated positions throughout the VSA. An example would be an observation tower in the Edwin B. Forsythe NWR (Attachment D, Page 24), which offers an elevated view of the barrier islands, ocean, and surrounding landscape. Field review of this KOP, while not contradictory to the viewshed analysis results, suggests that a greater portion of the Project would be visible as a result of elevated viewer position. The same is true for heavily developed areas within the barrier islands. Particularly in Atlantic City, where several high-rise buildings offer commanding views of the ocean and the Project. In these instances, it is reasonable to assume that if the viewshed indicates visibility around a tall building, visibility will also occur within or on the building. This condition is illustrated in the KOP from the Ocean Casino Resort (Attachment D, Page 19). While the viewshed analysis suggests the Project will not be visible from ground level at this location (due to the presence of intervening screening features), field review determined that the Sky Garden on the 11th floor offered an open, elevated view of the Project. This condition was also observed in Margate City where an elevated view is available from Lucy the Margate Elephant (Attachment D, Page 25). From this location, the viewshed analysis correctly anticipated a lack of ground level views toward the Project due to screening provided by buildings, infrastructure, and topography associated with the beach dunes. However, from the elevated deck of this NHL, these screening features become less effective, and the ocean came into view.

Despite the anticipated limitations of the viewshed analysis, field verification confirmed that the ZVI provides an accurate and reasonable representation of the areas that could potentially be impacted by the Project.

Attachment D lists each of the locations visited during field review along with their distance to the Project.

3.2 Project Visual Impact

To illustrate anticipated visual changes associated with the proposed Project, 16 photographic simulations from 13 unique KOPs were used to evaluate Project visibility and appearance within the ZVI. As indicated in Section 2.3.1, these KOPs were selected based on various factors including proximity to identified VSRs, range of geographic location within the ZVI, and stakeholder input. These KOPs were also selected because they provide a clear, unobstructed view toward the Project from VSRs, and they represent the various LSZs, user groups, viewing distances, and lighting conditions that occur within the ZVI. In addition, the selected photos illustrate typical high visibility conditions where the proposed WTGs would not be obscured by atmospheric haze or fog. Consequently, simulations developed from these locations are representative of a conservative worst-case assessment of Project visibility and potential visual impact within the ZVI.

The results of the rating panel evaluation are described below and the rating forms, KOP impact determinations, and simulations are provided in Attachment E.

3.2.1 Visual Impact Assessment Results

As described in Section 2.3.3, review of the visual simulations, along with photos of the existing view, allowed for comparison of the aesthetic character of each view with and without the proposed Project in place. Results of this evaluation are presented below, and potential mitigation options are reviewed in Section 2.6.

The simulations are described in detail in Attachment E along with an analysis of the rating panel results. These results are summarized in Table 3.2-1, below. Inset 3.2-2, below illustrates the existing and proposed SQC scores, the visual impact score, VTL, and distance from the Project for each KOP. A summary of the rating panel results is presented below for daytime and nighttime conditions.

3.2.1.1 Daytime Visual Impact Results

Rating panel impact scores generally indicated some degree of adverse visual impact with the proposed Project in place. The VIA scores ranged from minus 0.1 to minus 4.9. With the exception of three KOPS, the visual impact scores suggest that as Project viewing distance increases, the potential visual impact (as expressed in the VIA score) decreases (see Inset 3.2-1). For example, the lowest impact score of minus 0.1 was from Cape May Point State Park (LT02) which is approximately 45 miles (72 km) from the Project. The highest score of minus 4.9 was applied to the North Brigantine Natural Area (BC02) which represents the Project's closest point to the New Jersey shoreline, at a distance of 9 miles (14 km). This trend is also expressed in the Visual Threshold Limit (VTL) score. The most distant KOPs received VTL scores between 1 and 2 and the closest KOPs received the highest achievable VTL of 6.

Table 3.2-1 – Daytime Visual Impact Assessment Rating Panel Results

ID	KOP	Distance to The Project (Miles/km)	View	Rating Panel Member				Average	Impact Score	SQC	VTL
				KAC	KAV	JMG	SMB				
SPB01	Seaside Park Beach	39/62.8	Existing	12.0	11.3	14.0	13.0	12.6	-0.3	Partial Retention	1
			Proposed	12.0	11.3	13.7	12.3	12.3		Partial Retention	
LAT01	Edwin B. Forsythe NWR at the Woodmansee Estate	32.2/51.8	Existing	13.3	12.3	14.0	14.3	13.5	-1.8	Retention	4
			Proposed	12.3	11.3	10.3	13.0	11.8		Partial Retention	
LBT03	Beach at Long Beach Island Arts Foundation	24.9/40.1	Existing	10.5	9.8	13.0	14.8	12.0	-4.2	Partial Retention	5
			Proposed	10.2	8.2	7.3	5.8	7.9		Rehabilitation	
BRT01	Bass River State Forest	18.5/29.8	Existing	11.2	11.2	10.8	10.2	10.8	-0.3	Partial Retention	2
			Proposed	11.2	10.8	10.2	10.2	10.6		Partial Retention	
BHB01	Beach Haven Historic District	13.5/21.7	Existing	11.7	12.3	13.7	13.0	12.7	-4.5	Partial Retention	5
			Proposed	10.7	10.0	7.3	4.7	8.2		Modification	
LEHT02	Great Bay Boulevard WMA/Rutgers Field Station	11.9/19.2	Existing	11.7	16.0	13.7	13.0	13.6	-4.3	Retention	6
			Proposed	10.3	12.0	6.7	8.0	9.3		Modification	
BC02	North Brigantine Natural Area	9.0/14.5	Existing	11.2	13.5	13.8	12.5	12.8	-4.9	Partial Retention	6
			Proposed	9.5	9.5	6.8	5.5	7.8		Rehabilitation	
AC04	Ocean Casino Resort Sky Deck	10.5/16.9	Existing	12.0	10.0	12.7	16.0	12.7	-4.8	Partial Retention	6
			Proposed	10.0	8.3	6.7	6.7	7.9		Rehabilitation	
AC02	Jim Whelan Boardwalk Hall (Atlantic City Convention Center NHL)	11.4/18.3	Existing	9.5	9.2	11.8	13.5	11.0	-4.6	Partial Retention	6
			Proposed	9.2	7.8	5.5	3.2	6.4		Rehabilitation	
MC02	Lucy the Margate Elephant NHL	14.4/23.2	Existing	11.0	11.0	9.3	11.7	10.8	-2.2	Partial Retention	5
			Proposed	9.7	9.3	6.0	9.3	8.6		Modification	
OC04	Gillian's Wonderland Amusement	17.2/27.7	Existing	12.2	10.2	13.2	14.8	12.6	-3.6	Partial Retention	5
			Proposed	11.5	9.5	6.2	8.8	9.0		Modification	
SIC02	Townsend Inlet Bridge	27.4/44.1	Existing	11.7	9.3	13.0	10.3	11.1	-2.5	Partial Retention	5
			Proposed	11.0	8.7	6.0	8.7	8.6		Modification	

ID	KOP	Distance to The Project (Miles/km)	View	Rating Panel Member				Average	Impact Score	SQC	VTL
				KAC	KAV	JMG	SMB				
LT02	Cape May Point State Park	45.0/72.4	Existing	13.3	14.3	12.7	16.0	14.1	-0.1	Retention	2
			Proposed	13.3	14.3	12.3	16.0	14.0		Retention	

An exception to this trend occurs at Lucy the Margate Elephant (MC02) which is approximately 14 miles (23 km) from the Project and received a VIA score of minus 2.2, which is lower than scores received at more distant KOPs. This is due to the fact that a portion of the turbine array is screened by existing buildings in the view, and the existing view received a relatively low SQC score (10.8) due to the presence of visual clutter resulting from a buildings, overhead utilities, and other built forms in the view. Additionally, it was noted by the rating panel that the white color of the WTGs did not contrast with these built forms in the foreground of the existing view. The VTL score for this KOP was 5, suggesting that the Project strongly attracts viewer attention. This demonstrates that despite the visual prominence of the WTG's, existing scenic quality strongly influences the Project's potential visual impact level.

Another deviation in the distance versus visual impact trend occurs at Bass River State Forest (BRT01). From this KOP, the distance to the Project is approximately 18.5 miles and the impact score is minus 0.3 with a VTL of 3. This score deviates from its nearest neighbor, Gillian's Wonderland Amusement Park (OC04) which is approximately 17 miles (27 km) from the Project and received an impact score of minus 3.6 and a VTL of 5. This variation is largely the result of the visual setting associated with BRT01. At this mainland KOP, the lower portions of the WTGs are screened by intervening vegetation and structures. As such, the turbine blades and a few nacelles are the only visible components of the Project in the view. Rating panel members suggested that the WTGs were difficult to see due to the screening features, their narrow blades, and distance from the Project. The rating panel also noted that although blade movement could draw viewer attention, it would not detract from the foreground and middle ground features in the view. It was also noted that seasonal growth of the salt marsh grasses could result in the Project being completely obscured.

Three KOPs received visual impacts scores that resulted in a decrease in scenic quality but did not exceed the impact threshold for Partial Retention class SQCs. These KOPs included Beach Haven Historic District (BHB01), North Brigantine Natural Area (BC02), and the Ocean Casino Resort Sky Deck (AC04). These KOPs are relatively close to the Project (ranging in distance from 9 miles [14 km] to 13 miles [21 km]) and received visual impact scores ranging from minus 4.5 to minus 4.8. The SQC score of these views was between 12.7 to 12.8 which corresponds to the partial retention classification. While views in this classification are considered to have above average scenic quality, the visual impact threshold established in the VRAP is minus 5. Given the reductions in scenic quality associated with these KOPs and the proximity to the maximum threshold levels established by the VRAP, it is anticipated that the visual impacts presented by the Project may result in substantial impacts to scenic quality when viewed under clear conditions such as those presented in the visual simulations. This conclusion is generally supported by the VTLs of 5 and 6 assigned to these KOPs.

The Edwin B. Forsythe NWR at the Woodmansee Estate (LAT01) KOP located approximately 32 miles ([51 km] from the Project) received an elevated VIA score relative to its SQC. The existing view received an SQC score of 13.5 which corresponds to the retention class and suggests relatively high scenic quality. With the turbines in place, the SQC was reduced from 13.5 to 11.8, which constitutes a reduction of minus 1.8 and reassignment to the partial retention classification. This instance suggests that even from significant distances, KOPs with a perceived high scenic quality may be more susceptible to visual impacts resulting from the Project. This is the only KOP beyond 30 miles that received an elevated visual impact score due to the high contrast lighting conditions presented in the visual simulation. This KOP was assigned a VTL of 4

which suggests that the Project is plainly visible to casual observers but does not strongly attract viewer attention.

The influence of existing scenic quality is also apparent in the KOPs described above which received visual impact scores that suggest the potential for significant visual impacts. Despite the decrease in perceived scenic quality, these scores did not exceed the threshold as established by the SQC.

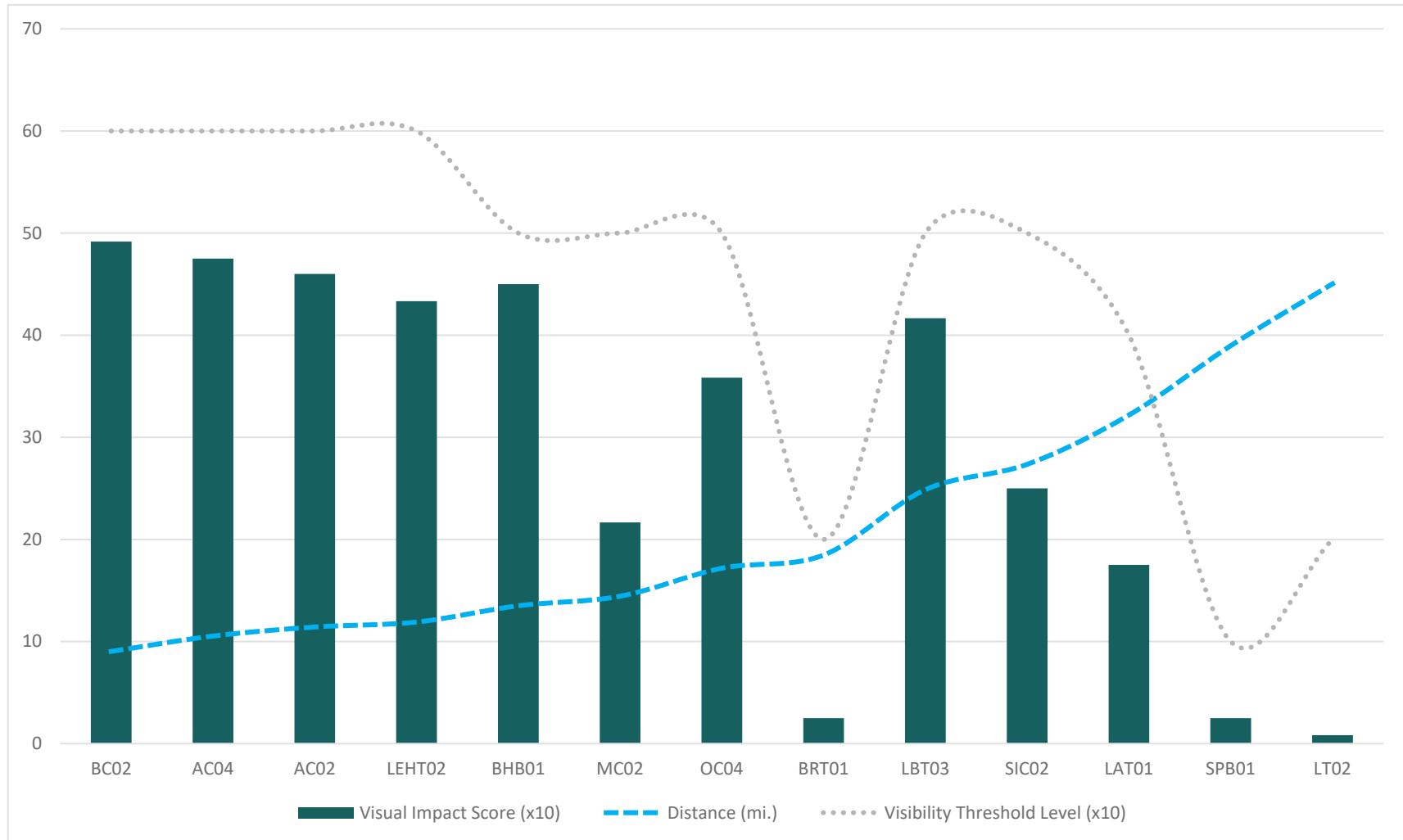
The threshold for visual impact was exceeded at 1 of the 13 KOPs illustrating the Project during high visibility daytime conditions. The view from Great Bay Boulevard WMA (LEHT02) received a VIA score of minus 4.3, which resulted in a reduction from the retention class to the modification class with the operational Project in place. The allowable threshold for visual impacts within the retention class is minus 2. The following factors influenced the reduction in scenic quality at this KOP.

1. The retention SQC of the existing view indicates relatively high scenic quality.
2. The nearest Project WTG is 11.9 miles (19.2 km) from this location.
3. The view is backlit by the rising sun.
4. The conditions are exceptionally clear and provide an unobscured view of the Project.

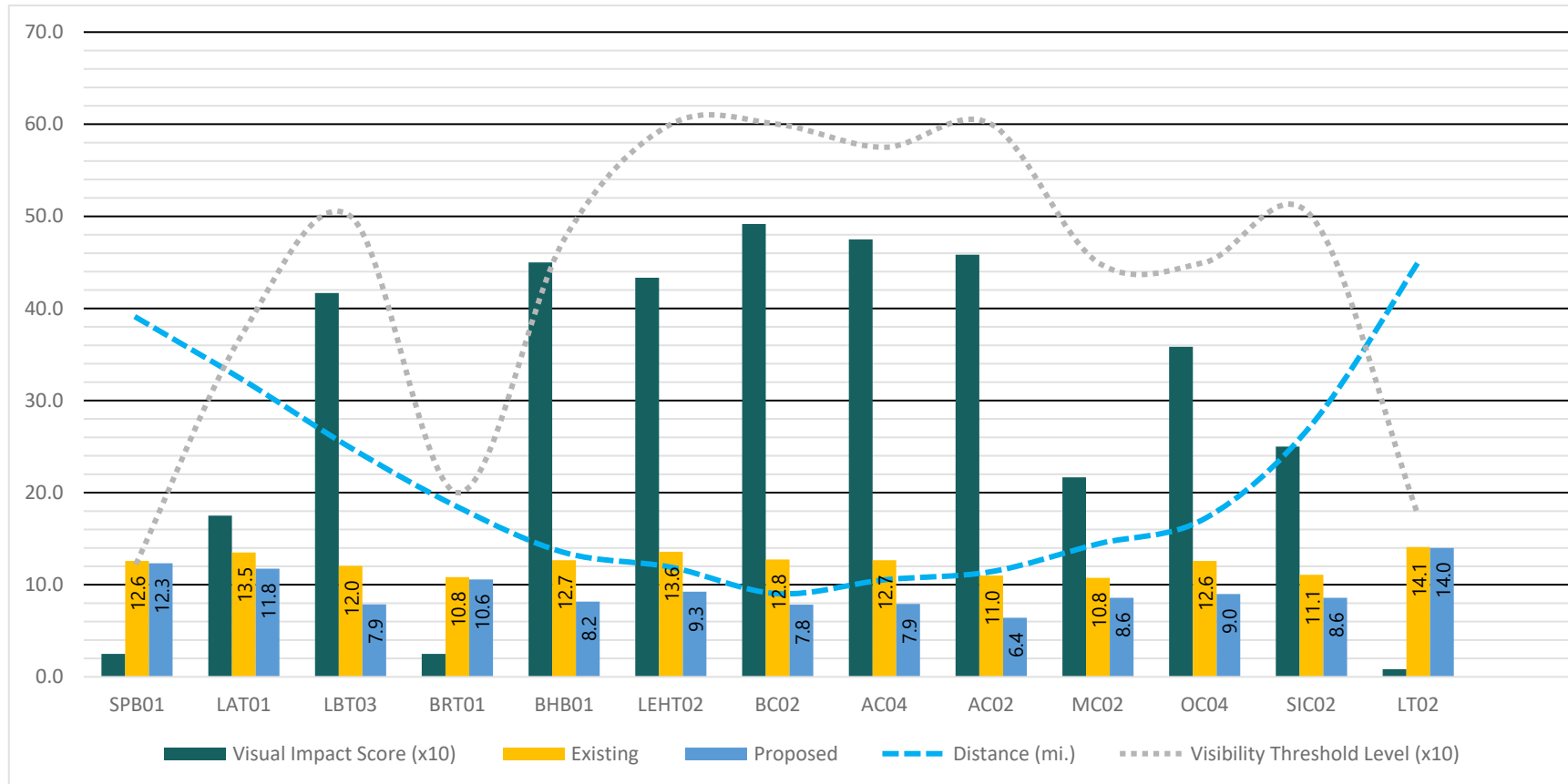
Rating panel scores for the existing conditions photographs ranged from 11.7 to 16.0 (average SQC score = 13.6) and members commented on the serene, unspoiled character of the view which has a strong horizon that holds the viewers' attention. With the Project in place, rating panel members had a variable range of reactions to the impact, with the VIA scores ranging from 6.7 to 12 (average score = 9.3). Rating panel members noted that the horizon occupation (43 degrees) of the WTGs and their relative proximity to the viewer make the Project appear large and the WTGs become focal points of view. Other contributing factors included the stacking/overlap of turbines in some rows, which increases their visibility and visual mass, and movement of the rotor blades which will attract viewer attention. Supporting these conclusions, the KOP from LEHT02 was assigned a VTL of 6 which suggests that the Project will dominate the view due to a majority presence on the horizon.

The variation in visual impact scores indicates that the degree of Project visibility, lighting conditions, and scenic quality of the existing view can influence the degree of potential visual impact presented by the Project. Inset 3.2-2, below illustrates the visual impact trend with the KOPs organized from north to south (left to right on the graphic). Generally, this graphic illustrates the trend of increasing scores as the KOPs get closer to the Project (in the middle of the graph) and then begin to drop again as the KOPs increase in distance to the south of the Project. As demonstrated in Inset 3.2-2 and described above a few KOPs deviate from the distance/impact trend due to partial screening or particularly high contrast lighting conditions.

A detailed description of each KOP with and without the Project in place, along with the detailed rating panel results, including spatial dominance and scale contrast factors are presented in Attachment E.



Inset 3.2-1 – Relationship between distance and Visual Impact Rating Score and VTL



Inset 3.2-2 – Summary of Visual Impact Scores and VTL for each KOP.

Table 3.2-2 – Nighttime Visual Impact Assessment Rating Panel Results

ID	KOP	Distance to The Project (Miles/km)	View	Rating Panel Member				Average	Impact Score	SQC	VTL
				KAC	KAV	JMG	SMB				
AC04 Night	Ocean Casino Resort Sky Deck	10.5/16.9	Existing	10.2	10.3	11.5	15.2	11.8	-4.4	Partial Retention Rehabilitation	5
			Proposed	9.5	8.0	6.8	5.2	7.4			
BHB01 Night	Beach Haven Historic District	13.5/21.7	Existing	9.8	12.3	11.8	12.0	11.5	-4.3	Partial Retention Rehabilitation	5
			Proposed	9.5	9.7	5.2	4.7	7.3			
LAT01 Night	Edwin B. Forsythe NWR at the Woodmansee Estate	32.2/51.8	Existing	10.2	12.7	11.3	11.5	11.4	-3.8	Partial Retention Rehabilitation	5
			Proposed	9.8	9.0	5.3	6.5	7.7			

3.2.1.2 Nighttime Visual Impact Results

Nighttime visual simulations were produced from a subset of three KOPs used in the production of daytime simulations. The rating panel results are present in Table 3.2-2 above. None of the nighttime visual simulation exceeded the threshold established by the existing view SQC. Each of the nighttime views received an SQC between 11.4 and 11.8 which corresponds with the partial retention classification. The simulations of the operational Project received rating panel scores between 7.3 and 7.7, resulting in average decreases between minus 3.8 and minus 4.4, reducing the SQC to the rehabilitation class for all three nighttime views. The rating panel assigned a VTL of 5 for all three KOPs which suggests that the AOWL and navigation lighting could strongly attract viewer attention. Rating panel members commented that light from the AOWL is prominent and will draw viewer attention in a setting that normally appears dark and undeveloped. Further the alternating blinking associated with the navigation lights and AOWL will be distracting to viewers. However, an Aircraft Detection Lighting System (ADLS) would significantly reduce the amount of time the AOWL would be activated by detecting the presence of aircraft. Assuming the use ADLS nighttime visual impacts associated with the aviation obstruction lights would become intermittent and minor (see Section 3.3).

3.2.2 Other Factors Affecting Project Visibility and Visual Impact

As discussed in Section 3.2.1, the Project could result in appreciable visual impacts to several onshore visual resources due to scale contrast, spatial dominance, and compatibility with existing elements in the landscape/seascape. However, it is important to note that most of the visual simulations were photographed during exceptionally clear conditions and in many instances were also backlit by the sun, making the WTGs appear dark against a light, cloudless horizon. While the simulations generally illustrate minimal atmospheric haze and screening, actual Project visibility will be limited by several other factors not specifically illustrated in the visual simulations evaluated in this VIA. As mentioned previously, these include weather conditions, waves on the ocean surface, humidity, and air pollution.

A study completed by the Rutgers School of Environmental and Biological Sciences for the Atlantic Shores Wind Project titled, *Initial Visibility Modeling Study for Offshore Wind for New Jersey's Atlantic Shores Offshore Wind Project* provides relevant data regarding offshore visibility frequency and trends as influenced by meteorological conditions. Forecast Systems Laboratory (FSL) predictive models were used to determine visibility distance using past meteorological data from Atlantic City International Airport and Ocean City Municipal Airport. The FSL predictive model uses inputs such as temperature, relative humidity, and dew point temperature to determine the potential distance and frequency of specific viewing conditions (Rutgers, 2020). The results of this study are summarized below.

- Initial observations suggest that visibility to a distance of 8 and 10 miles (13 and 16 km) from Atlantic City International Airport occurred over 73% and 89% of daylight hours, respectively, in any given year. These same observations from Ocean City Municipal Airport suggest that visibility frequencies were 6% and 12% lower than those observed at Atlantic City International Airport.
- The higher visibility at Atlantic City International Airport can be attributed to the drier inland air, compared to the more humid coastal air around Ocean City Municipal Airport. Additionally, considering offshore visibility, higher humidity and larger temperature differences between the air and ocean surface cause haziness and marine clouds/fog to occur more frequently offshore.

- Although inland visibility is relatively high, there will be lower visibility when looking offshore toward the Atlantic Shores Lease Area. Between Atlantic City International Airport and the Lease Area, a distance of roughly 25 miles, the percentage of daylight hours with a calculated visibility of 10 or more miles (16+ km) decreases from 78% to 41% based on past meteorological studies.
- Over the ocean, the average visibility in April, May and June ranged from 2.5 to 10 miles (4 to 16 km), which is consistent with lower frequencies above 10 miles in the Ocean City Municipal Airport observations.
- Over the ocean, the average visibility in July and August, (when visibility frequencies over 10 miles in Ocean City are above 75%) ranges from 5 to 12 miles (8 to 19 km).
- The yearly, monthly, and summer average visibility each share a trend of increasing visibility from the morning to the late afternoon. Higher visibility over the land appears to extend out into the ocean throughout the day. This is consistent with warmer temperatures during the day lowering the relative humidity and causing higher visibility.

Based on the results of the Rutgers visibility analysis, it is reasonable to conclude that the VIA presents worst-case visibility conditions in which the entire Project is visible when viewed from significant distances. While it is very important to illustrate the greatest potential visibility and visual prominence to understand greatest potential visual impacts associated with the Project PDE, the frequency of these conditions is a relevant and mitigating consideration. As shown in Inset 3.2-3, the average frequency of visibility to 10 miles could occur during as little as 41% of daylight hours. As described in Section 2.3.1 and 3.2.1, only one of the visual simulations, and a very small portion of the VSA and ZVI occurs within 10 miles of the Project. Consequently, during up to 59% of the daylight hours in a given year, it is anticipated that all, or the vast majority of Project WTGs will not be visible from onshore resources.

As an example, from the closest KOP included in the visual simulations (and the closest onshore location within New Jersey) the nearest WTG is approximately 8.8 miles (14 km) offshore, but the most distant WTG is located approximately 24 miles (39 km) from the KOP. Based on the results of the Rutgers meteorological study, the first row of WTGs would be visible from this KOP over approximately 50% of the year, the first two rows would be visible over approximately 40% of the year, and portions of the nearest four rows could be visible during approximately 25% of the year during daylight hours (see Inset 3.2-3). Under these weather conditions it would likely be difficult to discern WTGs beyond the initial four rows which would substantially decrease the perceived scale contrast, horizon occupation, and overall density of WTGs. The mitigating effects of atmospheric perspective could serve to reduce the potential visual impacts associated with the Project during significant portions of the year, and during these low visibility periods, would likely eliminate visibility of the Project entirely from most shoreline locations within the ZVI.

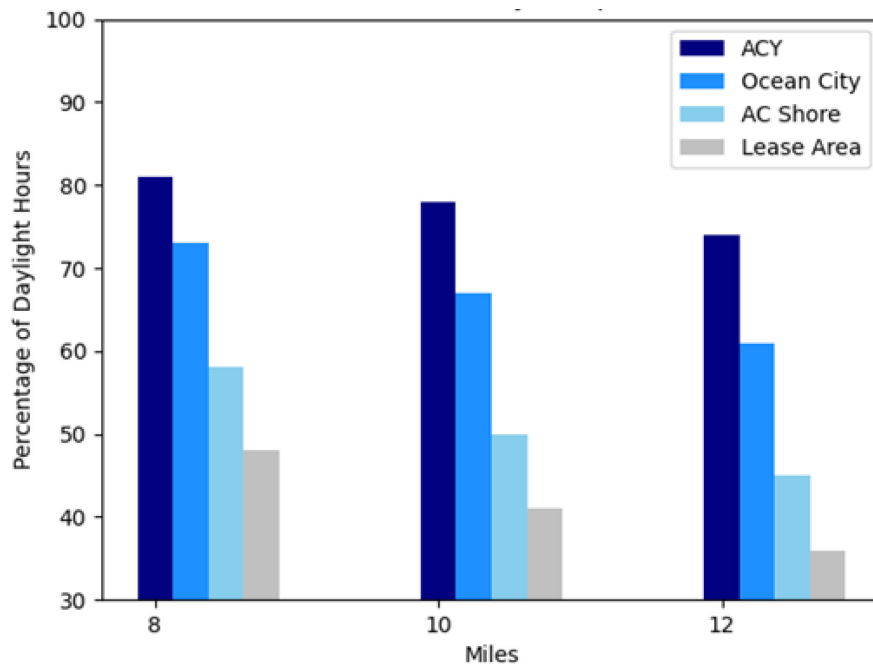


Image Source: Rutgers 2020

Inset 3.2-3 FSL Visibility Distance/Frequency Comparison of Onshore and Offshore Receptors

Considering the mitigating factors associated with atmospheric perspective, Atlantic Shores intends to supplement this VIA with visual simulations illustrating variable conditions and a detailed meteorological analysis to predict the frequency of each visibility condition. While the VIA and simulations currently illustrate and analyze the maximum range of potential visual impact throughout the ZVI, the supplement to this analysis will investigate more likely viewer experience and more typical frequency of Project visibility.

3.3 General Mitigation

As currently proposed, the Project introduces a large scale, renewable energy generating development to a largely undeveloped seascape. Even though portions of the shoreline and inland areas within the VSA are highly developed or disturbed, according to the evaluation conducted as part of this study, the Project has the potential to result in adverse visual impacts to some onshore resources occurring within the ZVI. However, the Project has incorporated several mitigation measures which effectively reduce the potential visual impacts to the greatest extent practicable given the nature of the technology and the geographic areas deemed suitable for offshore wind energy development. The mitigation measures incorporated into the Project design include the following:

- The Project is located in a designated offshore wind developed area that has been identified by BOEM as suitable for development.
- The WTGs will have uniform design, height, and rotor diameter.
- The white color of the WTGs (required by BOEM) generally blends well with the sky at the horizon, even under clear sky conditions, and eliminates the need for daytime warning lights or red paint marking of the blade tips.

The WTGs will be equipped with AOWL and operated in accordance with FAA Advisory Circular 70/7460-1M (2020), as recommended by BOEM's Draft Proposed Guidelines for Providing Information on Lighting and Marking of Structures Supporting Renewable Energy Development (BOEM 2019). In order to minimize the potential visual impacts at night, Atlantic Shores will use ADLS to limit visual impact pursuant to technical feasibility and approval by the FAA and BOEM.

An analysis was completed by Capitol Airspace titled, *Aircraft Detection Lighting System (ADLS) Efficacy Analysis* to determine the likely activation time of the FAA light if ADLS is implemented. This study reviewed information included in the FAA National Offload Program (NOP), which indicates the location of aircraft based on existing radar systems throughout the country. The NOP data were collected and analyzed to determine when and for how long aircraft traverse the Project airspace during a given year, requiring the aviation obstruction lights to be activated (Capitol Airspace, 2021). The results of this analysis are presented in Table 3.3-1, below.

As illustrated in Table 3.3-1, based on past flight data, the AOWL would be activated for a total of approximately 10.9 hours over a 1-year period. The maximum monthly activation time would occur in November when past flight data suggest activation times would increase to approximately 2 hours and 45 minutes over the entire month. April, May, June, August, and September had the lowest activation frequency with average activation time of 21 minutes per month. Considering the low frequency of light activation, nighttime visual impacts associated with the aviation obstruction lights would become intermittent and minor.

Table 3.3-1 Typical Monthly Duration of AOL Activation

Month	Nighttime Observed (HHH:MM:SS)	Light System Activated Duration (HH:MM:SS)
January	479:05:44	01:08:24 (0.24%)
February	405:38:51	01:26:57 (0.36%)
March	410:56:29	01:01:29 (0.25%)
April	359:01:19	00:23:44 (0.11%)
May	337:05:53	00:20:34 (0.10%)
June	309:35:09	00:22:24 (0.12%)
July	328:20:35	01:07:35 (0.34%)
August	357:52:21	00:22:54 (0.11%)
September	383:14:51	00:19:04 (0.08%)
October	435:42:32	00:40:48 (0.16%)
November	455:22:55	02:45:37 (0.61%)
December	488:44:19	00:51:46 (0.18%)
TOTAL	4750:40:58	10:51:16 (0.23%)

Table Source: Capitol Airspace, 2021

Additional mitigation measures were also considered. While some of these mitigation considerations could serve to incrementally reduce potential visual impacts associated with the Project, some mitigation options may not be feasible due to regulatory requirements. The feasibility and possible benefits of such measures are described below:

- Relocation: Project site and/or individual turbine relocation is not under consideration. The Project is already located offshore in water depths suitable for offshore wind energy development, reflecting the substantial effort that has been expended in identifying suitable wind energy areas on the OCS. It is unlikely that changes to the orientation or arrangement of the turbines could reduce visual impact by eliminating the perception of stacked turbines on the horizon, as this perception will vary from viewpoint to viewpoint within the ZVI. Substantially reducing the perception of WTG stacking would likely require a significant reduction in developable area. It is possible that a reduction in the total number of WTGs could result in a reduction of visual impacts from some of the closest KOPs, but not without adversely affecting the generating capacity of the Project.

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- **Camouflage:** Alternate color selection or attempts at camouflaging the WTGs are not effective or feasible in mitigating visual impacts of offshore wind turbines. Under most conditions, the white color of the WTGs generally minimizes contrast with the sky and the yellow foundation is barely perceivable or not visible due to screening provided by atmospheric perspective and/or curvature of the earth. This is demonstrated by simulations prepared under a variety of sky conditions and distances from the Project. Additionally, the white color of the WTGs is necessary to comply with FAA guidance and avoid daytime lighting.
 - **Scale:** While a reduction in turbine height could lessen scale contrast, this reduction would have to be considerable before it would be perceived from shoreline viewpoints. In addition, the line, form, and texture of shorter turbines (which contribute to their contrast with the existing seascape) would remain essentially the same, and more WTGs would be required to maintain the Project's generating capacity.

4.0 CONCLUSIONS

An important consideration in visual impact assessment is to avoid the assumption that project visibility automatically equates to an adverse visual impact. The degree of project visibility will vary greatly depending on the distance of the viewer from the project; meteorological conditions; degree of screening from structures, vegetation, and curvature of the earth; visual acuity of the viewer; and the ability of the viewer to recognize the WTGs. Projects that are located offshore, relatively far from the viewing public may go completely unrecognized, due to the fact that their visibility is obscured by atmospheric perspective, and if visible at great distances, are perceived as secondary to the larger visual landscape. Water, trees, lighthouses, and other natural and built features often remain the focus of attention. Results from a study in which offshore wind farms were viewed at various distances and conditions in Europe, suggest that small to moderately sized offshore wind farms may be visible to the unaided eye at distances greater than 26 miles (42 km) (the maximum distance considered in that study). However, these same facilities were determined to be the focus of viewer attention when viewed at distances within 10 miles (16 km), noticeable to casual observers at distances of up to 18 miles (29 km), and only visible after concentrated viewing when viewed from greater than 25 miles (40 km) (Sullivan et. al. 2012). As mentioned previously, the Project is proposing WTGs that are larger than the turbines evaluated in this study. As such, under clear conditions and strong lighting contrast (i.e., backlit or strongly front lit against a dark sky) the turbines are likely to be noticeable at distances over 30 miles (48 km), but visibility and visual prominence will diminish significantly between 30 miles (48 km) and 40 miles (60 km) as illustrated in the visual simulations. The Edwin B. Forsythe NWR at the Woodmansee Estate (LAT01) is 32 miles (52 km) from the Project and received a VTL 4, suggesting that the WTGs are plainly visible and would not be missed by casual observers. However, the KOP from Seaside Beach Park (SPB01) which is 39 miles (63 km) from the Project received a VTL 1, which suggests the WTGs would only be visible after extended, concentrated viewing. As such, the simulations support the conclusion that 40 miles (60 km) is an appropriate VSA, and beyond a distance of 35 miles prominence and visual impact will be negligible.

The following additional conclusions can be drawn from the VIA:

- The viewshed analysis and field verification indicate that the Project has potential visibility from a relatively small portion of the land area within the VSA. The lidar viewshed analysis suggests that views of the WTGs will be available from approximately 12.5 percent of the land area within the VSA, which defines the Project ZVI. Three percent of the landward VSA (28 percent of the ZVI) will only include views of the turbine blades which is generally the result of partial screening provided by the barrier islands from inland bay and mainland viewing locations. The majority of landward Project visibility (155 sq. mi.) occurs within 10-20 miles (16-32 km) of the Project over uninhabited inland bays. Visibility diminishes significantly between 30 and 40 miles (48-64 km), contributing only 44 sq. mi. to the ZVI. The viewshed analysis also indicated potential visibility along the majority of the eastern shore of the barrier beaches.
- The lidar viewshed suggests that views of the AOWL on the WTGs will be available from approximately 9 percent of the land area within the VSA. This reduction in visibility is largely the result of the lower height of the lights (as compared to the blade tips), combined with the screening effects of curvature of the earth at distance between 30 and 40 miles (48-64 km). The geographic areas that indicated visibility of the AOWL were generally a smaller subset of greater ZVI, particularly over portions of the inland bays and mainland. The FAA viewshed analysis indicated that AOWL

visibility from the barrier islands would completely diminish beyond 35 miles due to curvature of the earth.

- Field verification generally confirmed the results of the viewshed analysis with the exception of a few locations in which it was determined that visibility of the Project, while theoretically possible, would actually be mostly obscured by middle ground and background features. This condition was most often observed from mainland locations where barrier island development and forest vegetation served to substantially screen the majority of the Project. Field verification also confirmed that visibility will be available from some elevated positions outside the ground level ZVI, particularly along the barrier island shore. As discussed in Section 3.1.1, because structures are classified as screening features, the ZVI does not predict visibility from elevated human-made structures. This condition is most prevalent in Atlantic City and Ocean City, but very rare from inland areas. In conclusion, it was determined that the ZVI is an accurate and reasonable representation of the areas in which the Project may be visible, but likely a conservative representation.
- Rating panel results suggested that one KOP will result in visual impacts that exceed the threshold for the Retention SQC. The Great Bay Boulevard WMA (LEHT02), which is 11.9 miles (19.2 km) from the Project received a SQC score of 13.6, indicating a Retention classification for the existing conditions photograph. With the Project in place, the SQC was reduced by 4.3 points to 9.3, which correlates with the Modification class. Under the conditions presented in the visual simulation from this KOP, the Project will impact the scenic quality of the view. However, this reduction in scenic quality would likely be mitigated by atmospheric perspective during typical viewing conditions.
- Six of the remaining KOPs received scores indicating elevated levels of visual impact but did not exceed the thresholds associated with their individual SQCs. These KOPs are listed below along with the host municipality and distance from the Project (mi/km).
 - o LAT01 Edwin B. Forsythe NWR at the Woodmansee Estate, Lacy Township, 32.2/51.8
 - o LBT03 Beach at Long Beach Island Arts Foundation, Long Beach Township, 24.9/40.1
 - o BHB01 Beach Haven Historic District, Beach Haven Borough, 13.5/21.7
 - o BC02 North Brigantine Natural Area, Brigantine City, 9.0/14.5
 - o AC04 Ocean Casino Resort Sky Deck, Atlantic City, 10.5/16.9
 - o OC04 Gillian's Wonderland Amusement Park, Ocean City, 17.2/27.7

Four of these six KOPs that received scores indicating elevated impacts to scenic quality and high VTLs were within 17 miles (28 km) of the Project, suggesting that visual impacts associated with the Project begin to diminish at a distance of approximately 20 miles (32 km) under worst case viewing conditions. However, the rating panel results from LAT01, which is approximately 32 miles (52 km) also indicated potential impacts to scenic quality. In this instance, the existing view's scenic quality was relatively high, suggesting that the KOP is more sensitive to visual change even over significant distances. Considering the view from LBT03, which is approximately 25 miles (40 km) from the Project, the elevated score can be attributed to the exceptionally clear conditions and low afternoon sun angle presented in the visual simulation. It is anticipated that, based on the meteorological study completed for the Project by Rutgers University, this lighting and visibility condition will be relatively rare along this portion of the coast.

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- Rating panel results suggested visual impact scores of minus 3.8 to minus 4.4 for the three nighttime views. Given that the SQC scores classified these views as Partial Retention, the threshold for visual impacts was not exceeded for any of the three nighttime views. The rating panel indicated that the AOWL and navigation lights would still become the focus of viewer attention and could change the character of the nighttime skies. However, the implementation of ADLS would eliminate the impact of the AOWL for all by 10.9 hours per year. Given infrequent activation time, it is anticipated that visual impacts associated with the AOWL would be insignificant.
 - The meteorological study also predicts that visibility over the water during July and August (the height of the tourism season when the most people will view the Project) will typically range from 5 to 12 miles (8 to 19 km). This finding would suggest that the Project would be substantially obscured from view even from those areas on the coast closest to the Project. In the spring and early summer (April, May, and June), average visibility predictions suggest that visibility over the ocean will be 2.5 to 10 miles (4 to 16 km) suggesting that visibility of the Project would be even more limited during this period.
 - Considering the potential visual impacts associated with the Project under clear conditions, this VIA report should be supplemented to include a detailed meteorological study and visual simulations illustrating variable visibility conditions. Due to the fact that this VIA and the Rutgers meteorological study were conducted concurrently, the results of the meteorological study should be further developed to predict the occurrence of future weather and meteorological conditions that may affect Project visibility. With this information, the VIA should be supplemented to include rating panel review of these mitigating factors.

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ATTACHMENT A

VISUAL IMPACT ASSESSMENT STUDY PLAN – OFFSHORE

Visual Impact Assessment Procedure

Atlantic Shores Offshore Wind, LLC

New Jersey: OCS-A 0499

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February 8, 2021

Respectfully Submitted to:

Bureau of Ocean Energy Management

National Park Service

Nanticoke Lenni-Lenape Tribal Nation

Powhatan Renape Nation

Ramapough Lenape Nation

Inter-Tribal American Indians of New Jersey

New Jersey Commission on American Indian Affairs

New Jersey State Historic Preservation Office

New Jersey Department of Environmental Protection

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1.0 Introduction

Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C. (EDR) has prepared the follow Visual Impact Assessment (VIA) Protocol in support of the development of the Atlantic Shores Offshore Wind, Project (Atlantic Shores). Atlantic Shores, a 50/50 joint venture (JV) between EDF-RE Offshore Development, LLC (an affiliate of EDF RD) and Shell New Energies US LLC, seeks to construct and operate an offshore wind energy generating facility on the Outer Continental Shelf (OCS) in the Bureau of Ocean Energy Management (BOEM) Lease Area OCS-A 0499 (Lease Area). At its closest point to shore the Lease Area is approximately 9 miles off the coast of Long Beach Township, New Jersey and extends approximately 31 miles in a southerly direction to approximately 18.5 miles off the coast of Ocean City, New Jersey. Figure 2.1-1 illustrates the Lease Area relative to the New Jersey coastline. Development of the Lease Area will include multiple offshore wind turbine generators (WTGs) which will harness kinetic wind energy for electricity production. This electricity will be collected in several offshore substations (OSSs) and will then be transmitted ashore in either New Jersey or New York for delivery to the regional electric grid. The VIA will assess the potential visual impacts associated with the construction and operation of the Project. The VIA will be included in Atlantic Shores' Construction and Operations Plan (COP) for review by BOEM and other state and federal agencies, in addition to stakeholders and other interested parties. A separate VIA Protocol and study will be completed, as necessary, for onshore components proposed by Atlantic Shores to support interconnection with the regional electric grid. Therefore, this protocol only addresses the study approach for the visual assessment associated with the offshore development within the Lease Area. A separate, but related study will be completed to assess the visual effects to onshore historic properties within the area of potential effects (APE) associated with the offshore development. This Historic Resources Visual Effects Analysis (HRVEA) will rely on several aspects of the VIA and will be included as an appendix to the COP. However, the assessment methodology associated with the HRVEA is not included in this document.

2.0 Study Approach

2.1 Definition of the Study Area

The document titled *Guidelines for Information Requirements for a Renewable Energy Construction and Operations Plan (COP)* (BOEM, 2016) indicates that visual impacts should be evaluated using photo simulations from locations within “the onshore viewshed from which renewable energy structures, whether located offshore or onshore, would be visible.”

When defining a visual study area (VSA) it is important to consider the theoretical maximum distance from which a project could potentially be viewed. Theoretical visibility is largely derived from two limiting factors: the curvature of the earth and the ability of an individual to resolve features viewed from significant distances. Theoretical visibility only considers a defined set of known physical constants and does not consider other visibility limitations such as weather/atmospheric conditions. Based on the National Renewable Energy Laboratory (NREL) reference model, near-future WTGs are likely to approach or exceed heights of 900 feet (when the WTG blade tip is in the full upright position). When viewed from typical beach elevations (0-6 feet above mean sea level [AMSL]), an object 900 feet tall would be fully screened by curvature of the earth, at approximately 47 miles offshore.

However, the ability of the human eyes to resolve an object at this distance is diminished even under the most ideal viewing conditions. Considering the widest portion of a typical WTG tower, and assuming a maximum angular resolution of the human eye of 28 arc seconds (0.008 degrees), the WTG tower could not be resolved by an individual with 20/20 vision beyond approximately 39 miles. However, at this distance, curvature of the earth would completely screen the WTG tower and only a portion of the WTG blades would theoretically be visible, thus further decreasing visible distance when considering resolution of the human eye. Considering all factors influencing potential project visibility and the possibility for elevated views from high rise buildings, a VSA of 40 miles is considered appropriate (if not conservative) for the purposes of the VIA. The VSA associated with the Atlantic Shores' Lease Area is illustrated in Figure 2.1-1.

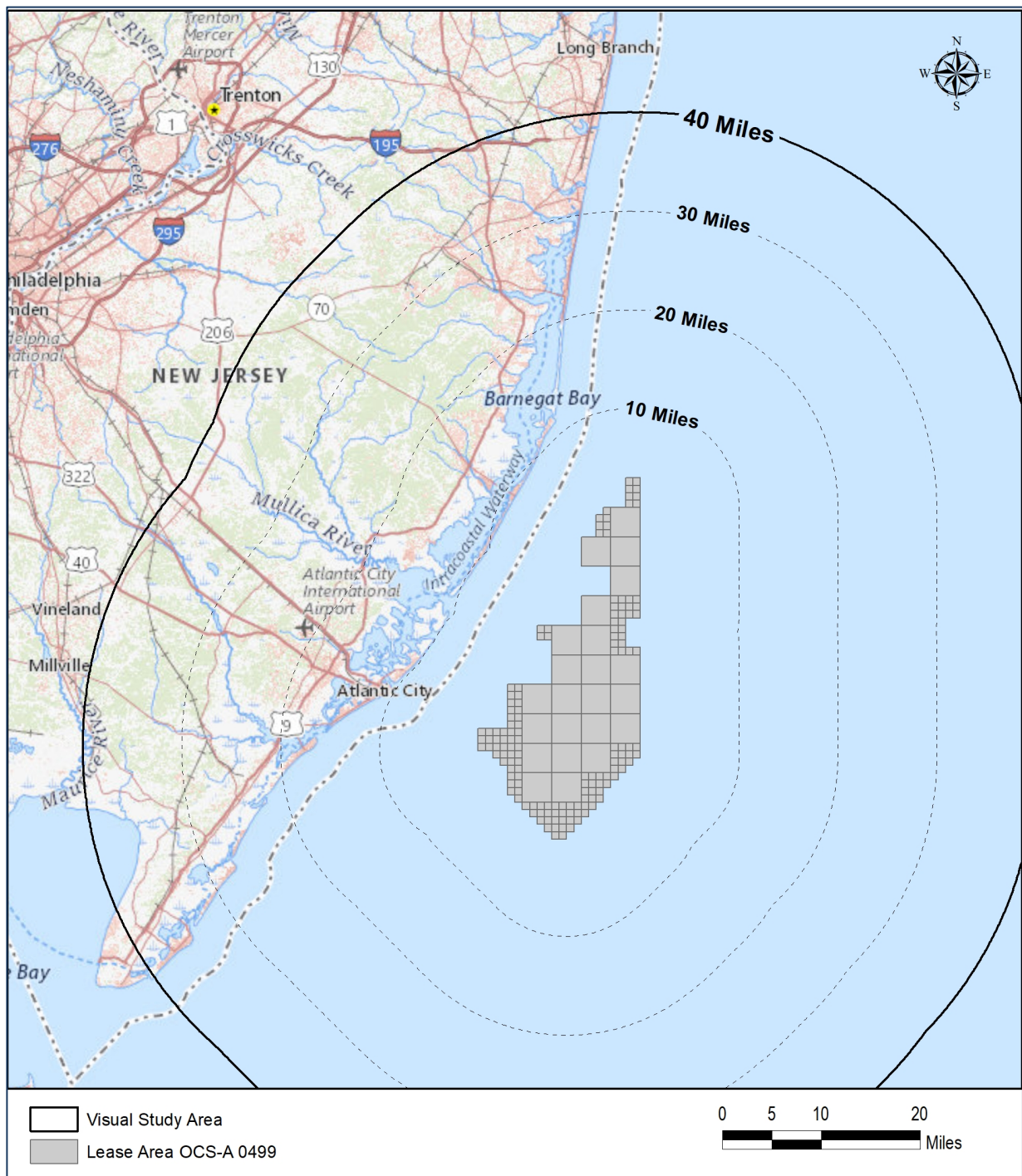


Figure 2.1-1 –Visual Study Area

While theoretical limits of visibility are appropriate when defining the VSA, it is important to consider the environmental variables that limit visibility even on the clearest of days. Studies completed on offshore turbines in Europe concluded the following (Sullivan et. al. 2013):

1. WTGs were considered the major focus of attention within 10 miles.
2. WTGs were noticeable to casual observers at distances of 18 miles and visible with extended or concentrated viewing at distances beyond 25 miles.
3. Turbine blade movement was visible at distances up to 24 miles.
4. Aviation obstruction avoidance lighting was visible at distances greater than 24 miles.

While the largest WTGs considered in the study referenced above were substantially shorter than current models (approximately 500 feet tall with the blade tip in the upright position), it is likely that atmospheric haze was largely responsible for the diminishment of the visibility of the WTGs. This phenomenon will have the same effect, even with increasing WTG dimensions. Image 2.1-2 illustrates the constructed Block Island Wind Farm viewed under clear conditions at a distance of 23.8 miles. As this image illustrates, even when photographed with a large telephoto lens (500 millimeters) the WTGs present limited contrast due to the diminishment of scale and color contrast over distance and the presence of atmospheric haze. When asked their opinion of the turbines from this location, viewers had to be directed and concentrate their focus to see the turbines (EDR, 2016).



Figure 2.1-2 – Telephoto view (500 mm) of the Block Island Wind Farm from 23.8 miles distant.

2.2 Definition of the Zone of Visual Influence

The preliminary viewshed analysis completed for the Project suggests that approximately 13.6% of the landward VSA could potentially have some degree of Project visibility. However, the results also suggest that this visibility does not extend significantly inland due to screening provided by landform, vegetation, and structures. These factors, coupled with the effect of curvature of the earth, typically reduce or eliminate views from inland locations. To gain a better understanding of where visibility may occur within the VSA, a final viewshed analysis will be performed using high-resolution lidar data. Lidar data is collected by aircraft which emit laser light pulses while flying over a region. When this light strikes an object, the signal is returned to a receiving mechanism on the aircraft. Both the time and strength of the returned light provides an indication of the type of material and its vertical distance relative to the aircraft. The resulting lidar datasets consist of billions of points, which provide an extremely detailed elevation dataset for the surface of the earth, including bare ground, buildings, and vegetation. To utilize this data for visibility predictions, Geographic Information Systems (GIS) software is used to convert the lidar point cloud information into a digital surface model (DSM) of the earth, which serves as the base for the viewshed mapping. The DSM is processed to eliminate features on the surface that may falsely indicate screening features such as bridges, transmission lines, and some thin or sparse hedgerows (often found along roads). To evaluate potential visibility, the WTG positions and heights are placed in the viewshed model. The GIS analysis then analyzes every cell in the DSM grid within the VSA to determine if a direct line of sight to proposed WTGs within the Lease Area (WTG blade tips in the upright position) is available. Based on the availability of a direct line of sight, each grid cell is coded as visible or not visible. This analysis is completed for each proposed WTG location, so each grid cell is also assigned a number indicating the number of turbines potentially visible at that location. The analysis results in the identification of all areas of potential visibility throughout the entire VSA. These areas of visibility are henceforth referred to as the zone of visual influence (ZVI) and will represent the areas of analysis considered in the VIA.

2.3 Definition of Landscape Similarity Zones and User Groups

EDR will use aspects of the U.S. Army Corps of Engineers (USACE) Visual Resource Assessment Protocol (VRAP) (Smardon, et. al. 1988) to establish landscape similarity zones (LSZs) within the ZVI. Defining distinct landscape types provides a useful framework for the analysis of a project's potential visual effects. LSZs will be defined based on the similarity of various landscape characteristics including landform, vegetation, water, and land use patterns. The initial desktop exercise will reference aerial photographs, land use/ zoning data, and landcover data in order to delineate the initial LSZ boundaries. Field review of these preliminary desktop delineations will verify the location, character, and boundaries of each LSZ (See Section 2.9). This field review will be completed by the individuals involved in the initial desktop delineations of the LSZs. This exercise not only provides for a verification of the landscape types within the VSA, but also allows for the determination of potentially sensitive viewing locations, view durations, and user types. The VIA will describe the types of views available, along with the types of viewers/users present in each LSZ.

Users of this regional landscape generally fall into one of five categories including, recreational users, tourists, residents [including disadvantaged residents as defined by Environmental Justice Areas (EJA)], travelers/commuters, and the commercial fishing community. Each of these user types may have variable sensitivity to visual change in the landscape or seascape and these will be described and related to specific LSZs for additional context.

2.4 Identification of Publicly Accessible and Designated Visually Sensitive Resources

Visually sensitive resources (VSRs) are an important consideration when evaluating potential visual impacts of a project. These resources generally include specifically designated scenic resources such as State/National Scenic Byways, or scenic overlooks, but also include state and nationally designated historic, environmental, and/or recreational resources. Examples of VSRs that could occur within a VSA are listed in Table 2.5-1.

Table 2.5-1. Visually Sensitive Resource Categories

Traditional Cultural Properties	State Beaches
National/State Historic Districts	Highways Designated or Eligible as Scenic
National/State Historic Sites	National Historic Landmarks
National Natural Landmarks	National Recreation Trails
State-Designated Scenic Areas	State Trails
Scenic Area of Statewide or Local Significance	State Bike Routes
State-Designated Scenic Overlooks	State Fishing and Boating Access
National Wildlife Refuges	State/National Scenic Byways
State Wildlife Management Areas	Lighthouses (not National or State Historic Listed)
State/National Parks	Public Beaches/National Seashores
State Nature and Historic Preserve Areas	Ferry Routes (Occur across multiple states)
State/National Forests	Seaports (Commercial Maritime Facilities)
Environmental Justice Areas	State, Interstate, and US Highways

EDR will consult publicly available GIS resources to determine the location and extend of the VSRs within the VSA and then conduct an analysis to determine which of those resources also occur within the ZVI (i.e., which resources have potential Project visibility). The results of this analysis will support consultations with agencies and stakeholders and inform subsequent field photography and the selection of visual simulation locations (see Section 2.8).

2.5 Viewshed Analysis

In addition to the establishment of the ZVI based on maximum blade tip height, the viewshed analysis will also be used to determine the likely extent of WTG visibility. To complete this, the viewshed analysis will be run at multiple heights to determine how much of the proposed WTGs may be visible within the ZVI. Along with the maximum blade tip height, the heights used for this analysis will include 1) the height of the Federal Aviation Administration (FAA) obstruction warning lights mounted on top of the WTG nacelles, 2) the height of FAA warning lights mounted on the WTG towers, and 3) the height of Coast Guard navigation warning lights mounted on the WTG platform. This information will be used to determine the degree of WTG visibility from onshore VSRs under both daytime and nighttime conditions.

2.6 Other Factors Influencing Project Visibility

As mentioned previously in Section 2.1, weather and atmospheric conditions have a significant influence on the visibility of offshore WTGs. To gain a better understanding of the visibility-influencing factors associated with atmospheric conditions, an analysis of historical weather conditions will be undertaken to determine the frequency and duration of conditions under which Project visibility would or would not be possible. This analysis will be based on information from the National Climatic Data Center (NCDC), which regularly reports visibility conditions out to a distance of 10 miles. This predictive model effectively extends visibility predictions out to 30 miles. The results of this analysis will provide

an estimation of how frequently the Lease Area (or portions of the Lease Area) will be obscured from view due to weather conditions during daytime and nighttime periods within a typical year.

2.7 Identification of Key Observation Points

Key observation points (KOPs) are locations that will eventually serve as representative views for the production of visual simulations (see Section 2.9). When selecting KOPs, it is important to insure they provide representative views of the Project and the character of the LSZs within the ZVI. The primary selection criteria include the following:

1. Project visibility is indicated by the viewshed analysis (i.e., the KOP occurs within the ZVI).
2. The KOP occurs adjacent to a VSR of National significance.
3. The KOP occurs at or adjacent to a VSR of State significance.
4. The KOPs represent a variety of LSZs and viewer types occurring within the ZVI.
5. The KOPs represent popular/important tourism destinations and residential areas (including disadvantaged neighborhoods).
6. The KOPs represent variable lighting/sky conditions and distances (including inland locations), directions, and viewing angles of the WTGs.
7. The KOPs represent a variety of wind directions (thus turbine directions) including the most prevalent condition present during the field review and a condition in which the turbines are facing the viewer position.
8. The KOPs reflect input from stakeholders and agencies.

This VIA Protocol serves as the initiation of consultation with agencies and stakeholders regarding the selection of KOPs, and therefore does not yet include input from the various consulting parties. However, to initiate this process, representative examples of candidate KOPs are listed in Appendix A. These KOP examples were selected based on the eight aforementioned criteria, along with a variety of GIS desktop analyses that were used to identify VSRs and areas of high public use. It is anticipated that a more complete list of KOPs will be developed once the ZVI has been defined and through consultation with the agencies and stakeholders.

2.8 Field Photography and Survey

Field photography and survey will involve EDR visual assessment staff travelling to the Project VSA for the purposes of capturing photographs from each of the selected KOPs, verifying the results of the viewshed analysis, and to documenting typical views from representative LSZs within the ZVI.

Photography will involve determining the most open and unobstructed view of the ocean and Lease Area from each selected KOP. At this location, a tripod will be set up and a compass bearing recorded to determine the general direction of the proposed WTGs. A survey position of the tripod will be recorded using a geographic positioning system (GPS) with differential correction. Once the survey position of the tripod has been collected, the position will be uploaded and corrected based on local survey correction beacons. GIS is then used to determine precise bearings to the outside limits and center of the WTG array. These bearings will be loaded into the survey equipment, and stakes will be placed within the field of view approximately 100 to 500 feet from the tripod position. The position of these stakes will be surveyed, and a survey-grade laser range finder will be mounted to the tripod in order to determine the exact distance of the stakes and their bearing from the tripod. Next, a camera will be mounted to the tripod and the focus, exposure,

and white balance will be adjusted to match the conditions as observed. The camera will be a 30 megapixel (6720x4480) full-frame digital single lens reflex camera with a 36 mm by 24 mm sensor, equipped with an unfiltered 50 mm prime lens with a minimum aperture of f/1.8. Once the camera is properly set up, a series of photographs will be taken to cover a 180-degree horizontal field of view and 65-degree vertical field of view. In order to minimize distortion between frames the camera will be offset on the tripod to rotate around the nodal point of the lens. Once the panorama has been recorded, the camera will again be centered on the Project and one-minute of video footage will be recorded in 4K to capture scene dynamics such as wave movement and sound.

Where possible, field photography will include a field of view large enough to include potential future offshore development in order to provide adequate coverage for the eventual consideration of cumulative visual impacts.

Photography will be carefully planned to document optimal viewing conditions, as well as a variety of lighting conditions (including sunrise, morning, noon, afternoon, sunset and night) from the various selected KOPs.

2.9 Visual Simulations

Visual simulations are essentially the photographs obtained from each KOP with the Project superimposed and integrated so that the resulting image accurately illustrates the view that will be available following Project construction. For the Atlantic Shores Offshore Wind Project, three types of simulations will be provided, as indicated in Table 2.10-1.

Table 2.9-1. Types of Visual Simulations

Simulation Type	Field of View Represented	Purpose
Single Frame 50mm	39.6 degrees horizontal by 27 degrees vertical	50 mm single frame simulations are used to replicate a "normal lens" which maintains spatial relationships associated with near and distant objects, thus accurately representing the relative scale of a project. The simulations are generally compact in size (11x17 inches) and can be easily printed for incorporation into a report or viewed digitally on a high-resolution screen.
Panorama Simulations	124 degrees horizontal by 55 degrees vertical	Panorama simulation covering 124x55 degrees are generally representative of the human full field of view. These simulations need to be printed in large format and are difficult to present in a written report or a standard computer monitor
Video Time-Lapse Simulations	39 degrees horizontal by 21 degrees vertical	Time lapse video simulations illustrate blade motion, movement of landscape features, and lighting changes over an extending period. Typically, the time period extends from first light to nighttime in order to illustrate lighting conditions throughout the day and turbine visibility at nighttime. Videos require viewing on a high-resolution screen.

The simulations are created by reconstructing the physical environment in a three-dimensional (3D) computer generated environment (model). The model will include an exact replica of the camera position, direction of view, and camera specifications. To verify the accuracy of the camera placement and direction of view, the field-recorded survey information will also be placed into the model along with current lidar data. In some cases where lidar data is not sufficient for the alignment, an unmanned aerial system (UAS or drone) will be used in the field to provide expanded survey capability and alignment beacons. Once the view and 3D camera are precisely aligned, a to-scale 3D version of the proposed offshore facilities (WTGs and OSSs) will be added to the model. The model will also include an environmental system which will replicate the atmospheric and lighting conditions present at the time of the photograph based on the date, time of day, and recorded atmospheric conditions. This will ensure proper lighting and shading of the WTGs and OSSs. When adding the 3D model of the offshore facilities to the photograph, curvature of the earth and refraction are accounted for in each view based on the elevation of the camera, distance to the WTGs/OSSs, and conditions recorded in the field. The resulting illustration produced using this methodology is an accurate representation of the proposed operational wind farm.

The VIA will include simulations illustrating variable atmospheric/weather conditions and times of day to illustrate the appearance of the offshore facilities when viewed under these conditions. It is not anticipated that every KOP will include multiple times of day and conditions, rather a subset of representative simulations will be selected after the initial simulations have been completed in order to provide regional examples of variable conditions.

As mentioned in Section 2.8, the EDR intends to capture sufficient photographic and survey data to include reasonably foreseeable future development with the Atlantic Shores and other lease areas within a 40 miles of the Project. Upon completion of the VIA and receipt of the completeness determination, it is anticipated that BOEM will request the development of cumulative visual assessment graphics and visual simulations. These simulations and graphic representations will adequately address stationary views in which multiple facilities appear within a single field of view, views in which the cumulative visibility extends beyond the primary field of view, and sequential views as experienced by viewers moving through the site. Pending further consultation with BOEM, it is also anticipated that the cumulative visual simulations will illustrate the proposed action with and without foreseeable future development. Additionally, the foreseeable future development will be illustrated without the proposed action for comparative purposes.

2.10 Visual Impact Evaluation

The visual impact associated with development of the Lease Area will be evaluated using a variation of the VIA procedure outlined in the USACE VRAP (Smardon et. al., 1988). The VIA uses representative KOPs within each of the affected LSZs in the VSA to determine a Project's visual impact. To ensure that the scoring of one individual or one viewpoint does not skew the results, the VRAP requires that multiple rating panel members (minimum of two) be involved, and that multiple KOPs be evaluated. This evaluation is based on a comparison of existing photos and visual simulations from each KOP to quantify the effect of a project using forms and a scoring system provided in the VRAP Manual (Smardon et al., 1988) as modified by EDR.

For the Atlantic Shores Project, a panel of four qualified landscape architects and planners will conduct a quantitative VIA rating procedure which will determine the existing scenic quality of the view from each KOP viewing location and the scenic quality of the same view with the Project in place. The panel members will be provided with digital files of existing conditions photos and simulations from each KOP, along with a viewpoint information page that provides a viewpoint location map, contextual photographs illustrating the full field of view, a summary of VSRs present. The distance and direction of the nearest WTG from each KOP, the LSZ, and viewer groups represented by each viewpoint will also be provided to the panel, along with the rating forms to be used for the visual impact assessment (a simplified version of Form 6 from the USACE VRAP). In addition, the rating panel members will be directed to examine contextual maps of the KOP location, review panorama photographs, and complete a Google Earth tour of the KOP and surrounding landscape as one would approach the individual KOP locations. The rating panel members will then evaluate the before and after views from each KOP and will assign each view quantitative aesthetic quality ratings. The ratings will be based on the visual quality of each of six landscape components (landform, water resources, vegetation, land use, user activity, and special considerations). As mentioned above, VRAP Form 6 (Viewpoint Assessment) will be modified to: 1) create separate forms for the evaluation of the existing view and the view with the proposed Project in place, 2) provide clarity in evaluating Project compatibility, scale contrast, and spatial dominance, and 3) delete items that do not contribute to the assignment of a numerical VIA score to the viewpoint. A standard three-point rating system used in the VRAP does not always allow for sufficient differentiation among ratings for either existing visual quality or the magnitude of visual impact. Consequently, the panel members will be allowed to rate the images on an expanded scale of 1 to 9. These scores will then be converted back to the scale used on the original Form 6 to remain consistent with the VRAP scoring and threshold values.

The following landscape/seascape factors will be considered in the rating, and where applicable, their presence in the view or influence on the view will be expressed in the visual impact rating.

- **Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes. These factors are included in the VRAP methodology and will be rated quantitatively for the existing and proposed view.
- **Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of

- an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact. Line, form, color, and texture are directly applied to the landscape and seascape composition ratings described above. These factors will be assessed both quantitatively and qualitatively on the rating forms.
- **Focal Point:** Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape. Focal points in the existing view and how those may be affected by the Project will be described on the rating form.
 - **Order:** Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape or seascape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment. The Project's effect on order will be addressed in the rating panel comments.
 - **Scenic or Recreational Value:** Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource. Formally designated scenic or recreational designations will be identified for the panel members, and the panel will be asked to comment on the projects potential effect on scenic or recreational resources.
 - **Duration of View:** Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact. Background information for, each KOP will contain a description of the user experience in terms of regional visibility and the availability of ocean views from each location. The rating panel will be asked to comment on the duration and frequency of the view presented for each KOP.
 - **Atmospheric Conditions:** Clouds, precipitation, haze, and other ambient air-related conditions which affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of landscape/seascape and project components and the design elements of form, line, color, texture, and scale. Rating panel members will be asked to comment on the conditions presented in each view,

as well as how Project visibility may be less or greater under conditions different from those illustrated in the selected visual simulation.

- **Lighting Direction:** Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape/seascape and project elements. Rating panel members will be asked to characterize each view as illustrating one of three possible lighting conditions (front lit, side lit, and backlit) and comment on potential conditions that may increase or decrease Project visibility.

Project Scale: The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing landscape/seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors. Project scale contrast will be assessed through quantitative scores built into the VRAP procedure.

- **Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint. The Project's spatial dominance will be assessed through quantitative scores built into the VRAP procedure.
- **Visual Clutter:** Numerous unrelated built elements occurring within a view can create visual clutter, which generally has an adverse effect on scenic quality. If present, visual clutter, both existing and as a result of the proposed Project will be assessed qualitatively in the rating panel comments.
- **Movement:** Moving project components can attract viewer attention. Rating panel members will be asked to comment on existing elements in the view that may draw viewer attention as well as a potential increase in noticeability of the Project resulting from the rotation of the turbine blades.

The VRAP procedure would normally require adherence to the Management Classification System (MCS) to establish a Visual impact threshold score for each LSZ within the VSA. However, given the nature of offshore wind projects, which occur outside of the LSZs where the Project is being viewed, and to avoid elevating this threshold by considering the sensitivity of the LSZ as a whole, the methodology has been adapted to apply this management classification to the individual KOPs. Once the panel has completed the evaluation, their individual ratings will be averaged to generate a composite rating for each viewpoint for both the existing and proposed conditions photographs. Based on the average scores of the existing and proposed views, each KOP will be assigned a management classification that defines its aesthetic quality and capacity to absorb physical alterations to the seascape. These classifications are defined in Table 2.4-2.

Table 2.10-1. Scenic Quality Classifications

Preservation Class	These views are considered to be unique and to have the most distinct visual quality in the region. They are highly valued and are often protected by federal and state policies and laws. These areas may include significant natural areas, portions of wild and scenic rivers, historic sites and districts, and similar situations where changes to existing visual resources are restricted. While limited project activity is not precluded, it should not be readily evident (Score of 17 or more).
Retention Class	These views are regionally recognized as having distinct visual quality but may not be institutionally protected. Project activity may be evident but should not attract attention (Score of 14 to 16).
Partial Retention Class	These views are locally valued for above average visual quality but are rarely protected by institutional policies. Project activity may be evident and begin to attract attention. Structures, operations, and use activities associated with the project should remain subordinate to the existing visual resources (Score of 11 to 13).
Modification Class	These views are not noted for their distinct qualities and are often considered to be of average visual quality. Project activity may attract attention and dominate the existing visual resources. Structures, operations, and use activities may display characteristics of form, line, color, texture, scale, and composition that differ from those of the existing visual resources. However, the project should exhibit good design and visual compatibility with its surroundings (Score of 9 to 10).
Rehabilitation Class	These views are noted for their minimal visual quality and are often considered blighted areas. Project activity in these areas should improve the existing undesirable visual resources. Structures, operations, and use activities should exhibit good design and display characteristics of form, line, color, texture, scale, and composition that contribute to making the area compatible with the visual character of adjacent higher quality landscapes (Score of less than 8).

To evaluate the overall visual impact from each KOP, the composite before and after scores for view will be compared to determine the average difference between the ratings of the existing and proposed views. For each KOP, the impact ratings will be compared to the thresholds established for that view to determine whether impacts exceed the allowable thresholds for the existing conditions classification. According to the VRAP methodology, the threshold for acceptable impact for each of these classifications are as follows:

- Preservation Class – 0
- Retention Class – No lower than minus 2
- Partial Retention Class – No lower than minus 5
- Modification Class – No lower than minus 6
- Rehabilitation Class – Greater than 0 (i.e., project should only improve visual quality)

To supplement and validate VRAP results, rating panel members will be asked to determine the Visibility Threshold Level (VTL) applicable to each of the KOPs and the broader regional landscape they represent. *Offshore Wind Turbine Visibility and Visual Impact Threshold Distances* (Sullivan et al., 2013) lists six VTLs used to rate the visual prominence of several operational offshore wind farms in Europe. These visibility ratings and the associated VRAP scale are presented below in Table 2.10-2.

Table 2.10-2 Visibility Threshold Level Rating Scale

Visibility Rating	Description
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45 degrees from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.

Following completion of the evaluation, the VIA scores and the completed evaluation forms will be reviewed to determine the basis for the documented visual impact. In addition, a detailed description of the evaluation will be included for each KOP, including a summary of the panel members comments and scoring related to spatial dominance, scale contrast, compatibility with the landscape/seascape, and VTL. The inclusion of these elements will provide an evaluation of the potential magnitude of visual change resulting from the Project at each KOP. In order to evaluate variable visibility and atmospheric conditions, evaluators will be asked to described specific conditions under which the Project may result in increased or reduced visual impacts (i.e. sunrise, sunset, blade movement, overcast, foggy conditions, etc.). Individual panel members scores will also be discussed to identify and describe any panel variability or consistency in the perceived type or level of visual impact. Panel variability will also be discussed

collectively across all KOPs in order to identify any consistent outliers in the analysis and the justification for the variability.

The VRAP evaluation methodology is considered advantageous because it: 1) provides an assessment of the sensitivity of identified LSZs and viewer groups to visual change, 2) documents the basis for conclusions regarding visual impact in an objective, quantifiable manner, and 3) allows for independent review and replication of the evaluation. The modifications to the methodology made by EDR allow a large number of viewpoints to be evaluated in a reasonable amount of time without “burn-out” of the rating panel.

The completed visual impact forms will be included in the VIA along with graphical representations of the results, such as a summary of the spatial dominance, scale contrast, and project compatibility as compared to viewer sensitivity, distance from the Project, and other factors affecting Project visibility and landscape/seascape sensitivity to visual change.

2.11 Procedural Intent

The visual impact assessment procedure outlined in this report meets or exceeds standard methodologies and industry practices for determining the impacts to visually sensitive resources resulting from the construction and operation of offshore wind farms (see Literature Cited/References section). The intent of this document is to solicit input from the regulatory agencies and consulting parties on the procedures outlined and preliminary recommendations for KOPs for consideration in the VIA. Therefore, it is anticipated that this document will be revised, as necessary, to reflect the input provided.

3.0 Literature Cited/References

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ATTACHMENT B

VISIBILITY FROM MUNICIPALITIES WITHIN THE VISUAL STUDY AREA

County	Municipality	Total Area (sq miles)	Area Within VSA (sq miles)	Percent Area within VSA(%)	Area Within ZVI (sq miles)	Percent Area within ZVI(%)
Atlantic County		610.6	604.7	99.0	101.1	16.6
	Absecon	7.2	7.2	100.0	2.9	40.6
	Atlantic City	15.9	15.9	100.0	9.5	60.0
	Brigantine	10.7	10.7	100.0	7.3	68.6
	Buena Borough	7.6	3.0	39.5	none in ZVI	none in ZVI
	Buena Vista Township	41.6	40.2	96.7	none in ZVI	none in ZVI
	Corbin City	9.0	9.0	100.0	5.2	58.0
	Egg Harbor City	11.4	11.4	100.0	0.5	4.0
	Egg Harbor Township	75.5	75.5	100.0	13.0	17.2
	Estell Manor	55.2	55.2	100.0	6.7	12.2
	Folsom Borough	8.5	8.5	100.0	none in ZVI	none in ZVI
	Galloway Township	111.3	111.3	100.0	47.1	42.3
	Hamilton Township	112.9	112.9	100.0	0.4	0.3
	Hammonton	41.3	41.3	100.0	<0.1	<0.1
	Linwood	4.4	4.4	100.0	1.8	40.2
	Longport Borough	0.6	0.6	100.0	0.2	26.2
	Margate City	1.6	1.6	100.0	0.1	5.9
	Mullica Township	56.8	56.8	100.0	0.1	0.1
	Northfield	3.6	3.6	100.0	0.5	13.1
	Pleasantville	7.3	7.3	100.0	3.0	41.8
	Port Republic	8.6	8.6	100.0	1.2	13.7
	Somers Point	5.0	5.0	100.0	1.0	20.8
	Ventnor City	2.5	2.5	100.0	0.6	22.5
	Weymouth Township	12.2	12.2	100.0	<0.1	<0.1
Burlington County		820.3	414.4	50.5	11.1	1.3
	Bass River Township	78.3	78.3	100.0	6.8	8.7
	New Hanover Township	22.6	10.4	45.7	none in ZVI	none in ZVI
	Pemberton Township	62.8	41.5	66.2	none in ZVI	none in ZVI
	Shamong Township	45.0	31.6	70.1	none in ZVI	none in ZVI
	Southampton Township	44.4	9.4	21.2	none in ZVI	none in ZVI
	Tabernacle Township	49.6	44.0	88.7	<0.1	<0.1
	Washington Township	104.8	104.8	100.0	3.9	3.7
	Woodland Township	94.4	94.4	100.0	0.3	0.3
Camden County		227.6	17.5	7.7	none in ZVI	none in ZVI
	Waterford Township	36.2	11.4	31.4	none in ZVI	none in ZVI
	Winslow Township	58.2	6.1	10.5	none in ZVI	none in ZVI
Cape May County		286.1	286.1	100.0	38.6	13.5
	Avalon Borough	5.0	5.0	100.0	0.4	8.6
	Cape May	2.9	2.9	100.0	<0.1	<0.1
	Cape May Point Borough	0.3	0.3	100.0	none in ZVI	none in ZVI
	Dennis Township	63.8	63.8	100.0	5.3	8.3
	Lower Township	31.0	31.0	100.0	0.1	0.3
	Middle Township	82.7	82.7	100.0	12.7	15.3
	North Wildwood	2.5	2.5	100.0	0.4	15.8
	Ocean City	11.8	11.8	100.0	4.2	35.8
	Sea Isle City	2.8	2.8	100.0	0.5	17.4
	Stone Harbor Borough	2.3	2.3	100.0	0.4	16.3
	Upper Township	68.4	68.4	100.0	14.2	20.8
	West Cape May Borough	1.2	1.2	100.0	none in ZVI	none in ZVI
	West Wildwood Borough	0.4	0.4	100.0	<0.1	<0.1
	Wildwood	1.7	1.7	100.0	0.2	10.5
	Wildwood Crest Borough	1.5	1.5	100.0	0.2	15.6
	Woodbine Borough	8.0	8.0	100.0	<0.1	0.3
Cumberland County		501.8	113.1	22.5	<0.1	<0.1
	Commercial Township	34.1	1.4	4.0	none in ZVI	none in ZVI
	Maurice River Township	95.0	86.0	90.6	<0.1	<0.1
	Millville	44.5	2.9	6.6	none in ZVI	none in ZVI
	Vineland	69.0	22.8	33.0	none in ZVI	none in ZVI
Gloucester County		336.2	0.6	0.2	none in ZVI	none in ZVI
	Monroe Township	46.9	0.6	1.4	none in ZVI	none in ZVI
Monmouth County		485.7	118.9	24.5	none in ZVI	none in ZVI
	Allenhurst Borough	0.3	0.3	100.0	none in ZVI	none in ZVI
	Asbury Park	1.5	1.5	100.0	none in ZVI	none in ZVI
	Avon-by-the-Sea Borough	0.5	0.5	100.0	none in ZVI	none in ZVI
	Belmar Borough	1.5	1.5	100.0	none in ZVI	none in ZVI
	Bradley Beach Borough	0.6	0.6	100.0	none in ZVI	none in ZVI
	Brielle Borough	2.3	2.3	100.0	none in ZVI	none in ZVI
	Deal Borough	1.2	0.8	62.5	none in ZVI	none in ZVI
	Farmingdale Borough	0.5	0.5	100.0	none in ZVI	none in ZVI
	Freehold Township	38.9	5.9	15.3	none in ZVI	none in ZVI
	Howell Township	61.1	48.7	79.7	none in ZVI	none in ZVI
	Interlaken Borough	0.4	0.4	100.0	none in ZVI	none in ZVI
	Lake Como Borough	0.3	0.3	100.0	none in ZVI	none in ZVI
	Loch Arbour Village	0.1	0.1	100.0	none in ZVI	none in ZVI
	Manasquan Borough	1.6	1.6	100.0	none in ZVI	none in ZVI
	Neptune City Borough	0.9	0.9	100.0	none in ZVI	none in ZVI
	Neptune Township	8.8	8.8	100.0	none in ZVI	none in ZVI
	Ocean Township	11.0	4.9	44.4	none in ZVI	none in ZVI
	Sea Girt Borough	1.1	1.1	100.0	none in ZVI	none in ZVI

County	Municipality	Total Area (sq miles)	Area Within VSA (sq miles)	Percent Area within VSA(%)	Area Within ZVI (sq miles)	Percent Area within ZVI(%)
	Spring Lake Borough	1.5	1.5	100.0	<i>none in ZVI</i>	<i>none in ZVI</i>
	Spring Lake Heights Borough	1.3	1.3	100.0	<i>none in ZVI</i>	<i>none in ZVI</i>
	Tinton Falls Borough	15.6	4.4	28.2	<i>none in ZVI</i>	<i>none in ZVI</i>
	Wall Township	31.8	31.1	98.0	<i>none in ZVI</i>	<i>none in ZVI</i>
Ocean County		757.9	740.9	97.8	132.8	17.5
	Barnegat Light Borough	1.3	1.3	100.0	0.3	21.8
	Barnegat Township	40.3	40.3	100.0	8.7	21.7
	Bay Head Borough	0.7	0.7	100.0	<0.1	1.9
	Beach Haven Borough	2.3	2.3	100.0	1.1	47.4
	Beachwood Borough	2.8	2.8	100.0	<i>none in ZVI</i>	<i>none in ZVI</i>
	Berkeley Township	54.1	54.1	100.0	10.4	19.1
	Brick Township	32.4	32.4	100.0	0.5	1.7
	Eagleswood Township	18.9	18.9	100.0	8.4	44.5
	Harvey Cedars Borough	1.3	1.3	100.0	0.2	16.9
	Island Heights Borough	0.9	0.9	100.0	<i>none in ZVI</i>	<i>none in ZVI</i>
	Jackson Township	100.6	92.1	91.5	<i>none in ZVI</i>	<i>none in ZVI</i>
	Lacey Township	99.5	99.5	100.0	15.3	15.4
	Lakehurst Borough	1.0	1.0	100.0	<i>none in ZVI</i>	<i>none in ZVI</i>
	Lakewood Township	25.1	25.1	100.0	<i>none in ZVI</i>	<i>none in ZVI</i>
	Lavallette Borough	1.0	1.0	100.0	0.1	7.5
	Little Egg Harbor Township	74.0	74.0	100.0	39.0	52.8
	Long Beach Township	23.5	23.5	100.0	16.7	70.8
	Manchester Township	82.4	82.4	100.0	<0.1	0.1
	Mantoloking Borough	0.6	0.6	100.0	0.1	10.8
	Ocean Gate Borough	0.5	0.5	100.0	<i>none in ZVI</i>	<i>none in ZVI</i>
	Ocean Township	31.8	31.8	100.0	10.4	32.7
	Pine Beach Borough	0.7	0.7	100.0	<i>none in ZVI</i>	<i>none in ZVI</i>
	Plumsted Township	39.5	31.0	78.6	<i>none in ZVI</i>	<i>none in ZVI</i>
	Point Pleasant Beach Borough	1.9	1.9	100.0	<0.1	0.2
	Point Pleasant Borough	4.2	4.2	100.0	<i>none in ZVI</i>	<i>none in ZVI</i>
	Seaside Heights Borough	0.7	0.7	100.0	0.1	7.7
	Seaside Park Borough	1.1	1.1	100.0	0.2	15.3
	Ship Bottom Borough	1.0	1.0	100.0	0.1	13.4
	South Toms River Borough	1.2	1.2	100.0	<i>none in ZVI</i>	<i>none in ZVI</i>
	Stafford Township	54.7	54.7	100.0	14.8	27.0
	Surf City Borough	1.3	1.3	100.0	0.1	7.7
	Toms River Township	52.7	52.7	100.0	4.6	8.7
	Tuckerton Borough	3.7	3.7	100.0	1.6	44.8

ATTACHMENT C

VISIBILITY FROM VISUALLY SENSITIVE RESOURCES

Visually Sensitive Resource ¹	Location		KOP Number ²	Distance to Nearest Turbine (Miles) ³	Viewshed Results			Figure 1.2-3	
					Number of Turbines Potentially Visible ⁴	Number of FAA Warning Lights Potentially Visible ⁴	Percent Visibility ⁵	VSR Number	Sheet Number
	○ <1% ◐ 2-25% ◑ 26-50% ◒ 51-75% ● 76-100%								
National Historic Landmarks									
Atlantic City Convention Hall	City of Atlantic City	Atlantic	AC02	11.4	200	200	◐	1	7
Lucy, The Margate Elephant	City of Margate City	Atlantic	MC01, MC02	14.4	139	136	◐	2	6
Properties Listed on the National or State Registers of Historic Places									
Absecon Lighthouse	City of Atlantic City	Atlantic	AC01N, AC01, AC05	10.7	27	17	◑	3	7
Church of the Ascension	City of Atlantic City	Atlantic		11.2	1	0	◐	4	7
Shelburne Hotel	City of Atlantic City	Atlantic		11.3	52	2	◐	5	7
John Stafford Historic District	City of Ventnor City	Atlantic	VC02	12.5	200	199	◐	6	7
Beach Haven Historic District (Boundary Increase and Additional Documentation)	Borough of Beach Haven	Ocean	BHB01, BHB01	13.1	22	19	○	7	5
Beach Haven Historic District	Borough of Beach Haven	Ocean	BHB01, BHB01	13.4	6	0	◐	8	5
Dr. Jonathan Pitney House	City of Absecon	Atlantic		16.6	4	0	◑	9	7
Linwood Historic District	City of Linwood	Atlantic		17.7	51	31	◐	10	6
Bay Front Historic District	City of Somers Point	Atlantic		18.4	157	45	◐	11	6
Somers Mansion	City of Somers Point	Atlantic		18.9	46	21	◐	12	6
L.N. Renault and Sons Winery	City of Egg Harbor City; Galloway Township	Atlantic		24.4	3	0	○	13	4
South Tuckahoe Historic District	City of Corbin City; Upper Township	Atlantic, Cape May		26.9	14	3	○	14	6
Marshallville Historic District	Upper Township	Cape May		28.1	2	0	○	15	6
Abbott's Modern Cabins	Hamilton Township	Atlantic		31.6	2	0	○	16	4
Hereford Lighthouse	City of North Wildwood	Cape May	NWC01	34.6	196	42	◐	17	8
Bay Head Historic District	Borough of Bay Head	Ocean	BYB01	47.5	24	0	◐	18	1
Properties Determined Eligible for the National or State Registers of Historic Places									
Atlantic City Beautiful Historic District	City of Atlantic City	Atlantic		11.2	2	1	◐	19	7
Administration Building for the Board of Education	City of Atlantic City	Atlantic		11.4	1	0	◐	20	7
419 CARSON AVE	City of Atlantic City	Atlantic		11.4	2	0	◐	21	7
USCG Station Atlantic City	City of Atlantic City	Atlantic		11.5	178	142	◑	22	7
Ritz Carlton Hotel	City of Atlantic City	Atlantic		11.7	134	92	◐	23	7
Atlantic City Armory	City of Atlantic City	Atlantic		11.9	1	0	◐	24	7
Little Egg Harbor US Life Saving Station #23	Little Egg Harbor Township	Ocean	LEHT02, LEHT01	12.0	200	200	●	25	5
The Knife and Fork Restaurant	City of Atlantic City	Atlantic		12.1	10	8	◑	26	7
Camden and Atlantic Railroad Historic District	City of Atlantic City, Absecon, Pleasantville, Egg Harbor City; Winslow, Waterford, Egg Harbor, Hammonton, Mullica, Galloway Townships	Atlantic, Camden		12.2	81	51	◐	27	2, 4, 6, 7
Saint Leonard's Tract Historic District	City of Ventnor City	Atlantic	VC01	12.7	200	200	◐	28	7
West Jersey and Atlantic Railroad Historic District	City of Atlantic City, Pleasantville; Hamilton, Egg Harbor Township	Atlantic		14.1	62	15	◑	29	4, 6, 7
Oceanville / Leeds Point / Moss Mill Historic District	Galloway Township	Atlantic		15.3	42	41	◐	30	5
Conovertown Historic District	Galloway Township	Atlantic		16.2	1	0	○	31	7
Studebaker Showroom	Egg Harbor Township	Atlantic		16.3	1	0	◐	32	6
North Shore Road Historic District	City of Absecon	Atlantic		16.3	70	45	◐	33	6, 7
Ocean City-Longport Bridge (SI&A #3100001)	City of Ocean City; Egg Harbor Township	Atlantic, Cape May	EHT01, EHT02	16.3	200	200	◑	34	6
South Shore Road Historic District	City of Absecon	Atlantic		16.4	4	0	○	35	6, 7
Tuckerton Historic District	Borough of Tuckerton; Little Egg Harbor Township	Ocean		17.0	157	75	◐	36	5
Bass River State Forest Historic District	Bass River, Little Egg Harbor Townships	Burlington, Ocean	BRT01	18.0	169	66	◐	37	5
Garden State Parkway Historic District (Atlantic)	Cities of Somers Point, Port Republic; Egg Harbor, Galloway Townships	Atlantic		18.3	200	200	◐	38	4, 5, 6
Bay Front Historic District Extension (745-820 Shore Road)	City of Somers Point	Atlantic		18.8	15	7	○	39	6
Gulf Service Station	City of Port Republic	Atlantic		19.0	94	90	◑	40	5
Garden State Parkway Historic District (Burlington)	City of Port Republic; Bass River, Little Egg Harbor Townships	Atlantic, Burlington, Ocean		19.4	200	200	◐	41	5
Atlantic City Railroad Cape May Division Historic District	Cities of Cape May, Ocean City, Corbin City, Estell Manor; Boroughs of West Cape May, Woodbine, Folsom; Lower, Middle, Dennis, Upper, Weymouth, Buena Vista, Winslow, Hammonton Townships	Atlantic, Camden, Cape May		19.8	131	31	◐	42	4, 6, 8

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	Municipality	County					○ <1% ◐ 2-25% ◑ 26-50% ● 51-75% ● 76-100%		
Garden State Parkway Historic District (Cape May)	Lower, Middle, Dennis, Upper, Egg Harbor Townships	Atlantic, Cape May		20.1	195	92	◐	43	6, 8
Garden State Parkway Historic District (Ocean)	Boroughs of Beachwood, South Toms River; Eagleswood, Little Egg Harbor, Stafford, Barnegat, Ocean, Lacey, Berkeley, Toms River, Lakewood, Brick Townships	Ocean		20.7	7	0	○	44	1, 3, 5
Morris Beach Historic District	Egg Harbor Township	Atlantic		20.8	36	5	◑	45	6
Corson's Inlet Bridge (SI&A # 3100002)	Upper Township	Cape May	UT01	22.4	200	179	●	46	6
Green Bank Historic District	Washington Township	Burlington		26.8	2	0	○	47	4
North and South Tuckahoe Historic District	City of Corbin City; Upper Township	Atlantic, Cape May		26.9	14	3	○	48	6
Townsend Inlet Bridge (SI&A # 3100003)	City of Sea Isle City; Borough of Avalon; Middle Township	Cape May	SIC01, SIC02	27.3	200	144	●	49	8
Residence [original location]	Borough of Avalon	Cape May		27.3	1	0	◐	50	8
Forked River Coast Guard Station No. 112	Berkeley Township	Ocean		29.9	3	0	○	51	3
The Judge's Shack	Berkeley Township	Ocean		30.9	156	88	●	52	3
Grassy Sound Historic District	Middle Township	Cape May		34.3	3	0	○	53	8
North Wildwood Life Saving Station	City of North Wildwood	Cape May	NWC01	34.6	196	42	◐	54	8
Wildwoods Shore Resort Historic District	City of Wildwood	Cape May		36.8	135	1	◐	55	8
George A. Redding Bridge (SI&A # 0506150)	City of Wildwood; Lower Township	Cape May		37.1	8	0	◐	56	8
Midway Camps Historic District	Borough of Seaside Park; Berkeley Township	Ocean		37.1	156	25	◐	57	3
AT&T Transmitter Building and Antenna Field	Berkeley Township	Ocean		38.0	96	0	◐	58	3
U.S. Life Saving Station No. 13	Borough of Seaside Park	Ocean	SPB01	38.9	85	0	◐	59	3
Ocean Beach Historic District (Units 1, 2, and 3)	Borough of Lavallette; Toms River Township	Ocean	TRT01	42.0	84	0	◐	60	3
Mantoloking Historic District	Borough of Mantoloking	Ocean		45.2	58	0	◐	61	1
National Natural Landmarks									
Manahawkin Bottomland Hardwood Forest	Stafford Township	Ocean	ST01	21.0	168	48	◐	62	5
National Wildlife Refuges									
Edwin B. Forsythe NWR	Cities of Brigantine, Port Republic; Boroughs of Beach Haven, Tuckerton, Ship, Barnegat, Ocean, Seaside Heights, Mantoloking; Long Beach, Eagleswood, Bass River, Little Egg Harbor, Stafford, Barnegat, Ocean, Lacey, Berkeley, Toms River, Brick, Galloway Townships	Atlantic, Burlington, Ocean	BRT01, GT01, GT02, LEHT03, ST01, LAT01	9.2	200	200	●	63	1, 3, 5, 7
Cape May NWR	Borough of Woodbine; Lower, Middle, Dennis, Upper Townships	Cape May	LT01	22.9	157	2	◐	64	6, 8
State Wildlife Management Areas									
Absecon Wildlife Management Area	City of Atlantic City, Brigantine, Absecon, Pleasantville; Galloway Township	Atlantic		10.3	200	200	●	65	5, 6, 7
Great Bay Boulevard Wildlife Management Area	Little Egg Harbor Township	Ocean	LEHT02, LEHT01	11.5	200	200	●	66	5
Pork Island Wildlife Management Area	Egg Harbor Township	Atlantic		15.0	170	29	●	67	6
Malibu Beach Wildlife Management Area	Egg Harbor Township	Atlantic	EHT02	16.0	159	70	●	68	6
Port Republic Wildlife Management Area	City of Port Republic; Galloway Township	Atlantic		17.5	198	193	◐	69	4, 5
Cape May Coastal Wetlands Wildlife Management Area	Cities of Sea Isle City, Ocean City; Borough of Avalon; Lower, Middle, Dennis, Upper Townships	Cape May		18.9	200	199	●	70	6, 8
Swan Bay Wildlife Management Area	Bass River, Washington Townships	Burlington		19.7	200	194	◐	71	4, 5
Tuckahoe Wildlife Management Area	Cities of Corbin City, Somers Point, Estell Manor; Upper, Egg Harbor Townships	Atlantic, Cape May	EMC01, EHT03	20.0	152	30	◐	72	6
Manahawkin Wildlife Management Area	Stafford Township	Ocean	ST01	21.0	168	48	◐	73	5
Stafford Forge Wildlife Management Area	Eagleswood, Little Egg Harbor, Stafford, Barnegat Townships	Ocean		21.3	200	194	◐	74	3, 5
Hammonton Creek Wildlife Management Area	City of Egg Harbor City; Hammonton, Mullica, Galloway Townships	Atlantic		22.6	6	0	○	75	4
Great Egg Harbor River Wildlife Management Area	City of Estell Manor; Borough of Folsom; Weymouth, Hamilton, Buena Vista Townships	Atlantic		26.9	1	0	○	76	4, 6
Upper Barnegat Bay Wildlife Management Area	Ocean, Lacey, Toms River Townships	Ocean		27.3	182	44	◐	77	3
Sedge Island Wildlife Management Area	Ocean, Lacey Townships	Ocean		28.7	86	4	●	78	3

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Greenwood Forest Wildlife Management Area	Barnegat, Ocean, Woodland, Lacey, Berkeley, Manchester Townships	Burlington, Ocean		28.8	173	31	○	79	3
Forked River Mountain Wildlife Management Area	Ocean, Lacey Townships	Ocean		29.7	18	0	○	80	3
State Parks									
Corsons Inlet State Park	City of Ocean City; Upper Township	Cape May	OC01	21.3	200	200	◑	81	6
Island Beach State Park	Long Beach, Ocean, Lacey, Berkeley Townships	Ocean	BT02, BT02, BT01	26.9	200	194	◑	82	3
Barnegat Lighthouse State Park	Borough of Barnegat Light	Ocean		27.2	52	6	○	83	3
State Nature and Historic Preserve Areas									
North Brigatine State Natural Area	City of Brigantine	Atlantic	BC01, BC02	8.9	200	200	●	84	7
Mystic Island State Preserve	Little Egg Harbor Township	Ocean		15.4	200	200	●	85	5
Risley Channel State Preserve	Egg Harbor Township	Atlantic		15.4	4	0	◐	86	6
Kislow State Preserve	Stafford Township	Ocean		20.5	176	102	◐	87	5
Miller Creek Marsh State Preserve	Upper Township	Cape May		20.7	136	5	●	88	6
Clarks Landing State Preserve	City of Egg Harbor City; Galloway Township	Atlantic		20.8	45	0	◐	89	4, 5
Strathmere State Natural Area	Upper Township	Cape May	UT01	22.0	200	199	●	90	6
Hirst Ponds State Preserve	Galloway Township	Atlantic		22.5	1	0	○	91	4
Hamilton State Preserve	Hamilton, Egg Harbor Township	Atlantic		23.3	1	0	○	92	4, 6
Sands Point Harbor State Preserve	Ocean Township	Ocean		29.7	194	42	◑	93	3
Clamming Creek State Preserve	Berkeley Township	Ocean		35.7	55	0	◐	94	3
Tilton Creek State Preserve	Toms River Township	Ocean		41.3	8	0	◐	95	3
State Forests									
Bass River State Forest	Eagleswood, Bass River, Little Egg Harbor, Washington, Stafford, Barnegat, Woodland Townships	Burlington, Ocean	BRT01	18.0	193	73	◐	96	3, 4, 5
Wharton State Forest	Bass River, Washington, Winslow, Waterford, Shamong, Tabernacle, Woodland, Hammonton, Mullica Townships	Atlantic, Burlington, Camden		23.7	116	7	○	97	2, 4, 5
Belleplain State Forest	Borough of Woodbine; Dennis, Upper, Maurice Townships	Cape May, Cumberland		26.7	1	0	○	98	6
National or State Designated Wild, Scenic, or Recreational Rivers									
Great Egg Harbor Wild and Scenic River	Cities of Corbin City, Somers Point, Estell Manor; Borough of Folsom; Upper, Weymouth, Hamilton, Buena Vista, Monroe, Winslow, Egg Harbor, Hammonton, Galloway Townships	Atlantic, Camden, Cape May, Gloucester		19.6	137	27	◐	99	2, 4, 6
Highways Designated or Eligible as Scenic									
Southern Pinelands Natural Heritage Trail Scenic Byway	Cities of Corbin City, Estell Manor, Port Republic, Egg Harbor; Boroughs of Woodbine, Tuckerton; Dennis, Upper, Weymouth, Hamilton, Bass River, Little Egg Harbor, Washington, Mullica, Maurice River, Galloway Townships	Atlantic, Burlington, Cape May, Cumberland, Ocean		16.7	200	200	◐	100	4, 5, 6
State Fishing and Boating Access									
Great Bay Boulevard Wildlife Management Area - Boat Launch	Little Egg Harbor Township	Ocean		15.9	199	165	●	101	5
Island Beach State Park - Canoe and Kayak Launch	Ocean, Berkeley Townships	Ocean		29.0	12	0	◑	102	3
Great Bay Boulevard Wildlife Management Area - Fishing Access	Little Egg Harbor Township	Ocean		13.8	183	87	●	103	5
Great Bay Boulevard Wildlife Management Area - Fishing Access	Little Egg Harbor Township	Ocean		13.8	127	51	◑	104	5
Corsons Inlet State Park - Mobile Sportfishing Permit Access	City of Ocean City	Cape May		21.3	200	200	●	105	6
Corsons Inlet State Park - Fishing Access	City of Ocean City	Cape May		21.5	200	189	●	106	6
Corsons Inlet State Park - Fishing	Upper Township	Cape May	UT01	22.2	200	182	●	107	6
Barnegat Lighthouse State Park - Fishing Access	Borough of Barnegat Light	Ocean		27.3	7	0	◐	108	3
Senator Frank S. Farley State Marina	City of Atlantic City	Atlantic		11.5	46	24	◐	109	7
Lighthouses (not S/NRHP-Listed)									
Tucker's Island Lighthouse	Borough of Tuckerton	Ocean		17.8	0	0	◐	110	5
Sea Girt Lighthouse	Borough of Sea Girt	Monmouth		52.8	0	0	○	111	1
Public Beaches									

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Atlantic City Beach	City of Atlantic City, Brigantine	Atlantic	VC02, AC02, AC03, AC04N, AC01N, AC04S, AC01, AC04	10.4	200	200	●	112	7
Beach Haven Heights Park	Long Beach Township	Ocean	LBT01	11.8	200	200	●	113	5
Long Beach Township Municipal Beach	Long Beach Township	Ocean	LBT01, LBT02	11.8	200	200	●	114	5
Beach Haven Inlet	Long Beach Township	Ocean		12.5	200	200	◐	115	5
Beach Haven Borough Public Beach	Borough of Beach Haven; Long Beach Township	Ocean	BHB01, BHB01	12.7	200	200	●	116	5
Beach Pavillion	Borough of Beach Haven	Ocean		13.3	200	200	◐	117	5
Margate City Public Beach	City of Margate City	Atlantic	MC01, MC03, MC02	13.5	200	200	●	118	6, 7
Atlantic Coast Public Beach	City of Margate City	Atlantic	MC01, MC02	13.6	200	200	●	119	6, 7
Mystic Beach	Little Egg Harbor Township	Ocean		15.8	200	200	◐	120	5
Tuckerton Green Street Beach	Borough of Tuckerton; Little Egg Harbor Township	Ocean	TB01, TB02	16.2	200	192	●	121	5
Ocean City Beachfront	City of Ocean City	Cape May	OC04, OC05, OC02	16.3	200	200	●	122	6
Ship Bottom Borough Municipal Beach	Borough of Ship Bottom	Ocean	SBB01	18.2	200	200	●	123	5
Somers Point City Municipal Beach Park	City of Somers Point	Atlantic		18.6	101	28	●	124	6
Jennifer Lane Beach	Stafford Township	Ocean		20.3	149	41	●	125	5
Harvey Cedars Borough Municipal Beach	Borough of Harvey Cedars	Ocean		21.9	200	200	●	126	5
Strathmere Beach	City of Sea Isle City; Upper Township	Cape May	UT01	22.2	200	200	●	127	6
Sea Isle City Beach Dune Upland	City of Sea Isle City	Cape May	SIC01, SIC02	23.5	200	195	●	128	6, 8
Sea Isle City Municipal Beach	City of Sea Isle City	Cape May	SIC03	23.7	200	194	●	129	6, 8
Long Beach Township Municipal Beach and Tennis Court	Long Beach Township	Ocean		24.2	200	199	◐	130	5
Atlantic Ocean Beachfront	Borough of Barnegat Light	Ocean	BLB01	26.0	200	195	◐	131	3
Sea Isle City Beach Dune and Promenade Lands	City of Sea Isle City	Cape May		26.0	200	182	◐	132	8
Barnegat Beach	Barnegat Township	Ocean		26.4	158	36	●	133	3
Tuckahoe Beach	Upper Township	Cape May		26.6	25	2	◐	134	6
Small Bay Beach	Ocean Township	Ocean		27.2	145	30	●	135	3
The Beach	Ocean Township	Ocean		27.9	173	32	◐	136	3
North Wildwood Beach	City of North Wildwood	Cape May	NWC01	34.4	197	43	●	137	8
Butler Beach	Berkeley Township	Ocean		35.6	5	0	◐	138	3
White Sands Beach	Berkeley Township	Ocean		37.0	156	25	●	139	3
Seaside Park Beach and Boardwalk	Borough of Seaside Park	Ocean	SPB01	37.4	164	17	●	140	3
Seaside Park Borough Bay Beach Area	Borough of Seaside Park	Ocean		37.6	6	0	◐	141	3
Ortley Beach	Toms River Township	Ocean		40.0	80	0	●	142	3
Lavallette Borough Ocean Front Beach	Borough of Lavallette; Toms River Township	Ocean		40.6	101	0	●	143	3
Brick Beach	Brick Township	Ocean	BKT01	44.0	67	0	◐	144	1, 3
Brick Beach II	Brick Township	Ocean		44.3	74	0	◐	145	1
Brick Beach I	Brick Township	Ocean		44.4	64	0	◐	146	1
East Avenue Beach	Borough of Point Pleasant Beach	Ocean		48.7	7	0	◐	147	1
Environmental Justice Areas									
340010101052	City of Brigantine	Atlantic		9.9	200	200	◐	148	7
340010019001	City of Atlantic City	Atlantic	AC04N, AC01N, AC04S, AC01, AC05, AC04	10.2	200	200	●	149	7
340010024003	City of Atlantic City	Atlantic	AC03, AC04N, AC04S, AC04	10.3	200	200	◐	150	7
340010025003	City of Atlantic City	Atlantic	AC01N, AC01, AC05	10.4	200	200	◐	151	7
340010025001	City of Atlantic City	Atlantic	AC05	10.5	200	200	◐	152	7
340010025002	City of Atlantic City	Atlantic	AC05	10.7	12	7	◐	153	7
340010023001	City of Atlantic City	Atlantic	AC02	10.9	200	200	◐	154	7
340010024002	City of Atlantic City	Atlantic		11.0	10	2	◐	155	7
340010014002	City of Atlantic City	Atlantic		11.0	145	94	◐	156	7
340010015002	City of Atlantic City	Atlantic		11.0	8	0	◐	157	7

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340010015001	City of Atlantic City	Atlantic		11.2	3	0	○	158	7
340010014001	City of Atlantic City	Atlantic		11.3	200	199	◐	159	7
340010004003	City of Atlantic City	Atlantic	AC02	11.3	200	200	●	160	7
340010014003	City of Atlantic City	Atlantic		11.3	12	2	◐	161	7
340010011001	City of Atlantic City	Atlantic		11.4	1	0	○	162	7
340010013002	City of Atlantic City	Atlantic		11.5	200	158	●	163	6, 7
340010004002	City of Atlantic City	Atlantic	AC02	11.6	200	200	◐	164	7
340010023002	City of Atlantic City	Atlantic		11.6	11	4	◐	165	7
340010012003	City of Atlantic City	Atlantic		11.6	8	2	◐	166	7
340010002001	City of Atlantic City	Atlantic	VC02	11.7	200	200	●	167	7
340010004001	City of Atlantic City	Atlantic		11.8	200	200	◑	168	7
340010012002	City of Atlantic City	Atlantic		11.8	23	5	◐	169	7
340010132012	City of Ventnor City	Atlantic	VC02	12.0	200	200	◑	170	7
340010003003	City of Atlantic City	Atlantic		12.2	1	0	○	171	7
340010001001	City of Atlantic City	Atlantic		12.2	19	4	◐	172	7
340010002002	City of Atlantic City	Atlantic		12.3	200	200	◐	173	7
340010013001	City of Atlantic City	Atlantic		12.3	22	5	◐	174	7
340010002003	City of Atlantic City	Atlantic	VC02	12.3	200	200	◐	175	7
340010001002	City of Atlantic City	Atlantic		12.4	18	1	◐	176	7
340010133022	City of Ventnor City	Atlantic	VC01	12.4	200	200	◑	177	7
340010132011	City of Ventnor City	Atlantic	VC02	12.4	200	200	◐	178	7
340010133023	City of Ventnor City	Atlantic	VC01	12.8	200	200	◐	179	7
340010132021	City of Ventnor City	Atlantic		13.5	1	0	○	180	7
340010120002	City of Pleasantville	Atlantic		14.4	123	66	●	181	6, 7
340010121002	City of Pleasantville	Atlantic		14.5	123	44	●	182	6, 7
340010103002	City of Pleasantville	Atlantic		14.8	175	121	◐	183	6, 7
340010120001	City of Pleasantville	Atlantic		15.6	123	72	◐	184	6, 7
340010121001	City of Pleasantville	Atlantic		16.1	102	27	◑	185	6
340297370002	Borough of Tuckerton	Ocean		16.4	200	198	●	186	5
340010119005	City of Pleasantville	Atlantic		16.4	19	5	◐	187	6
340010119002	City of Pleasantville	Atlantic		16.5	22	7	◐	188	6
340010119003	City of Pleasantville	Atlantic		16.6	29	11	◐	189	6
340010122001	City of Pleasantville	Atlantic		16.7	25	10	◐	190	6
340010122002	City of Pleasantville	Atlantic		16.8	26	22	◐	191	6
340090201014	City of Ocean City	Cape May	OC04	16.8	200	200	◑	192	6
340010119001	City of Pleasantville	Atlantic		16.9	8	2	◐	193	6
340010103001	City of Absecon	Atlantic		16.9	6	0	◐	194	6
340010119004	City of Pleasantville	Atlantic		17.1	24	12	◐	195	6
340090201021	City of Ocean City	Cape May	OC04	17.2	200	200	◑	196	6
340010122003	City of Pleasantville	Atlantic		17.2	54	10	◐	197	6
340010117021	Egg Harbor Township	Atlantic		17.5	187	171	◐	198	6
340010123022	City of Northfield	Atlantic		17.5	29	5	○	199	6
340010118032	Egg Harbor Township	Atlantic		17.7	38	11	◐	200	6
340010105061	Galloway Township	Atlantic		17.9	10	1	○	201	4, 6
340010128012	City of Somers Point	Atlantic		18.3	172	69	◐	202	6
340010128013	City of Somers Point	Atlantic		18.6	9	8	○	203	6
340297351034	Stafford Township	Ocean		18.6	200	167	◑	204	5
340010117022	Egg Harbor Township	Atlantic		18.7	145	20	◐	205	4, 6
340010117011	Egg Harbor Township	Atlantic		18.9	14	0	◐	206	6
340010104032	Galloway Township	Atlantic		19.2	105	10	◐	207	4, 6
340010127021	City of Somers Point	Atlantic		19.3	125	31	◐	208	6
340010104033	Galloway Township	Atlantic		19.3	2	0	○	209	4
340010117012	Egg Harbor Township	Atlantic		20.7	11	1	◐	210	6
340010117013	Egg Harbor Township	Atlantic		22.0	16	1	◐	211	6
340010118021	Egg Harbor Township	Atlantic		22.1	6	1	◐	212	6
340010114033	Hamilton Township	Atlantic		22.2	157	29	◐	213	4, 6
340010106001	City of Egg Harbor City	Atlantic		22.7	116	7	◐	214	4
340010114042	Hamilton Township	Atlantic		22.8	13	1	◐	215	4, 6
340010114043	Hamilton Township	Atlantic		23.1	8	1	◐	216	4, 6
340297350024	Stafford Township	Ocean		25.2	1	0	○	217	3, 5
340010106002	City of Egg Harbor City	Atlantic		25.8	1	0	◐	218	4
340010106003	City of Egg Harbor City	Atlantic		26.6	1	0	◐	219	4
340297340011	Barnegat Township	Ocean		27.4	112	5	○	220	3
340090205002	Borough of Woodbine	Cape May		28.0	200	93	◐	221	6

Visually Sensitive Resource ¹	Location		KOP Number ²	Distance to Nearest Turbine (Miles) ³	Viewshed Results			Figure 1.2-3	
					Number of Turbines Potentially Visible ⁴	Number of FAA Warning Lights Potentially Visible ⁴	Percent Visibility ⁵	VSR Number	Sheet Number
	Municipality	County					<div><div></div><1%</div> <div><div></div>2-25%</div> <div><div></div>26-50%</div> <div><div></div>51-75%</div> <div><div></div>76-100%</div>		
340010107004	Mullica Township	Atlantic		29.5	1	0	<div><div></div></div>	222	4
340297321043	Lacey Township	Ocean		30.2	193	38	<div><div></div></div>	223	3
340090211002	Middle Township	Cape May		31.5	123	5	<div><div></div></div>	224	8
340090213003	City of North Wildwood	Cape May	NWC01	33.8	197	43	<div><div></div></div>	225	8
340090214002	City of Wildwood	Cape May	WC01	35.7	182	17	<div><div></div></div>	226	8
340090214003	City of Wildwood	Cape May		36.6	164	5	<div><div></div></div>	227	8
340090221022	Middle Township	Cape May		36.9	70	0	<div><div></div></div>	228	8
340297280007	Borough of Seaside Heights	Ocean	SPB01	39.1	138	0	<div><div></div></div>	229	3
340297280006	Borough of Seaside Heights	Ocean		39.2	132	0	<div><div></div></div>	230	3
340297280005	Borough of Seaside Heights	Ocean		39.3	14	0	<div><div></div></div>	231	3
340090220004	City of Cape May	Cape May		40.5	81	0	<div><div></div></div>	232	8
340297202021	Manchester Township	Ocean		43.6	35	0	<div><div></div></div>	233	1, 3
340297101004	Borough of Point Pleasant Beach	Ocean		48.6	10	0	<div><div></div></div>	234	1

¹ This table includes all inventoried Visually Sensitive Resources (VSRs) with potential visibility of the proposed turbines (resources that overlap the Zone of Visual Influence [ZVI]).

² Key Observation Points (KOP) are listed if they occur within 1,000 feet of a given VSR.

³ For large areas and linear sites, approximate distance to the nearest turbine was measured from the respective area's closest point.

⁴ Turbine visibility is based on the maximum blade tip height of 319 meters and FAA warning light visibility is based on an assumed height of 185 meters.

⁵ The percentage of the mapped resource that overlaps the ZVI. For resources that extend beyond the Visual Study Area (VSA) boundary, this reflects the percentage of the area within the VSA.

ATTACHMENT D

PHOTOLOG OF KEY OBSERVATION POINTS

KOP ¹	Location	County	Municipality	KOP Selected for Visual Simulation	Distance to Nearest Turbine
LAV01	Allenhurst Residential Historic District	Monmouth	Loch Arbour Village	Candidate KOP	59.4
APC01	Asbury Park Convention Center	Monmouth	Asbury Park City	Candidate KOP	58.8
APC02	Asbury Park Convention Center (Beach)	Monmouth	Asbury Park City	Candidate KOP	58.7
NT01	Ocean Grove Camp Meeting Association Historic District	Monmouth	Neptune Township	Candidate KOP	58.2
BRB01	Bradley Beach Gazebo	Monmouth	Barnegat Light Borough	Candidate KOP	57.3
BB03	Borough of Belmar Taylor Pavilion	Monmouth	Belmar Borough	Candidate KOP	55.9
BB01N	Belmar Borough 13th Street Pavilion (Night)	Monmouth	Belmar Borough	Candidate KOP	55.6
BB01	Belmar Borough 13th Street Pavilion	Monmouth	Belmar Borough	Candidate KOP	55.6
SLB01	Essex and Sussex Hotel	Monmouth	Spring Lake Borough	Candidate KOP	53.5
BYB01	Bay Head Historic District	Ocean	Bay Head Borough	Candidate KOP	48.2
BKT01	Brick Beach Three	Ocean	Brick Twp	Candidate KOP	44.0
TRT01	Ocean Beach Historic District	Ocean	Toms River Township	Candidate KOP	42.9
SPB01	Beachcomber Bar	Ocean	Seaside Park Borough	Selected	39.0
BT02	Island Beach State Park - U.S. Life Saving Station #14	Ocean	Berkeley Township	Candidate KOP	36.3
LAT01	Edwin B. Forsythe National Wildlife Refuge at the Woodmansee Estate	Ocean	Lacey Township	Selected	32.2
BT01	Island Beach State Park	Ocean	Berkeley Township	Candidate KOP	30.3
BLB01	Barnegat Light Borough Beach	Ocean	Barnegat Light Borough	Candidate KOP	26.7
LBT03	Beach at Long Beach Island Foundation for the Arts and Sciences	Ocean	Long Beach Township	Selected	24.9
ST01	Manahawkin Wildlife Management Area	Ocean	Stafford Township	Candidate KOP	21.6
SBB01	Ship Bottom Borough Municipal Beach	Ocean	Ship Bottom Borough	Candidate KOP	19.4
LEHT03	Parkertown Docks	Ocean	Little Egg Harbor Township	Candidate KOP	17.5
LBT02	Bayview Park Beach and 68th Street Ocean Beach	Ocean	Long Beach Township	Candidate KOP	16.9
TB01	South Green Street Park	Ocean	Tuckerton Borough	Candidate KOP	16.2
BHB01	Beach Haven Historic District	Ocean	Beach Haven Borough	Selected	13.5
LBT01	Edwin B. Forsythe National Wildlife Refuge	Ocean	Long Beach Township	Candidate KOP	11.9
LEHT02	Great Bay Boulevard Wildlife Management Area - Rutgers Field Station	Ocean	Little Egg Harbor Township	Selected	11.9
BC02	North Brigantine Natural Area	Atlantic	Brigantine City	Selected	9.0
BC01	North Brigantine Natural Area - Buggy Entrance	Atlantic	Brigantine City	Candidate KOP	9.3
AC01	Atlantic City Boardwalk	Atlantic	Atlantic City	Candidate KOP	10.5
AC01N	Atlantic City Boardwalk (Night)	Atlantic	Atlantic City	Candidate KOP	10.5
AC04S	Ocean Casino - Sky Garden (Sunset)	Atlantic	Atlantic City	Candidate KOP	10.5
AC04	Ocean Casino Resort – Sky Garden	Atlantic	Atlantic City	Selected	10.5
AC04N	Ocean Casino - Sky Garden (Night)	Atlantic	Atlantic City	Candidate KOP	10.5
AC05	Absecon Lighthouse	Atlantic	Atlantic City	Candidate KOP	10.7
AC03	Madison Hotel - Beach	Atlantic	Atlantic City	Candidate KOP	11.1
AC02	Jim Whelan Boardwalk Hall (Atlantic City Convention Center NHL)	Atlantic	Atlantic City	Selected	11.4
VC02	John Stafford Historic District	Atlantic	Ventnor City	Candidate KOP	12.5
VC01	Ventnor City Pier	Atlantic	Ventnor City	Candidate KOP	12.9
GT02	Edwin B. Forsythe National Wildlife Refuge	Atlantic	Galloway Township	Candidate KOP	13.0
MC03	Huntington Park	Atlantic	Margate City	Candidate KOP	13.8
GT01	Edwin B. Forsythe National Wildlife Refuge	Atlantic	Galloway Township	Candidate KOP	14.3
MC01	Margate City Beach	Atlantic	Margate City	Candidate KOP	14.4
MC02	Lucy the Margate Elephant National Historic Landmark	Atlantic	Margate City	Selected	14.4
OC05	East Surf Road Beach Access	Cape May	Ocean City	Candidate KOP	16.3
EHT01	Ocean City-Longport Bridge	Atlantic	Egg Harbor Township	Candidate KOP	16.6
EHT02	Malibu Beach Wildlife Management Area	Atlantic	Egg Harbor Township	Candidate KOP	16.7

Atlantic Shores Offshore Wind

Outer Continental Shelf

Attachment D: Photolog of Key Observation Points

Page 1 of 34

KOP ¹	Location	County	Municipality	KOP Selected for Visual Simulation	Distance to Nearest Turbine
OC04	Gillian's Wonderland Amusement	Cape May	Ocean City	Selected	17.2
OC03	Ocean City Bike Path	Cape May	Ocean City	Candidate KOP	18.5
BRT01	Bass River State Forest	Burlington	Bass River Township	Selected	18.5
OC02	34th Street Beach Access	Cape May	Ocean City	Candidate KOP	19.4
EHT03	Tuckahoe Wildlife Management Area	Atlantic	Egg Harbor Township	Candidate KOP	21.2
OC01	Corson's Inlet State Park	Cape May	Ocean City	Candidate KOP	21.7
UT01	Strathmore Natural Area	Cape May	Upper Township	Candidate KOP	22.3
SIC03	Sea Isle City Promenade	Cape May	Sea Isle City	Candidate KOP	25.1
EMC01	Tuckahoe Wildlife Management Area	Atlantic	Estell Manor City	Candidate KOP	25.7
SIC01	Townsend Inlet Bridge	Cape May	Sea Isle City	Candidate KOP	27.3
SIC02	Townsend Inlet Bridge	Cape May	Sea Isle City	Selected	27.4
AB01	Avalon Borough Dune and Beach Trail	Cape May	Avalon Borough	Candidate KOP	28.9
SHB02	Stone Harbor Tag Office & 95th Street	Cape May	Stone Harbor Borough	Candidate KOP	31.3
SHB01	Stone Harbor Point	Cape May	Stone Harbor Borough	Candidate KOP	32.8
NWC01	Hereford Lighthouse	Cape May	North Wildwood City	Candidate KOP	34.6
WC01	Wildwood Adventure Pier	Cape May	Wildwood City	Candidate KOP	36.4
LT01	Cape May National Wildlife Refuge	Cape May	Lower Township	Candidate KOP	39.2
LT02	Cape May Point State Park	Cape May	Lower Township	Selected	45.0

¹The mapped location of each KOP is available within the VIA document as Figure 2.2-1.



**Key Observation
Point: LAV01**

Location:
40.23085°N, 73.99595°W

View from Allenhurst
Residential Historic District
Loch Arbour Village,
Monmouth County, New
Jersey

Candidate KOP



**Key Observation
Point: APC01**

Location:
40.22275°N, 73.99900°W

View from Asbury Park
Convention Center
Asbury Park City,
Monmouth County, New
Jersey

Candidate KOP

Atlantic Shores Offshore Wind

Outer Continental Shelf

Attachment D: Photolog of Key Observation Points



**Key Observation
Point: APC02**

Location:
40.22039°N, 73.99881°W

View from Asbury Park
Convention Center (Beach)
Asbury Park City,
Monmouth County, New
Jersey

Candidate KOP



**Key Observation
Point: NT01**

Location:
40.21287°N, 74.00151°W

View from Ocean Grove
Camp Meeting Association
Historic District
Neptune Township,
Monmouth County, New
Jersey

Candidate KOP



**Key Observation
Point: BRB01**

Location:
40.20089°N, 74.00606°W

View from Bradley Beach
Gazebo
Bradley Beach Borough,
Monmouth County, New
Jersey

Candidate KOP



**Key Observation
Point: BB03**

Location:
40.18106°N, 74.01240°W

View from Borough of
Belmar Taylor Pavilion
Belmar Borough,
Monmouth County, New
Jersey

Candidate KOP



**Key Observation
Point: BB01N**

Location:
40.17672°N, 74.01304°W

View from Belmar Borough
13th Street Pavilion (Night)
Belmar Borough,
Monmouth County, New
Jersey

Candidate KOP



**Key Observation
Point: BB01**

Location:
40.17677°N, 74.01306°W

View from Belmar Borough
13th Street Pavilion
Belmar Borough,
Monmouth County, New
Jersey

Candidate KOP



**Key Observation
Point: SLB01**

Location:
40.14616°N, 74.02357°W

View from Essex and
Sussex Hotel
Spring Lake Borough,
Monmouth County, New
Jersey

Candidate KOP



**Key Observation
Point: BYB01**

Location:
40.07000°N, 74.04189°W

View from Bay Head
Historic District
Bay Head Borough, Ocean
County, New Jersey

Candidate KOP

Atlantic Shores Offshore Wind

Outer Continental Shelf

Attachment D: Photolog of Key Observation Points



**Key Observation
Point: BKT01**

Location:
40.00835°N, 74.05665°W

View from Brick Beach
Three
Brick Township, Ocean
County, New Jersey

Candidate KOP



**Key Observation
Point: TRT01**

Location:
39.99220°N, 74.06094°W

View from Ocean Beach
Historic District
Toms River Township,
Ocean County, New Jersey

Candidate KOP



**Key Observation
Point: SPB01**

Location:
39.93533°N, 74.07164°W

View from Beachcomber
Bar
Seaside Park Borough,
Ocean County, New Jersey

KOP Selected for Visual
Simulation



**Key Observation
Point: BT02**

Location:
39.89580°N, 74.07963°W

View from Island Beach
State Park - U.S. Life
Saving Station #14
Berkeley Township, Ocean
County, New Jersey

Candidate KOP



**Key Observation
Point: LAT01**

Location:
39.83711°N, 74.15082°W

View from Edwin B.
Forsythe National
Wildlife Refuge at the
Woodmansee Estate
Lacey Township, Ocean
County, New Jersey

KOP Selected for Visual
Simulation



**Key Observation
Point: BT01**

Location:
39.80805°N, 74.08997°W

View from Island Beach
State Park
Berkeley Township, Ocean
County, New Jersey

Candidate KOP



**Key Observation
Point: BLB01**

Location:
39.75537°N, 74.10042°W

View from Barnegat Light
Borough Beach - Proximity
to Barnegat Lighthouse &
Barnegat Lighthouse State
Park
Barnegat Light Borough,
Ocean County, New Jersey

Candidate KOP



**Key Observation
Point: LBT03**

Location:
39.72895°N, 74.12058°W

View from Beach at Long
Beach Island Foundation
for the Arts and Sciences
Long Beach Township,
Ocean County, New Jersey

KOP Selected for Visual
Simulation



**Key Observation
Point: ST01**

Location:
39.68394°N, 74.20768°W

View from Manahawkin
WMA
Stafford Township, Ocean
County, New Jersey

Candidate KOP



**Key Observation
Point: SBB01**

Location:
39.65152°N, 74.17169°W

View from Ship Bottom
Borough Municipal Beach
Ship Bottom Borough,
Ocean County, New Jersey

Candidate KOP



**Key Observation
Point: LEHT03**

Location:
39.60972°N, 74.29228°W

View from Parkertown
Docks
Little Egg Harbor Township,
Ocean County, New Jersey

Candidate KOP



**Key Observation
Point: LBT02**

Location:
39.61561°N, 74.19793°W

View from Bayview Park
Beach and 68th Street
Ocean Beach
Long Beach Township,
Ocean County, New Jersey

Candidate KOP

Atlantic Shores Offshore Wind

Outer Continental Shelf

Attachment D: Photolog of Key Observation Points



**Key Observation
Point: TB01**

Location:
39.57664°N, 74.33028°W

View from South Green
Street Park
Tuckerton Borough, Ocean
County, New Jersey

Candidate KOP



**Key Observation
Point: BHB01**

Location:
39.56188°N, 74.23545°W

View from Beach Haven
Historic District
Beach Haven Borough,
Ocean County, New Jersey

KOP Selected for Visual
Simulation



**Key Observation
Point: LBT01**

Location:
39.53262°N, 74.26122°W

View from Edwin B.
Forsythe National Wildlife
Refuge
Long Beach Township,
Ocean County, New Jersey

Candidate KOP



**Key Observation
Point: LEHT02**

Location:
39.50913°N, 74.32038°W

View from Great Bay
Boulevard WMA - Rutgers
Field Station
Little Egg Harbor Township,
Ocean County, New Jersey

KOP Selected for Visual
Simulation

Atlantic Shores Offshore Wind

Outer Continental Shelf

Attachment D: Photolog of Key Observation Points



**Key Observation
Point: BC02**

Location:
39.42954°N, 74.33968°W

View from North Brigantine
Natural Area
Brigantine City, Atlantic
County, New Jersey

KOP Selected for Visual
Simulation



**Key Observation
Point: BC01**

Location:
39.41544°N, 74.35335°W

View from North Brigantine
Natural Area - Buggy
Entrance
Brigantine City, Atlantic
County, New Jersey

Candidate KOP



**Key Observation
Point: AC01**

Location:
39.36611°N, 74.40990°W

View from Atlantic City
Boardwalk
Atlantic City, Atlantic
County, New Jersey

Candidate KOP



**Key Observation
Point: AC01N**

Location:
39.36614°N, 74.40991°W

View from Atlantic City
Boardwalk (Night)
Atlantic City, Atlantic
County, New Jersey

Candidate KOP

Atlantic Shores Offshore Wind

Outer Continental Shelf

Attachment D: Photolog of Key Observation Points

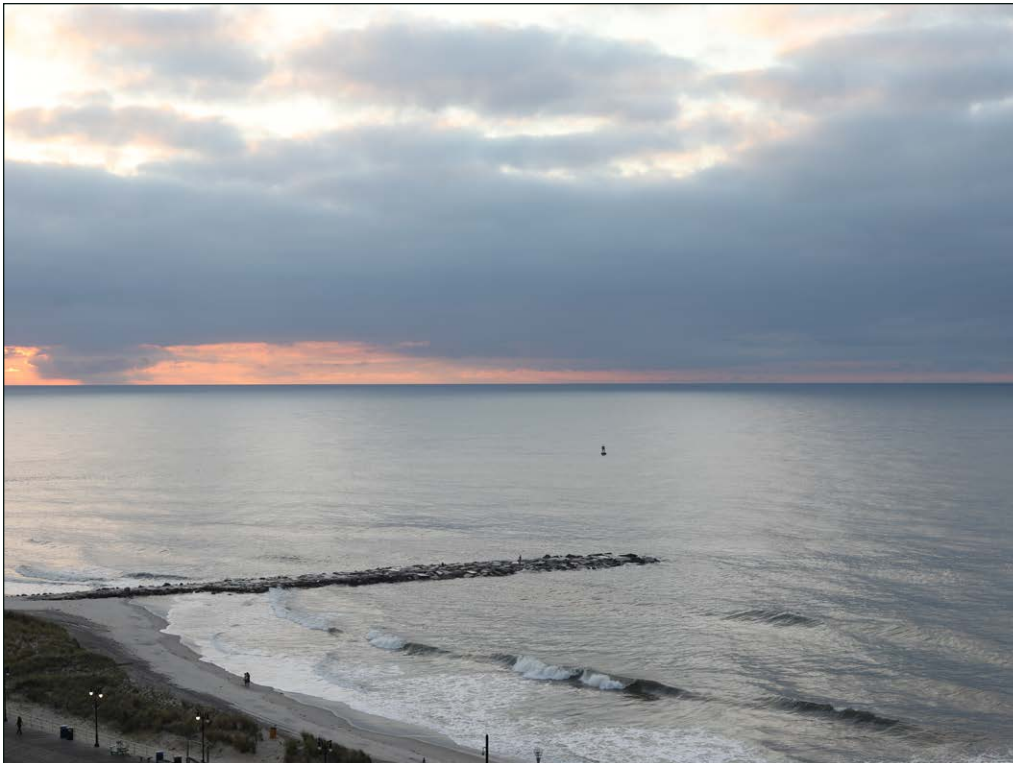


**Key Observation
Point: AC04S**

Location:
39.36226°N, 74.41353°W

View from Ocean Casino
- Sky Garden (Sunset)
Atlantic City, Atlantic
County, New Jersey

Candidate KOP



**Key Observation
Point: AC04**

Location:
39.36225°N, 74.41353°W

View from Ocean Casino
- Sky Garden
Atlantic City, Atlantic
County, New Jersey

KOP Selected for Visual
Simulation

Atlantic Shores Offshore Wind

Outer Continental Shelf

Attachment D: Photolog of Key Observation Points



**Key Observation
Point: AC04N**

Location:
39.36219°N, 74.41361°W

View from Ocean Casino
- Sky Garden (Night)
Atlantic City, Atlantic
County, New Jersey

Candidate KOP



**Key Observation
Point: AC05**

Location:
39.36640°N, 74.41412°W

View from Absecon
Lighthouse
Atlantic City, Atlantic
County, New Jersey

Candidate KOP

Atlantic Shores Offshore Wind

Outer Continental Shelf

Attachment D: Photolog of Key Observation Points

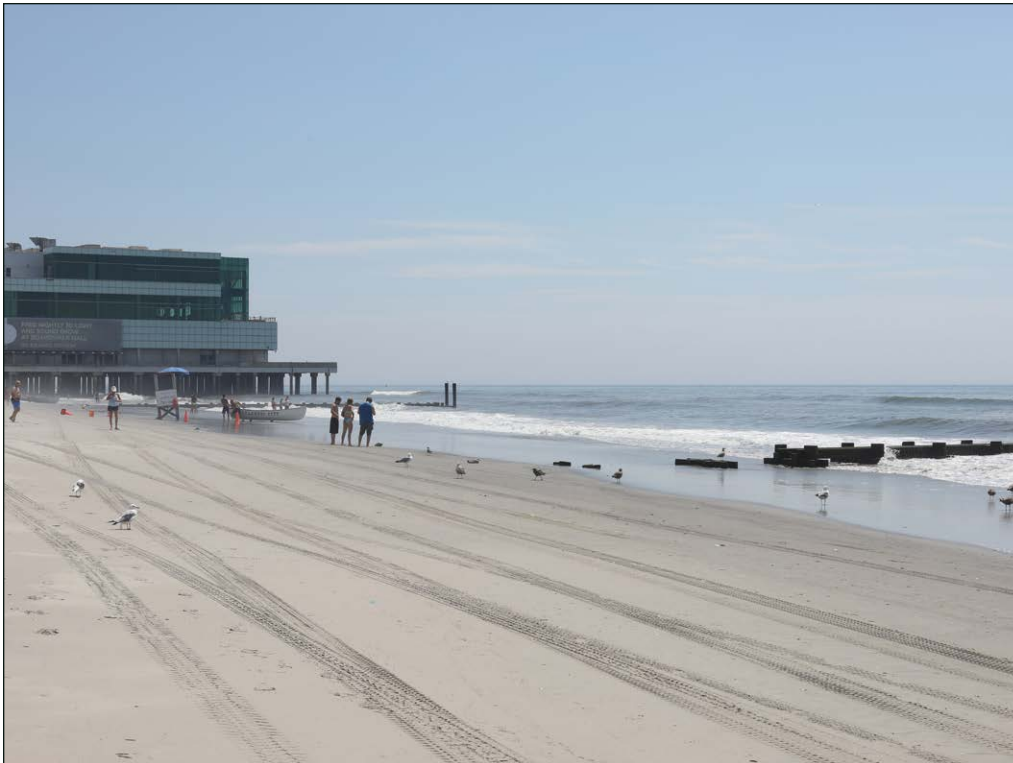


**Key Observation
Point: AC03**

Location:
39.35564°N, 74.42856°W

View from Madison Hotel -
Beach
Atlantic City, Atlantic
County, New Jersey

Candidate KOP



**Key Observation
Point: AC02**

Location:
39.35245°N, 74.43817°W

View from Jim Whelan
Boardwalk Hall
Atlantic City, Atlantic
County, New Jersey

KOP Selected for Visual
Simulation



**Key Observation
Point: VC02**

Location:
39.34214°N, 74.46580°W

View from John Stafford
Historic District
Ventnor City, Atlantic
County, New Jersey

Candidate KOP



**Key Observation
Point: VC01**

Location:
39.33575°N, 74.47718°W

View from Ventnor City Pier
Ventnor City, Atlantic
County, New Jersey

Candidate KOP



**Key Observation
Point: GT02**

Location:
39.44386°N, 74.41219°W

View from Edwin B.
Forsythe National Wildlife
Refuge
Galloway Township,
Atlantic County, New
Jersey

Candidate KOP



**Key Observation
Point: MC03**

Location:
39.32668°N, 74.49875°W

View from Huntington Park
Margate City, Atlantic
County, New Jersey

Candidate KOP



**Key Observation
Point: GT01**

Location:
39.45787°N, 74.43224°W

View from Edwin B.
Forsythe National Wildlife
Refuge (Tower)
Galloway Township,
Atlantic County, New
Jersey

Candidate KOP



**Key Observation
Point: MC01**

Location:
39.31996°N, 74.51055°W

View from Margate City
Beach
Margate City, Atlantic
County, New Jersey

Candidate KOP



**Key Observation
Point: MC02**

Location:
39.32088°N, 74.51170°W

View from Lucy the
Margate Elephant NHL
Margate City, Atlantic
County, New Jersey

KOP Selected for Visual
Simulation



**Key Observation
Point: OC05**

Location:
39.28924°N, 74.55285°W

View from East Surf Road
Beach Access
Ocean City, Cape May
County, New Jersey

Candidate KOP

Atlantic Shores Offshore Wind

Outer Continental Shelf

Attachment D: Photolog of Key Observation Points



**Key Observation
Point: EHT01**

Location:
39.30192°N, 74.55697°W

View from Long Point
Bridge
Egg Harbor Township,
Atlantic County, New
Jersey

Candidate KOP



**Key Observation
Point: EHT02**

Location:
39.30784°N, 74.55694°W

View from Malibu Beach
Wildlife Management Area
Egg Harbor Township,
Atlantic County, New
Jersey

Candidate KOP



**Key Observation
Point: OC04**

Location:
39.27510°N, 74.56878°W

View from Gillian's
Wonderland Amusement
Ocean City, Cape May
County, New Jersey

KOP Selected for Visual
Simulation



**Key Observation
Point: OC03**

Location:
39.29992°N, 74.59159°W

View from Ocean City Bike
Path
Ocean City, Cape May
County, New Jersey

Candidate KOP



**Key Observation
Point: BRT01**

Location:
39.57672°N, 74.40830°W

View from Bass River State
Forest
Bass River Township,
Burlington County, New
Jersey

KOP Selected for Visual
Simulation



**Key Observation
Point: OC02**

Location:
39.25036°N, 74.60785°W

View from 34th Street
Beach Access
Ocean City, Cape May
County, New Jersey

Candidate KOP



**Key Observation
Point: EHT03**

Location:
39.31163°N, 74.64065°W

View from Tuckahoe
Wildlife Management Area
and Morris Beach Historic
District
Egg Harbor Township,
Atlantic County, New
Jersey

Candidate KOP



**Key Observation
Point: OC01**

Location:
39.21132°N, 74.64435°W

View from Corson's Inlet
State Park
Ocean City, Cape May
County, New Jersey

Candidate KOP



**Key Observation
Point: UT01**

Location:
39.20268°N, 74.65219°W

View from Strathmore
Natural Area
Upper Township, Cape
May County, New Jersey

Candidate KOP



**Key Observation
Point: SIC03**

Location:
39.15452°N, 74.68971°W

View from Sea Isle City
Promenade
Sea Isle City, Cape May
County, New Jersey

Candidate KOP



**Key Observation
Point: EMC01**

Location:
39.32615°N, 74.72375°W

View from Tuckahoe
Wildlife Management Area
Estell Manor City, Atlantic
County, New Jersey

Candidate KOP



**Key Observation
Point: SIC01**

Location:
39.11940°N, 74.71425°W

View from Townsend Inlet
Bridge - Beach
Sea Isle City, Cape May
County, New Jersey

Candidate KOP



**Key Observation
Point: SIC02**

Location:
39.11919°N, 74.71579°W

View from Townsend Inlet
Bridge - Bridge
Sea Isle City, Cape May
County, New Jersey

KOP Selected for Visual
Simulation



**Key Observation
Point: AB01**

Location:
39.08441°N, 74.72643°W

View from Avalon Borough
Dune and Beach Trail
Avalon Borough, Cape May
County, New Jersey

Candidate KOP



**Key Observation
Point: SHB02**

Location:
39.05242°N, 74.75490°W

View from Stone Harbor
Tag Office & 95th Street
Stone Harbor Borough,
Cape May County, New
Jersey

Candidate KOP



**Key Observation
Point: SHB01**

Location:
39.03181°N, 74.77200°W

View from Stone Harbor
Point
Stone Harbor Borough,
Cape May County, New
Jersey

Candidate KOP



**Key Observation
Point: NWC01**

Location:
39.00731°N, 74.79059°W

View from Proximity to
Hereford Lighthouse
North Wildwood City, Cape
May County, New Jersey

Candidate KOP



**Key Observation
Point: WC01**

Location:
38.98194°N, 74.80986°W

View from Wildwood
Adventure Pier
Wildwood City, Cape May
County, New Jersey

Candidate KOP



**Key Observation
Point: LT01**

Location:
38.95487°N, 74.84840°W

View from Proximity to
Cape May National Wildlife
Refuge
Lower Township, Cape
May County, New Jersey

Candidate KOP



**Key Observation
Point: LT02**

Location:
38.93300°N, 74.96038°W

View from Cape May Point
State Park
Lower Township, Cape
May County, New Jersey

KOP Selected for Visual
Simulation

ATTACHMENT E (SEPARATE FILE ATTACHMENT)

VISUAL SIMULATIONS AND RATING PANEL RESULTS

ATTACHMENT E2

VIEWER GROUPS REPRESENTED IN VISUAL
SIMULATIONS

Key Observation Point		User Groups	Activities	Direction of View	Duration of View	Exposure to View
SPB01	Seaside Park Borough Boardwalk	Resident/Tourist	Shoreline Ocean View	East	Short Term/Fleeting	Repeated
			Active Recreation	East	Short Term/Fleeting	Occasional
			Walking on the Beach	North-South	Short Term/Fleeting	Occasional
			Walking on Boardwalk	North-South	Short Term/Fleeting	Occasional
			Dining in Restaurant	North-South	Short Term/Fleeting	Occasional
		Fishermen	Fishing from Shore	East	Long-term	Occasional
LAT01	Edwin B. Forsythe NWR at the Woodmansee Estate	Residents	Bird Watching	South	Short Term/Fleeting	Occasional
			Walking	All Directions	Short Term/Fleeting	Occasional
			Boating	All Directions	Short Term/Fleeting	Occasional
			Residential	South	Long-term	Repeated
LBT03	Beach at Long Beach Island Arts Foundation	Resident/Tourist	Shoreline Ocean View	East	Long-term	Repeated
			Active Recreation	East	Short Term/Fleeting	Occasional
			Walking on the Beach	North-South	Short Term/Fleeting	Occasional
			Residential	East	Long-term	Repeated
		Fishermen	Fishing from Shore	East	Long-term	Occasional
BRT01	Bass River State Forest	Resident/Tourist	Hiking	North-South	Short Term/Fleeting	Occasional
			Camping/Picnicking	NA (wooded/no ocean)	Short Term/Fleeting	Occasional
			Bird Watching	All Directions	Short Term/Fleeting	Occasional
BHB01	Beach Haven Historic District	Resident/Tourist	Shoreline Ocean View	Southeast	Long-term	Repeated
			Active Recreation	Southeast	Long-term	Repeated
			Residential	East	Long-term	Repeated
		Fishermen	Fishing from Shore	Southeast	Long-term	Occasional
LEHT02	Great Bay Boulevard WMA/Rutgers Field Station	Resident/Tourist	Bird Watching	South	Short Term/Fleeting	Repeated
			Hunting	South	Short Term/Fleeting	Occasional
			Kayaking	South	Short Term/Fleeting	Occasional
		Fishermen	Fishing from Shore	East	Long-term	Occasional
			Fishing from Vessel	South	Short Term/Fleeting	Repeated
BC02	North Brigantine Natural Area	Resident/Tourist	Walking on the Beach	Northeast-Southwest	Short Term/Fleeting	Occasional
			Active Recreation	Southeast	Long-term	Repeated
			Shoreline Ocean View	Southeast	Long-term	Repeated
		Fishermen	Fishing from Shore	Southeast	Long-term	Occasional
AC02	Ocean Casino Resort – Sky Garden	Resident/Tourist	Sunbathing	East	Long-term	Repeated
			Boardwalk activities	Northeast-Southwest	Short Term/Fleeting	Occasional
			Shoreline Ocean View	Southeast	Long-term	Occasional
			Fishing from Shore	Southeast	Long-term	Occasional
			Active Recreation	Southeast	Short Term/Fleeting	Occasional
AC04	Jim Whelan Boardwalk Hall (Atlantic City Convention Center NHL)	Tourist	Dining/Gambling	East	Short Term/Fleeting	Occasional
			Boardwalk activities	Northeast-Southwest	Short Term/Fleeting	Occasional
			Sunbathing	Southeast	Long-term	Repeated
			Fishing from Shore	Southeast	Long-term	Occasional
			Shoreline/Elevated Coastal	Southeast	Long-term	Repeated
			Active Recreation	Southeast	Long-term	Repeated
MC02	Lucy the Margate Elephant NHL	Resident/Tourist	Sightseeing	Southeast	Short Term/Fleeting	Occasional
			Active Recreation	Southeast	Long-term	Repeated
			Shoreline Ocean View	Southeast	Long-term	Repeated
OC04	Gillian's Wonderland Amusement	Resident/Tourist	Amusement Park activities	Northeast-Southwest	Short Term/Fleeting	Occasional
			Shoreline Ocean View	Southeast	Long-term	Occasional
			Boardwalk activities	Northeast-Southwest	Short Term/Fleeting	Occasional
			Active Recreation	Southeast	Long-term	Occasional
		Fishermen	Fishing from Shore	Southeast	Long-term	Occasional
SIC02	Townsend Inlet Bridge	Resident/Tourist	Driving	North-South	Short Term/Fleeting	Occasional
			Shoreline Ocean View	South	Short Term/Fleeting	Occasional
			Bicycling	North-South	Short Term/Fleeting	Occasional
			Fishing from Vessel	East-West	Short Term/Fleeting	Occasional
LT02	Cape May Point State Park	Resident/Tourist	Shoreline Ocean View	South	Short Term/Fleeting	Occasional
			Active Recreation	South	Short Term/Fleeting	Occasional
			Bird Watching	East	Short Term/Fleeting	Occasional
			Sightseeing	All Directions	Short Term/Fleeting	Occasional
			Shoreline/Elevated Coastal	All Directions	Long-term	Occasional

ATTACHMENT F

RESUMES OF RATING PANEL MEMBERS

education

*Harvard University Graduate School of Design,
Master of Landscape Architecture, 2000.*

*SUNY College of Environmental Science and Forestry, Bachelor of
Landscape Architecture, 1995.*

*SUNY College of Technology at Alfred,
Associate in Applied Science, 1991.*

professional certification

*Commonwealth of Massachusetts WBE | Federal DBE Certification
Registered Landscape Architect, State of New York, License #1875
Registered Landscape Architect, Commonwealth of Massachusetts,
License #1214*

publications

*"Protecting the Rural Landscape: Visual Quality Guidelines for Plymouth,
Massachusetts and the New England Region." Graduate School of
Design, Harvard University. Cambridge, Massachusetts*

*"Toward a Joint Palestine-Israel Industrial Development in al-Shoka and
Karem Shalom: An Assessment of Location and Future Planning
Flexibility." Graduate School of Design, Harvard University. Cambridge,
Massachusetts*

*Studio Works Seven. Graduate School of Design, Harvard University.
Cambridge, Massachusetts*

representative project experience

Sunrise Wind Project - Evaluate visual impacts, rating panel for wind turbines in outer continental shelf on coast of New York, New Jersey, Connecticut, Rhode Island, and Massachusetts.

Heritage Wind Project, NY - Evaluate visual impacts, rating panel for wind turbines in Barre and Orleans County, New York.

Horseshoe Solar, NY - VIA Report Provided, field survey and viewshed evaluation for a visual impact assessment in Livingston and Monroe County, New York.

Amherst Solar, MA - Visual impacts from solar arrays in a decommissioned golf course in Amherst, Massachusetts.

Plymouth Solar, MA - Screening Planting Plan Mitigate visual impacts from solar arrays in a wooded parcel in Plymouth, Massachusetts.

Revolution Wind Project, MA & RI - Evaluate visual impacts, rating panel for wind turbines in the Atlantic Ocean off the coast of Massachusetts and Rhode Island.

Skipjack Wind Project, MD - Evaluate visual impacts, rating panel for wind turbines in the Atlantic Ocean off the coast of Maryland.

Alle-Cat Wind Project, NY - Evaluate visual impacts, rating panel for wind turbines in Allegany, Cattaraugus and Wyoming Counties, New York.

Canisteo Wind Project, RI - Evaluate visual impacts, rating panel for rating panel for wind turbines in Steuben County, New York.

South Fork Wind Project, NY & RI - Evaluate visual impacts, rating panel for wind turbines in the Atlantic Ocean off the coast of New York and Rhode Island.

employment history

*Principal Landscape Architect, Terraink, Inc., Arlington, MA, 2010 –
Present.*

Instructor, Rhode Island School of Design, Providence, RI, 2014 – 2018.

*Project Manager, Gregory Lombardi Design, Inc., Cambridge, MA, 2008 –
2010.*

*Visiting Professor, Site Design and Grading Seminar; Rhode Island
School of Design*

Project Manager, Shadley Associates, Lexington, MA, 2007 – 2008.

*Project Manager, Visual Expert, EDR Companies, Syracuse, NY, 2003 –
2007.*

*Adjunct Professor, SUNY College of Environmental Science and
Forestry, Syracuse, NY, 2003 – 2007.*

*Landscape Architect, Reisen Design Associates, Cambridge, MA, 1999 –
2003.*

*Landscape Architect, Jacques Whitford Company, Inc., Woburn, MA,
1998 – 1999.*

*Project Manager, Pressley Associates, Inc., Cambridge, MA, 1995 –
1998.*

Baron Wind, NY - Evaluate visual impacts, rating panel for wind turbines in Steuben County, New York.

Timbermill Wind, NC - Evaluate visual impacts, rating panel for wind turbines in Perquimans Chowan Counties, North Carolina.

Lighthouse Wind, NY - Evaluate visual impacts, rating panel for wind turbines in Somerset and Yates Counties, Western New York.

Offshore MD - Evaluate visual impacts, rating panel for wind turbines offshore of Maryland.

Moosehead Lake Recreational Resource Assessment, ME - Investigation coordination of recreational resources in the Moosehead Lake Region, Maine.

Antrim Wind Power, NH - Provided Expert Witness with Court Testimony. Authored a Visual Impact Assessment (VIA) for a 28.8-MW, 9-turbine wind farm project in the Town of Antrim, Hillsborough County, New Hampshire. The VIA described the visible components of the proposed project, defined the visual character of the study area, and inventoried and evaluated existing visual resources. The study also evaluated potential project visibility within the study area, identified key views and assessed visual impacts associated with the proposed wind power project.

Block Island Wind Farm, RI - Evaluated visual impacts for wind turbines and transformer station improvements on Block Island, Rhode Island.

Howard Wind Farm, NY - Evaluated visual impacts for wind turbines in Steuben County, New York.

Allegheny Wind, PA - Evaluated visual impacts for wind turbines in Cambria and Blair Counties, Pennsylvania.

New England East-West Solution (NEEWS) - Evaluated visual impacts for transmission line and transformer station improvements in New England.

Interstate Reliability - Evaluated visual impacts for transmission line and transformer station improvements in NE.

Maxson Hill Road Solar, RI - Mitigate visual impacts from solar arrays in a wooded parcel of Hopkinton, Rhode Island.

Southern Rhode Island Transmission Project – Prior to Terraink, Expert Witness with Court Testimony that was not challenged. Oversaw preparation of the Visual Impact Assessment (VIA) and the Supplemental Tower Hill Tap Line VIA prepared for the proposed upgrade and extension of approximately 26 miles of an existing L-190 115 kilovolt transmission line in southern Rhode Island. Coordinated fieldwork, defined landscape similarity zones and viewer groups, identified sensitive resources/receptors, supervised the development of viewshed maps and visual simulations, participated in the preparation of the VIA report and provided expert witness testimony on visual issues.

Tompkins County Public Safety Communications System - Prior to Terraink, directed preparation of Visual Impact Assessment component of the Draft Environmental Impact Statement (DEIS) prepared for the siting of nine new towers for wireless communications in Tompkins County, New York. Coordinated fieldwork, defined landscape similarity zones and viewer groups, identified sensitive resources/receptors, supervised the development of viewshed maps and visual simulations and participated in the preparation of the VIA report.

New York State Statewide Wireless Network - Prior to Terraink, participated in the preparation of the Generic Visual Impact Assessment (GVIA) report component of the DEIS prepared for the siting of wireless communications towers throughout New York State. Defined landscape similarity zones and viewer groups, identified sensitive resources/receptors, supervised the development of visual simulations and participated in the preparation of the GVIA report.

Visual Impact Assessment, Top Notch Wind Power Project - Prior to Terraink, evaluated visual impacts for Fairfield, Norway and Little Falls in Herkimer County, New York. The VIA report described visible components of the proposed project, defined the visual character of the study area, and inventoried and evaluated visual resources and viewer groups. The study also evaluated potential project visibility within the study area, identified key views and assessed visual impacts associated with the proposed wind power project.

Visual Impact Assessment, Cohocton Wind Power Project - Prior to Terraink, evaluated visual impacts for Visual Impact Assessment (VIA) report for an 82 MW, 41-turbine project proposed in the Town of Cohocton in Steuben County, New York. The VIA report described visible components of the proposed project, defined the visual character of the study area, and inventoried and evaluated visual resources and viewer groups. The study also evaluated potential project visibility within the study area, identified key views and assessed visual impacts associated with the proposed wind power project.

Visual Impact Assessment, Marble River Wind Farm - Prior to Terraink, assessed visual impacts for Visual Impact Assessment (VIA) report from 200 MW, 109-turbine project proposed for a 19,310-acre site in the Town of Clinton and Ellenburg in Clinton County, New York. The VIA report described visible components of the proposed project, defined the visual character of the study area, and inventoried and evaluated visual resources and viewer groups. The study also evaluated potential project visibility within the study area, identified key views and assessed visual impacts associated with the proposed wind power project.

Visual Impact Assessment, Jordanville Wind Power Project - Prior to Terraink, coordinated study and prepared Visual Impact Assessment (VIA) report for a proposed 150 MW 75-turbine project proposed in the Towns of Stark and Warren in Herkimer County, New York. The VIA report described visible components of the proposed project, defined the visual character of the study area, and inventoried and evaluated visual resources and viewer groups. The study also evaluated potential project visibility within the study area, identified key views and assessed visual impacts associated with the proposed wind power project.

Visual Impact Assessment, Dairy Hills Wind Farm - Prior to Terraink, evaluated visual impacts for Visual impact Assessment (VIA) report for a 160 MW, 80-turbine project proposed in the Towns of Castile, Covington, Perry, and Warsaw in Wyoming County, New York. The VIA report described visible components of the proposed project, defined the visual character of the study area, and inventoried and evaluated visual resources and viewer groups. The study also evaluated potential project visibility within the study area, identified key views and assessed visual impacts associated with the proposed wind power project.

education

SUNY College of Environmental Science and Forestry, Master of Science in Landscape Architecture, 2007.

Cornell University, Bachelor of Science in Landscape Architecture, 1993.

University of Copenhagen, Denmark International Study Program, 1992.

professional certification

Registered Landscape Architect, New York State License #1768-1

Registered Landscape Architect, North Carolina State License #910

presentations / publications

"Cultural Ecosystem Services as Part of Greenspace Management." GGavitt, J.M. and Smardon, R.C., 2019. Calculating Cultural Ecosystem Services as part of Greenspace Management?. Journal of International Business Research and Marketing, 4(4), pp.7-12.

Presented at the 5th Fabos Greenspace Conference at the University of Massachusetts, Amherst March 30th 2019

Community Participatory Practices: Case Study, Oneida, NY. April 2015, Upstate ASLA Conference, Saratoga Springs, NY

employment history

Principal, Gavin Associates, Cazenovia, NY, 2003-Present.

Visiting Instructor, Department of Landscape Architecture, SUNY College of Environmental Science and Forestry, 2004-Present.

Principal, Trinity Architecture and Planning, Inc. Winston-Salem, NC, 1999-2001.

Landscape Architect/Project Manager, Architectural Design Associates, PA, Winston-Salem, NC, 1997-1999.

Landscape Architect/Project Manager, GS Miller Landscape Architecture, Winston-Salem, NC, 1995-1997.

Landscape Architect/Intern, Pashek Associates, PA, Pittsburgh, PA, 1993-1995.

Landscape Architect/Intern, Fallingwater, Mill Run, PA, 1993.

representative project experience

Energy Project Visual Impact Assessments - Provided expert visual assessment for Environmental Design Research, PC on the following projects:

- Sunrise Wind, Outer Continental Shelf
- Heritage Wind, Orleans County, NY
- Revolution Wind, Coastal New England
- High Bridge Wind, Chenango County, NY
- Mohawk Solar, Montgomery County, NY
- Bluestone Wind, Broome County, NY
- Allegany, Cattaraugus and Wyoming Counties, NY
- Canisteo Wind, Steuben County, NY
- South Fork Wind Farm, Offshore, Atlantic
- Galloo Island, NY
- Baron Wind, NY
- Timbermill Wind, NC
- Clear River Energy Transmission, RI
- Cassadaga Wind Project, Chautauqua County, NY
- Merrimack Valley Reliability Project, NH & MA
- New England East-West Solution (NEEWS), New England States
- Block Island Wind Project, MA
- Allegany Wind Project, Cattaraugus County, NY
- Rhode Island Reliability Project, RI
- Howard Wind Project, Steuben county, NY
- NY Regional Interconnect, NY
- Dutch Hill Wind Project, Cohocton, NY

Local Waterfront Revitalization Plan, Cazenovia, NY - Preparation of a Waterfront Revitalization Plan for the Village and Town of Cazenovia through funding from the LWRP program. Compiled inventory and analysis, conducted public meetings, designed projects to meet community needs.

Village of Manlius, NY, Main Street Revitalization - Coordination with village board and committee. Design and implementation of streetscape improvements including custom furniture, lighting, paving.

Town of Eaton Park Masterplan, Morrisville, NY - Conceptual drawings, site documentation and cost estimates for Village Park funding proposal.

North Center Street Park, East Syracuse, NY - Conceptual and Design Development Drawings for Village Park, done in conjunction with O'Brien and Gere.

Downtown Revitalization Initiative, Cazenovia, NY - Development of plans and submission for grant funding for several projects in the village. Worked in conjunction with CACDA executive director.

Arise at the Farm, Chittenango, NY - Drainage and planning drawings for working therapeutic horse farm.

Mattituck Laurel Civic Association, Long Island, NY - Led SUNY ESF studio in master plan study for hamlet of Mattituck, addressing traffic issues and connectivity of village center to water. Continuing to consult with community to prioritize and fund projects.

Cazenovia Lake Valuation Study, NY - Study conducted with Richard Smarden, PhD to value the benefit revenue streams to the Cazenovia community associated with the presence of a healthy lake. Methods included literature review, data collection, surveys and real estate comparisons through GIS data bases.

Vineyard Haven Resiliency Planning Study, Martha's Vineyard, MA - Coordinated planning effort with Vineyard Haven interest groups through SUNY ESF studio process. Study focused on resiliency strategies for land planning in the sensitive flood plain areas of Vineyard Haven.

Scajaquada Creek Corridor, Buffalo, NY - Coordinated design and planning effort partnering Buffalo Niagara Waterkeeper's and student designers from SUNY ESF. Project proposed to daylight existing stream, reestablish habitat in an urban setting, and revitalize a post industrial superblock through smart growth redevelopment.

Creekside Playground Design and Project Implementation - Coordinated community planning process for natural playground through SUNY ESF studio process. Presently working as consultant with community to develop plans and coordinate implementation of playground.

Oneida Flats Planning Study, NY - Utilized community participatory methods to include residents and city in master plan visioning process for flooded neighborhood. Included extensive research, analysis and information sharing.

Oneida Rail Trail Conceptual Plan, NY - Studio based design project: Conceptualization of segments of the proposed Oneida Rail Trail. Project included organized community participation.

GoCaz.com, Economic Development Project, Cazenovia, NY - Creation, coordination and implementation of GoCaz.com, a program to promote outdoor recreational activities in and around the Cazenovia area. Project includes grant writing assistance, interactive GIS website, mobile phone adaptation design, trail mapping, signage design, and marketing.

International Boxing Hall of Fame, Canastota, NY - Created a master plan and wrote a grant that was funded through NYS Economic Development Funds for \$1M. Assisted in securing legislation for site to be turned over from NYS Thruway Authority to LDC.

education

Master of Landscape Architecture, State University of New York, College of Environmental Science & Forestry, 2014.

Bachelor of Fine Arts in Illustration & Sculpture, School of the Art Institute of Chicago, 2006.

affiliations

Member, American Planning Association

Thornden Park Association, Treasurer 2014-present

employment history

Visualization Project Manager, Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C., 2021-present.

Visualization Specialist, Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C., 2019-2021.

Planner, Cayuga County Department of Planning and Economic Development, 2018-2019

Planner, City of Rome Department of Community and Economic Development, 2016-2018

representative project experience

Energy Project Visual Impact Assessments - Prepared Visual Impact Assessments (VIAs) for commercial wind power and power line projects in Upstate New York. The VIAs present the visual character and significant aesthetic resources within a 5, 10 or 40-mile visual study radius. Viewshed analysis, line-of-sight cross sections, field review, and computer-assisted visual simulations were used to evaluate the potential visibility and visual impact of these projects.

- Apex Heritage Wind
- Flint Mine Solar
- Tobacco Valley Solar Farm
- Morris Ridge Solar
- Horseshoe Solar
- Gowanus Bay Repowering Project
- Sunrise Offshore Wind Farm
- Skipjack Wind

Interstate Route 81 Viaduct Project, City of Syracuse, Onondaga County, NY- Part of the EDR team responsible for the development of visual simulations for the replacement of approximately 5 miles of elevated interstate highway.

City of Rome Grant Project Work – Prior work experience – provided professional services including writing signification portions of the grant applications, and creating preliminary graphic maps for the following projects:

- **Round 2 Downtown Revitalization Initiative (DRI):**
 - Downtown Centro transportation center
 - Downtown Wayfinding System Implementation
 - City Hall Programming Enhancements and Public Areas Expansion
 - City Hall Green Enhancement for Year-Round Activity
 - Liberty James Parking Garage Upgrades
 - Liberty George Parking Garage Demolition/ site preparation/ and mixed-use redevelopment
 - Erie Boulevard Streetscape and pedestrian enhancements
- Business Retention and Public Art Fund
- **NYSDOT Transportation Alternatives Program (TAP)**
 - Construction of Phase II of the Mohawk River Trail
- **SMART Walk (Stormwater Management Art Walk)**
 - Green Infrastructure enhancements for stormwater run-off
 - Bicycle, pedestrian and streetscape enhancements
 - Development of public arts plaza

Cayuga County - GML 239-I, m&n Review Committee – *Prior work experience* – responsible for reviewing applications for completeness, communicate with communities and proposed developer to assure completeness as well as develop monthly agendas, maps, and other materials for committee use. Additionally, responsible for the development and relay of correspondence with the applicants based on the committee's determination.

Cayuga County - County Wide Planning Board Training Programs - *Prior work experience* - responsible for SEQR training for County Planning Board, ZBA, and Council Board Members, including presentation materials and sample SEQR process materials. Presentations also included Land Use Tools and Techniques: Special Use Permits and Variances.

education

*Bachelor of Science in Landscape Architecture, Cornell University,
College of Agriculture and Life Sciences, 1998*

professional certification

Registered Landscape Architect: NY# 002507

*Certification: LEED™ AP – Leadership in Energy & Environmental Design,
Associate Professional, U.S. Green Building Council*

professional affiliations

Member, American Society of Landscape Architects

Member, U.S. Green Building Council

Member, Town & Village of Tully Planning Board

publications

*"Drawing Inspiration" Landscape Architect and Specifier News Volume
27, Number 11, November 2011.*

representative project experience

Energy Project Visual Impact Assessments - Prepared Visual Impact Assessments (VIAs) for commercial wind power and power line projects in Upstate New York. The VIAs present the visual character and significant aesthetic resources within a 5 or 10-mile visual study radius. Viewshed analysis, line-of-sight cross sections, field review, and computer-assisted visual simulations were used to evaluate the potential visibility and visual impact of these projects.

- Block Island Wind
- Copenhagen Wind
- Crown City Wind Farm
- Scioto Ridge Wind Farm
- Wild Meadows Wind Project
- CHG&E A&C Line Article VII
- St. Lawrence Gas Distribution Line
- Aquidneck Island Reliability Project VIA
- Cassadaga Wind Project
- WH1-WH2 Transmission Lines Rebuild
- Incinerator Road
- Galloo Island Wind Project
- Invenenergy Transmission Line
- Apex Heritage Wind
- Flint Mine Solar
- National Grid Collamer Road Substation
- Tobacco Valley Solar Farm
- Morris Ridge Solar
- Horseshoe Solar
- Gowanus Bay Repowering Project
- Sunrise Offshore Wind Farm

Emerson Park, Auburn, NY - Coordinated the grant application materials including a boat launch improvement master plan and cost estimate. Alumni Quadrangle New Construction Project, DASNY, Albany State University- Provided site planning and design services to support razing and replacing Waterbury Hall with new alumni commons that will integrate dining, retail, fitness, meeting rooms, social spaces, and a new contemporary residence hall in

a phased approach. Site work shall include relocating and reconfiguring the existing service entrance, loading dock, and utilities to support the new alumni commons and residence hall. LEED™ Silver Base Rating.

Alumni Quadrangle New Construction Project, DASNY, Albany State University - Provided site planning and design services to support razing and replacing Waterbury Hall with new alumni commons that will integrate dining, retail, fitness, meeting rooms, social spaces, and a new contemporary residence hall in a phased approach. Site work shall include relocating and reconfiguring the existing service entrance, loading dock, and utilities to support the new alumni commons and residence hall. *LEED™ Silver Base Rating.*

Nappi Longevity Institute, Upstate Medical University, Syracuse, NY - Provided site planning and design services to support development of a new 200,000 SF, 5-story building on an existing surface parking lot. Outdoor spaces include café, meditation garden, labyrinth pavement, drop-off circulation, and back-of-house access. The proposed building will house outpatient treatment facilities. LEED™ Silver Base Rating

Equal Rights Heritage Center, City of Auburn, NY - Managed site planning, design, and engineering services to support development of a new regional welcome center in the South State Street Historic District in Downtown Auburn. The project is located directly across from Memorial City Hall and adjacent to the William H. Seward House Museum (a national historic landmark). It provides a rare opportunity to highlight regional tourism and the agricultural industries.

Southside Park, Veteran's Memorial, City of Binghamton Parks and Recreation, Binghamton, NY - Developed design options to relocate, improve, and expand existing memorial gathering space and memorial bench.

Washington Street Mall, City of Binghamton Parks and Recreation, Binghamton, NY - Designed a renovation for the existing Metrocenter Plaza. The pocket park style space creates a downtown amenity including outdoor dining, lighting, landscape, performance space, and a safe pedestrian environment.

Veterans Service Facility, Broome County DPW, Conklin, NY - Serves as project manager for the project and the main point of contact for EDR. Manages the project timeline, tasking, client communication, monitoring and reporting. EDR services include landscape architecture, civil engineering, site wastewater engineering, cultural resource assessment, and environmental/ecological consulting services.

LA Term Services, City of Binghamton Parks and Recreation, Binghamton, NY - Responsible for managing the EDR team assigned to a term contract for Landscape Architectural Services. EDR is currently providing site planning and design services on an as-needed basis. EDR has been assigned work on: Washington Street – Metrocenter Plaza, Recreation Park Tennis, The Discovery Center, MacArthur Park, Fireman's Memorial, Charles Street Open Space, West End Park, Southside Park – Veteran's Memorial.

One Steamboat Place, Steamboat Springs, CO - *Prior to EDR*, Designed one-acre public outdoor space, outdoor pool and plaza, and overall site for the private "cowboy chic" luxury condominiums at the base of Steamboat Mountain. Developed project from concept design through construction administration. Designed signature site elements including custom lighting and outdoor fireplaces to compliment the distinctive architectural style and unique client flair. Lead Quality Control for the multi-disciplinary site design team.

ATTACHMENT G

VISUAL IMPACT ASSESSMENT GUIDANCE & RATING FORMS

Information and Guidance for Visual Rating Panel Members

For EDR Offshore Visual Impact Assessment Rating Panels

Visual Impact Assessment

Visual Rating Panel Guidance

Contents

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Visual Impact Assessment

Visual Rating Panel Guidance

1.0 INTRODUCTION

Thank you for participating in the Visual Impact Assessment (VIA) of the Atlantic Shores Offshore Wind Project (Project) as a visual expert and rating panel member.

As proposed, the Project will be located in federal waters on the Outer Continental Shelf (OCS), in Bureau of Ocean Energy Management (BOEM) Renewable Energy Lease Areas OCS-A 0499 (Lease Area). The proposed wind energy generation facility will be located in the southern portion of the Lease Area, measuring approximately 159.4 sq mi (413 sq km). This area will contain the major visible component of the Project and is henceforth referred to as the Wind Turbine Area (WTA). At its closest point, the WTA is approximately 8.7 mi (14 km) from the New Jersey shoreline as measured from the northernmost edge of Brigantine City in Atlantic County. The WTA is also 9.4 mi (15.1 km) east of Atlantic City, 16.3 mi (26.2 km) east of Ocean City, 25.3 mi (40.7 km) south of Barnegat Light Borough, and 35.7 mi (57.5 km) northeast of Wildwood. The purpose of the Visual Impact Assessment (VIA) is to analyze the potential visibility of the proposed Project and determine the difference in landscape and seascape visual quality between existing and proposed conditions.

The visible components of the offshore Project will include 200 wind turbine generators (WTGs) and five offshore substations (OSS). The VIA considers the largest wind turbine technology currently under consideration for the Project, which includes WTGs with a rotor diameter of 919 feet, hub height of 574 feet and a total height of 1,047 feet with the rotor blade in the full upright position. The OSSs will include four substations measuring 31,484 square feet and 189 feet tall as well as one substation measuring 48,438 square feet and 205 feet tall.

The potential visual impact associated with the Project will be evaluated using a modified version of the *U.S. Army Corps of Engineers' (USACE) Visual Resource Assessment Procedure (VRAP)*¹. This will include the evaluation of key observation points (KOPs) within the visual study area (VSA) with and without the project in place. The modifications to the VRAP process are described Section 2.2 of this document. To make this pre- and post-installation comparison the rating panel members will provide a scenic quality score for the existing conditions photograph and then score again separately for the visual simulation illustrating the Project in place. The scenic quality score applied to the existing conditions photograph will result in a Scenic Quality Classification (SQC) which will, in turn, apply a threshold of acceptable visual impact to the KOP (see Table 2-1). If the proposed conditions simulation results in a decrease in visual quality that either exceeds the threshold and/or reduces the SQC category, the Project is expected to result in visual impacts to that KOP.

In addition to the VRAP rating process, EDR also included a means to assess the visual threshold level (VTL), which measures the Projects visual prominence that is described in *Offshore Wind Turbine Visibility and*

¹ Smardon, R.C., J.F. Palmer, A. Knopf, K. Grinde, J.E. Henderson and L.D. Peyman-Dove. 1988. Visual Resources Assessment Procedure for U.S. Army Corps of Engineers. Instruction Report EL-88-1. Department of the Army, U.S. Army Corps of Engineers. Washington, D.C.

Visual Impact Assessment

Visual Rating Panel Guidance

*Visual Impact Threshold Distances*². This analysis is included as a supplement to the VRAP process and will be used to inform the degree of potential visual impact associated with the Project.

2.0 RATING PANEL INSTRUCTIONS

2.1 Project Introduction

Using the provided introductory material (See Section 2.4 and Table 2-3) rating panel members should take a few moments to review the VSA and general location of the KOPs.

- a) Google Earth file of the Project, VSA, and KOPs
- b) Review landscape similarity zones (LSZ) map and descriptions to become familiar with the LSZ's present within the VSA.
- c) Review visually sensitive resources (VSRs) considering the resource, its viewers, and their sensitivity to visual change.

2.2 KOP Rating

Step 1 – KOP Familiarization (Rating Form Page 1 and 2 of 6)

KOP Familiarization includes a series of questions designed to familiarize you with the existing conditions present at each KOP. These include the identification and description of focal points, order, visual clutter, movement, duration of view, atmospheric conditions, lighting direction, and scenic, historic or recreational value. The following steps are required in order to complete this portion of the visual impact rating forms:

- a) The simulations provided to each panel member have a contextual cover sheet (Sheet 1). This sheet contains a large panorama view from the KOP position along with an inset or on occasion multiple insets defining the simulation field of view. Additionally, the context sheet includes a regional context map and a local context map, information about the location of the simulation, distance from the Project, landscape similarity zone (LSZ), user group, and any visually sensitive resources represented by the KOP. Each simulation set will also include a prescribed Google Earth tour, but users may also desire to complete their own walking tour/fly-through.
- b) Rating panel members shall thoroughly examine the contextual information described above and complete the Google Earth tour of the KOP and the surrounding landscape, making note of visibility to the seascape and/or surrounding landscape or built features as the viewer approaches the KOP.
- c) Based on review of the contextual information, the rating panel member shall record initial reactions to the KOP by recording reactions to the questions relating to the "Principles of Composition" and "Factors Affecting Visual Impact". (Pages 1 and 2 of the VIA Rating forms).

² Sullivan Robert G., Kirchner Leslie B., Cothren Jackson, Winters Snow L. *Offshore Wind Turbine Visibility and Visual Impact Threshold Distances*. Argonne National Laboratory, Argonne, IL, 2012.

Visual Impact Assessment

Visual Rating Panel Guidance

Step 2: Scenic Quality Classification (Rating Form Page 3 of 6)

The VRAP process typically involves a two-step approach beginning with the Management Classification System (MCS) followed by the VIA rating. However, given the nature of offshore wind projects, which occur outside of the managed landscape, the VRAP methodology has been adapted by EDR to remove the MCS portion of the rating system and apply the scoring system to the existing conditions view. As such, EDR has renamed the MCS portion to the Scenic Quality Classification (SQC). The SQC uses the same MCS terminology and scoring and is used to establish a baseline scenic quality level and a threshold for acceptable visual impacts (see Table 2-1). This also eliminates the process that averages potential impacts across an entire LSZ. Rather, the thresholds are applied directly to the existing conditions at each individual KOP.

The Scenic Quality Classification consists of the following approach:

The visual impact rating form for the existing conditions is include on Page 3 of 6. The following steps are required to establish a SQC for each KOP:

- a) Rating panel member shall review the existing condition photographs from the selected KOPs along with regional information, including LSZs, Visually Sensitive Resources (VSRs), and distance from the Project (completed in Step 1 - KOP Familiarization).
- b) Next, use professional aesthetic judgment to assess the visual quality of the KOP's existing condition and assign a numerical assessment value to each of the contributing factors (water resources, landform, vegetation, land use, and user activity).
 - i. Rating panel members are requested to use whole numbers to score each of the contributing factors unless a resource is not present, in which case a score of 4.5 should be applied. For example, when evaluating the contributing factor of Vegetation, however, no vegetation is visible in the simulation specific view, then vegetation should be assigned a score of 4.5 thereby nullifying its impact on the composite score average.

The numerical assessment values provided by individual rating panel members will be averaged and a composite assessment score will be established for each category. Based on the composite score each KOP is assigned to a corresponding SQC, which defines the degree and nature of visual change acceptable for that KOP. Rating panel members should enter numerical results into the digital PDF rating form that will compile necessary totals for each KOP. EDR will enter individual scores to a separate database to verify result accuracy.

Visual Impact Assessment

Visual Rating Panel Guidance

Step 3: VIA Evaluation (Rating Form Page 4 of 6)

The VIA evaluation consists of the following approach:

The visual impact rating form for the proposed conditions is include on Page 4 of 6. The following steps are required to establish a SQC for each KOP:

- a) The rating panel member shall review simulations of the proposed Project from each KOP.
- b) Use professional aesthetic judgement to assess the selected KOP with the proposed Project in place. Assign a numerical value to each of the contributing factors considering the proposed conditions at that KOP.
 - i. Rating panel members shall use whole numbers to score each of the contributing factors/resources unless a resource is not present, in which case a score of 4.5 should be applied.

Step 4: VIA Evaluation – Compatibility and Contrast Rating (Rating Form Page 5 of 6)

- a) The visual impact rating form for the compatibility and contrast rating is include on Page 5 of 6. The following steps are required to establish a compatibility rating for each KOP: The rating panel member shall assign visual Contrast Rating scores to each category comparing the Project in place to the surrounding landscape as a means to evaluate its compatibility, scale contrast, and spatial dominance within the study area (see Table 2-2). Refer to the definitions listed in Section 2.3 to assist with terminology presented in the form.
- b) Rating panel members shall use whole numbers to score each of the contributing factors/resources, however, on this form if elements are missing from the view, the score should be 0, which removes its inclusion in the averaged score.

Step 5: VIA Evaluation – Visibility Threshold Level (Rating Form Page 6 of 6)

The visual impact rating form for the visibility threshold rating is include on Page 6 of 6. The following steps are required to establish a threshold rating for each KOP:

- a) Check the VTL box that best reflects the degree of visibility and visual prominence of the Project at each KOP. The VTLs are described in detail in Table 2-3, below.
- b) Rating panel members shall check a box next to the most appropriate VTL description, which will then correlate to a threshold rating score that will be tallied and averaged across the rating panel responses.

Visual Impact Assessment

Visual Rating Panel Guidance

2.3 Definitions and Tables

Conditions Rating

Distinct – Something that is considered unique and is an asset to the area. It is typically recognized as a visual/aesthetic asset and may have many positive attributes. Diversity and variety are characteristics in such a resource.

Average – Something that is common in the area and not known for its uniqueness, but rather is representative of the typical landscape of the area.

Liability – Something that lacks any positive aesthetic attributes and may actually diminish the visual quality of surrounding areas.

Contrast Rating

Dominant – The modification is the major object or area in the confined setting and occupies a large part of the setting.

Co-Dominant – The modification is one of the major objects or areas in a confined setting, and its features are of equal visual importance.

Subordinate – The modification is insignificant and occupies a minor part of the setting.

Factors to be Considered During the Visual Evaluation

Landscape/Seascape, viewer, and Project-related factors that rating panel members should consider in their evaluation of visual impact should include the following:

- **Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape and/or seascape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- **Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- **Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- **Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale

Visual Impact Assessment

Visual Rating Panel Guidance

is likely to vary depending on the distance from which it is seen and other contextual factors.

- **Focal Point:** Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.
- **Order:** Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape/seascape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.
- **Visual Clutter:** Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.
- **Movement:** Motion of existing and proposed elements in a view can attract viewer attention.
- **Duration of View:** Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time such as riding a ferry or water taxi. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.
- **Atmospheric Conditions:** Clouds, precipitation, haze, and other ambient air-related conditions which affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of landscape/seascape and project components and the design elements of form, line, color, texture, and scale.
- **Lighting Direction:** Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape/seascape and project elements.
- **Scenic or Recreational Value:** Designation as a scenic, historic or recreational resource is an indication that there is broad public consensus on the value of that particular resource.

Visual Impact Assessment

Visual Rating Panel Guidance

KOP – Key Observation Point

Geographic positions within the visual study area that have views toward the Project and were considered for the development of visual simulations.

LSZ - Landscape Similarity Zones

Within the regional landscape, LSZs are established to provide a more specific framework within which to define and evaluate the visual resources of a study area. An LSZ represents a specific landscape type or setting that has common characteristics of landform, water resources, vegetation/ecosystems, land use, and user activity. As opposed to the diversity that can exist within the Regional Landscape, an LSZ has a fairly homogeneous, unified visual character. It should be apparent that the size of the zones and the level of detail with which they are defined can vary over a wide range. Prior to considering a project, judgments are made on the existing visual quality of the LSZs using the inventory and assessment of each zone's visual resources.

VSA – Visual Study Area

The visual study area is within a 40-mile radius of the offshore wind turbines. This represents a reasonable area beyond which the physical ability to see the Project diminishes such that visual impacts are no longer possible under typical viewing conditions.

VSR - Visually Sensitive Resources

For each KOP, nearby VSRs will be identified and summarized. The VSRs may include State Parks, National Register Historic Properties, National Historic Landmarks, or other resources officially designated as unique, scenic, or protected/designated specifically for the use and enjoyment by the public.

VTL - Visibility Threshold Level & Visual Prominence

Offshore Wind Turbine Visibility and Visual Impact Threshold Distances (Sullivan et.al., 2013) lists six VTLs that were used to rate the visual prominence of several operational offshore wind farms in Europe. The six VTLs are described below. Rating panel members will check a box next to the appropriate VTL description, which will then assign a set whole number VTL to each set of visual simulations from each KOP (Rating Form Page 6 of 6). The VTL score will be averaged across all panel members and rounded to the nearest whole-number VTL score. Visual prominence and the resultant VTL score may not necessarily influence visual impact scores. However, there is a strong correlation between high VTL's and elevated visual impacts. The VTL score will be used to describe the degree of potential visual impact based on the SQC assigned to each KOP.

Visual Impact Assessment

Visual Rating Panel Guidance

Table 2-1 Scenic Quality Classification (SQC)

Scenic Quality Classification	Total Assessment Value	Acceptable Impact Threshold	Description
Preservation	17 & above	0	These areas are considered to be unique and to have the most distinct visual quality in the region. They are highly valued and are often protected by Federal and State policies and laws. These areas include wilderness areas, some natural areas, portions of wild and scenic rivers, historic sites and districts, and similar situations where changes to existing resources are restricted. While limited project activity is not precluded, it should not be readily evident. Structures, operations, and use activities should appear to be extensions of the protected resource and should faithfully represent, repeat, or reinforce the visual character of that resource.
Retention	14-16	-2	These areas are regionally recognized as having distinct visual quality but may not be institutionally protected. Project activity may be evident but should not attract attention. Structures, operations, and use activities should remain subordinate to the existing visual resources and should repeat the form, line, color, texture, scale and composition characteristics of the resource.
Partial Retention	11-13	-5	These areas are locally valued for above average visual quality but are rarely protected by institutional policies. Project activity may be evident and begin to attract attention. Structures, operations, and use activities should remain subordinate to the existing visual resources. Form, line, color, texture, scale, and composition may differ from but should be compatible with the visual characteristics of the existing resource.
Modification	8-10	-6	These areas are not noted for their distinct qualities and are often considered to be of average visual quality. Project activity may attract attention and dominate the existing visual resource. Structures, operations, and use activities may display characteristics of form, line, color, texture, scale, and composition that differ from those of the existing visual resources. However, the project should exhibit good design and visual compatibility with its surroundings.
Rehabilitation	7 & Below	-8	These areas are noted for their minimal visual quality and are often considered blighted areas. Project activity should alter the existing undesirable visual resources. Structures, operations, and use activities should exhibit good design and display characteristics of form, line, color, texture, scale, and composition that contribute to making the area compatible with the visual character of adjacent higher quality landscapes.

Visual Impact Assessment

Visual Rating Panel Guidance

Table 2-2 Compatibility and Contrast Ratings

Modifier	Definition	Rating
Spatial dominance	<p>The prevalent occupation of a space in a land scape by an object(s) or landscape element.</p> <p>Spatial dominance can be described in terms of being Dominant, Co-dominant, or Subordinate.</p>	<p>Dominant--the modification is the major object or area in a confined set ting and occupies a large part of the setting.</p> <p>Co-dominant--the modification is one of the major objects or areas in a con fined setting, and its features are of equal visual importance.</p> <p>Subordinate--the modification is insignificant and occupies a minor part of the setting.</p>
Scale contrast	<p>The difference in absolute or relative scale in relation to other distinct objects or areas in the landscape.</p> <p>Scale contrast can be described in terms of being Severe, Moderate, or Minimal.</p>	<p>Severe--the modification is much larger than the surrounding objects.</p> <p>Moderate--the modification is slightly larger than the surrounding objects.</p> <p>Minimal--the modification is much smaller than the surrounding objects.</p>
Compatibility	<p>The degree to which landscape elements and characteristics are still unified within their setting. Compatibility can be described.</p> <p>in terms of being Compatible, Somewhat Compatible, or Not Compatible.</p>	<p>Compatible--The modification is harmonious within the setting.</p> <p>Somewhat Compatible--The modification is more or less harmonious within the setting.</p> <p>Not Compatible--The modification is not harmonious within the setting.</p>

Visual Impact Assessment

Visual Rating Panel Guidance

Table 2-3 Visibility Threshold Level (VTL)

Visibility Rating	Description
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections! and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45 degrees from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.

Visual Impact Assessment

Visual Rating Panel Guidance

2.4 Material Provided to the Rating Panel

The Project and KOP familiarization material and rating forms are detailed below in Table 2-3.

Table 2-4 Materials Provided to the Rating Panel

Item	Content
General Project Information – to be provided at the Project introduction	
Rating Panel Guidance	Introduction to the Project
	Definition of Terms used
	Instructions for Visual Rating Panel
LSZ Information	Mapped location and description of LSZ within the VSA
Location File	A Google Earth file that illustrates the VSA, KOPs, and Project Components
Information for each KOP – to be provided as information data sets during the visual rating process	
KOP Simulation Set	Context Page with panorama and KOP-specific information
	Existing Project conditions photograph(s)
	Proposed Project conditions simulation(s)
Tour File	Google Earth file, providing a tour that provides an overview of the KOP location relative to the Project and a walking tour that illustrates the typical approach to the KOP.
Rating Panel Forms	Familiarization Form
	Existing Conditions/Scenic Quality Classification (SQC) Form
	Proposed Conditions Form
	Contrast Rating Form
	Visibility Threshold Level Form

Visual Impact Assessment

Date: _____

Personnel: _____

Landscape Similarity Zone: _____

Key Observation Point Name/Number: _____

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). *(This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)*

General elements of formal visual analysis to be considered include:

- **Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- **Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- **Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- **Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☐ Yes ☐ No

If yes, briefly identify/describe:

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☐ Yes ☐ No

If yes, how does the natural order affect the view?

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☐ No

If yes, how does the visual clutter affect the view?

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☐ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☐ Long-term

The frequency of this view is: ☐ Repeated ☐ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☐ Clear ☐ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as:

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☐ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☐ Yes ☐ No

How would the site be used for scenic or recreational enjoyment?

Visual Impact Assessment

Personnel: _____

KOP: _____

Date: _____

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

Score

Water Resources:

Landform:

Vegetation:

Land Use:

User Activity:

Existing Conditions #1 Total:

0

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?

Special Condition B. Are there other aesthetic elements that add to this resource?

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?

Existing Conditions #2 Total (Sum 2A through 2C)

0

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

0

3. Comments:

Visual Impact Assessment

Personnel: _____

KOP: _____

Date: _____

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text"/>
Landform:	<input type="text"/>
Vegetation:	<input type="text"/>
Land Use:	<input type="text"/>
User Activity:	<input type="text"/>

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:

Total:

0

3. Comments:

Visual Impact Assessment

Personnel: _____

KOP: _____

Date: _____

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:

Land Use:

Landform:

User Activity:

Vegetation:

Total:

0

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:

Land Use:

Landform:

User Activity:

Vegetation:

Total:

0

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:

Land Use:

Landform:

User Activity:

Vegetation:

Total:

0

7. Comments:

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections! and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

Visual Impact Assessment

Date: 2/16/21

Personnel: Jocelyn Gavitt

Landscape Similarity Zone: Casino District/City Center

Key Observation Point Name/Number: AC04 Ocean Casino

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). *(This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)*

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: The Pier/piers act to center one's view to that area.

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No
If yes, how does the natural order affect the view?

The open water view that meets the horizon and skyline create a natural order to the majority of the scene.



1 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: AC04 Ocean Casino

Date: 2/16/21

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☒ Yes ☐ No

If yes, how does the visual clutter affect the view? There are numerous built elements on land that do not relate strongly to one another, but generally act as a built field relative to the beach line and open water.

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☐ Repeated ☒ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☒ Clear ☐ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: More moisture in the atmosphere would likely decrease visibility

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☒ backlit ☐ frontlit ☐ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? This is an oceanfront destination location for large amounts of people.



2 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: AC04 Ocean Casino

Date: 2/16/21

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	8
Landform:	5
Vegetation:	4
Land Use:	7
User Activity:	7
Existing Conditions #1 Total:	31

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?	3
Special Condition B. Are there other aesthetic elements that add to this resource?	2

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?	2
--	----------

Existing Conditions #2 Total (Sum 2A through 2C) **7**

Existing Conditions Grand Total (Sum #1 Total and #2 Total) **38**

3. Comments:

This is a pristine open water view that will be seen by many users for extended periods of time. The visual clutter of the land area is perceived as a general mass relative to the clean open lines of the piers and horizon that frame the water. There is likely to be movement in the waves and in the users along the shoreline, including traffic and pedestrians.



3 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: AC04 Ocean Casino

Date: 2/16/21

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	2
Landform:	3
Vegetation:	3
Land Use:	3
User Activity:	4

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:	5
---------------------	----------

Total: **20**

3. Comments:

The open ocean view is dominated by a highly visible and very large field of turbines. Users in this space will focus on the turbine field and it has a significant impact on the view. Viewers will be drawn to the grid formation of the turbines and the varying perspectives of the straight lines of structures. The movement of the blades will be clearly visible and will animate the view.



4 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt
KOP: AC04 Ocean Casino
Date: 2/16/21

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<div>3</div>	Land Use:	<div>2</div>
Landform:	<div>2</div>	User Activity:	<div>2</div>
Vegetation:	<div>1</div>	Total:	<div>10</div>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<div>3</div>	Land Use:	<div>3</div>
Landform:	<div>2</div>	User Activity:	<div>3</div>
Vegetation:	<div>2</div>	Total:	<div>13</div>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<div>3</div>	Land Use:	<div>2</div>
Landform:	<div>2</div>	User Activity:	<div>2</div>
Vegetation:	<div>2</div>	Total:	<div>11</div>

7. Comments:

This view is a significant component of how this particular landscape is valued and the impact of this proposed field of turbines is significant. The proposed field of turbines will become the focus of the landscape, and because of its relative close proximity and large scale, it will dominate the landscape.



Visual Impact Assessment

Personnel: Jocelyn Gavitt
KOP: AC04 Ocean Casino
Date: 2/16/21

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input checked="" type="checkbox"/>

9. Comments:

The proposed conditions are highly visible, create strong contrast, and will strongly alter the image of this landscape.



Visual Impact Assessment

Date: 16 February 2021 Personnel: KAC
Landscape Similarity Zone: Casino District | City Center Key Observation Point Name/Number: AC04 OCR Sky Garden

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). (This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: Horizon line and slip of pink sky.

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No

If yes, how does the natural order affect the view?

Urban landscape, dune, beach, ocean, horizon, and sky; horizontal landscape with very few vertical elements.



Visual Impact Assessment

Personnel: KAC
KOP: AC04 OCR Sky Garden
Date: 16 February 2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☒ Yes ☐ No

If yes, how does the visual clutter affect the view? Dilapidated land uses; utility poles and guard rails along roadway at beach edge and man-made jetties

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☒ Repeated ☐ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☐ Clear ☐ Partly Cloudy ☒ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: Thick cloud layer at the horizon in the photo interrupts the pink-red sky from being fully visible.

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☒ backlit ☐ frontlit ☐ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? The Atlantic City Beach.



Visual Impact Assessment

Personnel: KAC

KOP: AC04 OCR Sky Garden

Date: 16 February 2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	7
Landform:	6
Vegetation:	6
Land Use:	7
User Activity:	7
Existing Conditions #1 Total:	33

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks? **1**

Special Condition B. Are there other aesthetic elements that add to this resource? **1**

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter? **1**

Existing Conditions #2 Total (Sum 2A through 2C) **3**

Existing Conditions Grand Total (Sum #1 Total and #2 Total) **36**

3. Comments:

Cultural | Historic: Atlantic City Beach

Aesthetic: Extensive water view to the horizon. Natural rock jetty is interesting in texture against the relatively smooth nature of the water surface. Large surf waves.

Litter: Urban visitor litter.

Summary of View: This elevated view from the casino building terraces allows a wide, unobstructed view to the strong line where the ocean and horizon meet. The view is focused outward as there is no adjacent architecture or land use to draw the viewers attention away from the ocean. Repeated utility poles punctuate the border the vegetated dune and beach edge and fencing directs the path of travel. These elements interrupt the seamless transition between the built landscape, vegetated beach front and the rolling surf.



3 of 6

Visual Impact Assessment

Personnel: KAC

KOP: AC04 OCR Sky Garden

Date: 16 February 2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	5
Landform:	6
Vegetation:	6
Land Use:	5
User Activity:	5

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions: **3**

Total: **30**

3. Comments:

With the Project in place the view is now completely focused on the massive wind farm and multiple elevated substations that are installed mid-row within the turbine arrangement. The view to the horizon is interrupted by the dense overlay of stacked turbines that are clearly visible at this viewing distance. The turbines do not have an organized pattern and are seemingly scattered through out the view, thereby introducing visual clutter to what was otherwise a mostly pristine seascape view. It would be impossible to sit in the Sky Garden and not be focused on the whirling and turning of the turbine blades, which would be spinning at different cadences to each other.



4 of 6

Visual Impact Assessment

Personnel: KAC

KOP: AC04 OCR Sky Garden

Date: 16 February 2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	3	Land Use:	3
Landform:	2	User Activity:	3
Vegetation:	1	Total:	12

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	3	Land Use:	3
Landform:	2	User Activity:	3
Vegetation:	1	Total:	12

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	3	Land Use:	3
Landform:	1	User Activity:	3
Vegetation:	1	Total:	11

7. Comments:

Compatibility: The magnitude of the turbine installation is overwhelming to the view.

Scale: At 10.54-miles to the closest turbine the wind farm scale over powers the adjacent land uses and items of visual interest.

Spatial Dominance: The wind farm is the dominant visual feature within the view.



5 of 6

Visual Impact Assessment

Personnel: KAC

KOP: AC04 OCR Sky Garden

Date: 16 February 2021

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input checked="" type="checkbox"/>

9. Comments:

N/A



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6 of 6

Visual Impact Assessment

Date: 02-16-2021

Personnel: Kiva VanDerGeest

Landscape Similarity Zone: Atlantic City

Key Observation Point Name/Number: AC04 - Ocean Casino

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). *(This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)*

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: Focus in this view is drawn to the point of the stone jetty sitting out on the ocean.

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No

If yes, how does the natural order affect the view?

the striation of uses exhibited across the view draws the viewer into the frame, the gaze then scans across the view and the dark sea at the horizon accenting the electric pink horizon sandwiched between dark sea and clouds holds the view.



1 of 6

Visual Impact Assessment

Personnel: Kiva VanDerGeest

KOP: AC04 - Ocean Casino

Date: 02-16-2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☒ Yes ☐ No

If yes, how does the visual clutter affect the view? the amount and variety of boardwalk user amenities adds visual clutter to the image, although it is entirely contained within the very bottom of the first framed view.

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☐ Repeated ☒ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☐ Clear ☐ Partly Cloudy ☒ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: clear conditions could increase visibility, and hazy decrease visibility

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☒ backlit ☐ frontlit ☐ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? The boardwalk and concentration of site amenities signifies this place as a recreational resource that is highly utilized.



2 of 6

Visual Impact Assessment

Personnel: Kiva VanDerGeest

KOP: AC04 - Ocean Casino

Date: 02-16-2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	6
Landform:	6
Vegetation:	5
Land Use:	4
User Activity:	4
Existing Conditions #1 Total:	25

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?	2
Special Condition B. Are there other aesthetic elements that add to this resource?	2

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?	1
--	----------

Existing Conditions #2 Total (Sum 2A through 2C)

5

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

30

3. Comments:

Motion likely to attract viewer attention in this view: Other users moving along the boardwalk and beach (walking, biking, jogging, exercising). Buoys floating on waves/flashing in dim lighting, Ocean waves.

The existing view demonstrates a high overlook toward the ocean in the early morning hours. The unique nature of this view is largely attributed to the water resources and the ability to view from such an elevated vantage point. Land form in this view is minimal and provides a glimpse of large boardwalk and concentration of site amenities suggest this location anticipates serving large crowds. The minimal vegetation suggests its purpose as a protective element to hold the sandy shoreline and boardwalk, the height of the dunes blocks the majority of views from the boardwalk to the ocean, suggesting boardwalk user activity is centered away from the ocean view itself. The view is anchored on the bottom left corner by heavy muted grays, line, and texture of the boardwalk. Viewer gaze moves across this area following the variety of lines, the boardwalk and handrails draw horizontal to vertical light posts, diagonal lines of the vegetation and the shoreline with the stone pier projecting on a cross access brings viewer attention to the ocean scene. The electric hues of the early morning sky help separate the deep tint of the clouds from the ocean and highlight the expanse of the outward view of uninterrupted ocean dotted in the foreground by buoys. However, the scene just beyond the selected view indicates a sharp transition from well maintained shoreline recreation to neglected landscapes with dirt and gravel lots marred by pitting and pooled water run-off.



3 of 6

Visual Impact Assessment

Personnel: Kiva VanDerGeest

KOP: AC04 - Ocean Casino

Date: 02-16-2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	3
Landform:	5
Vegetation:	5
Land Use:	4
User Activity:	3

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:	5
---------------------	----------

Total:

25

3. Comments:

This view within a highly developed urban area benefits from the uniqueness of the elevated vantage point providing viewers with a sense of the expansive nature of the open ocean. However, the introduction of the turbines encloses the view and re-centers the scene back to a strong emphasis on the built environment. The back-lit turbines spanning a good stretch of horizon, along with large substation masses greatly alters the nature of this view which once provided a visual respite from the intense development on land.



4 of 6

Visual Impact Assessment

Personnel: Kiva VanDerGeest

KOP: AC04 - Ocean Casino

Date: 02-16-2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="3"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="2"/>	Total:	<input type="text" value="10"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="2"/>	Total:	<input type="text" value="8"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="3"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="3"/>	Total:	<input type="text" value="13"/>

7. Comments:

The turbines placed and back-lit on the horizon greatly affect the water resources and ocean viewing within this scene. However, the existing vegetation is minimal and the land form is primarily flat from heavy development which leads to a decrease in the impact of the WTGs. Similarly, land use and user activity at this location straddle a fine line of intense high rise development, neglected and abandoned land, with space carved out along the shoreline to take in the disparities between a more natural sand beach and the highly developed resort destination. In this way, at this location, the WTG find some sense of compatibility with the existing land use and user activity.



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Visual Impact Assessment

Personnel: Kiva VanDerGeest

KOP: AC04 - Ocean Casino

Date: 02-16-2021

Proposed Conditions

8. **Visibility Threshold Level** - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input checked="" type="checkbox"/>

9. Comments:

The strong back-lighting against the muted pastel colors of the sky make the dark silhouettes pronounced within the view. With the turbines in motion it will become difficult to distract viewer attention from the turbines. However, if the boardwalk and beach become fully utilized during the height of tourist season the entire view will be busy, distracting, and difficult to find focus. On days that are both busy and more overcast or hazy the turbines may be more appropriately classified as a VTL 5



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Visual Impact Assessment

Date: February 17, 2021

Personnel: Steve Breitza

Landscape Similarity Zone: Casino District / City Center

Key Observation Point Name/Number: AC04

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). (This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: Man-made stone jetty extending approximately 375' straight out from the coastline. Pedestrian accessible.

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No

If yes, how does the natural order affect the view?

There is an order in the expansive open water meeting the sky as the sun rises; coming back to land with cresting waves lapping at a sandy beach. The beach is backed by low grassy vegetation and an elevated wood boardwalk.



1 of 6

Visual Impact Assessment

Personnel: Steve Breitza

KOP: AC04

Date: February 17, 2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view?

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☒ Repeated ☐ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☐ Clear ☒ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: Cloud bank creates a dark edge on the water at the horizon.

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☒ backlit ☐ frontlit ☐ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? The view is from a Sky Garden at the Ocean Casino-Resort, a lush outdoor deck space.



2 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: AC04

Date: February 17, 2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="9"/>
Landform:	<input type="text" value="7"/>
Vegetation:	<input type="text" value="6"/>
Land Use:	<input type="text" value="9"/>
User Activity:	<input type="text" value="9"/>
Existing Conditions #1 Total:	<input type="text" value="40"/>

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?

Special Condition B. Are there other aesthetic elements that add to this resource?

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?

Existing Conditions #2 Total (Sum 2A through 2C)

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

3. Comments:

This is a postcard view from the hotel Sky Garden where the eye is immediately drawn to the dark, clean, and calm horizon, accentuated by the rosy orange sunrise. The view is drawn back to shore by a straight, stone-textured jetty extending into the water. This focuses attention on the waves cresting at the sandy shore, leading up to a scrubby swath of vegetation. A wide wood boardwalk adds a constructed recreation aspect with railings, pedestrian scale double-hung lighting, benches, adirondack chairs, and trash receptacles. There is a softness to this view both in color with warm blues and earth-tones, and texture with the waves at the beach.



3 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: AC04

Date: February 17, 2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="3"/>
Landform:	<input type="text" value="4"/>
Vegetation:	<input type="text" value="6"/>
Land Use:	<input type="text" value="2"/>
User Activity:	<input type="text" value="2"/>

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:

Total:

3. Comments:

The proposed turbines have an imposing presence on the horizon, their density and spacing forming a semi-transparent fence-like line that extends across the majority of the view. Lighting plays an important role in proposed turbine visibility. The structures are backlit by the rising sun and there is a break in the clouds at the horizon that tightens this portion of the view. The clouds and water are dark near the turbines, with the exception of the opening in the clouds that adds an orange band as a backdrop. There is minimal existing development or interference in the natural order of this view, limited to a small boat on the left, buoys in the water, the stone jetty, and the elevated boardwalk. The turbines and associated infrastructure contribute a band of development at the perfectly clean horizon.



4 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: AC04

Date: February 17, 2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="3"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="3"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="12"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="3"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="3"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="12"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="3"/>	Total:	<input type="text" value="12"/>

7. Comments:

The proposed turbines terminate the expansive existing view. The horizontal edge where the dark water meets the light sky is interrupted by picket-like structures that will add motion to an otherwise calm view. The only existing movement is the flat water, the wave action at the shore, and the pedestrians. The turbine spacing appears tight as they line up behind each other, creating darker and more dense forms.



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Visual Impact Assessment

Personnel: Steve Breitka

KOP: AC04

Date: February 17, 2021

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input checked="" type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

The angle of this view is unique since the viewer is elevated and looking down and across the ocean instead of just across like a view standing on the beach.



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Visual Impact Assessment

Date: 26 February 2021

Personnel: KAC

Landscape Similarity Zone: Atlantic City

Key Observation Point Name/Number: AC04N OCR Sky Gard

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). *(This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)*

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: Street lamps and boardwalk promenade.

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☐ Yes ☒ No

If yes, how does the natural order affect the view?

N/A



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Visual Impact Assessment

Personnel: KAC

KOP: AC04N OCR Sky Gard

Date: 26 February 2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view? N/A

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☐ Yes ☒ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☒ Repeated ☐ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☐ Clear ☐ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: N/A

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☐ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? Atlantic City.



2 of 6

Visual Impact Assessment

Personnel: KAC

KOP: AC04N OCR Sky Gard

Date: 26 February 2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	4.5
Landform:	4.5
Vegetation:	4.5
Land Use:	7
User Activity:	7
Existing Conditions #1 Total:	27.5

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?	1
Special Condition B. Are there other aesthetic elements that add to this resource?	1

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?	1
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Existing Conditions #2 Total (Sum 2A through 2C)

3

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

30.5

3. Comments:

Cultural | Historic: Atlantic City.

Aesthetic: Dark sky with edge of well lit boardwalk promenade is visually interesting.

Litter: Unseen.

Summary of View: The night sky is jet black with no stars or planets visible in the view, which may be influenced by the urban light pollution in the developed strip along Atlantic City. The pedestrian scale street lamps and ghostly lit boardwalk with passerby is visually interesting and provides an atmospheric quality to the otherwise dark scene. A lone wave is moderately visible in the night view, however, the sound of the water would alert the viewer to their presence.



3 of 6

Visual Impact Assessment

Personnel: KAC

KOP: AC04N OCR Sky Gard

Date: 26 February 2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	4.5
Landform:	4.5
Vegetation:	4.5
Land Use:	6
User Activity:	6

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:	3
---------------------	----------

Total:

28.5

3. Comments:

The red obstruction lights of the wind turbine nacelles are small red flashes on the horizon at 10.54-miles to the nearest turbine. The sequence of blinking lights in such a large wind farm installation would be noticeable to the casual viewer against such a dark sky despite the small scale of the lights. However, it should be taken into consideration that the viewing platform is in a highly developed casino area where there would be other competing, often flashing lights in closer proximity than the wind farm.



4 of 6

Visual Impact Assessment

Personnel: KAC
KOP: AC04N OCR Sky Gard
Date: 26 February 2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="0"/>	Land Use:	<input type="text" value="1.5"/>
Landform:	<input type="text" value="0"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="2.5"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="0"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="0"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="2"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="0"/>	Land Use:	<input type="text" value="1.5"/>
Landform:	<input type="text" value="0"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="2.5"/>

7. Comments:

Compatibility: The red blinking lights are a new commercial industrial addition to the view, however, this view is in a built urban environment with other competing night-time light sources.

Scale: It is impossible to determine the scale of the turbines in the black sky.

Spatial Dominance: The majority of the blinking red lights are small on the horizon and remain subordinate in the view, however, the one red hot spot in the far right of the view where the lights are stacked on each other glows brighter and initially draws the viewer's attention.



Visual Impact Assessment

Personnel: KAC
KOP: AC04N OCR Sky Gard
Date: 26 February 2021

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input checked="" type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

N/A



Visual Impact Assessment

Date: 2/26/21 Personnel: Jocelyn Gavitt
Landscape Similarity Zone: Casino District/City Center Key Observation Point Name/Number: AC04N Ocean Casino
Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). (This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☐ Yes ☒ No

If yes, briefly identify/describe:

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No
If yes, how does the natural order affect the view?

The darkness reduces the layers to shades.



Visual Impact Assessment

Personnel: Jocelyn Gavitt
KOP: AC04N Ocean Casino
Date: 2/26/21

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☒ Yes ☐ No

If yes, how does the visual clutter affect the view? There are some lights and road in the foreground.

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☐ Repeated ☒ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☒ Clear ☐ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: More moisture in the atmosphere would likely decrease visibility

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☒ backlit ☐ frontlit ☐ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? This is an oceanfront destination location for large amounts of people.



Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: AC04N Ocean Casino

Date: 2/26/21

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	7
Landform:	5
Vegetation:	4.5
Land Use:	5
User Activity:	6
Existing Conditions #1 Total:	27.5

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks? **3**

Special Condition B. Are there other aesthetic elements that add to this resource? **2**

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter? **2**

Existing Conditions #2 Total (Sum 2A through 2C) **7**

Existing Conditions Grand Total (Sum #1 Total and #2 Total) **34.5**

3. Comments:

This nighttime open water view has some infrastructure lighting in the foreground that captures the viewers attention. Likewise, the foreground lighting makes the breaking waves visible and these will likely become the center of attention of the view.



3 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: AC04N Ocean Casino

Date: 2/26/21

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	2
Landform:	3
Vegetation:	4.5
Land Use:	3
User Activity:	3

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions: **5**

Total: **20.5**

3. Comments:

This nighttime view is dominated by the red lights attached to the turbine field. They become the focus of attention. They are highly visible, due mostly to the large quantity and the grid arrangement. The effect is significant, it seems as if there is land or an industrial use of some kind off shore.



4 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: AC04N Ocean Casino

Date: 2/26/21

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	3	Land Use:	2
Landform:	2	User Activity:	2
Vegetation:	0	Total:	9

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	3	Land Use:	3
Landform:	2	User Activity:	3
Vegetation:	0	Total:	11

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	3	Land Use:	3
Landform:	3	User Activity:	3
Vegetation:	0	Total:	12

7. Comments:

This numerous lights from the turbines become the major focus of this view during the nighttime.



5 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: AC04N Ocean Casino

Date: 2/26/21

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input checked="" type="checkbox"/>

9. Comments:

The proposed conditions are highly visible, create strong contrast, and will strongly alter the image of this landscape.



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Visual Impact Assessment

Date: 03-01-2021

Personnel: KV

Landscape Similarity Zone: Atlantic City

Key Observation Point Name/Number: AC04N-Sky Garden

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). (This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: The boardwalk lighting draws attention in this view.

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No
If yes, how does the natural order affect the view?

the hard lines of the boardwalk draw in viewer attention and the softer texture of the dune vegetation draws the gaze to the shoreline before looking out into the dark expanse.



1 of 6

Visual Impact Assessment

Personnel: KV

KOP: AC04N-Sky Garden

Date: 03-01-2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view?

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of Viewing

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☒ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☒ Repeated ☒ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☒ Clear ☐ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: overcast and hazy conditions my diminish visibility

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☐ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? The Atlantic City boardwalk is a recreation location families have been frequenting for generations, often going multiple times a year.



2 of 6

Visual Impact Assessment

Personnel: KV

KOP: AC04N-Sky Garden

Date: 03-01-2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	6
Landform:	7
Vegetation:	5
Land Use:	4
User Activity:	4
Existing Conditions #1 Total:	26

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?	2
Special Condition B. Are there other aesthetic elements that add to this resource?	2

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?	1
Existing Conditions #2 Total (Sum 2A through 2C)	5
Existing Conditions Grand Total (Sum #1 Total and #2 Total)	31

3. Comments:

Movement attracting view attention: User groups walking along the boardwalk, ocean waves will be lightly visible, but other sounds and music on the sky garden deck will limit the ability to hear the ocean waves.

Water resources are open and expansive, typical of this region. The landform with high rolling dunes sloping down toward the shoreline and lightly lit by boardwalk lights provides a serene edge to development. Dune vegetation provides texture and natural order as a transition between developed boardwalk and sandy beach. Land use and user activity is average at this location but is balanced between the local residential activity and the intensely developed casino and hotel resorts that encourage tourism to remain within their structure.



3 of 6

Visual Impact Assessment

Personnel: KV

KOP: AC04N-Sky Garden

Date: 03-01-2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	3
Landform:	5
Vegetation:	5
Land Use:	4
User Activity:	3

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:	4
Total:	24

3. Comments:

With the Project in place water resources are affected due to the quantity and expanse of the WTG and their lighting. Distance from the turbines at this location slightly benefits from the very close proximity as the effect of stacking does not cluster lighting as closely as it might at a greater distance. This serves to provide the feeling that the lights are often less intense than they may be at a location where stacked turbine rows overlap more tightly, and mass lighting to appear more intense. However, the breadth of the array invades a large expanse of the visual horizon. It would be difficult, especially while lights are slowly blinking, to look at the ocean horizon in any direction and not catch a glimpse of the blinking in peripheral vision. The landform of high dunes sloping to a flat shoreline becomes foreshortened and enclosed by the expanse of ocean development. The low growing vegetation finds little affect. The high intensity tourism land use at this location is unlikely to be affected by this development. The currently existing large hotels and amusement piers already add light to the night sky. However, user activity will be affected. While tourists are anticipated to continue as usual, local residents and the range of workforce required for this large scale tourism market will experience the affect of losing the single view available demonstrating no development.



4 of 6

Visual Impact Assessment

Personnel: KV

KOP: AC04N-Sky Garden

Date: 03-01-2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="3"/>	User Activity:	<input type="text" value="3"/>
Vegetation:	<input type="text" value="3"/>	Total:	<input type="text" value="14"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="3"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="3"/>	Total:	<input type="text" value="12"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="3"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="3"/>	Total:	<input type="text" value="13"/>

7. Comments:

Turbines developed at this location are not compatible, have sever scale contrast, and dominate the water resources, landform, and vegetation. However, the impact of land use and user activity is more variable due to the high intensity tourism development at this location, which also must be balanced with local user groups and their activities often finding beach front as an important part of summer social life.



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Visual Impact Assessment

Personnel: KV

KOP: AC04N-Sky Garden

Date: 03-01-2021

Proposed Conditions

8. **Visibility Threshold Level** - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input checked="" type="checkbox"/>

9. Comments:

The visual prominence of the turbines detracts noticeably from views of other landscape elements.



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Visual Impact Assessment

Date: February 25, 2021

Personnel: Steve Breitka

Landscape Similarity Zone: Casino District / City Center

Key Observation Point Name/Number: AC04N

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). *(This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)*

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: Pedestrian lights along the boardwalk create a bright spot in an otherwise dark scene.

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☐ Yes ☒ No

If yes, how does the natural order affect the view?



1 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: AC04N

Date: February 25, 2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view?

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☐ Yes ☒ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☒ Repeated ☐ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☐ Clear ☒ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: Clouds are barely visible in the night sky.

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☐ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? View is from the Sky Garden of the Ocean Casino Resort.



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Visual Impact Assessment

Personnel: Steve Breitka

KOP: AC04N

Date: February 25, 2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	9
Landform:	6
Vegetation:	4.5
Land Use:	9
User Activity:	9
Existing Conditions #1 Total:	37.5

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks? **3**

Special Condition B. Are there other aesthetic elements that add to this resource? **3**

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter? **2**

Existing Conditions #2 Total (Sum 2A through 2C) **8**

Existing Conditions Grand Total (Sum #1 Total and #2 Total) **45.5**

3. Comments:

The existing view is elevated, looking out over an unfocused darkness. The lit boardwalk is the only feature that captures any attention. The horizon is barely visible across the center of the view, defined by the black water on the bottom and the near black sky above. A few wispy clouds with a faint rose hue are strung through the sky.



3 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: AC04N

Date: February 25, 2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	2
Landform:	2
Vegetation:	4.5
Land Use:	2
User Activity:	2

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions: **3**

Total: **15.5**

3. Comments:

The focus is effectively captured by the horizon where a steady band of red lights march across the majority of the view. This band will blink every two minutes, coupled with blade rotation that will create an alternate and inconsistent second kind of blink. The structures and blades are not visible in the darkness, just the red lights. Some appear more intense than others given the spacing.



4 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: AC04N

Date: February 25, 2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	3	Land Use:	3
Landform:	2	User Activity:	3
Vegetation:	0	Total:	11

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	3	Land Use:	3
Landform:	2	User Activity:	3
Vegetation:	0	Total:	11

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	3	Land Use:	3
Landform:	2	User Activity:	3
Vegetation:	0	Total:	11

7. Comments:

The red lights become the focal point of this view. There is nothing else, other than the sliver of illuminated boardwalk in the lower left, to draw attention.



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Visual Impact Assessment

Personnel: Steve Breitka

KOP: AC04N

Date: February 25, 2021

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input checked="" type="checkbox"/>

9. Comments:

The turbines do not detract noticeably from the views of other landscape / seascape elements but only because those elements are not clear at night. The red lights are the major focus because there is nothing else to focus on in this view. The large size is not height but width as the red lights extend across the majority of this view.



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Visual Impact Assessment

Date: 2/16/21

Personnel: Jocelyn Gavitt

Landscape Similarity Zone: Undeveloped Beach

Key Observation Point Name/Number: BC02 North Brigantine

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). (This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: The horizon line acts as a focal point in this view.

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No

If yes, how does the natural order affect the view?

The open water view that meets the horizon and skyline create a natural order.



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Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: BC02 North Brigantine

Date: 2/16/21

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view?

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☐ Repeated ☒ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☒ Clear ☐ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: More moisture in the atmosphere would likely decrease visibility

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☒ backlit ☐ frontlit ☐ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? This is an area of undeveloped beach that is in close proximity and accessibility to a highly developed area.



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Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: BC02 North Brigantine

Date: 2/16/21

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	9
Landform:	5
Vegetation:	4.5
Land Use:	7
User Activity:	8
Existing Conditions #1 Total:	33.5

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?	3
Special Condition B. Are there other aesthetic elements that add to this resource?	2

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?	3
--	---

Existing Conditions #2 Total (Sum 2A through 2C)

8

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

41.5

3. Comments:

This is a pristine open water view that will be seen by users for extended periods of time. There is movement in the waves, and a clean, simple organization of line and form. The open water view dominates the landscape.



3 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: BC02 North Brigantine

Date: 2/16/21

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	2
Landform:	3
Vegetation:	4.5
Land Use:	3
User Activity:	3

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:	5
---------------------	---

Total:

20.5

3. Comments:

The open ocean view is dominated by a highly visible and very large field of turbines. Users in this space will focus on the turbine field and it has a significant negative impact on the view. This is a stark contrast to the undeveloped nature of the environment in the existing conditions. The proposed conditions add significant visual clutter that becomes the focus of the view. The motion of the turbine blades will add to their presence. The perspective of the arrangement of the structures creates new lines in the view.



4 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: BC02 North Brigantine

Date: 2/16/21

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="9"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="3"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="3"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="11"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="3"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="10"/>

7. Comments:

Users of this environment will find a strong contrast in before/after conditions. The general appeal of this particular landscape is its undeveloped nature and pristine open water views. This will change dramatically with the view being dominated by the field of turbines. These proposed turbines create a significant "built" presence in an otherwise natural landscape.



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Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: BC02 North Brigantine

Date: 2/16/21

Proposed Conditions

8. **Visibility Threshold Level** - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input checked="" type="checkbox"/>

9. Comments:

The proposed conditions are highly visible, create strong contrast, and will strongly alter the image of this landscape.



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Visual Impact Assessment

Date: 16 February 2021

Personnel: KAC

Landscape Similarity Zone: Undeveloped Beach

Key Observation Point Name/Number: BC02 N Brigantine NA

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). (This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: Horizon line.

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No

If yes, how does the natural order affect the view?

Beach, surf, waves, ocean, and horizon; horizontal landscape with strong striations of waves.



1 of 6

Visual Impact Assessment

Personnel: KAC

KOP: BC02 N Brigantine NA

Date: 16 February 2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view? NA

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☒ Repeated ☐ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☒ Clear ☐ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: Hazy or overcast conditions could reduce the depth of visibility.

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☒ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? Undeveloped Beach with associated natural area



2 of 6

Visual Impact Assessment

Personnel: KAC
KOP: BC02 N Brigatine NA
Date: 16 February 2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	7
Landform:	6
Vegetation:	4.5
Land Use:	6
User Activity:	6
Existing Conditions #1 Total:	29.5

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?	1
Special Condition B. Are there other aesthetic elements that add to this resource?	1

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?	2
--	----------

Existing Conditions #2 Total (Sum 2A through 2C) **4**

Existing Conditions Grand Total (Sum #1 Total and #2 Total) **33.5**

3. Comments:

Cultural | Historic: Undeveloped Beach | Natural Area

Aesthetic: Wide water view to the horizon. Rolling surf and sense of isolation and privateness.

Litter: Limited visitor litter.

Summary of View: The undeveloped view to the ocean and horizon is a visually pleasing combination of light colored fine sand that is clear of sea debris and visitor trash, gently rolling surf and sea birds dashing through the scene. The deep blue-green color of the water meets the light blue of the horizon strongly, which emphasizes the flatness of the horizon. The long rolling waves create strong striations of textured water though the midground, contrasting the stillness of the sky and sand.



3 of 6

Visual Impact Assessment

Personnel: KAC
KOP: BC02 N Brigatine NA
Date: 16 February 2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	5
Landform:	5
Vegetation:	4.5
Land Use:	5
User Activity:	5

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions: **4**

Total: **28.5**

3. Comments:

With the Project in place, the view is totally focused on the massive wind farm and multiple elevated substations that are positioned within the turbine arrangement. The straight on view to the wind farm emphasizes the perceived disorder of the turbine layout. There is a limited section of turbines that are densely stacking over themselves while the others are in a more random pattern, at varying heights. This layout pattern increases the level of perceived visual clutter, and detracts from the aesthetic quality of what was once a pristine seascape. The beach is no longer "undeveloped" due to the industrialized intrusion of the massive wind farm.



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Visual Impact Assessment

Personnel: KAC
KOP: BC02 N Brigatine NA
Date: 16 February 2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	3	Land Use:	2
Landform:	2	User Activity:	3
Vegetation:	0	Total:	10

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	3	Land Use:	2
Landform:	2	User Activity:	3
Vegetation:	0	Total:	10

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	3	Land Use:	2
Landform:	2	User Activity:	3
Vegetation:	0	Total:	10

7. Comments:

Compatibility: The undeveloped character of the beach is transformed by the intrusion of an industrial utility.

Scale: At 9.03-miles to the nearest turbine, the towers, rotors and blades are massive in scale and highly visible against the background sky. If there were other scalable object in the view, the turbines would appear even larger than they do in its undeveloped beach area.

Spatial Dominance: The wind farm dominates the viewers experience.



5 of 6

Visual Impact Assessment

Personnel: KAC
KOP: BC02 N Brigatine NA
Date: 16 February 2021

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input checked="" type="checkbox"/>

9. Comments:

NA



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Visual Impact Assessment

Date: 02-16-2021

Personnel: KV

Landscape Similarity Zone: Undeveloped Beach

Key Observation Point Name/Number: BC02 - Brigantine Na

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). *(This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)*

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☐ Yes ☒ No

If yes, briefly identify/describe:

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No

If yes, how does the natural order affect the view?

natural order in this view provides a strong sense of calm with smooth sand recently washed by waves, birds combing the tide, and the gentle ocean swells



1 of 6

Visual Impact Assessment

Personnel: KV

KOP: BC02 - Brigantine Na

Date: 02-16-2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view?

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☒ Short Term/Fleeting ☐ Long-term

The frequency of this view is: ☐ Repeated ☒ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☒ Clear ☐ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: *instances in which the turbines are back lit against light clouds, or front-lit against dark storm clouds could increase visibility*

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☒ backlit ☐ frontlit ☒ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? *The North Brigantine Natural Area is utilized for enjoyment of the natural landscape including fishing, beach combing, and swimming*



2 of 6

Visual Impact Assessment

Personnel: KV

KOP: BC02 - Brigantine Na

Date: 02-16-2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	8
Landform:	6
Vegetation:	4.5
Land Use:	7
User Activity:	8

Existing Conditions #1 Total: **33.5**

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks? **2**

Special Condition B. Are there other aesthetic elements that add to this resource? **2**

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter? **3**

Existing Conditions #2 Total (Sum 2A through 2C) **7**

Existing Conditions Grand Total (Sum #1 Total and #2 Total) **40.5**

3. Comments:

Movement attracting viewer attention: variety of birds, ocean waves.

This existing view demonstrates an ocean beach scene with a sense of undisturbed natural environment. Water Resources at this location are within the range of distinct in part due to limited human interaction. Much of the surrounding region is highly developed serving a large tourism market while this distant portion of the Natural Area blocked from beach vehicle traffic, and passersby are infrequent. An expanse of open ocean draws viewer attention to the distance, but then movement of the near foreground ocean ecosystem becomes apparent. Ocean waves circulating sea life, a variety of bird types scour the tide, fluttering, and settle in response to wave movement. Visible land form is flat, sandy beach with gentle slope toward the water. Horizontal lines stack beach/shoreline/ocean/horizon/sky, and encourage viewers to square themselves to the frame. Vegetation is not found within this view although the location map suggests the viewer finds dunes to their back. Preservation and protection make-up the primary Land use and User activity within the framed view, but to the right hand side, just beyond the view, former dock posts remind the viewer the scene is not untouched. However, the noticeable decay of the posts relates them to the natural ocean processes established in the view. While this view is focused on the recreational nature of the site and its sweeping expanse of ocean, it may be worth noting that a view directly down the shoreline to the south will find the distant high-rise buildings of Atlantic City shrouded in a soft haze.



3 of 6

Visual Impact Assessment

Personnel: KV

KOP: BC02 - Brigantine Na

Date: 02-16-2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	5
Landform:	3
Vegetation:	4.5
Land Use:	5
User Activity:	5

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions: **6**

Total: **28.5**

3. Comments:

with the proposed project in place the view transitions from a space for viewing natural processes to a space of viewing turbines. As the WTGs sweep across the view they appear to transition between scattered disorganization and regimented alignment based on the exact location of the viewer. The once expansive ocean view is enclosed by a wall of turbines centered on the horizon. This walled affect may increase with the unsynchronized movement of turbine blades further capturing viewer attention. The horizontal nature of the land form stacked with beach/ocean/horizon/sky now finds intensely vertical structures protruding upwards. Land Use and User Activity is distracted from natural processes and entangled with development. It is unlikely that the interplay of birds and waves will so easily attract the viewers gaze once competing with the constant methodical motion of the WTGs.



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Visual Impact Assessment

Personnel: KV

KOP: BC02 - Brigantine Na

Date: 02-16-2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="3"/>
Landform:	<input type="text" value="3"/>	User Activity:	<input type="text" value="3"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="12"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="3"/>
Landform:	<input type="text" value="3"/>	User Activity:	<input type="text" value="3"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="12"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="3"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="10"/>

7. Comments:

The WTG compared to the existing environment do not find compatibility and their scale is quite severe. Despite the expanse of visible horizon at this location the size of the WTG at such close distance dominate the view. While vegetation is not in the view it is directly behind the viewer and limits the depth of the sandy beach. The relative shallowness of the beach width (and land form) is likely to be exacerbated by an enclosed feeling created from the expanse of turbines at this near distance. Hazy conditions or variable lighting conditions may lessen this impact, but the size and expanse of the WTGs in this array and at this distance will be visible under a majority of conditions.



5 of 6

Visual Impact Assessment

Personnel: KV

KOP: BC02 - Brigantine Na

Date: 02-16-2021

Proposed Conditions

8. **Visibility Threshold Level** - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input checked="" type="checkbox"/>

9. Comments:

With the Turbines roughly centered on the available horizon, the size of individual turbines, and breadth of the array the Project at this location becomes the major focus of visual attention.



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Visual Impact Assessment

Date: February 18, 2021

Personnel: Steve Breitka

Landscape Similarity Zone: Undeveloped Beach

Key Observation Point Name/Number: BC02

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). *(This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)*

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☐ Yes ☒ No

If yes, briefly identify/describe:

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☐ Yes ☒ No

If yes, how does the natural order affect the view?



1 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: BC02

Date: February 18, 2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view?

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☒ Short Term/Fleeting ☐ Long-term

The frequency of this view is: ☐ Repeated ☒ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☒ Clear ☐ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: Sky and air are both clear, as evidenced by a distant sailboat on the horizon.

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☒ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☒ No

How would the site be used for scenic or recreational enjoyment?

This is an open, unobstructed view across the ocean. Also have to go to this spot intentionally.



2 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: BC02

Date: February 18, 2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="8"/>
Landform:	<input type="text" value="7"/>
Vegetation:	<input type="text" value="4.5"/>
Land Use:	<input type="text" value="8"/>
User Activity:	<input type="text" value="7"/>
Existing Conditions #1 Total:	<input type="text" value="34.5"/>

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?

Special Condition B. Are there other aesthetic elements that add to this resource?

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?

Existing Conditions #2 Total (Sum 2A through 2C)

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

3. Comments:

This is a nondescript stretch of oceanfront beach. There is nothing distinctive that gives the view any sort of identity, which in turn gives it a unique sense of isolation. Warm grey sand, white low waves in the surf, dark blue to the horizon, and a faded blue to light blue cloudless sky. If not for the sailboat, there would be nothing to focus on in the distance, just endless water.



3 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: BC02

Date: February 18, 2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="2"/>
Landform:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="4.5"/>
Land Use:	<input type="text" value="3"/>
User Activity:	<input type="text" value="2"/>

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:

Total:

3. Comments:

This location has an ironic feeling of seclusion, where someone could come to a place wide open and free and still have a sense of privacy and detachment. Someone would need to come here with purpose; this is not a casual view from a road or a scenic overlook. The proposed turbines bring industry, constructed repetition and motion, and scale to the view. A previously undisturbed view of the ocean focuses on rows of turbines that extend deep into the perspective. The sky is a faded white-blue color at the horizon, clearly defining every component of the turbines that appear darkened in this light.



4 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: BC02

Date: February 18, 2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="3"/>
Landform:	<input type="text" value="3"/>	User Activity:	<input type="text" value="3"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="12"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="3"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="3"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="11"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="3"/>
Landform:	<input type="text" value="3"/>	User Activity:	<input type="text" value="3"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="12"/>

7. Comments:

People would come to this spot for the view. While there is no defined existing focal element, the openness becomes the focal point; if people walk here it would be to specifically detach and not have a focus. The proposed turbines alter this feeling by dominating the entire horizon. There is nothing denoting scale other than one turbine to the next, making this field seem enormous. As there is nothing to focus on in the existing view, the field of turbines becomes the sole, unavoidable focus.



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Visual Impact Assessment

Personnel: Steve Breitka

KOP: BC02

Date: February 18, 2021

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input checked="" type="checkbox"/>

9. Comments:

There is nothing to see in this existing view. Your sight is either focused on the beach, the waves and water, or the sky. The turbines provide a dominant and consistent focal point in the distance.



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Visual Impact Assessment

Date: 2/16/21

Personnel: Jocelyn Gavitt

Landscape Similarity Zone: Oceanfront Residential

Key Observation Point Name/Number: BHB01 Beach Haven

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). *(This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)*

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: The tall beach lookout chair anchors this view.

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No
If yes, how does the natural order affect the view?

The layering of shoreline, open water and horizon create a natural order.



1 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: BHB01 Beach Haven

Date: 2/16/21

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☒ Yes ☐ No

If yes, how does the visual clutter affect the view? The fence line and chair in the foreground attract one's attention.

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☒ Repeated ☐ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☐ Clear ☐ Partly Cloudy ☐ Overcast ☒ Hazy

Conditions that may increase/decrease visibility could be described as: Drier conditions might increase visibility

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☒ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? This area will be used by nearby homeowners and visitors for recreation and views.



2 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: BHB01 Beach Haven

Date: 2/16/21

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	9
Landform:	5
Vegetation:	5
Land Use:	7
User Activity:	7
Existing Conditions #1 Total:	33

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?	3
Special Condition B. Are there other aesthetic elements that add to this resource?	2

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?	3
--	----------

Existing Conditions #2 Total (Sum 2A through 2C)

8

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

41

3. Comments:

This is a pristine open water view that will be seen by users for extended periods of time. The open water view dominates the landscape with the movement of the waves animating the scene. There is some visual clutter in the foreground, consisting of fences and roads, that will likely host human movement and activity. This area tends to act as a somewhat cohesive element because most of the horizontal lines within it are parallel to the shoreline. The side-lit beach lookout chair anchors the view in the foreground.



3 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: BHB01 Beach Haven

Date: 2/16/21

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	3
Landform:	4
Vegetation:	4
Land Use:	3
User Activity:	3

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:	5
---------------------	----------

Total:

22

3. Comments:

The open ocean view is dominated by a very large field of turbines that will be in motion. Users in this space will focus on the turbine field and it has a significant negative impact on the view. The perspective of the arrangement of the structures creates new lines in the view. The conditions appear to be hazy in this simulation and one could expect that clearer conditions or alternative lighting could increase the visibility and level of contrast of the turbines.



4 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: BHB01 Beach Haven

Date: 2/16/21

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="9"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="9"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="2"/>	Total:	<input type="text" value="11"/>

7. Comments:

The general appeal of this particular landscape is its open water views. This will change dramatically with the view being occupied by the proposed field of turbines. These proposed turbines create a significant "built" presence in an otherwise natural landscape. The level of contrast in this view, despite the visible nature of the turbines, is lower due to atmospheric and lighting conditions.



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Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: BHB01 Beach Haven

Date: 2/16/21

Proposed Conditions

8. **Visibility Threshold Level** - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input checked="" type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

The proposed conditions are highly visible, and could become more visible in alternative viewing conditions.



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Visual Impact Assessment

Date: 16 February 2021

Personnel: KAC

Landscape Similarity Zone: Oceanfront Residential

Key Observation Point Name/Number: BHB01 BHaven HD

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). (This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: Fore-ground beach fencing, pink-tinged horizon line and cotton-candy clouds.

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No

If yes, how does the natural order affect the view?

Man-made sand dune control, beach fence, beach and surf, ocean and horizon; the horizontal landscape is punctuated by the repeating vertical fence elements and railings, which are a visual barrier, and the broken clouds in the sky that compress the view to the center of the image.



1 of 6

Visual Impact Assessment

Personnel: KAC

KOP: BHB01 BHaven HD

Date: 16 February 2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☒ Yes ☐ No

If yes, how does the visual clutter affect the view? Handrails, beach fence, signage and life guard chair.

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☒ Repeated ☐ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☐ Clear ☒ Partly Cloudy ☐ Overcast ☒ Hazy

Conditions that may increase/decrease visibility could be described as: The early morning view has a dark sky, a clear or bright sky would increase turbine definition.

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☒ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? Beach Haven Historic District.



2 of 6

Visual Impact Assessment

Personnel: KAC

KOP: BHB01 BHaven HD

Date: 16 February 2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="7"/>
Landform:	<input type="text" value="6"/>
Vegetation:	<input type="text" value="6"/>
Land Use:	<input type="text" value="7"/>
User Activity:	<input type="text" value="6"/>
Existing Conditions #1 Total:	<input type="text" value="32"/>

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?

Special Condition B. Are there other aesthetic elements that add to this resource?

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?

Existing Conditions #2 Total (Sum 2A through 2C)

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

3. Comments:

Cultural | Historic: Beach Haven Historic District

Aesthetic: Wide water view to the horizon over a thin beach in front of the dune vegetation and beach fence, however, it is obstructed by man-made objects in the foreground.

Litter: Beach visitor litter.

Summary of view: The early morning view across the pedestrian entry to the beach and greater ocean landscape is pleasant and visually appealing although the foreground railings and beach fencing are both a visual barrier and visual clutter to the initial beach experience. The early morning sky is tinged pink and is heavy with atmospheric haze and spotted cloud cover rendering the colors in the view to be deep hues and the ocean a mostly monochromatic deep green color.



3 of 6

Visual Impact Assessment

Personnel: KAC

KOP: BHB01 BHaven HD

Date: 16 February 2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="6"/>
Landform:	<input type="text" value="6"/>
Vegetation:	<input type="text" value="6"/>
Land Use:	<input type="text" value="6"/>
User Activity:	<input type="text" value="5"/>

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:

Total:

3. Comments:

The early morning sky is dark and dense as the sun has not burned through the clouds. The side-lit condition as the sun is rising minimizes the extent of the wind farm's visual impact in this view, at this moment, since a portion of the turbines blend into the seep blue shades of the morning sky and others glow in a ghostly light blue color to the far right of the view. The elevated substations appear as dark elements dotted along the horizon line. The light colored turbines are visually compelling and draw the viewer into the experience to engage the in between of the moment between light and dark, when the wind farm transitions from being camouflaged to fully visible against the sky. The impacts of the installation may be significantly greater later in the day, when the turbines are even more clearly articulated against the sky.



4 of 6

Visual Impact Assessment

Personnel: KAC

KOP: BHB01 BHaven HD

Date: 16 February 2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="2"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="9"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="2"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="9"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="2"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="9"/>

7. Comments:

Compatibility: The morning light conditions minimize the visual effect of the wind farm as the turbines sit ghostly against the sky.

Scale: The foreground elements are greater in perceived visual scale than the nearest turbine a 13.5-miles away.

Spatial Dominance: The lightness of the turbines against the sky reduces the viewer's ability to clearly see the patterning, or lack of patterning in the turbine massing, therefore, the turbines are not spatially dominant due to the camouflage of the morning light and color.



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Visual Impact Assessment

Personnel: KAC

KOP: BHB01 BHaven HD

Date: 16 February 2021

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input checked="" type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

N/A



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Visual Impact Assessment

Date: 02-17-2021

Personnel: KV

Landscape Similarity Zone: Oceanfront Residential

Key Observation Point Name/Number: BHB01 Beach Haven

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). (This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: while ocean meeting horizon serves as a primary focal point, the fencing, lifeguard stand, etc. are also a focal

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No

If yes, how does the natural order affect the view?

natural order serves to help circulate the viewers gaze throughout the image despite the high value contrast of the shadowed railings and fencing



1 of 6

Visual Impact Assessment

Personnel: KV

KOP: BHB01 Beach Haven

Date: 02-17-2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☒ Yes ☐ No

If yes, how does the visual clutter affect the view? varied and bisecting lines from built elements add both interest and distraction to this view. the lines encourage the eye to move throughout the view, but add visual weight

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☒ Repeated ☐ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☐ Clear ☒ Partly Cloudy ☐ Overcast ☒ Hazy

Conditions that may increase/decrease visibility could be described as: clear even skies could increase visibility, current color variability make some turbine clusters contrast more or less

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☒ backlit ☐ frontlit ☒ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? this area is an NRHP Historic District and provides location to view the ocean and to access the shoreline beach.



2 of 6

Visual Impact Assessment

Personnel: KV

KOP: BHB01 Beach Haven

Date: 02-17-2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="6"/>
Landform:	<input type="text" value="7"/>
Vegetation:	<input type="text" value="6"/>
Land Use:	<input type="text" value="6"/>
User Activity:	<input type="text" value="6"/>
Existing Conditions #1 Total:	<input type="text" value="31"/>

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?	<input type="text" value="2"/>
Special Condition B. Are there other aesthetic elements that add to this resource?	<input type="text" value="1"/>

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?

Existing Conditions #2 Total (Sum 2A through 2C)

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

3. Comments:

Movement attracting viewer attention: Ocean waves

The existing view at this location takes advantage of a colorful horizon just after sunrise, a golden glow is cast across the scene. While aesthetically pleasing, Oceanfront Residential areas are a primary land use within this study area, many of which have similarities with this location. Much of the elements in this view, natural and man-made, serve as protective measures and are common to this type of view. The rolling dune landform not only assists in holding the shoreline but protecting the residences behind them. Young dune grasses, sand fencing, and highly constructed beach access points protect these dunes. Lifeguard stands and safety signage protect users in the scene. These elements enliven and complement the scene, yet are extremely utilitarian and could be described as integral parts of an average Oceanfront Residential scene.

This area is within a NRHP district, the high sloping dunes are well maintained, and the view is generically in a well maintained area free from visible pollution/litter.



3 of 6

Visual Impact Assessment

Personnel: KV

KOP: BHB01 Beach Haven

Date: 02-17-2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="4"/>
Landform:	<input type="text" value="5"/>
Vegetation:	<input type="text" value="5"/>
Land Use:	<input type="text" value="5"/>
User Activity:	<input type="text" value="5"/>

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:

Total:

3. Comments:

While the existing scene has a primary focus on elements which serve in support of ocean viewing, this scene with the Project in place becomes in support of viewing the WTGs. The back-lit/ side-lit turbines sit as dark silhouettes on the horizon with grey-ish blue hues break up the pink horizon. Where the sky begins to darken the turbines blend with the sky, but are highlighted with a white glow from side-lit components. Turbines echo the horizontal lines of the sand fencing in a manner that could be complimentary for some, but distracting for others.

Turbines break-up the open horizon and heavy substations sit as blocks in the distance. While the vegetation and land form are not changed by the introduction of turbines the viewer is likely to be distracted from them and focus on the arrangement of the turbines, both cluttered and forming a stacked arrangement. Slow methodical movement of the turbine blades will likely hold the viewer attention.



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Visual Impact Assessment

Personnel: KV

KOP: BHB01 Beach Haven

Date: 02-17-2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="3"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="3"/>
Vegetation:	<input type="text" value="2"/>	Total:	<input type="text" value="13"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="2"/>	Total:	<input type="text" value="11"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="2"/>	Total:	<input type="text" value="11"/>

7. Comments:

Turbines in the proposed view are primarily not compatible with the scene, however the echo of horizontal lines from the sand fencing and vegetation with a strong vertical growth pattern lend to somewhat compatibility.

the distance of the turbines minimizes their scale contrast leading a primarily moderate contrast.

The WTGs and amount of space they hold on the visible horizon become co-dominant with other elements in the scene. However, given that the ocean previously was a primary focus of viewer attention, and the turbines are now likely to be a primary focus the turbines are considered to become dominant over the water resources.



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Visual Impact Assessment

Personnel: KV

KOP: BHB01 Beach Haven

Date: 02-17-2021

Proposed Conditions

8. **Visibility Threshold Level** - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input checked="" type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

as described under VTL "drawing viewer attention immediately and tending to hold that attention."



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Visual Impact Assessment

Date: February 18, 2021

Personnel: Steve Breitka

Landscape Similarity Zone: Oceanfront Residential

Key Observation Point Name/Number: BHB01

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). *(This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)*

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☐ Yes ☒ No

If yes, briefly identify/describe:

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☐ Yes ☒ No

If yes, how does the natural order affect the view?



1 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: BHB01

Date: February 18, 2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view? *There is "clutter" in this view (boardwalk railing, dilapidated shoreline fence, signage, and lifeguard chair) but it is not significant enough to disrupt any kind of natural order.*

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☒ Repeated ☐ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☐ Clear ☒ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: *There is a haze hovering over the water and the lighting creates a warm glow over the whole scene.*

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☒ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? *There are residences along the beach presumably to take advantage of the view and the amenities here.*



2 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: BHB01

Date: February 18, 2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="9"/>
Landform:	<input type="text" value="5"/>
Vegetation:	<input type="text" value="5"/>
Land Use:	<input type="text" value="9"/>
User Activity:	<input type="text" value="9"/>
Existing Conditions #1 Total:	<input type="text" value="37"/>

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?

Special Condition B. Are there other aesthetic elements that add to this resource?

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?

Existing Conditions #2 Total (Sum 2A through 2C)

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

3. Comments:

There are two and three-story multi-family residential buildings in this area taking advantage of the oceanfront view and location. The sunrise (left in this view) provides a warmth to everything and a translucency to the cresting waves. The view out over the water is free from significant development (only a boardwalk, fence line, and signage), although turning 180 degrees completely alters the calm nature of this scene with the presentation of a dense urban residential land use. The partly cloudy sky has a dense grayish pink haze at the horizon, creating a matte backdrop before ascending to light blue dappled with gray and white clouds.



3 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: BHB01

Date: February 18, 2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="1"/>
Landform:	<input type="text" value="5"/>
Vegetation:	<input type="text" value="5"/>
Land Use:	<input type="text" value="1"/>
User Activity:	<input type="text" value="1"/>

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:

Total:

3. Comments:

The proposed turbine field breadth is significant, capturing the majority of the horizon. A combination of lighting, sky color, and turbine spacing accentuate the turbines, increasing their visibility and presence. The turbines on the left side of the view are stacked in way that makes their appearance more dense, to the point where head on view of row looks tree-like. The low side-light makes the turbines on the right side of the view glow, as though they are illuminated. The horizon haze masks the turbines on the right side, blending the individual structures into a larger mass.



4 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: BHB01

Date: February 18, 2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="3"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="3"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="11"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="3"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="3"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="11"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="2"/>	Land Use:	<input type="text" value="3"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="3"/>
Vegetation:	<input type="text" value="3"/>	Total:	<input type="text" value="13"/>

7. Comments:

The height and width of the overall turbine field makes this a dominant feature in the view. Residences along the shoreline have a consistent view of the ocean that is industrialized by the addition of turbine rows. The turbines on the far left have little to no presence as they fade into the haze and are standalone structures. The stacked formation turning to the right makes the turbines unavoidable in this view.



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Visual Impact Assessment

Personnel: Steve Breitka

KOP: BHB01

Date: February 18, 2021

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input checked="" type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

The atmospheric conditions make this a Level 5 instead of a Level 6. The haze obscures a portion of the turbine field, reducing the dominant presence.



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6 of 6

Visual Impact Assessment

Date: 26 February 2021

Personnel: KAC

Landscape Similarity Zone: Oceanfront Residential

Key Observation Point Name/Number: BHB01N Beach H HD

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). *(This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)*

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☐ Yes ☒ No

If yes, briefly identify/describe: N/A

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☐ Yes ☒ No

If yes, how does the natural order affect the view?

N/A



1 of 6

Visual Impact Assessment

Personnel: KAC

KOP: BHB01N Beach H HD

Date: 26 February 2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view? N/A

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☐ Yes ☒ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☒ Repeated ☐ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☐ Clear ☐ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: N/A

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☐ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? Beach Haven Historic District



2 of 6

Visual Impact Assessment

Personnel: KAC

KOP: BHB01N Beach H HD

Date: 26 February 2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	4.5
Landform:	4.5
Vegetation:	4.5
Land Use:	7
User Activity:	6

Existing Conditions #1 Total: **26.5**

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks? **2**

Special Condition B. Are there other aesthetic elements that add to this resource? **0**

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter? **1**

Existing Conditions #2 Total (Sum 2A through 2C) **3**

Existing Conditions Grand Total (Sum #1 Total and #2 Total) **29.5**

3. Comments:

Cultural | Historic: Beach Haven Historic District

Aesthetic: Dark sky.

Litter: Unseen.

Summary of View: The existing night sky is very dark but there are no stars or planets visible. There is no spatial understanding or elements of scale in the view.



3 of 6

Visual Impact Assessment

Personnel: KAC

KOP: BHB01N Beach H HD

Date: 26 February 2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	4.5
Landform:	4.5
Vegetation:	4.5
Land Use:	6
User Activity:	6

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions: **3**

Total: **28.5**

3. Comments:

The red obstruction lights of the wind turbine nacelles are small red flashes on the horizon at 13.50-miles to the nearest turbine. The sequence of blinking lights in such a large wind farm installation would be noticeable to the casual viewer against such a dark sky despite the small scale of the lights. There is one location in the left of the view where the nacelle lights are stacked on each other and it is a visual hot-spot that would draw the viewer's attention first before scanning right to the larger installation. In addition, the splay of the red lights caused by the construction layout of the turbines is visually odd along the middle of the view and would be further accentuated by the blinking of the lights.



4 of 6

Visual Impact Assessment

Personnel: KAC

KOP: BHB01N Beach H HD

Date: 26 February 2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="0"/>	Land Use:	<input type="text" value="1.5"/>
Landform:	<input type="text" value="0"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="3.5"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="0"/>	Land Use:	<input type="text" value="1.5"/>
Landform:	<input type="text" value="0"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="3.5"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="0"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="0"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="4"/>

7. Comments:

Compatibility: The addition of the red blinking obstruction lights is a commercial/industrial addition to a predominately residential area. It is likely that there is low levels of residential light pollution since the houses generally sit back from the beachfront.

Scale: While it is impossible to determine the scale of the turbines against the night sky, it is the scale of the installation itself and the construction layout triggers the visual scale contrast for the viewer.

Spatial Dominance: The majority of the blinking red lights are small on the horizon, however, the scale of the installation dominates the view. In addition, there is one red hot spot in the far left of the view where the lights are stacked on each other and glow brighter that initially draws the viewer's attention before moving on to the greater field of lights.



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Visual Impact Assessment

Personnel: KAC

KOP: BHB01N Beach H HD

Date: 26 February 2021

Proposed Conditions

8. **Visibility Threshold Level** - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input checked="" type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

N/A



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Visual Impact Assessment

Date: 2/26/21

Personnel: Jocelyn Gavitt

Landscape Similarity Zone: Oceanfront Residential

Key Observation Point Name/Number: BHB01N Beach Haven

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). *(This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)*

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: The tall beach lookout chair anchors this view.

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No
If yes, how does the natural order affect the view?

The layering of shoreline, open water and horizon create a natural order.



1 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: BHB01N Beach Haven

Date: 2/26/21

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☒ Yes ☐ No

If yes, how does the visual clutter affect the view? The fence line and chair in the foreground attract one's attention.

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☒ Repeated ☐ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☒ Clear ☐ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: Increased atmospheric moisture would reduce visibility

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☒ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? This area will be used by nearby homeowners and visitors for recreation and views.



2 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt
KOP: BHB01N Beach Haven
Date: 2/26/21

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	6
Landform:	5
Vegetation:	4.5
Land Use:	6
User Activity:	6
Existing Conditions #1 Total:	27.5

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?	3
Special Condition B. Are there other aesthetic elements that add to this resource?	2

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?	3
--	---

Existing Conditions #2 Total (Sum 2A through 2C)	8
--	---

Existing Conditions Grand Total (Sum #1 Total and #2 Total)	35.5
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3. Comments:

This is a pristine open water view that has some built elements in the foreground to capture one's attention at night. The breaking waves will likely be the viewer's focus over the dark open waters.



Visual Impact Assessment

Personnel: Jocelyn Gavitt
KOP: BHB01N Beach Haven
Date: 2/26/21

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	1
Landform:	2
Vegetation:	4.5
Land Use:	2
User Activity:	2

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:	4
---------------------	---

Total:	15.5
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3. Comments:

The open ocean view is dominated by a very large field of turbine lights that create patterns of lights based on the perspective point of the grid layout. The lights stretch across the horizon and dominate the view.



Visual Impact Assessment

Personnel: Jocelyn Gavitt
KOP: BHB01N Beach Haven
Date: 2/26/21

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	3	Land Use:	3
Landform:	2	User Activity:	2
Vegetation:	0	Total:	10

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	3	Land Use:	3
Landform:	3	User Activity:	3
Vegetation:	0	Total:	12

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	3	Land Use:	3
Landform:	3	User Activity:	3
Vegetation:	0	Total:	12

7. Comments:

Due to the darkened night time conditions, the turbine lights become the only real focus of the view - all other elements blend together in the dark in comparison the stark contrast of the massive field of lights offshore.



Visual Impact Assessment

Personnel: Jocelyn Gavitt
KOP: BHB01N Beach Haven
Date: 2/26/21

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input checked="" type="checkbox"/>

9. Comments:

The proposed conditions dominate the view. The darkened conditions amplify the presence of the turbine lights.



Visual Impact Assessment

Date: **03-01-2021**

Personnel: **KV**

Landscape Similarity Zone: **Residential Oceanfront**

Key Observation Point Name/Number: **BHB01N-Beach Haven**

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). *(This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)*

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: **the walkway rail is near enough that it acts as a focus in dim lighting, but sound (ocean) may be a true focus.**

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No

If yes, how does the natural order affect the view?

Night views often rely on the expectation of natural order. When visual cues are not reliable the viewer moves through a space with expectation of next steps based on prior experience. Even when viewing photos minimal visibility alludes to natural order creating anticipation of what's next.



1 of 6

Visual Impact Assessment

Personnel: **KV**

KOP: **BHB01N-Beach Haven**

Date: **03-01-2021**

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view?

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☒ Repeated ☐ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☒ Clear ☐ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: **Overcast/hazy nights will find a decrease in visibility.**

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☐ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? **This location is within the Beach Haven Historic District**



2 of 6

Visual Impact Assessment

Personnel: **KV**

KOP: **BHB01N-Beach Haven**

Date: **03-01-2021**

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	6
Landform:	7
Vegetation:	5
Land Use:	6
User Activity:	6
Existing Conditions #1 Total:	30

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?	2
Special Condition B. Are there other aesthetic elements that add to this resource?	2

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?	3
--	----------

Existing Conditions #2 Total (Sum 2A through 2C)

7

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

37

3. Comments:

Movement attracting viewer attention: in the dim lighting movement is not visible, but the sound of crashing waves will attract viewer attention.

This night view finds limited visibility, but the experience of this low visibility will increase the use of other senses and result in a high sensory experience. Close proximity of water resources will be apparent from crashing waves, wind gusts, and salty ocean scents. While this is typical of the region it is an experience with unique qualities and is expressed by the highest scoring in the average range. Landform in the view, while difficult to see is experienced by an ability to experience the scene from the upper landing of an elevated ramp, or to walk down to the waterline and find a more intimate experience with the ocean meeting the sandy shore. Vegetation in this scene is difficult to distinguish and subtle even in daylight. The experience of the vegetation at this lighting level is minimal. Land use and user activity are centered on tourism and residential uses. Access is available to all.

This view is within the Beach Haven Historic District, the aesthetic elements of resources within this dim lighting are increased due to the multi-sensory experience of the night view. Litter is not visible in this scene.



3 of 6

Visual Impact Assessment

Personnel: **KV**

KOP: **BHB01N-Beach Haven**

Date: **03-01-2021**

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	4
Landform:	5
Vegetation:	5
Land Use:	5
User Activity:	3

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions: **7**

Total: 29

3. Comments:

Blinking of lights at a slow consistent speed, and spanning such a stretch of horizon will give a highly developed feel to this once open scene. Water resources are impacted by the quantity, expanse, and stacking of the WTGs and their lighting. The WTG lighting, with the repetition of aligned rows at regular intervals appear as multiple bursts on the horizon reminiscent of a fireworks pattern. At this distance the clustering of individual lights due to stacking cause them to appear bright and more dramatic than at locations closer to the turbines. The wide breadth of the array on the ocean horizon makes it difficult to view the ocean while not directing the gaze toward some part of the array. This becomes a liability for water resources and user activity. The land use in this historic district has an emphasis on Bed & Breakfast businesses preserving a late 19th century resort community. While it is unlikely that this use will be drastically changed in the near term, user groups may determine that a beach further from this view provides the ocean experience they are more accustomed to. The somewhat narrow shoreline backed by tall dunes may be foreshortened and gain a more closed in feeling with the wall of turbine lights on the horizon.



4 of 6

Visual Impact Assessment

Personnel: KV

KOP: BHB01N-Beach Haves

Date: 03-01-2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="3"/>
Landform:	<input type="text" value="3"/>	User Activity:	<input type="text" value="3"/>
Vegetation:	<input type="text" value="3"/>	Total:	<input type="text" value="15"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="3"/>
Landform:	<input type="text" value="3"/>	User Activity:	<input type="text" value="3"/>
Vegetation:	<input type="text" value="3"/>	Total:	<input type="text" value="15"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="3"/>
Landform:	<input type="text" value="3"/>	User Activity:	<input type="text" value="3"/>
Vegetation:	<input type="text" value="3"/>	Total:	<input type="text" value="15"/>

7. Comments:

The expanse of turbine lighting in this scene is not compatible and has a severe scale contrast, and will dominate the view in the presented conditions.



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Visual Impact Assessment

Personnel: KV

KOP: BHB01N-Beach Haves

Date: 03-01-2021

Proposed Conditions

8. **Visibility Threshold Level** - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input checked="" type="checkbox"/>

9. Comments:

The turbine array rests on a large expanse of the open horizon, the distraction of slowly flashing lights will become difficult to turn away from.



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6 of 6

Visual Impact Assessment

Date: February 25, 2021

Personnel: Steve Breitka

Landscape Similarity Zone: Oceanfront Residential

Key Observation Point Name/Number: BHB01N

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). *(This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)*

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: The lifeguard chair becomes a focal point only because it is white in an otherwise dark landscape.

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☐ Yes ☒ No

If yes, how does the natural order affect the view?



1 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: BHB01N

Date: February 25, 2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view? There is hardly any ambient light to illuminate the context.

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☒ Repeated ☐ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☐ Clear ☒ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: Clouds are barely visible.

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☐ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? There are residences along the beach presumably to take advantage of the view and the amenities here.



2 of 6

Visual Impact Assessment

Personnel: Steve Breitzka

KOP: BHB01N

Date: February 25, 2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	8
Landform:	5
Vegetation:	5
Land Use:	8
User Activity:	8
Existing Conditions #1 Total:	34

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks? **1**

Special Condition B. Are there other aesthetic elements that add to this resource? **0**

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter? **1**

Existing Conditions #2 Total (Sum 2A through 2C) **2**

Existing Conditions Grand Total (Sum #1 Total and #2 Total) **36**

3. Comments:

The existing view is visually impacting only because of the darkness. There are few features that allow the eye to focus: the wood picket fence in the foreground and the low white surf as it hits the beach beyond. The horizon is barely visible in the distance below a subtle veil of thin clouds. This location will have more auditory benefit and less visual at this time of day.



3 of 6

Visual Impact Assessment

Personnel: Steve Breitzka

KOP: BHB01N

Date: February 25, 2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	1
Landform:	5
Vegetation:	5
Land Use:	1
User Activity:	1

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions: **1**

Total: **14**

3. Comments:

The turbines are only visible due to the red lights; the structure and blades disappear in the darkness. The lights intensity in the stacked row where they overlap each other. When they are more spread out, they appear like a traffic jam of brake lights. The lights add a band of red lights scattered across the horizon, varying in height and, although blinking together, will have an inconsistent blink with the rotating blades. The turbine stretch is accentuated by the lights, identifying each structure across the majority of the view.



4 of 6

Visual Impact Assessment

Personnel: Steve Breitzka

KOP: BHB01N

Date: February 25, 2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	3	Land Use:	3
Landform:	1	User Activity:	3
Vegetation:	1	Total:	11

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	3	Land Use:	3
Landform:	1	User Activity:	3
Vegetation:	1	Total:	11

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	3	Land Use:	3
Landform:	3	User Activity:	3
Vegetation:	3	Total:	15

7. Comments:

The turbines are invisible at night until the red light blinks. Then they cannot be missed as the lights are the brightest and most prevalent feature in the view. There is nothing to compare them too and nothing to drown out their intensity. Ambient light behind the viewer may help, however, there is zero existing light out in the water.



5 of 6

Visual Impact Assessment

Personnel: Steve Breitzka

KOP: BHB01N

Date: February 25, 2021

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input checked="" type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

There is a fine line between the visibility levels here as the turbines go from invisible to obvious every two seconds. There is a strong contrast and then nothing, repeated.



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6 of 6

Visual Impact Assessment

Date: 2/16/21

Personnel: Jocelyn Gavitt

Landscape Similarity Zone: Salt Marsh

Key Observation Point Name/Number: BRT01 Bass River SF

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). *(This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)*

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: The horizon line generally acts as the focus of this view.

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No

If yes, how does the natural order affect the view?

The layering of the fields in the foreground, distant vegetation in the mid-ground and the sky meeting the land at the horizon create a natural order to this view.



1 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: BRT01 Bass River SF

Date: 2/16/21

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view?

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☐ Yes ☒ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☒ Short Term/Fleeting ☐ Long-term

The frequency of this view is: ☐ Repeated ☒ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☒ Clear ☐ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: Increased moisture in the atmosphere could reduce visibility.

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☒ backlit ☐ frontlit ☐ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? Residents or tourists may pass through this area.



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Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: BRT01 Bass River SF

Date: 2/16/21

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	4.5
Landform:	5
Vegetation:	6
Land Use:	6
User Activity:	5

Existing Conditions #1 Total: **26.5**

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks? **2**

Special Condition B. Are there other aesthetic elements that add to this resource? **1**

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter? **3**

Existing Conditions #2 Total (Sum 2A through 2C) **6**

Existing Conditions Grand Total (Sum #1 Total and #2 Total) **32.5**

3. Comments:

This is a wide open view across salt marsh. There is little complexity to the view. The horizon is the focus, with contrasting fields of color in the foreground and the sky. There is some textural focus in the foreground created by varying vegetation.



3 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: BRT01 Bass River SF

Date: 2/16/21

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	4.5
Landform:	5
Vegetation:	5
Land Use:	6
User Activity:	5

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions: **5**

Total: **30.5**

3. Comments:

The proposed turbines are barely visible from this viewpoint and will likely go unnoticed by the viewer. This is not a location that prompts long, repeated views in the direction of the turbines and the impact can be classified as minimal.



4 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt
KOP: BRT01 Bass River SF
Date: 2/16/21

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="0"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="4"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="0"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="4"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="0"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="4"/>

7. Comments:

Small portions of the proposed turbines can be seen in this simulation, and may be most noticed due to their motion, but are not visible enough to create much impact. They are likely to be lost in the presence of the vegetation in the mid-ground of the view.



Visual Impact Assessment

Personnel: Jocelyn Gavitt
KOP: BRT01 Bass River SF
Date: 2/16/21

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input checked="" type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

The proposed conditions are not very noticeable. Portions of the turbines can be seen, but they will likely go unnoticed much of the time.



Visual Impact Assessment

Date: 16 February 2021 Personnel: KAC
Landscape Similarity Zone: Salt Marsh Key Observation Point Name/Number: BRT01 Bass R SF

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). (This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: Topological undulation and horizon line.

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No

If yes, how does the natural order affect the view?

Textured grass, scrub, marshland, low hills, man-made structures and horizon; flat landscape almost perfectly divided into equal bands of blue sky and green grass.



Visual Impact Assessment

Personnel: KAC
KOP: BRT01 Bass R SF
Date: 16 February 2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view? N/A

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☒ Short Term/Fleeting ☐ Long-term

The frequency of this view is: ☐ Repeated ☒ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☒ Clear ☐ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: Any atmospheric haze would reduce the visibility of the turbine blade tips in the view.

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☒ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? National Wildlife Refuge and Bass River Forest Historic District.



Visual Impact Assessment

Personnel: KAC

KOP: BRT01 Bass R SF

Date: 16 February 2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	4.5
Landform:	6
Vegetation:	6
Land Use:	6
User Activity:	6
Existing Conditions #1 Total:	28.5

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks? **2**

Special Condition B. Are there other aesthetic elements that add to this resource? **1**

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter? **2**

Existing Conditions #2 Total (Sum 2A through 2C) **5**

Existing Conditions Grand Total (Sum #1 Total and #2 Total) **33.5**

3. Comments:

Cultural | Historic: National Wildlife Refuge and Bass River Forest Historic District.

Aesthetic: Grassy vegetation with low scrub vegetation.

Litter: Limited visitor litter.

Summary of View: Highly textured grass and scrub vegetation in the foreground that emphasizes the flatness of the salt marsh topology with a background view to the low, undulating terrain and man-made structures. The grassy vegetation is interspersed with low scrub vegetation is visually dynamic and the movement of the grass by the wind would be pleasing to walk through. The view is relatively undeveloped with man-made structures restricted to the background view thereby increasing the sense of remoteness and the immersion into the natural environment.



3 of 6

Visual Impact Assessment

Personnel: KAC

KOP: BRT01 Bass R SF

Date: 16 February 2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	4.5
Landform:	6
Vegetation:	6
Land Use:	6
User Activity:	6

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions: **5**

Total: **33.5**

3. Comments:

In this view, the installed project is almost invisible behind the undulating background terrain and man-made development on the hillsides. The movement of the rotor blades have the opportunity to draw the viewer's attention as they look across the salt marsh, however, any foreground distractions such as the engagement of small mammals, birds and flower species have the potential to keep the viewer's attention focused in the foreground and midground views. In addition, as the foreground and midground scrub vegetation grows taller in this view it may further obstruct the clear view to the horizon line and proposed turbine blade tips.



4 of 6

Visual Impact Assessment

Personnel: KAC

KOP: BRT01 Bass R SF

Date: 16 February 2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	1	Land Use:	1
Landform:	1.5	User Activity:	1
Vegetation:	1	Total:	5.5

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	1	Land Use:	1
Landform:	1.5	User Activity:	1
Vegetation:	1	Total:	5.5

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	1	Land Use:	1
Landform:	1.5	User Activity:	1
Vegetation:	1	Total:	5.5

7. Comments:

Compatibility: The installed Project is almost imperceptible.

Scale: The installed Project is almost imperceptible.

Spatial Dominance: The installed Project is almost imperceptible.



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Visual Impact Assessment

Personnel: KAC

KOP: BRT01 Bass R SF

Date: 16 February 2021

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input checked="" type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

N/A



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Visual Impact Assessment

Date: 02-17-2021

Personnel: KV

Landscape Similarity Zone: Salt Marsh

Key Observation Point Name/Number: BRT01 - Bass River F

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). *(This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)*

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☐ Yes ☒ No

If yes, briefly identify/describe: A variety of vegetation both distant and near draw viewer attention, but neither serve as a primary focal point

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No

If yes, how does the natural order affect the view?

natural order in this view helps the gaze read across the view by scanning layered colors of vegetation from near foreground to distant background through the sky and back again.



1 of 6

Visual Impact Assessment

Personnel: KV

KOP: BRT01 - Bass River F

Date: 02-17-2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view?

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☒ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☒ Repeated ☒ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☐ Clear ☒ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: hazy/overcast days may limit visibility at this location

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☒ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? This area is part of the Bass River State Forest, and holds an informal trail



2 of 6

Visual Impact Assessment

Personnel: KV

KOP: BRT01 - Bass River F

Date: 02-17-2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	4.5
Landform:	6
Vegetation:	6
Land Use:	6
User Activity:	5

Existing Conditions #1 Total: **27.5**

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks? **2**

Special Condition B. Are there other aesthetic elements that add to this resource? **1**

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter? **3**

Existing Conditions #2 Total (Sum 2A through 2C) **6**

Existing Conditions Grand Total (Sum #1 Total and #2 Total) **33.5**

3. Comments:

Movement attracting viewer attention: wetland grasses on a breezy day.

Bass River State Forest preserves NJ Pine Barren forest landscape and the wetlands woven throughout it. This view, focusing on the wetlands just at the edge of dense forest where marsh grasses and shrubs flourish, but water resources are not visible. The landform is that of a low lying marsh with gentle undulation. background hills are visible on the horizon but lend little verticality. The horizon line is generally level across the view. Landform and Vegetation, although serene and calm, represent a common view within this area of the Salt Marsh. Land Use and User Activity are minimal as this is primarily and unmaintained natural area. However, the distant housing development suggests that residents will look out towards this area to provide a sense of openness and rural character. This suggests that views at this location may be both short-term, occasional or longterm, repeated depending on user group.



3 of 6

Visual Impact Assessment

Personnel: KV

KOP: BRT01 - Bass River F

Date: 02-17-2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	4.5
Landform:	5
Vegetation:	6
Land Use:	6
User Activity:	5

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions: **6**

Total: **32.5**

3. Comments:

The turbines within this view are situated at a distance in which blade tips will be the primary visible component of the Project. The nacelle of a few turbines may also be visible primarily those that sit within a valley of two distant hills.

Turbines at such a distance, and primarily screened by distant hills and vegetation, are likely to have a minimal impact on the overall view, Land Uses, and User activity. However, due to a lack of existing focal point, or other strong visual components in the foreground, the movement of the turbine blades rising and sinking over the distant hills is likely to attract viewer attention and distract from the serene and still natural environment.



4 of 6

Visual Impact Assessment

Personnel: KV

KOP: BRT01 - Bass River F

Date: 02-17-2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="0"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="2"/>	Total:	<input type="text" value="8"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="0"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="2"/>	Total:	<input type="text" value="6"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="0"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="4"/>

7. Comments:

The WTGs in this view, and at such a distance, are somewhat compatible with other developed elements in the distance. The scale of the WTG rise above the distant hills and vegetation, but this unlikely to have great impact on users of this resource. Although some distraction from the movement of the turbines may take place this is likely to be minimal. Similarly the WTGs while present in the view do not dominate the scene.



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Visual Impact Assessment

Personnel: KV

KOP: BRT01 - Bass River F

Date: 02-17-2021

Proposed Conditions

8. **Visibility Threshold Level** - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input checked="" type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

Turbines in this view having visible nacelle are compatible with VTL 3 describing "can be easily detected after a brief look and would be visible to most casual observers."

While some turbines in this view with more ample screening (from distant topography) may more closely align with the VTL 2 description the more apparent Turbines situated between the two hills pushes the entire view into the VTL 3 range. During times of poor visibility, such as overcast or mostly cloudy days, visibility may generally be more comparable to VTL 2.



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Visual Impact Assessment

Date: February 18, 2021

Personnel: Steve Breitka

Landscape Similarity Zone: Salt Marsh

Key Observation Point Name/Number: BRT01

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). (This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☐ Yes ☒ No

If yes, briefly identify/describe:

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☐ Yes ☒ No

If yes, how does the natural order affect the view?



1 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: BRT01

Date: February 18, 2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view?

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☐ Yes ☒ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☒ Short Term/Fleeting ☐ Long-term

The frequency of this view is: ☐ Repeated ☒ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☐ Clear ☐ Partly Cloudy ☐ Overcast ☒ Hazy

Conditions that may increase/decrease visibility could be described as: The sky is undefined: no consistent color or cloud formations, just a hazy white blue.

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☒ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☐ Yes ☒ No

How would the site be used for scenic or recreational enjoyment?

While this is a unique setting in the middle of a salt marsh, it is no easily accessible and there are no amenities.



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Visual Impact Assessment

Personnel: Steve Breitka

KOP: BRT01

Date: February 18, 2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	4.5
Landform:	5
Vegetation:	7
Land Use:	5
User Activity:	5
Existing Conditions #1 Total:	26.5

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?

1

Special Condition B. Are there other aesthetic elements that add to this resource?

0

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?

3

Existing Conditions #2 Total (Sum 2A through 2C)

4

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

30.5

3. Comments:

Open view from the middle of the marshland with stands of scraggly shrubs amid low thin grasses. Distant trees and residences line the horizon. The view is split into two dominant color types: earth tone greens in the bottom half and pale white blue in the top half. The residences in the distance are not discernible but rather blend together as a mass. There is nothing that focuses the eye in this view as each component is a wash of color. The horizon has some variation in height but appears to be plant material (trees) and residential roof lines, not changes in topography.



3 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: BRT01

Date: February 18, 2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	4.5
Landform:	5
Vegetation:	7
Land Use:	5
User Activity:	5

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions: **4**

Total: 30.5

3. Comments:

The proposed turbines are almost indiscernible along the horizon following the viewing parameters. Zooming in to 150% allows the viewer to clarify where the turbines are located, only visible by blades and mostly one blade. The turbine blades take on a similar appearance to the misshapen shrubs in the foreground with angled branches.



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Visual Impact Assessment

Personnel: Steve Breitka

KOP: BRT01

Date: February 18, 2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	0	Land Use:	1
Landform:	1	User Activity:	1
Vegetation:	1	Total:	4

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	0	Land Use:	1
Landform:	1	User Activity:	1
Vegetation:	1	Total:	4

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	0	Land Use:	1
Landform:	1	User Activity:	1
Vegetation:	1	Total:	4

7. Comments:

The turbines, distinguished by blades only, have very little presence in this view.



5 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: BRT01

Date: February 18, 2021

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input checked="" type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

The foreground landscape, while not a singular focal point, has a level of variety in color and texture that detracts from any variation presented by the turbine blades at the horizon.



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Visual Impact Assessment

Date: 2/16/21

Personnel: Jocelyn Gavitt

Landscape Similarity Zone: Dredged Lagoon/Salt Marsh

Key Observation Point Name/Number: LAT01 Edwin B Forsyth

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). *(This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)*

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: Large bird's nest on vertical post in center of view.

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No

If yes, how does the natural order affect the view?

There is a layering of salt marsh in the foreground, horizontal lines in the midground consisting of open water and some distant land form, and the open sky above the horizon. There is textural complexity in the foreground with the salt marsh plants and water.



1 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: LAT01 Edwin B Forsyth

Date: 2/16/21

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view?

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☐ Yes ☒ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☒ Repeated ☐ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☒ Clear ☐ Partly Cloudy ☐ Overcast ☒ Hazy

Conditions that may increase/decrease visibility could be described as: Conditions are generally clear, but long term visibility seems hazy. Moisture in the air could impact visibility.

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☒ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? Local residents will enjoy this view on a regular basis.



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Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: LAT01 Edwin B Forsyth

Date: 2/16/21

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="8"/>
Landform:	<input type="text" value="8"/>
Vegetation:	<input type="text" value="8"/>
Land Use:	<input type="text" value="6"/>
User Activity:	<input type="text" value="6"/>
Existing Conditions #1 Total:	<input type="text" value="36"/>

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?	<input type="text" value="2"/>
Special Condition B. Are there other aesthetic elements that add to this resource?	<input type="text" value="2"/>

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?	<input type="text" value="2"/>
--	--------------------------------

Existing Conditions #2 Total (Sum 2A through 2C)

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

3. Comments:

This view has some complexity. The foreground has a high amount of vegetative texture balanced with pockets of open water. There is a focal point that anchors one's attention in the center (a bird nest) and the midground view consists of open water framed by distant landform.



3 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: LAT01 Edwin B Forsyth

Date: 2/16/21

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="6"/>
Landform:	<input type="text" value="6"/>
Vegetation:	<input type="text" value="6"/>
Land Use:	<input type="text" value="4"/>
User Activity:	<input type="text" value="5"/>

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:

Total:

3. Comments:

The proposed turbines are visible in the distant open water. Due to the large quantity and alignment, they can be seen across a good portion of the horizon. The existing landform elements mask their impact in a portion of the view. These turbines occupy the horizon, but in this simulation the focal point still remains the bird nest in the foreground.



4 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: LAT01 Edwin B Forsyth

Date: 2/16/21

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="2"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="2"/>	Total:	<input type="text" value="10"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="2"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="2"/>	Total:	<input type="text" value="9"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="2"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="2"/>	Total:	<input type="text" value="9"/>

7. Comments:

The turbines are visible in the distance and due to the long nature of the view in this location, viewers are likely to focus on the field of turbines to a level that competes with focus in the foreground.



5 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: LAT01 Edwin B Forsyth

Date: 2/16/21

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input checked="" type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

The proposed conditions are noticeable but not overwhelming. There could be a much higher level of visibility if atmospheric conditions were clearer or lighting different.



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Visual Impact Assessment

Date: 17 February 2021

Personnel: KAC

Landscape Similarity Zone: Dredged Laagoon/Salt Marsh

Key Observation Point Name/Number: LAT01 EBF NWR

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). (This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: Nesting bird platform and pink-lined horizon line.

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No

If yes, how does the natural order affect the view?

Marsh grass, still water channels, ocean, nesting platform, and horizon line; flat landscape equally divided between the grass marsh and sky punctuated by the nesting platform.



1 of 6

Visual Impact Assessment

Personnel: KAC

KOP: LAT01 EBF NWR

Date: 17 February 2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☒ Yes ☐ No

If yes, how does the visual clutter affect the view? Nesting platform is a strong vertical element in the view.

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☐ Yes ☒ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☒ Short Term/Fleeting ☐ Long-term

The frequency of this view is: ☐ Repeated ☒ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☐ Clear ☒ Partly Cloudy ☐ Overcast ☒ Hazy

Conditions that may increase/decrease visibility could be described as: Elements on the horizon would have greater definition on a clear day.

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☒ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? Birding and Wildlife Management



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Visual Impact Assessment

Personnel: KAC

KOP: LAT01 EBF NWR

Date: 17 February 2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="7"/>
Landform:	<input type="text" value="7"/>
Vegetation:	<input type="text" value="8"/>
Land Use:	<input type="text" value="7"/>
User Activity:	<input type="text" value="6"/>
Existing Conditions #1 Total:	<input type="text" value="35"/>

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?

Special Condition B. Are there other aesthetic elements that add to this resource?

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?

Existing Conditions #2 Total (Sum 2A through 2C)

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

3. Comments:

Cultural | Historic: Edwin B. Forsythe Wildlife Refuge.

Aesthetic: Vibrant, highly textural grassy marshland.

Litter: Limited visitor litter.

Summary of View: The low marsh grass is highly textured in various shades of green and russet orange that are compositionally appealing in contrast to the reflection of the blue sky in the still water channel interwoven into the marshland. The blended colors of the sky also contrast the highly articulated strokes of the grass blades. The nesting platform directs the viewer's attention and punctuates the flat landscape with authority and purpose. It is easy to imagine visitors to the NWR traveling to this view to observe the water fowl. The flat landform in the background view is occasionally interrupted by man-made built forms such as water towers, cell towers, and other elements that float on the hazy horizon.



3 of 6

Visual Impact Assessment

Personnel: KAC

KOP: LAT01 EBF NWR

Date: 17 February 2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="6"/>
Landform:	<input type="text" value="6"/>
Vegetation:	<input type="text" value="7"/>
Land Use:	<input type="text" value="7"/>
User Activity:	<input type="text" value="6"/>

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:

Total:

3. Comments:

With the Project in place, the viewer's attention is initially stopped and brought to the foreground bird nesting platform, however, very quickly the eye is drawn to the stacked rows of turbines in the background view, which seem to grow out of the landmass to the left and diminish to the right. Looking further left, the viewer would observe the bisected rotors partially obscured by the low laying land mass, which would appear contextually odd in the view. At 32.18-miles to the nearest turbine, the wind farm appears to be an extension of the background land mass and man-made elements on the horizon, however, even at this distance the presence of the turbines cannot be ignored and they visually compete with the visual quality of the intimate, secluded character of the WNR experience.



4 of 6

Visual Impact Assessment

Personnel: KAC

KOP: LAT01 EBF NWR

Date: 17 February 2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="2"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="8"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="2"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="8"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="2"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="8"/>

7. Comments:

Compatibility: The background viewing distance to the wind farm softens the compatibility score of the Project since the turbines are initially perceived to be "small", however, when observed with more detail, the stacked mass of turbines on the horizon in combination with the rotating rotors that are bisected by the land mass creating an odd optic could be considered out of place in this naturalized view.

Scale: The wind farm on the background horizon has enough scale and mass to draw the viewers attention from the element of immediate interest to the movement and magnitude of the industrial installation 32.18-miles away at the nearest point. The development in place will influence the viewer's experience of the site.

Spatial Dominance: Before the Project's installation, the viewer's attention is focused on the water and landform elements in this, which is modified to be co-dominant with the Project given the scale and magnitude that it has on the horizon.



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Visual Impact Assessment

Personnel: KAC

KOP: LAT01 EBF NWR

Date: 17 February 2021

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input checked="" type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

N/A



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Visual Impact Assessment

Date: 02-17-2021

Personnel: KV

Landscape Similarity Zone: Dredged Lagoon, Salt Marsh

Key Observation Point Name/Number: LAT01 Forsythe NWR

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). *(This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)*

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: he Osprey nesting box

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No

If yes, how does the natural order affect the view?

The natural order within this view provides repetition in the texture, line, and color that draws the eye from dark grassy banks and through glassy water textures then repeated by land on the distant horizon and the stridation of colors in the sunrise.



1 of 6

Visual Impact Assessment

Personnel: KV

KOP: LAT01 Forsythe NWR

Date: 02-17-2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view?

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☒ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☒ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☒ Repeated ☒ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☐ Clear ☒ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: clear skies could increase visibility, or hazy/overcast decrease

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☒ backlight ☐ frontlit ☐ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? Primarily boating, viewing, and birdwatching, but the housing development just out of view likely brings other variety of recreation.



2 of 6

Visual Impact Assessment

Personnel: KV

KOP: LAT01 Forsythe NWR

Date: 02-17-2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="7"/>
Landform:	<input type="text" value="7"/>
Vegetation:	<input type="text" value="7"/>
Land Use:	<input type="text" value="5"/>
User Activity:	<input type="text" value="5"/>
Existing Conditions #1 Total:	<input type="text" value="31"/>

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?	<input type="text" value="2"/>
Special Condition B. Are there other aesthetic elements that add to this resource?	<input type="text" value="1"/>

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?	<input type="text" value="3"/>
--	--------------------------------

Existing Conditions #2 Total (Sum 2A through 2C)

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

3. Comments:

Movement attracting viewer attention: while none exists in this view the osprey box suggests the frequent appearance of birds. This view looks out across the salt marsh and open bay towards the barrier islands. The location map indicates the view to be at the edge of a densely developed neighborhood. Both Salt Marsh and Residential Development are common in this area, but locations which overlook the Salt Marsh at close proximity as it transitions to Open Bay are not overly abundant. The interplay between Water Resources and Landform are integral components within this view. Landform, represented by herbaceous grassland is interrupted with intermittent channels of water in the near-foreground. The bay provides separation from the near-foreground and the background barrier island reaching out over the horizon. Headlands on the barrier island landform terminate about halfway across the view and visible portions of the barrier island are set further back on the horizon becoming less prominent and allowing the bay water to become more dominant within the view. Land Use and User Activity at this location have a strong residential emphasis, however, homes typical of the Dredged Lagoon communities are provided with individual docking. This adds a focus on recreational boating in addition to bird watching as evidenced by inclusion in the Forsythe NWR footprint and foreground nesting box. As with many areas along the bay front, especially those within the Forsythe NWR, this area is inundated by bird activity at various times of day.



3 of 6

Visual Impact Assessment

Personnel: KV

KOP: LAT01 Forsythe NWR

Date: 02-17-2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="6"/>
Landform:	<input type="text" value="6"/>
Vegetation:	<input type="text" value="7"/>
Land Use:	<input type="text" value="5"/>
User Activity:	<input type="text" value="4"/>

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:

Total:

3. Comments:

The turbines set within this scene are at a distance in which they primarily sit low on the horizon. At this location the turbines are viewed as part of the distant background elements. This however interrupts the interplay between the Water Resources and Landform. Where the barrier island once appeared to taper off and recede into the water, water resource is now occupied by man made structures. Stacking of turbines at this location make individual WTG blend into each other and thus appear as larger and more visible masses, however the view of the array appears well organized. Movement of the turbine blades may draw viewer attention, but at this distance the effect will be diminished and will distract minimally from bird viewing or water recreation.



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Visual Impact Assessment

Personnel: KV

KOP: LAT01 Forsythe NWR

Date: 02-17-2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="3"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="2"/>	Total:	<input type="text" value="12"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="2"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="7"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="2"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="7"/>

7. Comments:

the WTG although distant and small on the horizon are set at the edge of a land mass in a manner that seems to move development from land into the water resources. This detracts from both the Water Resources and the landform. The stacking of turbines creates strong vertical lines that pull the viewer from foreground elements. Despite this the overall scale is moderate and is unlikely to change the way vegetation is viewed or effect the land use or user activity. Similarly, these noticeable turbines sit low on the horizon and are co-dominant with the land and water resources surrounding.



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Visual Impact Assessment

Personnel: KV

KOP: LAT01 Forsythe NWR

Date: 02-17-2021

Proposed Conditions

8. **Visibility Threshold Level** - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input checked="" type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

The barrier island in the left of the view screens a section of turbines that appear scattered in layout, blade tips above the barrier island may be viewed as part of island development. However just to the right of the visible portion of the barrier island rows of turbines within the array begin to stack. Each row appears as a large mass on the horizon, individual WTG are not easily defined. This competes with water resources and landform elements as the stacked rows of WTGs fill a space on the horizon otherwise appearing as primarily vacant. However, the turbines at this distance are small enough, and sit low enough on the horizon that they do not strongly attract visual attention.



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Visual Impact Assessment

Date: February 18, 2021

Personnel: Steve Breitka

Landscape Similarity Zone: Dredged Laagoon/Salt Marsh

Key Observation Point Name/Number: LAT01

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). *(This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)*

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: There is a man-made nesting post jabb'd into the salt marsh grass landscape.

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No

If yes, how does the natural order affect the view?

The salt marsh in the foreground has patches of open water interspersed among large swaths of low lush grasses. This transitions to open water deeper in the view, extending to the horizon.



1 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: LAT01

Date: February 18, 2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view?

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☐ Yes ☒ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☒ Repeated ☐ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☐ Clear ☐ Partly Cloudy ☐ Overcast ☒ Hazy

Conditions that may increase/decrease visibility could be described as: The rosy pink sunrise haze at the horizon blurs the line between water and sky in the distance.

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☒ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment?

The unobstructed view for the adjacent homes is a tremendous scenic resource.



2 of 6

Visual Impact Assessment

Personnel: Steve Breitzka

KOP: LAT01

Date: February 18, 2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="7"/>
Landform:	<input type="text" value="6"/>
Vegetation:	<input type="text" value="8"/>
Land Use:	<input type="text" value="8"/>
User Activity:	<input type="text" value="7"/>
Existing Conditions #1 Total:	<input type="text" value="36"/>

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?

Special Condition B. Are there other aesthetic elements that add to this resource?

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?

Existing Conditions #2 Total (Sum 2A through 2C)

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

3. Comments:

The salt marsh foreground has unique coloring and texture. This is a soft landscape with gentle undulation and open pockets of smooth reflective water. The open water in the distance blends with the sky at the blurred horizon, sharing color and texture. The sky is a rose pink at the horizon turning to a pale whitish blue with few thin wispy clouds. The primary focal element is a leaning singular wood post with an enormous bird nest perched on top. This adds unique composition to the view since there are a couple of awkward branches sticking out of the nest, protruding into the sky.



3 of 6

Visual Impact Assessment

Personnel: Steve Breitzka

KOP: LAT01

Date: February 18, 2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="6"/>
Landform:	<input type="text" value="6"/>
Vegetation:	<input type="text" value="8"/>
Land Use:	<input type="text" value="7"/>
User Activity:	<input type="text" value="6"/>

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:

Total:

3. Comments:

Following the viewing parameters, the apex of the turbine field appears to be the same elevation as distant adjacent vegetation. This continues a line across the view above the horizon. Similar to how the sky melds with the water on the right side of the view, the turbines blend as well, disappearing into the haze. Rows of turbines, central to the view, are more prominent given their spacing and the light direction and level. These turbines appear like long bands extending deeper into the view.



4 of 6

Visual Impact Assessment

Personnel: Steve Breitzka

KOP: LAT01

Date: February 18, 2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="2"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="8"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="1"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="5"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="1"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="5"/>

7. Comments:

The turbines are visible in the distance but they do not have a dominant presence given the other features in the view. The salt marsh and the bird nest perch remain the focus of this view.



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Visual Impact Assessment

Personnel: Steve Breitzka

KOP: LAT01

Date: February 18, 2021

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input checked="" type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

The spacing and stacking of the turbines (center view) makes them stand out more as dark bands. The turbines begin to blend within the context on either side of center view.



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Visual Impact Assessment

Date: 26 February 2021

Personnel: KAC

Landscape Similarity Zone: Dredged Lagoon/Salt Marsh

Key Observation Point Name/Number: LAT01N EBF NWR

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). *(This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)*

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☐ Yes ☒ No

If yes, briefly identify/describe: N/A

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☐ Yes ☒ No

If yes, how does the natural order affect the view?

N/A



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Visual Impact Assessment

Personnel: KAC

KOP: LAT01N EBF NWR

Date: 26 February 2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view? N/A

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☐ Yes ☒ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☒ Short Term/Fleeting ☐ Long-term

The frequency of this view is: ☐ Repeated ☒ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☐ Clear ☐ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: N/A

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☐ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? Birding and Wildlife Management



2 of 6

Visual Impact Assessment

Personnel: KAC

KOP: LAT01N EBF NWR

Date: 26 February 2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	4.5
Landform:	4.5
Vegetation:	4.5
Land Use:	7
User Activity:	6

Existing Conditions #1 Total: **26.5**

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks? **1**

Special Condition B. Are there other aesthetic elements that add to this resource? **1**

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter? **2**

Existing Conditions #2 Total (Sum 2A through 2C) **4**

Existing Conditions Grand Total (Sum #1 Total and #2 Total) **30.5**

3. Comments:

Cultural | Historic: Birding and Wildlife Management

Aesthetic: Dark sky.

Litter: Unseen.

Summary of View: The existing night sky is very dark but there are no stars or planets visible, however, there is an existing bright red light in the left side of the view that is part of a structure in the background view along the waterway. Given the wildlife refuge landuse it is not anticipated that there would be high numbers of pedestrians moving through this very dark landscape, however, the adjacent residential use would potentially encourage individuals to walk the roadway that borders the NWR.



3 of 6

Visual Impact Assessment

Personnel: KAC

KOP: LAT01N EBF NWR

Date: 26 February 2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	4.5
Landform:	4.5
Vegetation:	4.5
Land Use:	6
User Activity:	6

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions: **4**

Total: **29.5**

3. Comments:

The red obstruction lights of the wind turbine nacelles are small red flashes on the horizon at 32.18-miles to the nearest turbine, except where there are several rows of turbine lights stacked on each other that creates a visual hot-spot. Upon focusing on the bright center of strobing lights, the viewer's attention is then drawn to the associated lights to the left and right of the central hot-spot. The splay of the red lights in the center of the view is caused by the heads-on construction layout of the turbines, which is visually odd in its appearance as the perspective diminishes and the lights recede, almost as if they were moving through space. The visual perception of the "moving lights" would be further accentuated by the flashing action of the red obstruction lights.



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Visual Impact Assessment

Personnel: KAC

KOP: LAT01N EBF NWR

Date: 26 February 2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="0"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="0"/>	User Activity:	<input type="text" value="1.5"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="2.5"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="0"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="0"/>	User Activity:	<input type="text" value="1.5"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="2.5"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="0"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="0"/>	User Activity:	<input type="text" value="1.5"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="2.5"/>

7. Comments:

Compatibility: The addition of the red blinking obstruction lights is a commercial/industrial addition to the wildlife refuge and adjacent residential area. It is probable that the levels of residential light pollution are low since the houses are spread out between dredged boat access ways and generally sit back from the wildlife refuge.

Scale: While it is impossible to determine the scale of the turbines against the night sky, it is the scale of the installation itself and the head-on construction layout triggers the visual scale contrast for the viewer.

Spatial Dominance: The majority of the blinking red lights are small on the horizon, however, the scale of the overall installation and the visual hot spot in the center of the view where the lights are stacked on each other that draws the viewer's attention before moving on to the greater field of lights.



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Visual Impact Assessment

Personnel: KAC

KOP: LAT01N EBF NWR

Date: 26 February 2021

Proposed Conditions

8. **Visibility Threshold Level** - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input checked="" type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

N/A



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Visual Impact Assessment

Date: 2/26/21

Personnel: Jocelyn Gavitt

Landscape Similarity Zone: Dredged Lagoon/Salt Marsh

Key Observation Point Name/Number: LAT01N Edwin B Fors

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). *(This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)*

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☐ Yes ☒ No

If yes, briefly identify/describe:

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No

If yes, how does the natural order affect the view?

There is a layering of salt marsh in the foreground, horizontal lines in the midground consisting of open water and some distant land form, and the open sky above the horizon. There is textural complexity in the foreground with the salt marsh plants and water.



1 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: LAT01N Edwin B Fors

Date: 2/26/21

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☒ Yes ☐ No

If yes, how does the visual clutter affect the view? There are some distant lights that gather attention.

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☐ Yes ☒ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☒ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☒ Repeated ☐ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☒ Clear ☐ Partly Cloudy ☐ Overcast ☒ Hazy

Conditions that may increase/decrease visibility could be described as: Conditions are generally clear, but long term visibility seems hazy. Moisture in the air could impact visibility.

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☒ backlight ☐ frontlit ☐ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? Local residents will experience this view on a regular basis.



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Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: LAT01N Edwin B For

Date: 2/26/21

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	6
Landform:	6
Vegetation:	6
Land Use:	5
User Activity:	5
Existing Conditions #1 Total:	28

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks? **2**

Special Condition B. Are there other aesthetic elements that add to this resource? **2**

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter? **2**

Existing Conditions #2 Total (Sum 2A through 2C) **6**

Existing Conditions Grand Total (Sum #1 Total and #2 Total) **34**

3. Comments:

This view has some complexity in the foreground, consisting of some reflections off of water in the marsh. There are a few visible lights in the distant built land. The open water is dark and does not capture one's attention at night.



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Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: LAT01N Edwin B For

Date: 2/26/21

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	2
Landform:	2
Vegetation:	3
Land Use:	3
User Activity:	2

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions: **4**

Total: **16**

3. Comments:

The proposed turbine lights are a focus and a distraction in this view. The grid form of the turbine field creates perspective lines of lights that have a captivating pattern across the horizon. It is anticipated that the lights will be flashing, creating and animated condition. This turbine field becomes the focus of this view.



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Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: LAT01N Edwin B For

Date: 2/26/21

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	3	Land Use:	2
Landform:	2	User Activity:	2
Vegetation:	2	Total:	11

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	3	Land Use:	2
Landform:	3	User Activity:	2
Vegetation:	3	Total:	13

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	3	Land Use:	3
Landform:	3	User Activity:	3
Vegetation:	3	Total:	15

7. Comments:

The turbine lights dominate this view due to the quantity and breadth of visibility.



5 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: LAT01N Edwin B For

Date: 2/26/21

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input checked="" type="checkbox"/>

9. Comments:

The proposed conditions are very noticeable in the nighttime sky. They become by far the most visible feature in the landscape.



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Visual Impact Assessment

Date: 03-01-2021

Personnel: KV

Landscape Similarity Zone: Dredged Lagoon/Salt Marsh

Key Observation Point Name/Number: LAT01N-Forsythe/Wo

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). (This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: the existing red warning light on the distant barrier island

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No
If yes, how does the natural order affect the view?

the grassy edge of the wetland is dark and difficult to distinguish, but the water way weaving through it lightly reflects ambient light of the night sky.
This gives the viewer something to gaze on and ground themselves within the view while their eyes loosely distinguish the forms surrounding them.



1 of 6

Visual Impact Assessment

Personnel: KV

KOP: LAT01N-Forsythe/Wo

Date: 03-01-2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☒ Yes ☐ No

If yes, how does the visual clutter affect the view? although difficult to see at this distance lights from the distant barrier island draw the gaze.

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☒ Repeated ☐ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☒ Clear ☐ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: cloudy/overcast/hazy may decrease visibility

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☐ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☒ No

How would the site be used for scenic or recreational enjoyment? This is part of the Forsythe NWR, but in a heavily residential area where non-residents are unlikely to frequent.



2 of 6

Visual Impact Assessment

Personnel: KV

KOP: LAT01N-Forsythe/Wo

Date: 03-01-2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	7
Landform:	7
Vegetation:	7
Land Use:	5
User Activity:	5
Existing Conditions #1 Total:	31

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?	2
Special Condition B. Are there other aesthetic elements that add to this resource?	2

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?	3
Existing Conditions #2 Total (Sum 2A through 2C)	7
Existing Conditions Grand Total (Sum #1 Total and #2 Total)	38

3. Comments:

Movement attracting viewer attention: while the wetland grasses rippling in the breeze may not be visible the viewer will hear this soft rustling as part of the marshland nighttime hum.

This night view depicts a location where viewers are able to stand at the edge of development and overlook a natural marshland setting. Water resources, landform, and vegetation in this area could be considered distinct even during this low light level. Despite being difficult to see a viewer will experience a variety of sensory experience due to the presence and type of these resources. Light splashes, amphibians, insects, and vegetation will all be audible at this time of year. The light smell of salt water and and herbaceous vegetation will be recognizable when focus on the visual senses is limited. Land use as seen within this view is primarily preserved salt marsh with developed barrier island, however, the context page indicates the viewers back is to a developed dredged lagoon community. Over land access to this location is only available through this community which may give users a sense that they must belong in the community to gain access. Due to this user activity is often limited to local residents, but an occasional wildlife enthusiast may access this location. This location is within the footprint of the Forsythe NWR, the night view adds aesthetic elements as the dim lighting will heighten viewers experience of sound and smell. Litter is not visible in this location.



3 of 6

Visual Impact Assessment

Personnel: KV

KOP: LAT01N-Forsythe/Wo

Date: 03-01-2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	5
Landform:	3
Vegetation:	5
Land Use:	4
User Activity:	4

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:	6
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Total:	27
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3. Comments:

Water resources in this night view are most recognizable in the near foreground. The WTGs and their lighting on the distant horizon are difficult to recognize as developed ocean. This is both a detraction from distant water resources, but also buffers the decrease in quality as the near foreground resources remain high. However, landform, previously recognizable on the horizon by the dim lights of the developed barrier island are highly impacted by the WTG lighting. At once the subtle landform and lighting are both wiped out and expanded. The subtleness of the existing light giving dimension to the distant landform is gone, but the lighting from the WTGs seems to extend the landform across the water resources. Those intimate with the area will understand the turbines are developed on water, but others may view this as an extended distant landform stretching across the horizon. This significantly alters the existing landform. The WTG lights occupying the horizon will also draw viewer attention away from the near foreground and diminish the impact of both site and sound attributed to vegetation. Land use appears to take on a more industrial use, especially on the distant horizon. User activity now has a focus on viewing the WTG.

General aesthetic contributions of this night scene are impacted by the introduction of the quantity of lights on the horizon. This visual component not only detracts from the view but will likely decrease sensitivity of sound and smell which are typically heightened in times of low visibility.



4 of 6

Visual Impact Assessment

Personnel: KV

KOP: LAT01N-Forsythe/Wo

Date: 03-01-2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="3"/>
Landform:	<input type="text" value="3"/>	User Activity:	<input type="text" value="3"/>
Vegetation:	<input type="text" value="3"/>	Total:	<input type="text" value="15"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="3"/>
Landform:	<input type="text" value="3"/>	User Activity:	<input type="text" value="3"/>
Vegetation:	<input type="text" value="3"/>	Total:	<input type="text" value="15"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="3"/>
Landform:	<input type="text" value="3"/>	User Activity:	<input type="text" value="3"/>
Vegetation:	<input type="text" value="3"/>	Total:	<input type="text" value="15"/>

7. Comments:

While the massing of WTGs are contained within a relatively limited area of this view the lighting in this scene makes them not compatible with the listed resources. When flashing at a regular interval viewer attention will be drawn to, and capture by, this installation. Similarly the scale contrast is severe because of the span of the WTG area. Even though it is contained within a portion of the view those looking out toward the ocean will find it difficult to focus on other visual elements. Due to these factors the spatial dominance of the WTGs when lit by the navigations aids will dominate the view.



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Visual Impact Assessment

Personnel: KV

KOP: LAT01N-Forsythe/Wo

Date: 03-01-2021

Proposed Conditions

8. **Visibility Threshold Level** - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input checked="" type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

While viewers may find it difficult to avoid distraction by the lights blinking at a slow regular interval it is possible to turn and look out over the wetland in a different direction.



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6 of 6

Visual Impact Assessment

Date: February 25, 2021

Personnel: Steve Breitka

Landscape Similarity Zone: Dredged Laagoon/Salt Marsh

Key Observation Point Name/Number: LAT01N

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). *(This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)*

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: A single red dot of light left of center in the view.

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☐ Yes ☒ No

If yes, how does the natural order affect the view?



1 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: LAT01N

Date: February 25, 2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view?

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☐ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☒ Repeated ☐ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☐ Clear ☐ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: No atmospheric conditions visible.

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☐ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment?

The unobstructed view for the adjacent homes is a tremendous scenic resource.



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Visual Impact Assessment

Personnel: Steve Breitzka

KOP: LAT01N

Date: February 25, 2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="7"/>
Landform:	<input type="text" value="5"/>
Vegetation:	<input type="text" value="4.5"/>
Land Use:	<input type="text" value="7"/>
User Activity:	<input type="text" value="7"/>
Existing Conditions #1 Total:	<input type="text" value="30.5"/>

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?

Special Condition B. Are there other aesthetic elements that add to this resource?

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?

Existing Conditions #2 Total (Sum 2A through 2C)

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

3. Comments:

There are few discernible features in this view at night. A narrow meandering ribbon of water crosses the bottom of the view, reflecting whatever ambient light is present. The bird nest perch appears like a dark upright shadow but is not clear. The lone red dot of light draws attention to other nearly invisible lights in the distance. Thin clouds are barely visible in the sky, dissolving the horizon line.



3 of 6

Visual Impact Assessment

Personnel: Steve Breitzka

KOP: LAT01N

Date: February 25, 2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="3"/>
Landform:	<input type="text" value="5"/>
Vegetation:	<input type="text" value="4.5"/>
Land Use:	<input type="text" value="2"/>
User Activity:	<input type="text" value="2"/>

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:

Total:

3. Comments:

The turbine structures and blades are not visible at this time of night. The red lights, given their distance from the viewpoint and their spacing, appear like airport runway lights extending deep into the view. There is a regularity to them in width and depth, creating long red streaks drawing attention into the center of the view. The lights are all at a consistent elevation with little undulation across the field of view. This increases their intensity as they appear stacked on one another.



4 of 6

Visual Impact Assessment

Personnel: Steve Breitzka

KOP: LAT01N

Date: February 25, 2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="3"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="9"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="2"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="7"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="3"/>
Landform:	<input type="text" value="3"/>	User Activity:	<input type="text" value="3"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="12"/>

7. Comments:

The turbines become a dominant feature because the red light is the only thing drawing focus in the night time view. These marching rows of blinking red lights will constantly and consistently function as the primary visible element in this view. Their regularity detracts from any natural environment within the salt marsh.



5 of 6

Visual Impact Assessment

Personnel: Steve Breitzka

KOP: LAT01N

Date: February 25, 2021

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input checked="" type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

The difference between level 5 and level 6 is difficult in this view. The red lights dominate focus because there is nothing else to see. However, they are distant and fade away on the right and left sides of the field. The turbines are not large in the view but the lights are obvious and unmistakable.



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Visual Impact Assessment

Date: 2/17/21

Personnel: Jocelyn Gavitt

Landscape Similarity Zone: Oceanfront Residential

Key Observation Point Name/Number: LBT03 Beach at Longsight

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). *(This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)*

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: the focus is at the horizon line where the beach meets the ocean

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No

If yes, how does the natural order affect the view?

This view has a clear delineation of shoreline, water and sky. Each of these elements converge at the focal point.



1 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: LBT03 Beach at Longsight

Date: 2/17/21

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view?

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☒ Repeated ☐ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☒ Clear ☐ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: Moisture in the air could impact visibility.

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☒ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? Local residents will enjoy this view on a regular basis.



2 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: LBT03 Beach at Longsight

Date: 2/17/21

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="9"/>
Landform:	<input type="text" value="7"/>
Vegetation:	<input type="text" value="5"/>
Land Use:	<input type="text" value="6"/>
User Activity:	<input type="text" value="7"/>
Existing Conditions #1 Total:	<input type="text" value="34"/>

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?	<input type="text" value="2"/>
Special Condition B. Are there other aesthetic elements that add to this resource?	<input type="text" value="1"/>

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?	<input type="text" value="2"/>
--	--------------------------------

Existing Conditions #2 Total (Sum 2A through 2C)

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

3. Comments:

The view from this vantage point is relatively straightforward and predominantly natural. There is a balance of open ocean, with wave motion to garner one's attention, a wide sandy beach, some vegetated dune area and open sky. All elements converge at the focal point on the horizon. Footprints provide an interesting texture to the beach, and area that likely sees pedestrian movement on a regular basis.



3 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: LBT03 Beach at Longsight

Date: 2/17/21

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="4"/>
Landform:	<input type="text" value="4"/>
Vegetation:	<input type="text" value="4"/>
Land Use:	<input type="text" value="3"/>
User Activity:	<input type="text" value="3"/>

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:

Total:

3. Comments:

The proposed turbines are highly visible in the open water. Due to the large quantity and alignment, they can be seen across a good portion of the horizon. These turbines span a large area of open water and penetrate the horizon line. The turbines become the focus of this view. They have a significant impact.



4 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: LBT03 Beach at Long

Date: 2/17/21

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="2"/>	Total:	<input type="text" value="11"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="2"/>	Total:	<input type="text" value="11"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="3"/>
Vegetation:	<input type="text" value="3"/>	Total:	<input type="text" value="13"/>

7. Comments:

The turbines become the focal point in this view. They completely cover the open water view and occupy the horizon line. They create a "built" condition in the water that spans the entire area.



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Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: LBT03 Beach at Long

Date: 2/17/21

Proposed Conditions

8. **Visibility Threshold Level** - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input checked="" type="checkbox"/>

9. Comments:

The proposed conditions are highly noticeable and will capture the viewer's attention as a focus.



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Visual Impact Assessment

Date: 17 February 2021

Personnel: KAC

Landscape Similarity Zone: Oceanfront Residential

Key Observation Point Name/Number: LBT03 Long B Isld

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). *(This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)*

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: Rolling surf and horizon line.

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No

If yes, how does the natural order affect the view?

Sandy beach, rolling surf, waves, ocean and horizon; horizontal landscape with strong perspective pull to the right of the view causing the sand, waves and sky to fan out from the perspective center point.



1 of 6

Visual Impact Assessment

Personnel: KAC

KOP: LBT03 Long B Isld

Date: 17 February 2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view? N/A

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☒ Repeated ☐ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☒ Clear ☐ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: Atmospheric haze could affect the quality of visibility to the Project.

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☒ backlit ☐ frontlit ☐ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? Open beach.



2 of 6

Visual Impact Assessment

Personnel: KAC

KOP: LBT03 Long B Isld

Date: 17 February 2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="7"/>
Landform:	<input type="text" value="6"/>
Vegetation:	<input type="text" value="4.5"/>
Land Use:	<input type="text" value="6"/>
User Activity:	<input type="text" value="6"/>
Existing Conditions #1 Total:	<input type="text" value="29.5"/>

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?

Special Condition B. Are there other aesthetic elements that add to this resource?

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?

Existing Conditions #2 Total (Sum 2A through 2C)

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

3. Comments:

Cultural | Historic: None apparent.

Aesthetic: Open, light colored sandy beach contrasted against the blue-green rolling ocean surf and clear, sky-blue horizon.

Litter: Visitor beach litter.

Summary of View: The wide open, sandy beach with very little rock outcroppings or harsh pebble sand would make this a popular place to enjoy sunbathing and beach activities at the ocean that is common along the New England seaboard, therefore, while pleasing, the beach is not visually unique. The extensive amount of foot traffic in the view further supports the high use by the local and visiting community.



3 of 6

Visual Impact Assessment

Personnel: KAC

KOP: LBT03 Long B Isld

Date: 17 February 2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="6"/>
Landform:	<input type="text" value="6"/>
Vegetation:	<input type="text" value="4.5"/>
Land Use:	<input type="text" value="6"/>
User Activity:	<input type="text" value="6"/>

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:

Total:

3. Comments:

Despite the magnitude of the Project in this view, the organized and symmetrical nature of the turbines that are evenly spaced and at uniform heights along the horizon are visually appealing in their composition. There is no visual competition between the turbines and other elements in the view, such as land mass, vegetation, buildings, etc., therefore, the view is all about the wind farm itself, which offers something unique to the classic New England beach typology. It is important to note that the visual quality of the view is not reduced by the introduction of the wind farm from this vantage point due to the balanced, symmetrical and uniform heights of the turbines that recede into the perspective.



4 of 6

Visual Impact Assessment

Personnel: KAC

KOP: LBT03 Long B Isld

Date: 17 February 2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="1.5"/>	Land Use:	<input type="text" value="1.5"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="1.5"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="5.5"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="1.5"/>	Land Use:	<input type="text" value="1.5"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="1.5"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="5.5"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="1.5"/>	Land Use:	<input type="text" value="1.5"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="1.5"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="5.5"/>

7. Comments:

Compatibility: The back lit gray of the turbines on the horizon blends with the tan, French gray, sea green and blue hues of the view. Therefore, the compatibility score is triggered by the introduction of an industrialized installation into a seascape.

Scale: The installed turbines at 24.87-miles to the nearest turbine are relatively small in perceived height and do not exceed an allowable proportion of the view that would cause them to be considered severe in contrast.

Spatial Dominance: The combination of the beach, ocean and sky still dominate the viewer's attention, however, the light gray turbines sit lightly on the horizon and contribute to the overall viewing experience.



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Visual Impact Assessment

Personnel: KAC

KOP: LBT03 Long B Isld

Date: 17 February 2021

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input checked="" type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

N/A



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Visual Impact Assessment

Date: 02-18-2021

Personnel: KV

Landscape Similarity Zone: Oceanfront Residential

Key Observation Point Name/Number: LBT03 - Long Beach

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). *(This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)*

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☐ Yes ☒ No

If yes, briefly identify/describe: the horizon line against the ocean provides a focus, but no strong single focal point is present

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No
If yes, how does the natural order affect the view?

the viewers gaze is drawn along this image following the vanishing lines of the shoreline and horizon which are highlighted by darkened tracks in the sand and waves, respectively.



1 of 6

Visual Impact Assessment

Personnel: KV

KOP: LBT03 - Long Beach

Date: 02-18-2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view?

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☒ Repeated ☐ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☒ Clear ☐ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: Overcast/hazy conditions could limit visibility.

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☒ backlit ☐ frontlit ☐ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☐ Yes ☒ No

How would the site be used for scenic or recreational enjoyment? While the shoreline beach is a recreational location, there are no designated resources captured by this view.



2 of 6

Visual Impact Assessment

Personnel: KV

KOP: LBT03 - Long Beach

Date: 02-18-2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	6
Landform:	6
Vegetation:	4.5
Land Use:	5
User Activity:	5

Existing Conditions #1 Total: **26.5**

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks? **0**

Special Condition B. Are there other aesthetic elements that add to this resource? **0**

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter? **3**

Existing Conditions #2 Total (Sum 2A through 2C) **3**

Existing Conditions Grand Total (Sum #1 Total and #2 Total) **29.5**

3. Comments:

Motion attracting view attention: Birds, waves, user groups on the beach.

This view depicts a serene beach where human activity is present but effort to accommodate users is primarily focused on local residents. This is evidenced by the lack of highly developed beach access points and the somewhat neglected stone pier. Sand dunes with young dune grass and sand fencing just beyond the view hold the dunes at a height to form protection to residences beyond. Water resources and landform at this location are expansive and open, but also common to the region. No vegetation is found within this view, although young dune grasses are used to hold the dunes and provide nesting location for sea birds. Land use and user activity are as discussed are targeted to those in the immediate area as well as visitors requiring minimal amenities or seeking a less frequented beach.

While this beach is in proximity to a local community resource, the Long beach Island Foundation of the Arts & Sciences, but no state or national resources are located in close proximity.



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Visual Impact Assessment

Personnel: KV

KOP: LBT03 - Long Beach

Date: 02-18-2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	4
Landform:	4
Vegetation:	4.5
Land Use:	4
User Activity:	4

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions: **4**

Total: **24.5**

3. Comments:

WTGs at this location expand across the selected view frame. WTGs at the center of the array create a stacked line with a dense appearance, rows moving out from the center slowly loose the stacked appearance and begin to have a densely scattered and disorganized pattern before the spread tapers out to appear as individual turbines dotting out from the edge of the array. The wide open expanse of ocean becomes cluttered with easily visible turbines, and the movement of the blades is likely to attract and retain viewer attention. Landform within this view is a thin coastline beach and the intensely vertical turbines limiting the expansiveness of the horizon may increase the closed in experience of the thin beach closely backed by tall dunes, just beyond the view. Vegetation is not found within this view. Land use and user activity at this view have been acting primarily as location for passive and active beach recreation, but with the turbines in place the emphasis of the view becomes the turbines.



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Visual Impact Assessment

Personnel: KV

KOP: LBT03 - Long Beach

Date: 02-18-2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="3"/>
Landform:	<input type="text" value="3"/>	User Activity:	<input type="text" value="3"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="12"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="9"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="9"/>

7. Comments:

the size and quantity of visible turbines and the extent of the array is not compatible with the existing character of the Landscape/seascape elements. However,



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Visual Impact Assessment

Personnel: KV

KOP: LBT03 - Long Beach

Date: 02-18-2021

Proposed Conditions

8. **Visibility Threshold Level** - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input checked="" type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

WTG within this view occupy a constrained expanse of ocean and do not affect the full available horizon. However, turbines are at such a size that beach users will readily distinguish them on the horizon. The scatter distribution appearance of the turbines at the edge of the array softens the visibility, but stacking of the central rows create dense silhouettes on the horizon and draws the viewers gaze. Due to the distance of the WTG at this location weather conditions and atmosphere are likely to have a great deal of effect on the VTL. However, in these clear conditions, even at such a distance it is likely to be a major focus of visual attention.



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Visual Impact Assessment

Date: February 18, 2021

Personnel: Steve Breitka

Landscape Similarity Zone: Oceanfront Residential

Key Observation Point Name/Number: LBT03

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). (This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☐ Yes ☒ No

If yes, briefly identify/describe:

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☐ Yes ☒ No

If yes, how does the natural order affect the view?



1 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: LBT03

Date: February 18, 2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view?

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☒ Repeated ☐ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☒ Clear ☐ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: The sky appears as clear as could be.

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☒ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? There are residences lining the oceanfront with direct beach access.



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Visual Impact Assessment

Personnel: Steve Breitzka

KOP: LBT03

Date: February 18, 2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="9"/>
Landform:	<input type="text" value="8"/>
Vegetation:	<input type="text" value="4.5"/>
Land Use:	<input type="text" value="9"/>
User Activity:	<input type="text" value="9"/>
Existing Conditions #1 Total:	<input type="text" value="39.5"/>

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?

Special Condition B. Are there other aesthetic elements that add to this resource?

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?

Existing Conditions #2 Total (Sum 2A through 2C)

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

3. Comments:

Open and expansive warm grey sandy beach leading to the water. Frothy white waves cresting along the length of the shoreline. Footprints in the sand provide a unique texture and shadow lines. There is small outcropping of dark rocks where the water meets the sand. Seagulls are scattered around the beach. The sky is completely clear fading from whitish blue at the horizon to a rich golden blue at the top of the view.



3 of 6

Visual Impact Assessment

Personnel: Steve Breitzka

KOP: LBT03

Date: February 18, 2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="2"/>
Landform:	<input type="text" value="4"/>
Vegetation:	<input type="text" value="4.5"/>
Land Use:	<input type="text" value="2"/>
User Activity:	<input type="text" value="2"/>

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:

Total:

3. Comments:

While not tall features in the overall sky portion, the proposed turbines command attention, extending across the majority of the view. The thinner spaced turbines on the left and right fade into the horizon, the stacked formation turbines in the center are cluttered. The three central rows appear like dark jagged masses protruding from the water. The pale white sky at the horizon makes the turbines appear dark with such a light colored background. The turbines add an industrial feel to an otherwise undeveloped existing view. The scene behind the viewer is sprawling dense low level residential, but the view in this direction is open and unobstructed.



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Visual Impact Assessment

Personnel: Steve Breitzka

KOP: LBT03

Date: February 18, 2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="3"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="3"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="11"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="2"/>	Land Use:	<input type="text" value="3"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="3"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="10"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="2"/>	Land Use:	<input type="text" value="3"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="3"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="9"/>

7. Comments:

The view shifts from the three co-dominant components to four: beach, water, and sky are present in the existing view; turbines are added as a significant fourth component in the proposed view. The horizon is a focus in the existing view, serving as a clean line in the distance. The turbines break up this line and add a man-made industrial texture.



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Visual Impact Assessment

Personnel: Steve Breitzka

KOP: LBT03

Date: February 18, 2021

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input checked="" type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

The breadth of the turbine field, extending from one side of the view to the other, becomes the dominant focal point in the distance. The height is not as strong of a factor as the beach, ocean, and sky still comprise the majority of the view.



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Visual Impact Assessment

Date: 2/17/21

Personnel: Jocelyn Gavitt

Landscape Similarity Zone: Undeveloped Bay

Key Observation Point Name/Number: LEHT02 Great Bay Bcs

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). (This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☐ Yes ☒ No

If yes, briefly identify/describe: The view is pretty balanced with the general focus happening across the horizon line.

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No
If yes, how does the natural order affect the view?

This view has a natural layering of shoreline in the foreground, water in the mid-ground, punctuated by the horizon line and open sky above.



1 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: LEHT02 Great Bay Bcs

Date: 2/17/21

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view?

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☐ Repeated ☒ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☒ Clear ☐ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: Moisture in the air could impact visibility.

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☒ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? Local residents, tourists and fishermen may enjoy this viewpoint on occasion...



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Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: LEHT02 Great Bay Bcs

Date: 2/17/21

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	8
Landform:	7
Vegetation:	7
Land Use:	7
User Activity:	6
Existing Conditions #1 Total:	35

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?	2
Special Condition B. Are there other aesthetic elements that add to this resource?	2

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?	2
--	---

Existing Conditions #2 Total (Sum 2A through 2C)

6

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

41

3. Comments:

This view is dominated by the open water, framed by some meandering shoreline and vegetation. Some distant landform also helps frame the view in the distance and some built conditions can be seen in the far distance. The horizon line generally holds one's gaze.



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Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: LEHT02 Great Bay Bcs

Date: 2/17/21

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	2
Landform:	4
Vegetation:	4
Land Use:	3
User Activity:	3

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:	4
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Total: 20

3. Comments:

The proposed turbine field is highly visible in the open water and becomes the focus of the view.. Due to the large quantity and alignment, the turbines can be seen across a good portion of the horizon. These turbines span a large area of open water and penetrate the horizon line. The impact is significant.



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Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: LEHT02 Great Bay B

Date: 2/17/21

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="2"/>	Total:	<input type="text" value="11"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="2"/>	Total:	<input type="text" value="11"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="3"/>
Vegetation:	<input type="text" value="2"/>	Total:	<input type="text" value="12"/>

7. Comments:

The turbines become the focal point in this view. They completely cover the open water view and occupy the horizon line. They create a "built" condition in the water that spans the entire area.



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Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: LEHT02 Great Bay B

Date: 2/17/21

Proposed Conditions

8. **Visibility Threshold Level** - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract viewer attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input checked="" type="checkbox"/>

9. Comments:

The proposed conditions are highly noticeable and will capture the viewer's attention as a focus.



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Visual Impact Assessment

Date: 17 February 2021

Personnel: KAC

Landscape Similarity Zone: Undeveloped Bay

Key Observation Point Name/Number: LEHT02 GBB WMA

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). (This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: Dark landmass, horizon line and puffy clouds in the sky.

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No

If yes, how does the natural order affect the view?

Pebbled beach sand, sea grass, bay and background land mass to horizon; the horizontal qualities of the landscape are interrupted by the foreground tufted grasses and spit of grass extending into the bay waters.



1 of 6

Visual Impact Assessment

Personnel: KAC

KOP: LEHT02 GBB WMA

Date: 17 February 2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view? N/A

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☐ Yes ☒ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☒ Repeated ☐ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☐ Clear ☒ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: Clear sky conditions would accentuate the turbines.

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☒ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? Great Bay WMA, Little Egg Harbor Life Saving Station #23



2 of 6

Visual Impact Assessment

Personnel: KAC

KOP: LEHT02 GBB WMA

Date: 17 February 2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	6
Landform:	7
Vegetation:	7
Land Use:	6
User Activity:	6
Existing Conditions #1 Total:	32

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?

1

Special Condition B. Are there other aesthetic elements that add to this resource?

1

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?

1

Existing Conditions #2 Total (Sum 2A through 2C)

3

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

35

3. Comments:

Cultural | Historic: Great Bay WMA, Little Egg Harbor Life Saving Station #23

Aesthetic: Interesting marsh edge fringe that extends into the bay.

Litter: Limited visitor litter.

Summary of View: The vegetated, pebbled beach edge is an extension of the grass land behind the viewer. The marsh fringe is visually interesting and interweaves the water and earth elements together, however, this setting is most advantageous for walking and birding activities not recreational beach use. It can be assumed that most visitors to this remote location are taking the potential wildlife in the WMA versus beach lounging, therefore, it is likely that they will be moving through the site more rapidly than resting on the beach.



3 of 6

Visual Impact Assessment

Personnel: KAC

KOP: LEHT02 GBB WMA

Date: 17 February 2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	5
Landform:	6
Vegetation:	6
Land Use:	6
User Activity:	5

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions: **3**

Total: 31

3. Comments:

The addition of the proposed Project in the view radically changes viewer's experience of the WMA. The undeveloped bay is rugged in appearance and less refined than the sandy beach areas found in other areas of the study area, however, the ruggedness of the landscape is what makes the view interesting and it is in keeping with what is typically associated with a wilderness management area. The addition of the turbines introduces an industrial overlay to the resource area experience, especially as the turbines emanate from the area to the far right side of the view that includes Atlantic City, bringing the man-made and built forms into this location. The size of the wind farm at 11.91-miles to the closest turbine is a near, unsettling visual addition to the isolated environment and dominates the viewer's attention from this vantage point.



4 of 6

Visual Impact Assessment

Personnel: KAC

KOP: LEHT02 GBB WMA

Date: 17 February 2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	2.5	Land Use:	1
Landform:	2	User Activity:	2
Vegetation:	1	Total:	8.5

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	3	Land Use:	1
Landform:	2	User Activity:	2
Vegetation:	1.5	Total:	9.5

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	2.5	Land Use:	1
Landform:	2	User Activity:	2
Vegetation:	1.5	Total:	9

7. Comments:

Compatibility: The 11.91-mile viewing distance brings the turbines into being a much more intimate element within the view. The visual clarity of the turbines on the horizon further emphasizes their proximity and contrast on the water and landform elements in the view.

Scale: The installed turbines are clearly visible and their height and disorganized pattern and overlap is what actively dominates the center portion of the view between the bay and the sky.

Spatial Dominance: The marsh grass fringe and open bay do not have the visual strength in color, texture and visual interest to hold the viewer's attention in comparison with the moving rotor blades, therefore, the view is mostly dominated by the non-sequenced rotating of rotor blades that are stacked upon themselves along the horizon line.



5 of 6

Visual Impact Assessment

Personnel: KAC

KOP: LEHT02 GBB WMA

Date: 17 February 2021

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input checked="" type="checkbox"/>

9. Comments:

N/A



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Visual Impact Assessment

Date: 02-18-2021

Personnel: KV

Landscape Similarity Zone: Undeveloped Bay

Key Observation Point Name/Number: LEHT02 - Great Bay V

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). *(This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)*

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: Salt Marsh grasses on the left side of the view stretch out and point to a span of landform on the horizon.

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No

If yes, how does the natural order affect the view?

within this view natural order of shoreline, water, and vegetation in the lower half with pastel sky along the horizon helps draw the viewers gaze through the view with repetition of textures and colors.



1 of 6

Visual Impact Assessment

Personnel: KV

KOP: LEHT02 - Great Bay V

Date: 02-18-2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view?

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☐ Repeated ☒ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☐ Clear ☒ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: overcast or hazy conditions would decrease visibility

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☒ backlit ☐ frontlit ☐ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? This site is a WMA and has a NRHP resource on site, although not visible in this particular view.



2 of 6

Visual Impact Assessment

Personnel: KV

KOP: LEHT02 - Great Bay V

Date: 02-18-2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="8"/>
Landform:	<input type="text" value="8"/>
Vegetation:	<input type="text" value="7"/>
Land Use:	<input type="text" value="8"/>
User Activity:	<input type="text" value="8"/>

Existing Conditions #1 Total:

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?

Special Condition B. Are there other aesthetic elements that add to this resource?

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?

Existing Conditions #2 Total (Sum 2A through 2C)

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

3. Comments:

Movement attracting viewer attention: ripples on otherwise smooth water surface, grasses and clouds blowing in a breeze.

This view located on a peninsula looks into the serene open bay and toward the distant barrier islands and ocean beyond. Water resources are serene and with small dark ripples indicating gentle movement. Distant landform frames the edge of view along the horizon where water meets sky. A gap in the distant landform in the center of the view adds an expansive feel to the water resources. near-foreground landform varies between a pebble shoreline and soft grassy ridge at the waters edge. Marsh land vegetation adds another element of texture to this view and defines this as a natural meeting of water and land. Land use is primarily preservation. However, the Rutgers Field station, not in view but located on the same peninsula as this viewpoint, indicates that research activities also occur in proximity. User activity includes preservation, research, fishing, and trapping shellfish.

The Rutgers field station is a NRHP site, and former life saving station. This is also a WMA.



3 of 6

Visual Impact Assessment

Personnel: KV

KOP: LEHT02 - Great Bay V

Date: 02-18-2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="6"/>
Landform:	<input type="text" value="5"/>
Vegetation:	<input type="text" value="5"/>
Land Use:	<input type="text" value="6"/>
User Activity:	<input type="text" value="6"/>

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:

Total:

3. Comments:

The WTG set in this image densely populate the horizon and connect two distant landforms creating a sense of walling in this bay location. The WTG are readily visible whether individually or stacked and appearing as a larger cluster, and the substations peek over the horizon as large squared masses. The view of water resources and landform are greatly altered, and the WTG distract from the soft herbaceous vegetation. The untouched quality of this landscape and view are lessened and become more average in nature. While still beautiful, this view becomes comparable to other developed marsh and grassland areas. Although differing in development pattern the sense in this setting, although not residential like the dredged lagoon, becomes much more about human development than the existing scene. Land use and user activity will likely still have emphasis on preservation and research, but looking out over the open water and undeveloped bay will have a very different impact on viewers.



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Visual Impact Assessment

Personnel: KV

KOP: LEHT02 - Great Bay V

Date: 02-18-2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="3"/>
Landform:	<input type="text" value="3"/>	User Activity:	<input type="text" value="3"/>
Vegetation:	<input type="text" value="3"/>	Total:	<input type="text" value="15"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="3"/>
Landform:	<input type="text" value="3"/>	User Activity:	<input type="text" value="3"/>
Vegetation:	<input type="text" value="3"/>	Total:	<input type="text" value="15"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="3"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="2"/>	Total:	<input type="text" value="12"/>

7. Comments:

The WTG viewed within this natural setting are at a size and quantity that begins to dominate the viewer and their experience, the movement of the blades will be readily noticeable on a clear day.



5 of 6

Visual Impact Assessment

Personnel: KV

KOP: LEHT02 - Great Bay V

Date: 02-18-2021

Proposed Conditions

8. **Visibility Threshold Level** - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input checked="" type="checkbox"/>

9. Comments:

WTG on the horizon contrasts this more natural settings and are likely to become a major focus on the horizon.



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Visual Impact Assessment

Date: February 19, 2021

Personnel: Steve Breitka

Landscape Similarity Zone: Undeveloped Bay

Key Observation Point Name/Number: LEHT02

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). (This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☐ Yes ☒ No

If yes, briefly identify/describe:

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☐ Yes ☒ No

If yes, how does the natural order affect the view?



1 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: LEHT02

Date: February 19, 2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view?

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☐ Yes ☒ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☒ Short Term/Fleeting ☐ Long-term

The frequency of this view is: ☐ Repeated ☒ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☒ Clear ☐ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: The sky still has a rosy glow at the horizon following sunrise.

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☒ backlit ☐ frontlit ☐ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? Getting to this location involves driving down Great Bay Boulevard and then hiking to the beach, taking people through the salt marsh.



2 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: LEHT02

Date: February 19, 2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	8
Landform:	5
Vegetation:	6
Land Use:	7
User Activity:	7
Existing Conditions #1 Total:	33

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?

3

Special Condition B. Are there other aesthetic elements that add to this resource?

0

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?

3

Existing Conditions #2 Total (Sum 2A through 2C)

6

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

39

3. Comments:

Open view of the bay from a short stretch of beach. Calm, but textured, water with spiky grass vegetation along the shore. The lighting angle darkens this view: the grasses appearing black and the water full of dark ripples. The sky is white rosy pink on the left side of the view where the sun is reflecting off the water, transitioning to a rich blue on the right side of the view. Thin cloud cover high the sky, appearing like a thin hazy veil. White and blue puffy clouds closer to the horizon, scattered across the entire view. Land is visible in the distance on both sides of the view, apparently covered with vegetation given the dark color. There is minor topographic change across the dunes.



3 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: LEHT02

Date: February 19, 2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	2
Landform:	3
Vegetation:	4
Land Use:	6
User Activity:	4

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions: **5**

Total: 24

3. Comments:

The existing view does not have a singular focal point, just openness. The proposed turbines create a transparent wall of structures extending across the view. The adjacent Rutgers University Marine Field Station does give this location a research oriented land use, however, this is also a kayak launch area at the end of Great Bay Boulevard. Even though the nearest turbine is almost 12 miles away, they still create a sense of enclosure. The turbine spacing on the far right and far left feather out and have less presence in the sky. The turbines in the center of the view have a stacked repetitive appearance that increases their mass. The backlit nature of this view also makes the turbines appear dark against the white backdrop at the horizon.



4 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: LEHT02

Date: February 19, 2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	3	Land Use:	2
Landform:	2	User Activity:	3
Vegetation:	1	Total:	11

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	3	Land Use:	2
Landform:	2	User Activity:	2
Vegetation:	1	Total:	10

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	3	Land Use:	2
Landform:	3	User Activity:	3
Vegetation:	2	Total:	13

7. Comments:

The proposed turbines alter this view from one of open water to one of industry. Although the landforms in the distance are not significant, the turbines tower over the dunes and connect one side of the view to the other. The proposed view has multiple focal points, or one large focal point as the eye immediately goes to the horizon and the string of rotating blades.



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Visual Impact Assessment

Personnel: Steve Breitka

KOP: LEHT02

Date: February 19, 2021

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input checked="" type="checkbox"/>

9. Comments:

There is nothing in this view to compete for attention with the proposed turbines; they become the dominant feature given their expansive stretch. The turbines are not high in the sky, though they are the tallest element along the horizon.



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Visual Impact Assessment

Date: 2/17/21

Personnel: Jocelyn Gavitt

Landscape Similarity Zone: Ocean Residential

Key Observation Point Name/Number: LT02 Cape May Point

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). *(This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)*

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: The view is generally to the horizon line but is anchored by a building in the center of the view.

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No
If yes, how does the natural order affect the view?

There is a layering of natural salt marsh in the foreground, builtup land in the midground and open sky above the horizon line.



1 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: LT02 Cape May Point

Date: 2/17/21

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☒ Yes ☐ No

If yes, how does the visual clutter affect the view? There are some built elements that permeate the green spaces.

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☐ Yes ☒ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☐ Repeated ☒ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☒ Clear ☐ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: Increased moisture in the air could impact visibility.

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☒ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? This view is used mostly by locals and tourists for the purpose of vistas.



2 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: LT02 Cape May Point

Date: 2/17/21

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	7
Landform:	6
Vegetation:	6
Land Use:	6
User Activity:	6
Existing Conditions #1 Total:	31

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?	3
Special Condition B. Are there other aesthetic elements that add to this resource?	2

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?	2
--	----------

Existing Conditions #2 Total (Sum 2A through 2C)

7

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

38

3. Comments:

This prized view from the lighthouse looking in the direction of the turbine field is over salt marshes and distant built environment. The composition of the view generally terminates at the horizon line, which is occupied by a somewhat built up environment. The natural salt marsh in the foreground is the more scenic component of the view with a large open water component. .



3 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: LT02 Cape May Point

Date: 2/17/21

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	7
Landform:	6
Vegetation:	6
Land Use:	5
User Activity:	6

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions: **7**

Total: 37

3. Comments:

The proposed turbine field is barely noticeable above the built conditions at the horizon line. Viewers will likely not notice the turbines, though portions of them can be seen upon close examination.



4 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: LT02 Cape May Point

Date: 2/17/21

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="1"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="5"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="1"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="5"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="1"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="5"/>

7. Comments:

The turbines are barely noticeable in this view and therefore have very little impact.



5 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: LT02 Cape May Point

Date: 2/17/21

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input checked="" type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

The proposed conditions are not very noticeable, and what can be seen would likely be attributed to the existing built environment in the view.



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Visual Impact Assessment

Date: 17 February 2021

Personnel: KAC

Landscape Similarity Zone: Ocean Residential

Key Observation Point Name/Number: LT02 Cape May Pt SP

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). (This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: Grassy marsh opening, water body, water tank, and horizon.

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No

If yes, how does the natural order affect the view?

Scrub edge, marsh grass meadow, pond, scrub, man-made structures, utilities, background landform, and horizon; initially this is a sunken landscape with the ring of taller scrub forest vegetation emphasizing elevation difference. Background vegetation is strongly horizontal.



1 of 6

Visual Impact Assessment

Personnel: KAC

KOP: LT02 Cape May Pt SP

Date: 17 February 2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☒ Yes ☐ No

If yes, how does the visual clutter affect the view? In the background view various utility elements such as cell towers, water supply and the city skyline break the horizon.

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☐ Yes ☒ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☒ Short Term/Fleeting ☐ Long-term

The frequency of this view is: ☐ Repeated ☒ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☐ Clear ☒ Partly Cloudy ☐ Overcast ☒ Hazy

Conditions that may increase/decrease visibility could be described as: Less haze would increase the visibility to the Project.

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☒ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? Cape May State Park, Fishing Access and Beach, Cape May Lighthouse, Bayshore Heritage Scenic Byway.



2 of 6

Visual Impact Assessment

Personnel: KAC

KOP: LT02 Cape May Pt SP

Date: 17 February 2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	6
Landform:	6
Vegetation:	7
Land Use:	7
User Activity:	7
Existing Conditions #1 Total:	33

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks? **3**

Special Condition B. Are there other aesthetic elements that add to this resource? **2**

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter? **2**

Existing Conditions #2 Total (Sum 2A through 2C) **7**

Existing Conditions Grand Total (Sum #1 Total and #2 Total) **40**

3. Comments:

Cultural | Historic: Cape May State Park, Fishing Access and Beach, Cape May Lighthouse, Bayshore Heritage Scenic Byway.

Aesthetic: Elevated view from the historic lighthouse to the dynamic landscape that is a mix of scrub vegetation, marsh, pond, beach and ocean front.

Litter: Limited visitor litter.

Summary of View: The panoramic photo from this viewpoint has greater visual interest and diversity than the simulated view due to the layers of environmental diversity, color and texture observed as the tidal marsh and ocean front beach meet each other. The simulated view focuses on the carpet of marsh grass that is bordered by the deep green evergreen and deciduous scrub forest, and a water body that reflects the blue of the sky above. The built environment is apparent in the mid-ground and background view, however, very few elements break the horizon and the ones that do are light in color against the sky.



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Visual Impact Assessment

Personnel: KAC

KOP: LT02 Cape May Pt SP

Date: 17 February 2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	6
Landform:	6
Vegetation:	7
Land Use:	7
User Activity:	7

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions: **7**

Total: **40**

3. Comments:

With the Project in place it is very difficult to differentiate the rotors on the horizon due to the blade tips blending in with the other utility and man-made features that punctuate the horizon lightly and with very little visual definition. It is possible that the movement of the rotor blades would catch the viewer's attention, however, they would need to be focused and looking past the other interesting colors, texture and natural systems in the foreground setting.



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Visual Impact Assessment

Personnel: KAC

KOP: LT02 Cape May Pt SP

Date: 17 February 2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	1	Land Use:	1
Landform:	1	User Activity:	1
Vegetation:	1	Total:	5

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	1	Land Use:	1
Landform:	1	User Activity:	1
Vegetation:	1	Total:	5

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	1	Land Use:	1
Landform:	1	User Activity:	1
Vegetation:	1	Total:	5

7. Comments:

Compatibility: Turbines are not clearly visible at this distance, only the blade tips upon close observation.

Scale: The turbines do not break the horizon line with enough height to be visible and be in contrast to their surroundings.

Spatial Dominance: The turbines are almost imperceivable, therefore, they do not have any spatial dominance in the view.



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Visual Impact Assessment

Personnel: KAC

KOP: LT02 Cape May Pt SP

Date: 17 February 2021

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input checked="" type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

N/A



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Visual Impact Assessment

Date: 02-18-2021

Personnel: KV

Landscape Similarity Zone: Oceanfront Residential

Key Observation Point Name/Number: LT02 - Cape May SP

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). *(This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)*

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: Water towers on the horizon are distant focal points, but the contrast of flat grass among trees is a focal point

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☐ Yes ☒ No

If yes, how does the natural order affect the view?

the flat grassy area and the pond that mirrors the sky hold a viewers gaze within the center of the view.



1 of 6

Visual Impact Assessment

Personnel: KV

KOP: LT02 - Cape May SP

Date: 02-18-2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view?

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☐ Yes ☒ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☒ Short Term/Fleeting ☐ Long-term

The frequency of this view is: ☐ Repeated ☒ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☐ Clear ☒ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: overcast/hazy conditions may reduce visibility

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☒ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? This lighthouse is used for viewing and experiencing history. The State Park and beaches provide recreational resources.



2 of 6

Visual Impact Assessment

Personnel: KV

KOP: LT02 - Cape May SP

Date: 02-18-2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="7"/>
Landform:	<input type="text" value="6"/>
Vegetation:	<input type="text" value="7"/>
Land Use:	<input type="text" value="7"/>
User Activity:	<input type="text" value="7"/>
Existing Conditions #1 Total:	<input type="text" value="34"/>

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?	<input type="text" value="3"/>
Special Condition B. Are there other aesthetic elements that add to this resource?	<input type="text" value="3"/>

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?	<input type="text" value="3"/>
--	--------------------------------

Existing Conditions #2 Total (Sum 2A through 2C)

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

3. Comments:

Movement attracting viewer attention: none.

This view is from the top of the Cape May lighthouse looking back up the Cape may peninsula . The inland tidal pond among the herbaceous wetland vegetation and the dispersed forest canopy throughout make for a unique scene. The elevated vantage point and long distance view that it provides is unique. The landform at this location is flat in the foreground with low hills in the distant background. the variation in ponding and texture of the wetland vegetation mixed with forest is again unique. Land use and user activity at this state park emphasizes tourism and history. While not in the view frame the large parking area detracts from the visual quality of the elevated view. However, the shoreline beach similarly just beyond the view frame add to the unique quality of the view by adding even greater variety in resources at this location.



3 of 6

Visual Impact Assessment

Personnel: KV

KOP: LT02 - Cape May SP

Date: 02-18-2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="7"/>
Landform:	<input type="text" value="6"/>
Vegetation:	<input type="text" value="7"/>
Land Use:	<input type="text" value="7"/>
User Activity:	<input type="text" value="7"/>

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:

Total:

3. Comments:

The WTG from this viewpoint are distant and primarily limited to blade tips. Viewers may be drawn to the movement of the distant blade WTG, but they are unlikely to hold viewer attention with the variety of elements already existing in this view.



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Visual Impact Assessment

Personnel: KV

KOP: LT02 - Cape May SP

Date: 02-18-2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="1"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="5"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="1"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="5"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="1"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="5"/>

7. Comments:



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Visual Impact Assessment

Personnel: KV

KOP: LT02 - Cape May SP

Date: 02-18-2021

Proposed Conditions

8. **Visibility Threshold Level** - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input checked="" type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

The turbines added to this relatively still view will likely be apparent primarily because of the motion of blade tips rising and sinking in the distant background. On hazy or overcast days it is unlikely that viewers will be able to discern the WTG from other elements on the distant horizon.



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Visual Impact Assessment

Date: February 19, 2021

Personnel: Steve Breitka

Landscape Similarity Zone: Ocean Residential

Key Observation Point Name/Number: LT02

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). (This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☐ Yes ☒ No

If yes, briefly identify/describe:

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No
If yes, how does the natural order affect the view?

The natural landscape has an order of ocean to beach to inland salt marsh to dense wooded area. The man-made order depicts development at the beach including parking, beach access, beach front residential.



1 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: LT02

Date: February 19, 2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view?

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☐ Yes ☒ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☒ Short Term/Fleeting ☐ Long-term

The frequency of this view is: ☐ Repeated ☒ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☐ Clear ☒ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: There is a light haze in the distance. It covers a portion of the landscape and blurs the horizon.

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☒ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? This is an elevated view from the lighthouse that provides a unique perspective of a lush landscape.



2 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: LT02

Date: February 19, 2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="9"/>
Landform:	<input type="text" value="6"/>
Vegetation:	<input type="text" value="9"/>
Land Use:	<input type="text" value="8"/>
User Activity:	<input type="text" value="8"/>
Existing Conditions #1 Total:	<input type="text" value="40"/>

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?

Special Condition B. Are there other aesthetic elements that add to this resource?

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?

Existing Conditions #2 Total (Sum 2A through 2C)

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

3. Comments:

The colors and textures in this view resemble a painting. The elevated perspective lends a softness to the landscape below. The inland marsh has a variety of different materials including grasses, dense shrub thickets, and mature deciduous and coniferous trees. There is open water to brighten the marsh and make the connection to the ocean (outside this view to the right).
Development is visible in the distance although exact land use is not clear. Roof lines extend above the vegetation and there are a few narrow and obscure towers in the distance; they appear to include a municipal water tower and thin communication towers on the right side of the view.
The sky is predominantly a pale blue, lighter at the horizon with a few patchy white clouds.



3 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: LT02

Date: February 19, 2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="9"/>
Landform:	<input type="text" value="6"/>
Vegetation:	<input type="text" value="9"/>
Land Use:	<input type="text" value="8"/>
User Activity:	<input type="text" value="8"/>

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:

Total:

3. Comments:

Following the viewing parameters, the proposed turbines are hardly noticeable at the horizon. Only blades are visible and quantity cannot be determined.



4 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: LT02

Date: February 19, 2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="1"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="5"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="1"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="5"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="1"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="5"/>

7. Comments:

Following the viewing parameters, the proposed turbines are hardly noticeable at the horizon. Only blades are visible and quantity cannot be determined.



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Visual Impact Assessment

Personnel: Steve Breitka

KOP: LT02

Date: February 19, 2021

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input checked="" type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

Following the viewing parameters, the proposed turbines are hardly noticeable at the horizon. Only blades are visible and quantity cannot be determined.



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6 of 6

Visual Impact Assessment

Date: 2/17/21

Personnel: Jocelyn Gavitt

Landscape Similarity Zone: Oceanfront Residential

Key Observation Point Name/Number: MCo2 Lucy the Margate

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). (This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☐ Yes ☒ No

If yes, briefly identify/describe:

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No

If yes, how does the natural order affect the view?

The built environment is cluttered but contained as one body of shoreline balanced by open water and open sky.



1 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: MCo2 Lucy the Margate

Date: 2/17/21

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☒ Yes ☐ No

If yes, how does the visual clutter affect the view? There is considerable clutter in the foreground that competes with the open water view.

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☐ Repeated ☒ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☒ Clear ☐ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: Increased moisture in the air could impact visibility.

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☒ frontlit ☐ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? This view is seen from a historic landmark.



2 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: MCo2 Lucy the Margate

Date: 2/17/21

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	7
Landform:	4
Vegetation:	3
Land Use:	5
User Activity:	5
Existing Conditions #1 Total:	24

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?	2
Special Condition B. Are there other aesthetic elements that add to this resource?	1

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?	1
--	---

Existing Conditions #2 Total (Sum 2A through 2C)

4

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

28

3. Comments:

This view out to open water from a historic landmark has significant clutter in the foreground, attracting one's attention to the buildings, people and other built elements that frame the bottom and left of the view. The open water is a pristine balance to the clutter in the foreground. The composition of the view is such to lack any solid focal point. The viewers gaze eventually rests on the open water at the horizon line.



3 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: MCo2 Lucy the Margate

Date: 2/17/21

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	2
Landform:	3
Vegetation:	2
Land Use:	4
User Activity:	4

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions: 3

Total: 18

3. Comments:

The proposed turbine field occupies the one clean open area of the existing view, filling it with the visual clutter of the turbine field at a distance that deems it quite visible. The turbines penetrate the horizontal skyline and become the new focus of the view. They add to the clutter that exists in the foreground.



4 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt
KOP: MC02 Lucy the Margate
Date: 2/17/21

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<div>3</div>	Land Use:	<div>2</div>
Landform:	<div>2</div>	User Activity:	<div>2</div>
Vegetation:	<div>1</div>	Total:	<div>10</div>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<div>3</div>	Land Use:	<div>2</div>
Landform:	<div>2</div>	User Activity:	<div>2</div>
Vegetation:	<div>1</div>	Total:	<div>10</div>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<div>3</div>	Land Use:	<div>2</div>
Landform:	<div>2</div>	User Activity:	<div>2</div>
Vegetation:	<div>2</div>	Total:	<div>11</div>

7. Comments:

The turbines occupy the horizon and become a focus in this view.



Visual Impact Assessment

Personnel: Jocelyn Gavitt
KOP: MC02 Lucy the Margate
Date: 2/17/21

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract viewer attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input checked="" type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

The turbines are highly visible and the only mitigating factor in their visibility is the presence of visual clutter in the foreground that competes for the viewers attention.



Visual Impact Assessment

Date: 17 February 2021 Personnel: KAC
Landscape Similarity Zone: Oceanfront Residential Key Observation Point Name/Number: MC02 Lucy ME NHL

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). (This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: Tall building, odd architectural angles, utilities, ocean and horizon line.

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No

If yes, how does the natural order affect the view?

Strip architecture, restored beach grass, beach, jetty, ocean, and horizon; interrupted landscape due to the boxing in of the view with incongruous architectural styles and heights.



Visual Impact Assessment

Personnel: KAC
KOP: MC02 Lucy ME NHL
Date: 17 February 2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☒ Yes ☐ No

If yes, how does the visual clutter affect the view? The incongruous architectural styles/materials and high-rise as well as utility poles interrupt the view to the ocean.

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☒ Short Term/Fleeting ☐ Long-term

The frequency of this view is: ☐ Repeated ☒ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☐ Clear ☐ Partly Cloudy ☐ Overcast ☒ Hazy

Conditions in this view may increase/decrease visibility could be described as: A less hazy horizon line would show more Project detail.

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☒ frontlit ☐ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? Atlantic Coast Public Beach, Lucy the Margate Elephant, Margate City Public Beach.



Visual Impact Assessment

Personnel: KAC
KOP: MC02 Lucy ME NHL
Date: 17 February 2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	6
Landform:	6
Vegetation:	6
Land Use:	6
User Activity:	6
Existing Conditions #1 Total:	30

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?	2
Special Condition B. Are there other aesthetic elements that add to this resource?	0

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?	1
--	---

Existing Conditions #2 Total (Sum 2A through 2C)

3

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

33

3. Comments:

Cultural | Historic: Atlantic Coast Public Beach, Lucy the Margate Elephant, Margate City Public Beach.

Aesthetic: The folly and amusement of Lucy the Margate Elephant is minimized by the dated architectural structures that surround it, which also prohibit the visual connection and promenade to the beach and ocean.

Litter: Tourist and beach litter.

Summary of View: The street view to Lucy the Elephant itself is likely a more sensitive visual resource than the view from the observation platform on top. The view, outside of being from a historic monument, does not have a superior aesthetic due to the beach and ocean being interrupted by random architectural forms, materials and styles, interrupting utility lines and poles, and elevated views into the service areas of adjacent structures.



Visual Impact Assessment

Personnel: KAC
KOP: MC02 Lucy ME NHL
Date: 17 February 2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	5
Landform:	5
Vegetation:	6
Land Use:	5
User Activity:	5

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions: 3

Total: 29

3. Comments:

The existing view from the lookout top of Lucy the Elephant is not as aesthetically important as the cultural importance and ritual of visiting Lucy by locals and visitors. The existing view is already compromised and separated from the beach and ocean due to the surrounding architecture, utility, and service elements, however, the addition of the massive wind farm on the horizon further industrializes the existing view. The bright white vertical and horizontal pattern of the wind farm is visually prominent but in keeping with the bright white color of the vertical building cladding that occupies much of the view, pool railings and the thin horizontal banding on the high rise building. The proposed turbines at 14.43-miles to the nearest turbine are massive in scale and number in the view, and they lack order and structure from this vantage point that further contributes to the existing visual clutter and chaos, although their slender silhouettes sit lighter against the horizon in comparison to other man-made elements. It is preferred that a historic resource like Lucy the Elephant would be preserved within a landscape that supports and accentuates the monument, however, this resource is surrounded by parking lots and strip development.



Visual Impact Assessment

Personnel: KAC
KOP: MC02 Lucy ME NHL
Date: 17 February 2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	1.5	Land Use:	1
Landform:	1.5	User Activity:	1.5
Vegetation:	1	Total:	6.5

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	1.5	Land Use:	1
Landform:	1.5	User Activity:	1.5
Vegetation:	1	Total:	6.5

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	1.5	Land Use:	1
Landform:	1.5	User Activity:	1.5
Vegetation:	1	Total:	6.5

7. Comments:

Compatibility: The introduction of the Project into the view further industrializes and reduces the already compromised visual integrity of the view from Lucy the Elephant.

Scale: The large apartment building/hotel to the left of the view, which is taller than the surrounding buildings from this viewpoint is the most visually dominant scale element in the view. It proximity to the wind farm minimizes the heights of the turbines on the horizon.

Spatial Dominance: The existing visual clutter in the view with differentiating patterns, colors, textures, and styles within a small viewing area create so many different places for the eye to look and focus that the Project does not have the visual dominance that it has in more pristine and undeveloped area.



Visual Impact Assessment

Personnel: KAC
KOP: MC02 Lucy ME NHL
Date: 17 February 2021

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input checked="" type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

N/A



Visual Impact Assessment

Date: 02-18-2021

Personnel: KV

Landscape Similarity Zone: Oceanfront Residential

Key Observation Point Name/Number: MC02 - Lucy Margate

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). *(This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)*

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☐ Yes ☒ No

If yes, briefly identify/describe: the open horizon framed by development draws viewer attention, but does not hold it as a focal point

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☐ Yes ☒ No

If yes, how does the natural order affect the view?



1 of 6

Visual Impact Assessment

Personnel: KV

KOP: MC02 - Lucy Margate

Date: 02-18-2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☒ Yes ☐ No

If yes, how does the visual clutter affect the view? This view is confusing to the eye, and does not inform the viewer what they should be taking from the view. are we looking at the ocean, the buildings, the utilities?

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of Viewing

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☒ Short Term/Fleeting ☐ Long-term

The frequency of this view is: ☐ Repeated ☒ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☒ Clear ☐ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: Overcast/Hazy would decrease visibility.

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☒ frontlit ☐ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? Tourism to Lucy the Elephant, beach goers



2 of 6

Visual Impact Assessment

Personnel: KV

KOP: MC02 - Lucy Margate

Date: 02-18-2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="5"/>
Landform:	<input type="text" value="5"/>
Vegetation:	<input type="text" value="4"/>
Land Use:	<input type="text" value="6"/>
User Activity:	<input type="text" value="6"/>
Existing Conditions #1 Total:	<input type="text" value="26"/>

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?	<input type="text" value="3"/>
Special Condition B. Are there other aesthetic elements that add to this resource?	<input type="text" value="1"/>

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?	<input type="text" value="3"/>
--	--------------------------------

Existing Conditions #2 Total (Sum 2A through 2C)

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

3. Comments:

Movement attracting viewer attention: beach goers, residents of the building using the pool or balconies, ocean waves.

This view represents an urban beachfront environment setback from the direct shoreline. A beachfront typical for this region with stone pier is visible, but the setback of this viewpoint also allows the shoreline to be framed by a high-rise dwelling to the left and a variety of smaller structures along the bottom of the frame. The elevated nature of this view allows existing utility poles to be in the line-of-sight. Although this view is from a National Historic Landmark the visual clutter detracts from the visible water resources and shoreline landform. Vegetation in this area is that of low growing dune grasses that are constrained within sand fencing and patchy in spots. The land use and user activity in this area is residential and tourist in nature. As evidenced by the number of beach-goers this is a popular location with space for users to simultaneously be within the crowd, but have ample room to establish their location.



3 of 6

Visual Impact Assessment

Personnel: KV

KOP: MC02 - Lucy Margate

Date: 02-18-2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="3"/>
Landform:	<input type="text" value="5"/>
Vegetation:	<input type="text" value="4"/>
Land Use:	<input type="text" value="4"/>
User Activity:	<input type="text" value="5"/>

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:

Total:

3. Comments:

While the existing water resource previously assisted in balancing cluttered development against an expansive open ocean, the wind turbines within this view extend to the visual clutter of the existing foreground structures and utilities. The amount of turbines at this distance allows them to be highly visible even when softened by their light color against the light sky. Stacking of turbines, rather than lending uniformity in this view, adds to the appearance of a scattered and disorganized layout because locations where turbines align is inconsistent and not in regular intervals. The flat linear nature of the shoreline was already accentuated by the tall structures surrounding. Similarly, the minimal vegetation already experienced a diminishment from the height of surrounding development. However, the WTG located in this area may have impact on land use and user activity. While some users will continue to this beach others may determine that locations at a further distance from the WTG array is more desirable. Yet, Lucy the Margate Elephant was designed as an oddity meant to attract curious travelers, and the turbines could potentially serve to do the same.



4 of 6

Visual Impact Assessment

Personnel: KV

KOP: MC02 - Lucy Margate

Date: 02-18-2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="3"/>	User Activity:	<input type="text" value="3"/>
Vegetation:	<input type="text" value="2"/>	Total:	<input type="text" value="13"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="3"/>	User Activity:	<input type="text" value="3"/>
Vegetation:	<input type="text" value="2"/>	Total:	<input type="text" value="13"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="3"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="11"/>

7. Comments:

The WTG in size and amount are not compatible with the expansive horizontal nature of the water resources, or long linear landform primarily due to the intense scale contrast of the large WTG on the horizon. However, the minimal vegetation and already highly developed land use may be somewhat compatible. User activity within this developed location is centered around the ability for ocean views which maybe disrupted by the WTGs in place.



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Visual Impact Assessment

Personnel: KV

KOP: MC02 - Lucy Margate

Date: 02-18-2021

Proposed Conditions

8. **Visibility Threshold Level** - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input checked="" type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

While size and quantity of the WTG at this location is strongly contrasting with the water resources the array does not take up a majority of the available horizon.



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Visual Impact Assessment

Date: February 19, 2021

Personnel: Steve Breitka

Landscape Similarity Zone: Oceanfront Residential

Key Observation Point Name/Number: MC02

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). *(This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)*

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☐ Yes ☒ No

If yes, briefly identify/describe:

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No

If yes, how does the natural order affect the view?

Beachfront development including low-rise and high-rise residential structures, beach access, commercialized high-traffic area.



1 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: MC02

Date: February 19, 2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☒ Yes ☐ No

If yes, how does the visual clutter affect the view? *The clutter spreads across the entire foreground consisting of overhead utilities, paved surface parking lots, a mix of architectural styles, and balconies on a high-rise.*

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☒ Repeated ☐ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☒ Clear ☐ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: *The sky is almost completely clear with only a few wispy clouds on the right side.*

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☒ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? *Recreational given the history of Lucy the Margate Elephant.*



2 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: MC02

Date: February 19, 2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="7"/>
Landform:	<input type="text" value="6"/>
Vegetation:	<input type="text" value="5"/>
Land Use:	<input type="text" value="8"/>
User Activity:	<input type="text" value="7"/>
Existing Conditions #1 Total:	<input type="text" value="33"/>

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?

Special Condition B. Are there other aesthetic elements that add to this resource?

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?

Existing Conditions #2 Total (Sum 2A through 2C)

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

3. Comments:

This is a busy beach front area, both in terms of people and in terms of visual distraction. The foreground consists of multiple roof lines to follow, overhead utility lines and poles, rooftop HVAC equipment, and balconies on a residential high-rise building. The middle of the view is further disrupted by inconsistent beach reclamation grass plantings and a scattering of people and colorful umbrellas across the sandy beach. The distant view includes deep blue ocean water with bright white waves cresting at the sand, a hazy horizon line, and white to mid-blue gently faded nearly cloudless sky.



3 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: MC02

Date: February 19, 2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="5"/>
Landform:	<input type="text" value="5"/>
Vegetation:	<input type="text" value="4"/>
Land Use:	<input type="text" value="6"/>
User Activity:	<input type="text" value="6"/>

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:

Total:

3. Comments:

The view is further cluttered by the proposed turbines that span the entire width of the view. They are stark white on the horizon with dark blue water below and light blue sky as a backdrop. The overlapping blades create a fence-like barrier along the horizon. The turbines do not extend far into the sky, it is the breadth of the field that gives them such a strong presence.
There is a similarity between the layout of the grasses and he distant turbines, linking these two components.



4 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: MC02

Date: February 19, 2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="9"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="9"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="3"/>	Total:	<input type="text" value="12"/>

7. Comments:

The distant proposed turbines contribute to the existing foreground clutter. This ties the view together while also detracting from the wide open expanse of water.



5 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: MC02

Date: February 19, 2021

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input checked="" type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

The turbines are clearly visible on the horizon although the surrounding context in the foreground serves as a distraction, full of color, angles, and activity.



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Visual Impact Assessment

Date: 2/17/21

Personnel: Jocelyn Gavitt

Landscape Similarity Zone: Oceanfront Commercial

Key Observation Point Name/Number: OC04 Gillian's Wond...

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). (This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☐ Yes ☒ No

If yes, briefly identify/describe:

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No

If yes, how does the natural order affect the view?

The built environment is cluttered but contained as one body of shoreline balanced by open water and open sky.



1 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: OC04 Gillian's Wond...

Date: 2/17/21

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☒ Yes ☐ No

If yes, how does the visual clutter affect the view? The general lines converge as a one point perspective on the horizon.

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☒ Repeated ☐ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☒ Clear ☐ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: Increased moisture in the air could impact visibility.

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☒ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? This view is from a highly used recreational beachfront area.



2 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: OC04 Gillian's Wond...

Date: 2/17/21

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	8
Landform:	6
Vegetation:	4.5
Land Use:	7
User Activity:	8
Existing Conditions #1 Total:	33.5

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?	2
Special Condition B. Are there other aesthetic elements that add to this resource?	2

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?	2
--	---

Existing Conditions #2 Total (Sum 2A through 2C)

6

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

39.5

3. Comments:

This view up the large sandy beach and out into the open wavy water is filled with people and activity. The view is relatively simple, the sandy beach balancing the open water. The waves combined with the presence of beach users creates motion in the landscape. The view generally converges at the vanishing point on the horizon.



3 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: OC04 Gillian's Wond...

Date: 2/17/21

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	2
Landform:	3
Vegetation:	4.5
Land Use:	3
User Activity:	3

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:	3
---------------------	---

Total: 18.5

3. Comments:

The proposed turbine field creates strong lines of turbines receding out into the ocean from this vantage point. The turbine field is large and highly populated, dominating the horizon line and creating a completely altered condition in the open water. This existing view is now populated with man made structures that will be animated by the wind. There is a very strong impact in this view.



4 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: OC04 Gillian's Wond

Date: 2/17/21

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="9"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="3"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="3"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="11"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="3"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="10"/>

7. Comments:

The turbines occupy the horizon and become a focus in this view. The arrangement of the rows of turbines creates strong lines and circumstance. They have a very strong impact on this view.



5 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: OC04 Gillian's Wond

Date: 2/17/21

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input checked="" type="checkbox"/>

9. Comments:

The turbines are highly visible and become a focus of this view.



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Visual Impact Assessment

Date: 17 February 2021

Personnel: KAC

Landscape Similarity Zone: Oceanfront Commercial

Key Observation Point Name/Number: OC04 Gillian's WPier

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). (This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: Horizon line, however, the real focal point is the Pier to the left that is out of view.

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No

If yes, how does the natural order affect the view?

Sand, surf, large waves and horizon; horizontal landscape with a strong perspective point to the left that the rolling surf fans out from.



1 of 6

Visual Impact Assessment

Personnel: KAC

KOP: OC04 Gillian's WPier

Date: 17 February 2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view? N/A

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☒ Repeated ☐ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☐ Clear ☐ Partly Cloudy ☐ Overcast ☒ Hazy

Conditions that may increase/decrease visibility could be described as: Clear sky conditions would increase the visibility to the blade tips.

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☒ backlit ☐ frontlit ☐ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? Open beach with large waves.



2 of 6

Visual Impact Assessment

Personnel: KAC

KOP: OC04 Gillian's WPier

Date: 17 February 2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	8
Landform:	7
Vegetation:	4.5
Land Use:	7
User Activity:	7
Existing Conditions #1 Total:	33.5

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks? **1**

Special Condition B. Are there other aesthetic elements that add to this resource? **1**

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter? **1**

Existing Conditions #2 Total (Sum 2A through 2C) **3**

Existing Conditions Grand Total (Sum #1 Total and #2 Total) **36.5**

3. Comments:

Cultural | Historic: Ocean City Beach Front

Aesthetic: Open beach with large waves.

Litter: Beach visitor litter.

Summary of View: The significance of the existing view is the viewers proximity to the Pier amusements and access to the large surfing waves. The waves are dynamic and visually captivating in their size, action, sound, and perceived power. The existing condition color is monochromatic with the sand, surf, waves and sky all encompassing varying shades of French gray, and the surfers and visitors showing as black silhouettes against the roaring waves. It is difficult to differentiate between the horizon line and the rolling surf from this vantage point, therefore, the view is compressed and focused in the midground.



3 of 6

Visual Impact Assessment

Personnel: KAC

KOP: OC04 Gillian's WPier

Date: 17 February 2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	7
Landform:	7
Vegetation:	4.5
Land Use:	7
User Activity:	6

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions: **3**

Total: **34.5**

3. Comments:

The Project is minimally visible above the horizon/surf line with just the tips of blades, or bisected rotors sneaking above the wave action. The turbine blades are neatly ordered along the extent of the surf/horizon line in the view. It is probable that the rolling, aggressive wave action obstructs the background blade tips on an intermittent basis and the waves retain their visual dominance in the midground view. The juxtaposition and movement of the turbine tips, waves and surfers could make a very interesting visual tapestry during surfing activities.



4 of 6

Visual Impact Assessment

Personnel: KAC

KOP: OC04 Gillian's WPier

Date: 17 February 2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	1.5	Land Use:	1
Landform:	1.5	User Activity:	1.5
Vegetation:	0	Total:	5.5

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	1.5	Land Use:	1
Landform:	1	User Activity:	1
Vegetation:	0	Total:	4.5

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	1.5	Land Use:	1
Landform:	1	User Activity:	1
Vegetation:	0	Total:	4.5

7. Comments:

Compatibility: The rolling surf and waves almost fully conceal the blade tips, which indicates that on high tide and during stormy weather, it is likely that the Project would not be less visible, or possibly not seen at all. The organized rows of rotors offer a unique optic form this vantage point.

Scale: The rotors and blades only partially break the horizon/surf line, and the ongoing wave crash movement will offset the rotor movement.

Spatial Dominance: The wide breadth of open sand to the crashing waves maintains spatial dominance in this view despite the number of turbine blades that punctuate the horizon/surf line.



5 of 6

Visual Impact Assessment

Personnel: KAC

KOP: OC04 Gillian's WPier

Date: 17 February 2021

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input checked="" type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

N/A



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Visual Impact Assessment

Date: 02-18-2021

Personnel: KV

Landscape Similarity Zone: Oceanfront Residential

Key Observation Point Name/Number: OC04 - Gillian's Wonda

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). (This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☐ Yes ☒ No

If yes, briefly identify/describe: the silhouetted person serves as a focal point in this photo, but the view itself has no stationary focal point

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No
If yes, how does the natural order affect the view?

the tint and tone of the sky repeats across the gentle sandy slope marked by tides and scattered with pieces of shell before meeting the ocean and rising waves, the affect is a soft and subtle view that engages the eye as a whole.



1 of 6

Visual Impact Assessment

Personnel: KV

KOP: OC04 - Gillian's Wonda

Date: 02-18-2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view?

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of Viewing

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☐ Repeated ☒ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☐ Clear ☐ Partly Cloudy ☐ Overcast ☒ Hazy

Conditions that may increase/decrease visibility could be described as: visibility may decrease with overcast skies

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☒ backlit ☐ frontlit ☐ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? This site has a boardwalk and beach access as well as an amusement park and Ocean City Music Pier



2 of 6

Visual Impact Assessment

Personnel: KV

KOP: OC04 - Gillian's Wonda

Date: 02-18-2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	6
Landform:	6
Vegetation:	4.5
Land Use:	5
User Activity:	5

Existing Conditions #1 Total: 26.5

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?	1
Special Condition B. Are there other aesthetic elements that add to this resource?	0

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter? 3

Existing Conditions #2 Total (Sum 2A through 2C) 4

Existing Conditions Grand Total (Sum #1 Total and #2 Total) 30.5

3. Comments:

Motion attracting viewer attention: large crashing waves, beach users.
This open shoreline beach view demonstrates a large and wide beachfront with large crashing waves. The water resource at this location is the open and expansive ocean. No vegetation exists within the view frame, but vegetative dunes are located at the far distance of the sandy beach just in front of a boardwalk and amusement park. While fairly common for this region the width of the beach is somewhat notable and provides ample room for summer crowds to gather and have easy access to the amenities of the boardwalk. Land use is directed to summer tourism as is a majority of user activity. However, this late summer scene after the peak of tourism find surfers and other beach goers finding continued enjoyment out of peak season.

Ocean city beach front is the only identified resource at this location. No litter is currently within the view.



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Visual Impact Assessment

Personnel: KV

KOP: OC04 - Gillian's Wonda

Date: 02-18-2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	4
Landform:	6
Vegetation:	4.5
Land Use:	5
User Activity:	5

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions: 4

Total: 28.5

3. Comments:

The wind turbines in this location are back-lit and silhouetted on the bright white horizon. Although currently obscured by large waves the WTG are likely to have a range of visibility, indicated on the context page, with some obscured up to 200 feet and others having visibility of the nacelle and above. Stacking of the turbines with large breaks between rows is evident for rows to the left side of the view. moving right in the frame turbine rows begin to loose definition and appear less organized. While the turbine array at this location does not appear as a scattered mass and row spacing is apparent this gives an indication of the breadth of sea area utilized for the array. However, this breadth and spread somewhat mimics the the intensely horizontal nature of the shoreline and may assist in minimizing the impact to landform. Land use and user activity at this location is likely to continue to be targeted toward summer tourism, but the ocean views will no longer provide the serene balance to a more chaotic boardwalk and midway.



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Visual Impact Assessment

Personnel: KV

KOP: OC04 - Gillian's Wont

Date: 02-18-2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="3"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="10"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="3"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="10"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="9"/>

7. Comments:

while WTG of this size and massing do not lend compatibility to water resources and landform the existing land use and user activities including a Ferris wheel and other large mechanical structures just beyond the view frame finds some compatibility.

Similarly scale contrast and spatial dominance of the WTG compared to water resources is severe and dominant. However, the spread and breadth of the WTG array highlights the spread and breadth of the landform becoming a co-dominant feature rather than dominant.



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Visual Impact Assessment

Personnel: KV

KOP: OC04 - Gillian's Wont

Date: 02-18-2021

Proposed Conditions

8. **Visibility Threshold Level** - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input checked="" type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

the quantity of turbines, and the spread of the array is likely to strongly attract viewer attention especially when they are all in motion.



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Visual Impact Assessment

Date: February 19, 2021

Personnel: Steve Breitka

Landscape Similarity Zone: Oceanfront Commercial

Key Observation Point Name/Number: OC04

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). *(This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)*

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☐ Yes ☒ No

If yes, briefly identify/describe: The Simulated Photograph Extent does not although the Wonderland Pier to the left does.

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☐ Yes ☒ No

If yes, how does the natural order affect the view?



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Visual Impact Assessment

Personnel: Steve Breitka

KOP: OC04

Date: February 19, 2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view?

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☒ Short Term/Fleeting ☐ Long-term

The frequency of this view is: ☐ Repeated ☒ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☐ Clear ☐ Partly Cloudy ☐ Overcast ☒ Hazy

Conditions that may increase/decrease visibility could be described as: Thin and hazy cloud cover throughout most of the sky.

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☒ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? Large beach with multiple access points adjacent to the boardwalk and the Wonderland Pier, including a tall Ferris Wheel.



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Visual Impact Assessment

Personnel: Steve Breitka

KOP: OC04

Date: February 19, 2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="9"/>
Landform:	<input type="text" value="9"/>
Vegetation:	<input type="text" value="4.5"/>
Land Use:	<input type="text" value="9"/>
User Activity:	<input type="text" value="9"/>
Existing Conditions #1 Total:	<input type="text" value="40.5"/>

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?

Special Condition B. Are there other aesthetic elements that add to this resource?

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?

Existing Conditions #2 Total (Sum 2A through 2C)

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

3. Comments:

Well-traveled beach full of footprints and activity, adjacent to the boardwalk and the historic amusement park. Large waves are crashing onto shore, producing constant motion and a white surf spray in the air. The view has a washed out color palette with beige sand, white waves, pale blue horizon leading to a light blue sky above.



3 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: OC04

Date: February 19, 2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="4"/>
Landform:	<input type="text" value="5"/>
Vegetation:	<input type="text" value="4.5"/>
Land Use:	<input type="text" value="5"/>
User Activity:	<input type="text" value="5"/>

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:

Total:

3. Comments:

There is no apparent limit to the water until the proposed turbines provide an edge protruding from the waves. This edge runs along the majority of the horizon although only the turbine blades and a limited portion of the towers are visible. Although the turbines are against a white background, they have a muted color like the rest of the view.



4 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: OC04

Date: February 19, 2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="2"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="8"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="1"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="6"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="1"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="0"/>	Total:	<input type="text" value="6"/>

7. Comments:

The turbines do not command attention in this view but they are visible and their spacing makes them dark forms on the horizon. They are low on the horizon as well, this masks their height and depth.



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Visual Impact Assessment

Personnel: Steve Breitka

KOP: OC04

Date: February 19, 2021

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input checked="" type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

The turbines cannot be missed as a component in this view though the constant wave motion will also detract from the rotating blades in the background.



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Visual Impact Assessment

Date: 2/17/21

Personnel: Jocelyn Gavitt

Landscape Similarity Zone: Open Water/ Undeveloped

Key Observation Point Name/Number: SIC02 Townsends Inlet

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). *(This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)*

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☐ Yes ☒ No

If yes, briefly identify/describe:

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No
If yes, how does the natural order affect the view?

The foreground has elements of open beach with some vegetation, while the mid-ground is occupied by open water.



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Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: SIC02 Townsends Inlet

Date: 2/17/21

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view?

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☒ Short Term/Fleeting ☐ Long-term

The frequency of this view is: ☒ Repeated ☐ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☒ Clear ☐ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: *Increased moisture in the air could impact visibility.*

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☒ backlit ☐ frontlit ☐ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? *This view is from a bridge and will likely get much use.*



2 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: SIC02 Townsends Inlet

Date: 2/17/21

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	8
Landform:	6
Vegetation:	5
Land Use:	7
User Activity:	7
Existing Conditions #1 Total:	33

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?	2
Special Condition B. Are there other aesthetic elements that add to this resource?	2

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?	2
--	----------

Existing Conditions #2 Total (Sum 2A through 2C)

6

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

39

3. Comments:

This is a relatively simple view with open sandy land in the foreground and open water in the mid-ground. The horizon line anchors this view. The motion of the waves, and likely use by people add an element of interest to the view.



3 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: SIC02 Townsends Inlet

Date: 2/17/21

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	2
Landform:	3
Vegetation:	4
Land Use:	3
User Activity:	3

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions: **3**

Total: 18

3. Comments:

The proposed turbine field creates strong lines of turbines receding out into the ocean from this vantage point. The turbine field is large and highly populated, dominating the horizon line and creating a completely altered condition in the open water. The turbines are at a significant distance, though are highly visible in these backlit conditions. There is a very strong impact in this view.



4 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt
KOP: SIC02 Townsends Inlet
Date: 2/17/21

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<div>3</div>	Land Use:	<div>2</div>
Landform:	<div>2</div>	User Activity:	<div>2</div>
Vegetation:	<div>1</div>	Total:	<div>10</div>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<div>3</div>	Land Use:	<div>3</div>
Landform:	<div>2</div>	User Activity:	<div>2</div>
Vegetation:	<div>1</div>	Total:	<div>11</div>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<div>3</div>	Land Use:	<div>2</div>
Landform:	<div>2</div>	User Activity:	<div>2</div>
Vegetation:	<div>3</div>	Total:	<div>12</div>

7. Comments:

The backlit turbines occupy the horizon and become a focus in this view. The arrangement of the rows of turbines creates strong lines. They have a very strong impact on this view.



Visual Impact Assessment

Personnel: Jocelyn Gavitt
KOP: SIC02 Townsends Inlet
Date: 2/17/21

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input checked="" type="checkbox"/>

9. Comments:

The turbines are highly visible and become a focus of this view. The backlit condition may be amplifying their visibility.



Visual Impact Assessment

Date: 17 February 2021 Personnel: KAC
Landscape Similarity Zone: Open Water | Undeveloped Bay Key Observation Point Name/Number: SIC02 Townsend's Br

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). (This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: Edge of surf and sand, pink-tinged horizon line.

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No

If yes, how does the natural order affect the view?

Inlet sand, ocean, horizon; sweeping landscape with the landform bending to the water before the view becoming strongly horizontal with the ocean a wedge between the sand and sky.



Visual Impact Assessment

Personnel: KAC
KOP: SIC02 Townsend's Br
Date: 17 February 2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view? N/A

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☐ Yes ☒ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☒ Short Term/Fleeting ☐ Long-term

The frequency of this view is: ☐ Repeated ☒ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☐ Clear ☐ Partly Cloudy ☐ Overcast ☒ Hazy

Conditions that may increase/decrease visibility could be described as: Clear horizon conditions can increase the visibility of the turbines.

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☒ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? Sea Isle City Beach Dune, Townsend Inlet Bridge



Visual Impact Assessment

Personnel: KAC

KOP: SIC02 Townsend's Br

Date: 17 February 2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="7"/>
Landform:	<input type="text" value="7"/>
Vegetation:	<input type="text" value="6"/>
Land Use:	<input type="text" value="6"/>
User Activity:	<input type="text" value="6"/>
Existing Conditions #1 Total:	<input type="text" value="32"/>

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?

Special Condition B. Are there other aesthetic elements that add to this resource?

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?

Existing Conditions #2 Total (Sum 2A through 2C)

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

3. Comments:

Cultural | Historic: Sea Isle City Beach Dune, Townsend Inlet Bridge

Aesthetic: Elevated bridge view across the inlet to the ocean between residential zones.

Litter: Road Litter.

Summary of View: This view is the glimpse to the ocean and horizon that a road traveler would have while moving between the residential areas that border each side of the Cape May County Road. The view would be fleeting for the driver and more long standing for the passenger as the vehicle crosses the bridge, unless the drawbridge is open for boat traffic. While a visual relief from the built landscape on either side of it, the view to the ocean is a common New England seascape that is made more memorable through the act of passing over the drawbridge itself.



3 of 6

Visual Impact Assessment

Personnel: KAC

KOP: SIC02 Townsend's Br

Date: 17 February 2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="6"/>
Landform:	<input type="text" value="6"/>
Vegetation:	<input type="text" value="6"/>
Land Use:	<input type="text" value="6"/>
User Activity:	<input type="text" value="6"/>

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:

Total:

3. Comments:

The installation of the wind farm at this viewing distance reduces the visual intrusion of the turbines on the viewers experience while crossing the bridge. The open sand of the inlet, slip of ocean and expanse of horizon and sky do not compete with the turbine installation, but rather the seascape elements knit together with the turbines. The turbines are neatly organized, patterned and appear to be at a similar height, which reduces the visual clutter in the view. In addition, the slender profile of the turbines sits lightly against the morning sky. Therefore, these factors mitigate the potential reduction in visual quality despite the addition of a new industrial element within the seascape. It is possible that some viewers could consider the wind farm a unique visual addition to the common ocean view or even a landmark for travel.



4 of 6

Visual Impact Assessment

Personnel: KAC

KOP: SIC02 Townsend's Br

Date: 17 February 2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="1.5"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="5.5"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="1.5"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="5.5"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="1.5"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="5.5"/>

7. Comments:

Compatibility: The low profile of the turbines on the horizon, as well as their organized and patterned layout minimizes their potential disharmony with the existing view.

Scale: At 27.35-miles away, the turbines are small on the horizon and do not visually dominate the view, especially during the fleeting time spent driving over the bridge.

Spatial Dominance: The proposed turbines are small on the horizon and do not compete with the proportion of sand and sky, which are the major elements within the view.



5 of 6

Visual Impact Assessment

Personnel: KAC

KOP: SIC02 Townsend's Br

Date: 17 February 2021

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input checked="" type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

N/A



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Visual Impact Assessment

Date: 02-18-2021

Personnel: KV

Landscape Similarity Zone: Open Water/Undeveloped

Key Observation Point Name/Number: SIC02 - Townsend Br

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). *(This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)*

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: the small central pooling and dark sand to the left of it holds viewer focus

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No

If yes, how does the natural order affect the view?

the neutral colors of vegetation and sand, and the gentle pastels of water and sky provide a calming image with the warmth of early sunrise.



1 of 6

Visual Impact Assessment

Personnel: KV

KOP: SIC02 - Townsend Br

Date: 02-18-2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view?

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☒ Short Term/Fleeting ☐ Long-term

The frequency of this view is: ☐ Repeated ☒ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☒ Clear ☐ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: visibility may be decreased with overcast/hazy skies

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☒ backlit ☐ frontlit ☐ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? While the resource photographed from is not recreational, the view portrays an accessible beach front and dunes landscape



2 of 6

Visual Impact Assessment

Personnel: KV

KOP: SIC02 - Townsend Br

Date: 02-18-2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="6"/>
Landform:	<input type="text" value="6"/>
Vegetation:	<input type="text" value="5"/>
Land Use:	<input type="text" value="4"/>
User Activity:	<input type="text" value="3"/>
Existing Conditions #1 Total:	<input type="text" value="24"/>

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?	<input type="text" value="1"/>
Special Condition B. Are there other aesthetic elements that add to this resource?	<input type="text" value="0"/>

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?	<input type="text" value="3"/>
--	--------------------------------

Existing Conditions #2 Total (Sum 2A through 2C)

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

3. Comments:

motion attracting viewer attention: Birds, ocean waves.

This view takes in a sandy shoreline at the edge of a barrier island where the ocean meets an inlet. Water resources surround this sandy shoreline more than 180 degrees. The landform while primarily flat with a slight decline toward the shoreline has slight undulation particularly moving toward the grassy vegetation where it appears seasonal flooding may take place. The grassy vegetation just reaches into the view, but the context map indicates a large swath of vegetation maintained to hold the edge of the island. While the view in this scene appears natural and is highlighted by the soft pastel sunrise, it is important to note the view is from a roadway bridge that provides connection between barrier islands and has many characteristics of a highway bridge. However, this is also balanced with residential land uses just beyond the view. Similarly user activity at this location may range from beach goers and local residents enjoying the sandy shore to divers passing on the highway like bridges.



3 of 6

Visual Impact Assessment

Personnel: KV

KOP: SIC02 - Townsend Br

Date: 02-18-2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="5"/>
Landform:	<input type="text" value="5"/>
Vegetation:	<input type="text" value="5"/>
Land Use:	<input type="text" value="4"/>
User Activity:	<input type="text" value="3"/>

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:

Total:

3. Comments:

With the WTG in place the surrounding open water at this location will be impacted by the intensely vertical turbines. The landform which provides some distance from development and an element of natural character becomes further industrialized backed by the roadway bridge and now fronted by the WTG array. However the distance and angle from the array allows the WTG to appear smaller on the horizon and the stacking allows a view down open waterways between the rows. At this location the effect appears orderly in nature. Given this location in connection with the roadway bridge, land use and user activity are likely to be minimally impacted despite the visibility of the turbines.



4 of 6

Visual Impact Assessment

Personnel: KV

KOP: SIC02 - Townsend Br

Date: 02-18-2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="3"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="3"/>	Total:	<input type="text" value="13"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="2"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="2"/>	Total:	<input type="text" value="10"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="3"/>	Land Use:	<input type="text" value="2"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="2"/>
Vegetation:	<input type="text" value="2"/>	Total:	<input type="text" value="11"/>

7. Comments:

Again the turbines at this location as seen within the view are not compatible and dominate the water resources, however the juxtaposition with the roadway bridge limits the contrast in consideration of land use and user activity. However, this must also be balanced with the user activities connected with residential and tourism accommodations in close proximity.



5 of 6

Visual Impact Assessment

Personnel: KV

KOP: SIC02 - Townsend Br

Date: 02-18-2021

Proposed Conditions

8. **Visibility Threshold Level** - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input checked="" type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

The WTG at this location will clearly attract attention especially in weather and atmospheric conditions presented in the view. It is quite likely that at different times of day when the WTG benefit from a stronger front lighting that the white color will blend with sky and visibility will be closer to a VTL 4.



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6 of 6

Visual Impact Assessment

Date: February 19, 2021

Personnel: Steve Breitka

Landscape Similarity Zone: Open Water/Undeveloped Bay

Key Observation Point Name/Number: SIC02

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). *(This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)*

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☐ Yes ☒ No

If yes, briefly identify/describe:

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No

If yes, how does the natural order affect the view?

The natural order is only prevalent in how there are three stages to the landscape progressing from the ocean, to the beach, to the vegetated dunes.



1 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: SIC02

Date: February 19, 2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view?

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☒ Short Term/Fleeting ☐ Long-term

The frequency of this view is: ☐ Repeated ☒ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☒ Clear ☐ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: *The perfectly clear sky has a peachy glow this early in the morning.*

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☒ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☐ Yes ☒ No

How would the site be used for scenic or recreational enjoyment?



2 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: SIC02

Date: February 19, 2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="7"/>
Landform:	<input type="text" value="7"/>
Vegetation:	<input type="text" value="5"/>
Land Use:	<input type="text" value="5"/>
User Activity:	<input type="text" value="5"/>
Existing Conditions #1 Total:	<input type="text" value="29"/>

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?

Special Condition B. Are there other aesthetic elements that add to this resource?

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?

Existing Conditions #2 Total (Sum 2A through 2C)

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

3. Comments:

This is a view the majority of people will see traveling at 25-mph over the bridge. There are sidewalks to accommodate pedestrians and fishermen who will have a prolonged view. The wide sandy beach is accessible although this portion is adjacent to the bridge and road. Low waves are present across the entire visible shoreline adding movement and whitecaps in the otherwise calm water. The sky and the sand share warm colors including the varying shades of beige in the sand to the rosy pink hues fading to pale blue in the sunrise sky.



3 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: SIC02

Date: February 19, 2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="5"/>
Landform:	<input type="text" value="5"/>
Vegetation:	<input type="text" value="4"/>
Land Use:	<input type="text" value="5"/>
User Activity:	<input type="text" value="5"/>

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:

Total:

3. Comments:

There is no defined focal point in the existing view. The cresting waves and the small amount of dark green vegetation provide the most variation in material and color. The proposed turbines add a repeated focal point across most of the horizon, stacked one after the other, at one point appearing like one massive turbine with multiple blades. The turbines add an industrial regularity to the view that is completely missing in the existing condition. A pale pink horizon, coupled with the sunrise, makes the turbines stand out as dark forms across the entire length of the view.



4 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: SIC02

Date: February 19, 2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="2"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="3"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="2"/>	Total:	<input type="text" value="9"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="2"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="7"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="2"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="2"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="2"/>	Total:	<input type="text" value="8"/>

7. Comments:

The fact that this view will be had by drivers/passengers makes it less dramatic and more of a fleeting glance. However, rows upon rows of turbines create multiple industrial focal points, or one large focal point when viewing the entire field.



5 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: SIC02

Date: February 19, 2021

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input checked="" type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

The proposed turbines are over 27 miles away so they feel distant. It is impossible to disregard them and focus on anything else in this open view.



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Visual Impact Assessment

Date: 2/17/21

Personnel: Jocelyn Gavitt

Landscape Similarity Zone: Openfront Residential

Key Observation Point Name/Number: SPB01 Seaside Park

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). *(This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)*

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☐ Yes ☒ No

If yes, briefly identify/describe:

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No
If yes, how does the natural order affect the view?

There is a balance of shoreline elements and open water in this view.



1 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: SPB01 Seaside Park

Date: 2/17/21

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☒ Yes ☐ No

If yes, how does the visual clutter affect the view? There are some structures on the dunes that capture attention

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☒ Repeated ☐ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☒ Clear ☐ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: Increased moisture in the air could impact visibility.

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☒ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? This view is from a well used beach area.



2 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: SPB01 Seaside Park

Date: 2/17/21

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="8"/>
Landform:	<input type="text" value="6"/>
Vegetation:	<input type="text" value="6"/>
Land Use:	<input type="text" value="8"/>
User Activity:	<input type="text" value="8"/>
Existing Conditions #1 Total:	<input type="text" value="36"/>

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?	<input type="text" value="2"/>
Special Condition B. Are there other aesthetic elements that add to this resource?	<input type="text" value="2"/>

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?	<input type="text" value="2"/>
--	--------------------------------

Existing Conditions #2 Total (Sum 2A through 2C)

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

3. Comments:

This is a view up the coastline showing open water to one side, a large flat sandy open beach along its edge, and dunes with some built infrastructure adjacent to the beach. There general focus is of the converging lines of beach, water, dune and horizon at the vanishing point. The scene is populated with beach users and has clear wave motion.



3 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt

KOP: SPB01 Seaside Park

Date: 2/17/21

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="7"/>
Landform:	<input type="text" value="6"/>
Vegetation:	<input type="text" value="6"/>
Land Use:	<input type="text" value="8"/>
User Activity:	<input type="text" value="8"/>

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:

Total:

3. Comments:

The proposed turbine field is minimally visible at the horizon line. It will most likely go unnoticed by users, having very little impact on this viewpoint.



4 of 6

Visual Impact Assessment

Personnel: Jocelyn Gavitt
KOP: SPB01 Seaside Park
Date: 2/17/21

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="1"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="5"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="1"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="5"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="1"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="5"/>

7. Comments:

The turbines will likely go unnoticed. They are at a great enough distance as to only be detectable in the clearest of conditions.



Visual Impact Assessment

Personnel: Jocelyn Gavitt
KOP: SPB01 Seaside Park
Date: 2/17/21

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input checked="" type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

The turbines are not very visible. Most users are likely not to notice them.



Visual Impact Assessment

Date: 17 February 2021
Personnel: KAC
Landscape Similarity Zone: Oceanfront Residential
Key Observation Point Name/Number: SPB01 Seaside Pk B

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). (This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: Restored beach grass planting and horizon line.

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No

If yes, how does the natural order affect the view?

Pathway, split-rail fence, beach grass, sand, surf, ocean and horizon; sunken landscape with the sloping re-vegetation area pushing against the flat beach and ocean landform that is squeezed between the strong line of the sky at the horizon.



Visual Impact Assessment

Personnel: KAC
KOP: SPB01 Seaside Pk B
Date: 17 February 2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☒ Yes ☐ No

If yes, how does the visual clutter affect the view? Split-rail fencing, litter receptacles, miscellaneous walkway/ramp handrails, life guards stations, beach sheds, and long-arm light poles at the residential street.

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☒ Short Term/Fleeting ☐ Long-term

The frequency of this view is: ☐ Repeated ☒ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☒ Clear ☐ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: Atmospheric haze would reduce visibility to the turbines.

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☒ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? Seaside Park Beach and Boardwalk, US Life Saving Station



Visual Impact Assessment

Personnel: KAC

KOP: SPB01 Seaside Pk B

Date: 17 February 2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="6"/>
Landform:	<input type="text" value="7"/>
Vegetation:	<input type="text" value="7"/>
Land Use:	<input type="text" value="6"/>
User Activity:	<input type="text" value="6"/>
Existing Conditions #1 Total:	<input type="text" value="32"/>

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?

Special Condition B. Are there other aesthetic elements that add to this resource?

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?

Existing Conditions #2 Total (Sum 2A through 2C)

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

3. Comments:

Cultural | Historic: Seaside Park Beach and Boardwalk, US Life Saving Station

Aesthetic: The rolling landform with re-vegetated beach grass slope is visually interesting and dynamic.

Litter: Beach visitor litter

Summary of View: The elevated view from the entry path to the beach offers a unique opportunity to observe a restoration beach grass planting first-hand. The spiky beach grass is visually interesting in neatly planted rows that contrasts texturally with the smoothness of the beach sand and ocean surface, outside of the shoreline waves. This view is dominated by the vegetated intervention rather than the beach itself.



3 of 6

Visual Impact Assessment

Personnel: KAC

KOP: SPB01 Seaside Pk B

Date: 17 February 2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="6"/>
Landform:	<input type="text" value="7"/>
Vegetation:	<input type="text" value="7"/>
Land Use:	<input type="text" value="6"/>
User Activity:	<input type="text" value="6"/>

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:

Total:

3. Comments:

The installation of the wind farm is not apparent in the proposed view, therefore, there is no change to the visual integrity of the view.



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Visual Impact Assessment

Personnel: KAC

KOP: SPB01 Seaside Pk B

Date: 17 February 2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="1"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="5"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="1"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="5"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="1"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="5"/>

7. Comments:

Compatibility: The turbines are not apparent in the view.

Scale: The turbines are not apparent in the view.

Spatial Dominance: The turbines are not apparent in the view.



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Visual Impact Assessment

Personnel: KAC

KOP: SPB01 Seaside Pk B

Date: 17 February 2021

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input checked="" type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

N/A



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Visual Impact Assessment

Date: 02-18-2021

Personnel: KV

Landscape Similarity Zone: Oceanfront Residential

Key Observation Point Name/Number: SPB01 - Seaside Park

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). (This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: The darkened corner of railing connected to the neighboring beach entrance behind the life guard stands

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No

If yes, how does the natural order affect the view?

the eye enters the either along the fence line or the darkened roof tops. the viewer then scans down the sloping dune and lands on the shoreline where waves and beach goers are active.



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Visual Impact Assessment

Personnel: KV

KOP: SPB01 - Seaside Park

Date: 02-18-2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☒ Yes ☐ No

If yes, how does the visual clutter affect the view? trash cans, life guard stands and items for beach maintenance circulate the gaze around the beach shoreline bouncing between all the cluttered amenities.

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☒ Yes ☐ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☒ Short Term/Fleeting ☐ Long-term

The frequency of this view is: ☒ Repeated ☐ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☒ Clear ☐ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: Overcast/hazy days may have decreased visibility

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☒ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? Seaside park Borough boardwalk is located just beyond this view



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Visual Impact Assessment

Personnel: KV

KOP: SPB01 - Seaside Park

Date: 02-18-2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="6"/>
Landform:	<input type="text" value="6"/>
Vegetation:	<input type="text" value="6"/>
Land Use:	<input type="text" value="6"/>
User Activity:	<input type="text" value="6"/>
Existing Conditions #1 Total:	<input type="text" value="30"/>

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks?	<input type="text" value="1"/>
Special Condition B. Are there other aesthetic elements that add to this resource?	<input type="text" value="0"/>

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter?

Existing Conditions #2 Total (Sum 2A through 2C)

Existing Conditions Grand Total (Sum #1 Total and #2 Total)

3. Comments:

motion attracting viewer attention: beach goers, ocean waves, birds

The view presented is captured from the edge of a beach access location and captures the pathway and split rail fence leading to the shoreline beach. The fencing protects a dune landscape and dune grasses used to hold the shoreline and protect development behind it. Multiple beach access locations are visible in the foreground and middle ground of this view. The shoreline, while minimally populated in this view, suggests frequent and intense usership due to the quantity of scattered amenities including trash cans, lifeguard stands and a maintenance sheds the linear shoreline stretches down the frame on a slight diagonal and appears to continue beyond the vanishing point. The ocean is open across the horizon, behind the dunes a parking area is serviced by a small structure and an abundance of street lights further development is beyond that is visible at the edge of the frame. This picturesque beach scene with structured amenities and access is similar throughout the region at popular beach fronts in proximity to boardwalk locations such as this.



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Visual Impact Assessment

Personnel: KV

KOP: SPB01 - Seaside Park

Date: 02-18-2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	<input type="text" value="6"/>
Landform:	<input type="text" value="6"/>
Vegetation:	<input type="text" value="6"/>
Land Use:	<input type="text" value="6"/>
User Activity:	<input type="text" value="6"/>

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions:

Total:

3. Comments:

With the WTG in place only blade tips are indicated to be visible. While the movement of these blades rising and sinking on the horizon may attract viewer attention it is likely that even on clear days such as that presented viewers distracted by beach activity may not notice the WTG at such a distance. In addition the distance and minimal visibility of the WTG is unlikely to have substantial impact on the Land use and activity within at this location.



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Visual Impact Assessment

Personnel: KV

KOP: SPB01 - Seaside Park

Date: 02-18-2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	<input type="text" value="1"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="5"/>

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	<input type="text" value="1"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="5"/>

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	<input type="text" value="1"/>	Land Use:	<input type="text" value="1"/>
Landform:	<input type="text" value="1"/>	User Activity:	<input type="text" value="1"/>
Vegetation:	<input type="text" value="1"/>	Total:	<input type="text" value="5"/>

7. Comments:



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Visual Impact Assessment

Personnel: KV

KOP: SPB01 - Seaside Park

Date: 02-18-2021

Proposed Conditions

8. **Visibility Threshold Level** - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input checked="" type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

Even with the clear conditions presented here the minimal visible portions of the WTG are not readily apparent and viewing is likely to require extended duration.



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Visual Impact Assessment

Date: February 19, 2021

Personnel: Steve Breitka

Landscape Similarity Zone: Open Water/Undeveloped Bay

Key Observation Point Name/Number: SPB01

Key Observation Point (KOP) Familiarization

Landscape/seascape, viewer, and related factors to be considered during evaluation of the KOP are outlined below.

The effect of the proposed Project on these factors should be incorporated into the scoring and comments on the VIA assessment form (proposed conditions). *(This form is intended to record initial observations and should be completed quickly, taking no more than 5 minutes)*

General elements of formal visual analysis to be considered include:

- Landscape/Seascape Composition:** The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water, and sky. Some compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modifications than panoramic, canopied, or ephemeral landscapes.
- Form, Line, Color, and Texture:** These are the four major compositional elements that define the perceived visual character of a landscape/seascape, as well as a project. Form refers to the shape of an object that appears unified, often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture, usually evident as the edges of shapes or masses in the landscape/seascape. Texture, in this context, refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a project are similar to or contrast with these same elements in the existing landscape/seascape is a primary determinant of visual impact.
- Spatial Dominance:** The degree to which an object or landscape/seascape element occupies space in a landscape/seascape and thus dominates seascape composition from a specific viewpoint.
- Project Scale:** The apparent size of a proposed project in relation to its surroundings can define the compatibility of its scale within the existing seascape. Perception of project scale is likely to vary depending on the distance from which it is seen and other contextual factors.

Principles of composition to be considered include:

1. Focal Point

Certain natural or man-made landscape/seascape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale, or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains, or cultural features, such as a distinctive lighthouse. If possible, a proposed project should not be sited so as to obscure or compete with important existing focal points in the landscape/seascape.

Does this view contain a focal point? ☒ Yes ☐ No

If yes, briefly identify/describe: The beachside landscape functions like one large focal point.

2. Order

Natural landscapes/seascapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new project is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

Does this view contain a natural order? ☒ Yes ☐ No

If yes, how does the natural order affect the view?

The ocean leads to a wide sandy beach, grassy vegetated dune reclamation, wooden boardwalk access, and low-rise multi-family housing.



1 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: SPB01

Date: February 19, 2021

Principles of composition, continued:

3. Visual Clutter

Numerous unrelated built elements occurring within a view can create visual clutter (disrupting the natural order), which generally has an adverse effect on scenic quality.

Does this view contain elements that contribute to visual clutter? ☐ Yes ☒ No

If yes, how does the visual clutter affect the view? There are various components and elements visible but they do not appear cluttered.

4. Movement

Motion of existing and proposed elements in a view can attract viewer attention.

Does this view contain elements in motion that are likely to attract viewer attention? ☐ Yes ☒ No

(If the answer is yes, Note these elements in rating form comments)

Factors affecting visual impact:

5. Duration of View

Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a project, especially from significant aesthetic resources, have the greatest potential for visual impact.

The duration of this view is: ☐ Short Term/Fleeting ☒ Long-term

The frequency of this view is: ☒ Repeated ☐ Occasional

6. Atmospheric Conditions

Clouds, precipitation, haze, and other ambient weather-related conditions can affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of project components with landscape/seascape elements and the design elements of form, line, color, texture, and scale.

Conditions in this view can be described as: ☒ Clear ☐ Partly Cloudy ☐ Overcast ☐ Hazy

Conditions that may increase/decrease visibility could be described as: The evening sky is clear, transitioning from a pale blue in the lower right to a deeper matte blue along the top.

7. Lighting Direction

Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from overhead or the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and project elements.

The relevant lighting condition can be described as: ☐ backlit ☐ frontlit ☒ side-lit

8. Scenic or Recreational Value

Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a project's visual impact on that resource.

Would viewers consider this location a valued scenic or recreational resource? ☒ Yes ☐ No

How would the site be used for scenic or recreational enjoyment? This particular stretch of beach is not unique although it is still a large swath of open sand.



2 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: SPB01

Date: February 19, 2021

Existing Conditions

1. In the existing view rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	8
Landform:	6
Vegetation:	5
Land Use:	8
User Activity:	8
Existing Conditions #1 Total:	35

2. Respond to each question below using a score of 0 to 3 (0 not present to 3 being high density)

Special Condition A. Does this zone contain any scenic, cultural, or historic landmarks? **2**

Special Condition B. Are there other aesthetic elements that add to this resource? **0**

Respond to each question below using a score of 0 to 3 (0 littered/polluted to 3 free of litter/pollution)

Special Condition C. Is this zone free from pollution and/or litter? **2**

Existing Conditions #2 Total (Sum 2A through 2C) **4**

Existing Conditions Grand Total (Sum #1 Total and #2 Total) **39**

3. Comments:

The existing view is filled with a variety of materials and textures: split-rail wooden fences, wooden handrails along the beach access stair, young wispy grasses planted on-center to stabilize the dunes, people scattered along the beach, and a boardwalk with pedestrian scale lighting.

The waves gently crest at the shore, adding white highlights between the dark blue water and the beige sandy beach. The sky is perfectly clear with subtle color variation at this time of early evening.



3 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: SPB01

Date: February 19, 2021

Proposed Conditions

1. With the proposed project in place, rate the aesthetic quality/sensitivity of each resource on a score of 1 to 9 (1 liability to 9 distinct)

Note: If an element is not present in the view the score should be 4.5 of 9.0 (no impact), otherwise, rating should be a whole number score.

	Score
Water Resources:	8
Landform:	6
Vegetation:	5
Land Use:	8
User Activity:	8

2. Collectively rate special conditions on a score of 0 to 9 (0 liability to 9 distinct)

Note: Special Conditions score is taken directly from Existing Conditions #2 Total and can be adjusted up or down based upon the Proposed Conditions view.

Special Conditions: **2**

Total: **37**

3. Comments:

Following the viewing parameters, the proposed turbines are hardly noticeable at the horizon. Only blades are visible and quantity cannot be determined.



4 of 6

Visual Impact Assessment

Personnel: Steve Breitka

KOP: SPB01

Date: February 19, 2021

Proposed Conditions - Compatibility and Contrast Rating

Note: If an element is not present in the view the score should be a 0 (no impact), otherwise, rating should be a whole number score.

4. Rate the compatibility of the proposed project on a scale of 1 to 3 (1 compatible to 3 not compatible)

Water Resources:	1	Land Use:	1
Landform:	1	User Activity:	1
Vegetation:	1	Total:	5

5. Rate scale contrast of the proposed project on a scale of 1 to 3 (1 minimal to 3 severe)

Water Resources:	1	Land Use:	1
Landform:	1	User Activity:	1
Vegetation:	1	Total:	5

6. Rate spatial dominance of the proposed project on a scale of 1 to 3 (1 subordinate, 2 co-dominant, 3 dominant)

Water Resources:	1	Land Use:	1
Landform:	1	User Activity:	1
Vegetation:	1	Total:	5

7. Comments:

Following the viewing parameters, the proposed turbines are hardly noticeable at the horizon. Only blades are visible and quantity cannot be determined.



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Visual Impact Assessment

Personnel: Steve Breitka

KOP: SPB01

Date: February 19, 2021

Proposed Conditions

8. Visibility Threshold Level - Check the box next to the description that most closely describes the visual prominence of the Project from the selected KOP.

Visibility Rating	Description	
Visibility level 1. Visible only after extended, close viewing; otherwise invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.	<input checked="" type="checkbox"/>
Visibility level 2. Visible when scanning in the general direction of the study subject; otherwise likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.	<input type="checkbox"/>
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.	<input type="checkbox"/>
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.	<input type="checkbox"/>
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention. In addition to strong contrasts in form, line, color, and texture, bright light sources such as lighting and reflections and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject interferes noticeably with views of nearby landscape/seascape elements.	<input type="checkbox"/>
Visibility level 6. Dominates the view because the study subject fills most of the visual field for views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motion may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large that it occupies most of the visual field, and views of it cannot be avoided except by turning one's head more than 45° from a direct view of the object. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. The visual prominence of the study subject detracts noticeably from views of other landscape/seascape elements.	<input type="checkbox"/>

9. Comments:

Following the viewing parameters, the proposed turbines are hardly noticeable at the horizon. Only blades are visible and quantity cannot be determined.



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ATTACHMENT H

VISIBILITY MODELING STUDY

Final Report:
**Initial Visibility Modeling Study for Offshore Wind for
New Jersey's Atlantic Shores Offshore Wind Project**

Project/WBS Element: P-340005601-1-01-004
SOW Number: 2

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RUTGERS

School of Environmental
and Biological Sciences

Last Updated: 23 August 2020

Initial Visibility Modeling Study for Offshore Wind for New Jersey's Atlantic Shores Offshore Wind Project

Introduction:

A key stakeholder concern around the development of offshore wind in the United States is how the constructed wind farms may impact viewshed from the shore, with some concerned that visible wind turbines would be a negative impact, while others have no concern or see it as beneficial, although surveys indicate a strong preference to locate turbines further from shore to reduce visual impacts (Musial & Ram, 2010). Due to the shallow continental shelf of the Mid-Atlantic United States, offshore wind farms can be built further offshore, while still utilizing fixed foundations. The wind energy lease owned by Atlantic Shores Offshore Wind (ASOW) is located more than 8 miles away from the closest shore point, and extending out to 24 miles from the shoreline at its farthest (see Figure 1). Having a firm understanding of the visibility regime present within the wind lease area, areas along the shore, and the ocean between is of interest to ASOW.

The Rutgers University Center for Ocean Observing Leadership (RUCOOL) has been running a real-time version of the Weather Research and Forecasting (WRF, Skamarock et al. 2008) model for wind resource assessment purposes since 2011 (RUWRF), through funding support by the New Jersey Board of Public Utilities (NJBP). In addition to being used for wind resource assessment, WRF is a fully dynamic mesoscale atmospheric model, which includes a large

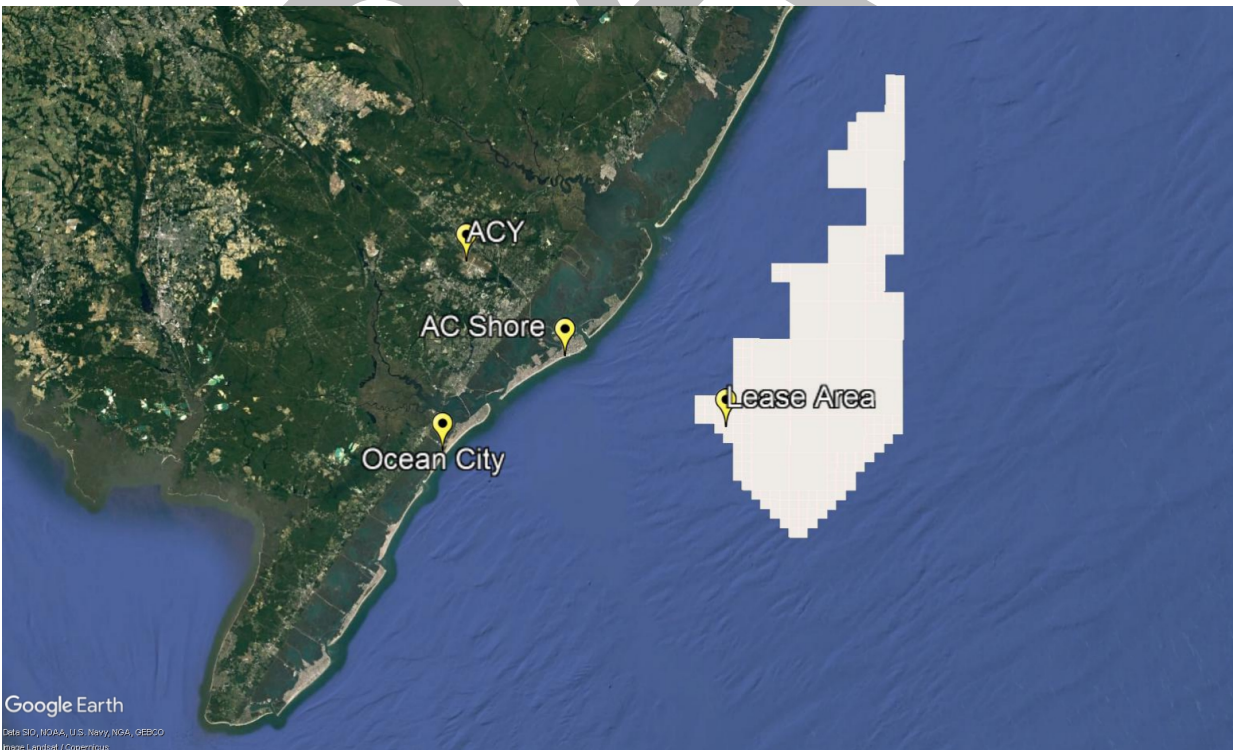


Figure 1: Map depicting the Atlantic Shores Offshore Wind lease area, along with shoreside points used for comparison.

number of output variables frequently used in weather and climate prediction. ASOW approached RUCOOL with this project to evaluate the visibility regime within and around the ASOW lease area, utilizing RUWRF model output¹. Since observations of visibility are only located at selected weather stations, the RUWRF model output was validated against available observations prior to being used to estimate visibility in the full region of interest. Some key messages and findings are included below, with a detailed description of the work to follow.

Key Messages:

- Observational visibility data from 2019 were analyzed at Atlantic City International Airport (ACY) and Ocean City Municipal Airport (26N). ACY is located several miles inland, while 26N is along the shoreline.
- The percentage of daylight hours with observed visibilities of 8 or 10 miles and above range from **73% to 89%** at ACY and 26N. **The observed visibility frequencies at 26N were 6% and 12% lower than the frequencies at ACY for 8 and 10 miles respectively.**
- While monthly visibility frequencies at ACY did not show substantial variations, monthly frequencies at 26N revealed **lower visibility in the late spring, and higher visibility in the late summer and fall.**
- Plots of visibility calculated from RUWRF model data indicate a frequency of **1 out of 4 or 5 days (23%) for "very clear days" in the summer.** "Very clear days" are defined by visibilities above 20 miles throughout the majority of the onshore and offshore environment in New Jersey.
- A majority of summer days exhibited high inland visibility and lower visibility (2-12 miles) over the ocean.
- Higher humidity and larger temperature differences between the air and ocean surface cause haziness and marine clouds/fog to occur more frequently offshore. **Between Atlantic City Airport (ACY) and the Atlantic Shores Offshore Wind lease area, a distance of roughly 25 miles, the percentage of daylight hours with a calculated visibility of 10 or more miles decreases from 78% to 41%.**
- Through comparisons between observed and calculated visibility at ACY and 26N a bias was determined for 8 and 10-mile visibility. Visibility calculated from model data was **9% lower** than observed visibility at ≥ 8 miles. For ≥ 10 -miles, calculated visibility was **6% lower** than observed visibility.
- **Visibility looking towards the lease area from the shore** was estimated by averaging 26N observational visibility with bias-corrected calculated visibility in the ASOW lease area. The results are as follows:
 - ≥ 8 miles: **70%** of daylight hours
 - ≥ 10 miles: **60%** of daylight hours
- Average monthly plots of visibility revealed differences between onshore and offshore seasonal visibility trends. While observational data at 26N showed higher visibility in the late summer and fall, **average monthly plots showed higher offshore visibility in the late fall and winter.**

¹ RUWRF daily model output is available at <https://rucool.marine.rutgers.edu/data/meteorological-modeling/ruwrf-mesoscale-meteorological-model-forecast/>.

Observed Visibility:

To begin assessing visibility along the coastline of southern New Jersey, observational visibility data was downloaded at Atlantic City International Airport (ACY) and Ocean City Municipal Airport (26N). These data were used to compute monthly and yearly frequencies of visibility greater than or equal to eight and ten miles during daylight hours in 2019 (Figure 2). In Ocean City, the fractions of daylight hours during which visibility was at least eight and ten miles were 83% and 73%, respectively. At ACY, visibilities above eight and ten miles were observed 89% and 85% of daylight hours. The higher visibility at ACY can be attributed to the drier inland air, compared to the more humid coastal air around 26N, as explained later on in this report.

Monthly visibility frequencies at ACY demonstrated minimal variation in 2019 (Figure 3a). Conversely, monthly visibility frequencies at 26N exhibited lower visibility in the late spring and higher visibility in the late summer and fall (Figure 3b). The lowest 10-mile visibility frequency at 26N occurred in May (59%) and the highest occurred in September (89%). Monthly visibility data from 2015-2017 at 26N showed similar trends to 2019, although overall visibility was slightly higher (Figure 4). Note that the 2018 data at 26N had significant data gaps, and was not used. Decreased visibility during the late spring are likely due to increased fog and clouds near the coast because of larger temperature differences between the warm late spring air and the cold ocean water. In the late summer, warmer ocean temperatures cause less condensation, and therefore fewer clouds to form as inland air moves over the ocean.

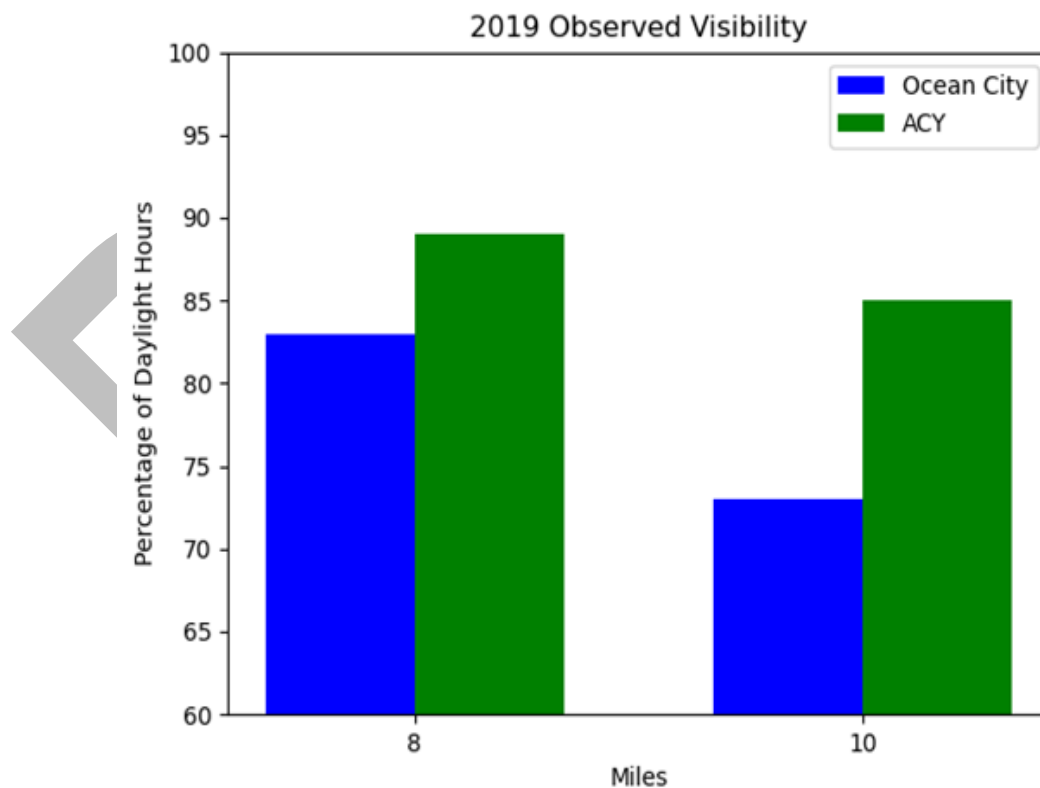


Figure 2: Overall annual visibility observed in 2019 at Atlantic City International Airport (ACY) and Ocean City Airport.

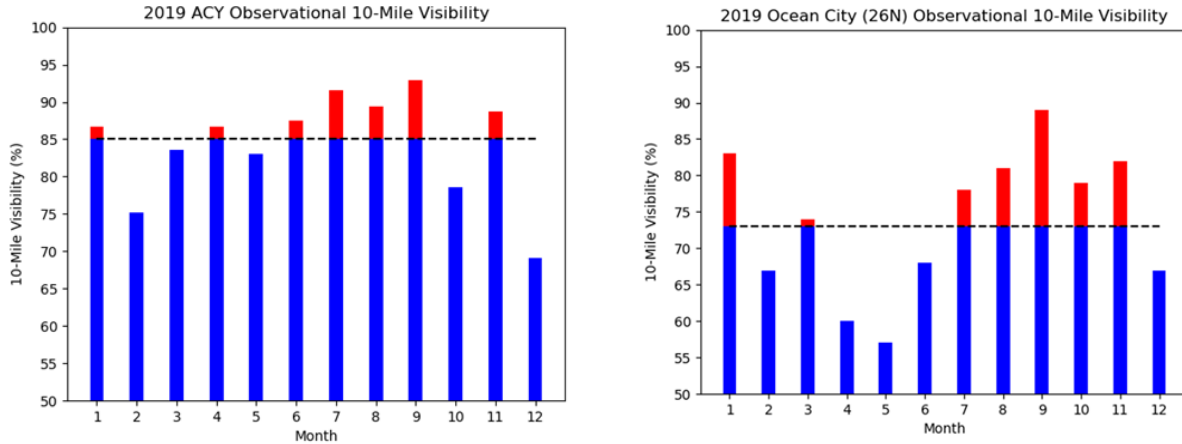


Figure 3: Observed visibility by month at (a) Atlantic City International Airport, and (b) Ocean City Airport.

Modeled Visibility:

Observational visibility data is limited to specific onshore locations such as ACY and 26N, therefore numerical weather prediction model data were necessary to carry out a more comprehensive analysis of coastal visibility in southern New Jersey. The model data used in this study are from the 3-km nested RUWRF model run by RUCOOL. Since RUWRF does not directly compute visibility, it can instead be calculated from humidity and temperature data. Two calculation methods were analyzed to determine which method most accurately computes

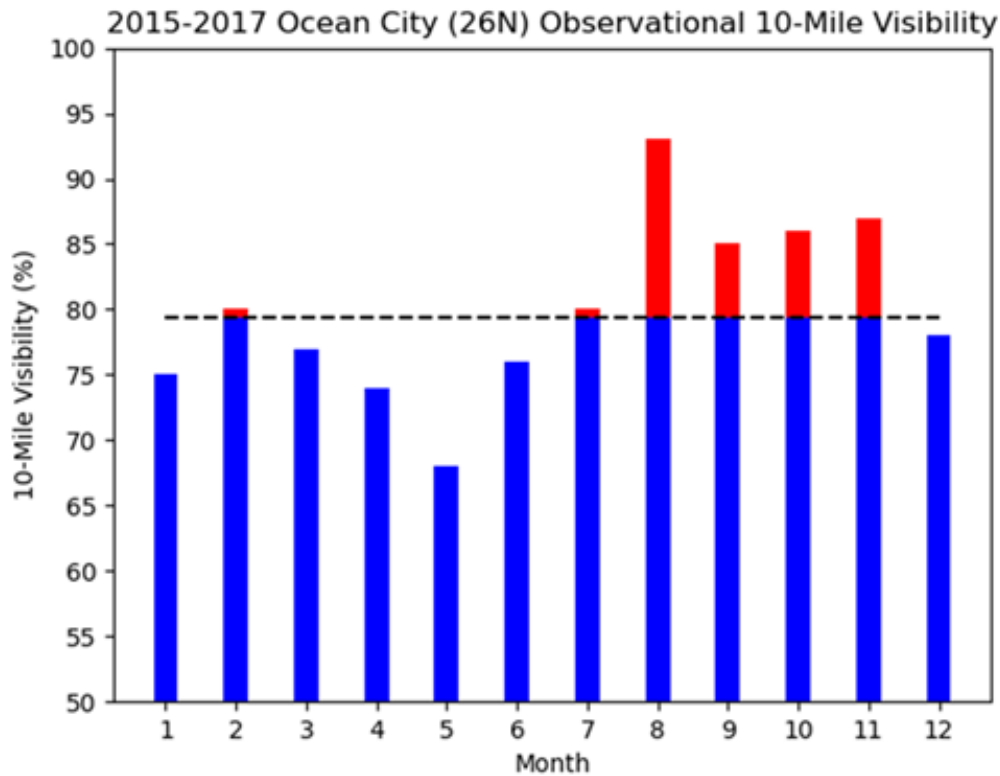


Figure 4: Observed visibility by month for 2015-2017 at Ocean City Airport.

visibility in the New Jersey coastal environment, based on methods studied by Bang et al. (2009).

The first method tested was the Forecast Systems Laboratory (FSL) method which uses temperature (T), dew point temperature (T_d), and relative humidity (RH):

$$\text{VIS}_{\text{mi}} = 6000 \cdot \frac{T - T_d}{\text{RH}^{1.75}}$$

The second method tested was the Rapid Update Cycle (RUC) method, which only uses RH:

$$\text{VIS}_{\text{km}} = 60 \cdot \exp\left(-2.5 \cdot \frac{\text{RH} - 15}{80}\right)$$

Monthly and yearly visibility calculated using both methods on RUWRF data were compared to observational data. In addition, visibility in July 2019 was calculated using the FSL and RUC methods on observational temperature and humidity data and compared to observational visibility for a more direct comparison.

Through these comparisons, it was determined that the FSL method more accurately estimates visibility than the RUC method. Although the FSL method overestimates the high end of visibility, it is relatively accurate in the low to middle range. Conversely, the RUC method substantially underestimates visibility during all conditions. An example of FSL-calculated visibility is shown in Figure 5.

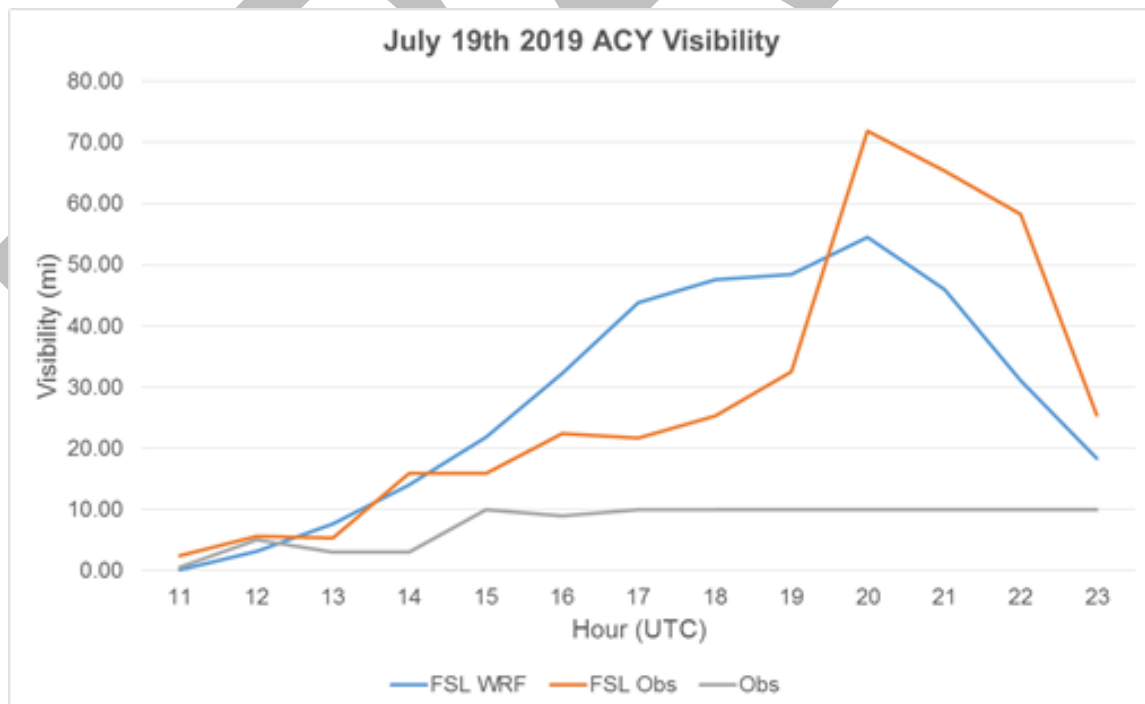


Figure 5: Visibility at Atlantic City International Airport (ACY) on 19 July 2019. The gray line depicts the observed visibility, while the orange line shows visibility calculated using observed temperature, dewpoint, and relative humidity, and the blue line depicts calculated visibility using these variables from RUWRF.

Once the FSL method was determined to be the more accurate method of visibility calculation, Python scripts were written to plot FSL visibility at each grid point in the 3-km model during daylight hours. These plots revealed stark differences between land and ocean visibility. In particular, a region of lower visibility appeared directly off of the coast in numerous plots during the summer, with slightly higher visibility farther out in the ocean. An example of this is shown in the plot from 1 August 2019 in Figure 6.

In July and August of 2019, each hour of plotted visibility was analyzed to determine the percentage of days with high visibility (>20 miles) throughout the entire grid, or “very clear days”. Through this analysis, it was determined that roughly 23% of the days during that time period were “very clear days”. A majority of days exhibited high inland visibility and lower visibility (2-12 miles) over the ocean.

Monthly and yearly visibility frequencies were computed at four points to compare observations and modeled data, and to study the impact of marine air on visibility. These points include: Atlantic City Airport (ACY), Ocean City Municipal Airport (26N), the Atlantic City shore, and the ASOW lease area (see Figure 1). Each of these points represent data from a single model grid point except 26N, which was an average of two adjacent points. Since 26N is on the coast, we found that the average of an ocean and inland point more accurately capture the coastal environment.

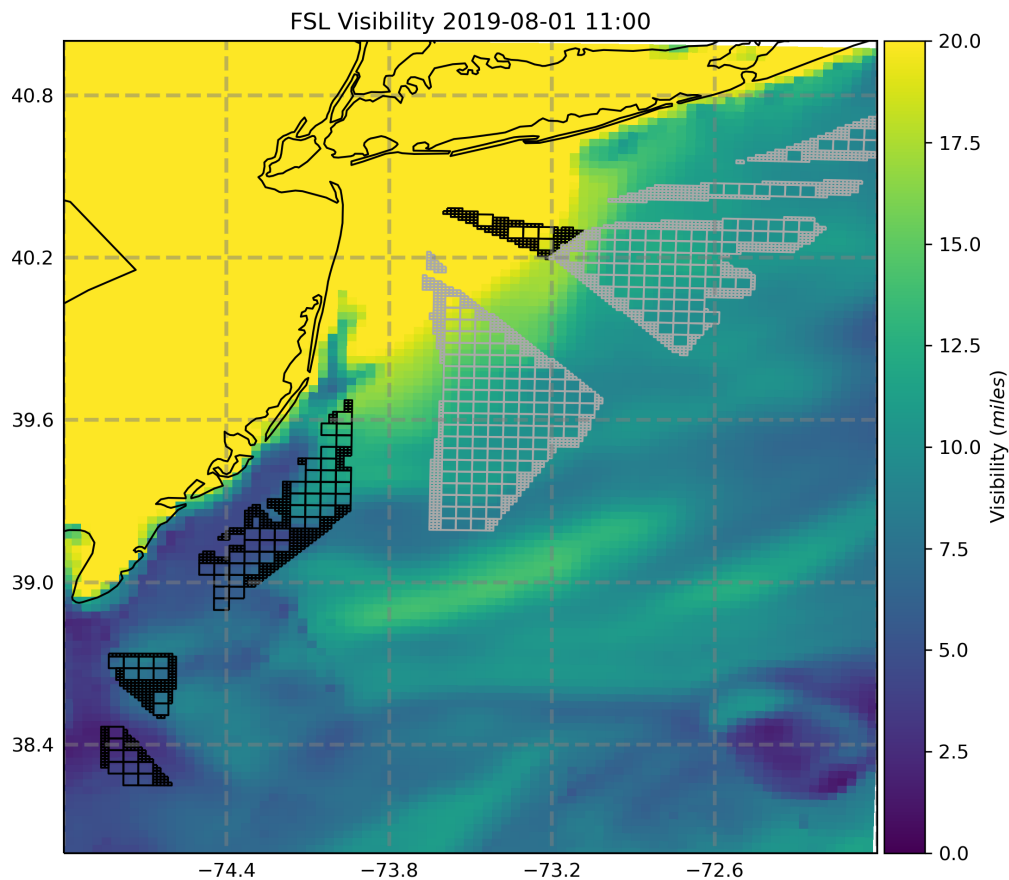


Figure 6: Calculated visibility across the region from RUWRF output on 1 August 2019. Note the region of reduced visibility between the shoreline and the wind energy lease areas off southern New Jersey.

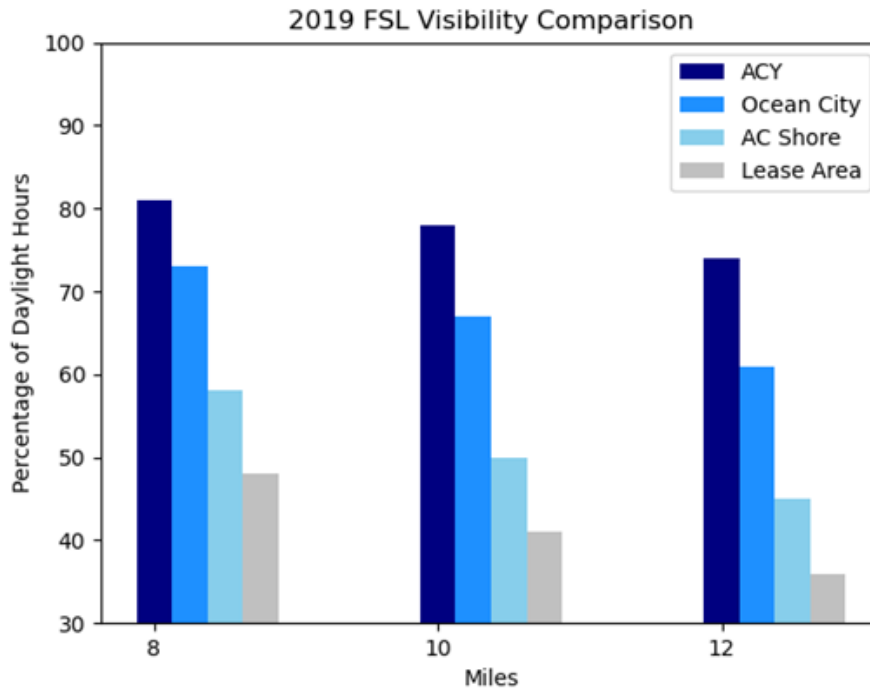


Figure 7: RUWRF calculated visibility at the 4 points shown in Figure 1. Note how the visibility rapidly decreases offshore due to the frequent marine fog.

As previously stated, visibility varies rapidly between onshore and offshore locations along the New Jersey coastline. Higher humidity and larger temperature differences between the air and ocean surface cause haziness and marine clouds/fog to occur more frequently offshore. Between ACY and the ASOW lease area, a distance of roughly 25 miles, the percentage of daylight hours with a visibility of 10 or more miles decreases from 78% to 41% (see Figure 7). Although inland visibility is relatively high, the decreasing visibility offshore results in lower average visibility while looking towards the lease area.

While comparing observed and calculated visibility at ACY and 26N in 2019, a trend in lower calculated visibility was observed. At ACY, the percentage of daylight hours with a calculated visibility of ≥ 8 miles was 8% lower than the observed percentage, and 6% lower for 10-mile visibility. In Ocean City, the percentage of daylight hours with a calculated visibility of ≥ 8 miles was 10% lower than the observed percentage, and 6% lower for 10-mile visibility. Therefore, the average bias between these two stations was 9% lower for ≥ 8 -mile visibility and 6% lower for 10-mile visibility (see below table and Figure 8).

	ACY Bias	26N Bias	Average Bias
≥ 8 Miles	8% lower	10% lower	9% lower
10 Miles	6% lower	6% lower	6% lower

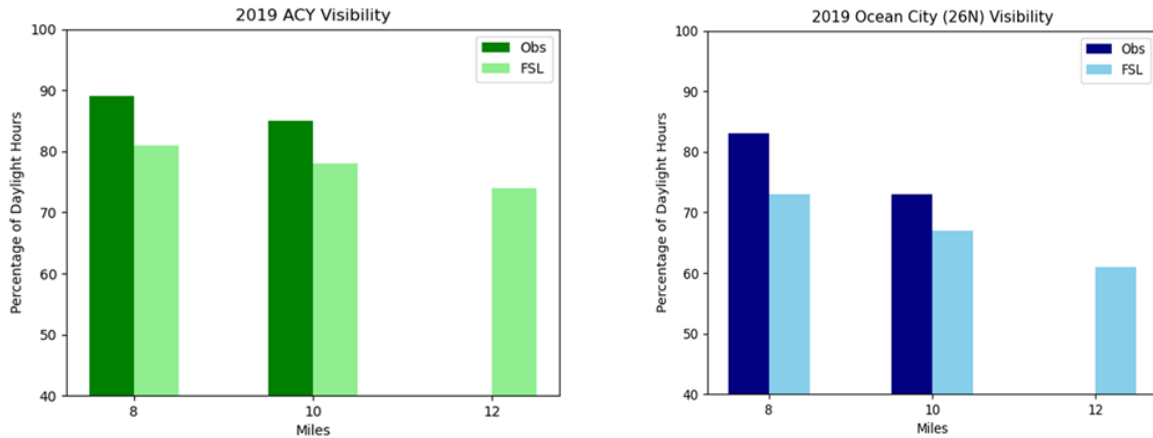


Figure 8: Comparison between observed and RUWRF-calculated visibility at (a) Atlantic City International Airport (ACY), and (b) Ocean City Airport (26N). Note that the visibility instruments at these stations only report visibility up to 10 miles; anything greater than 10 miles is reported as 10.

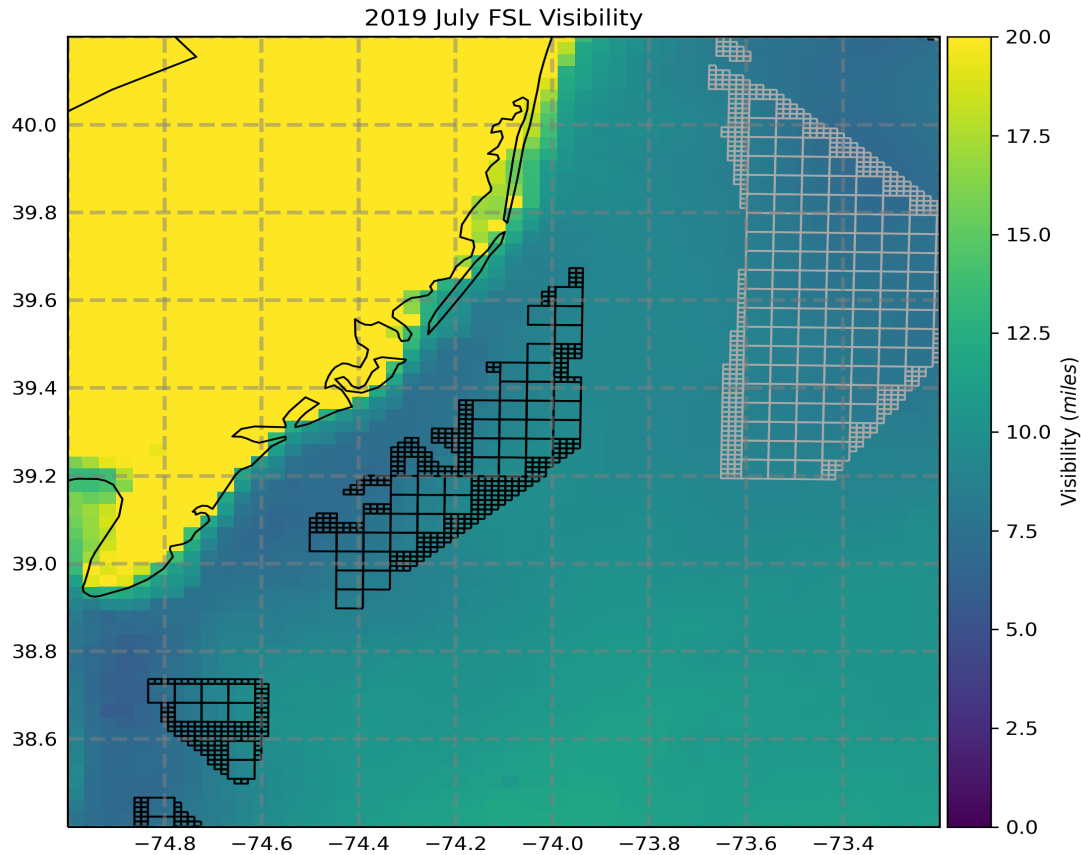
Since visibility varies substantially between onshore and offshore points, a method was developed to estimate the visibility of someone standing on the shore and looking out at the ocean. To do this, we averaged 2019 bias-corrected lease area visibility from RUWRF FSL data with Ocean City (26N) observational visibility. The results of this method are as follows:

- ≥ 8 miles: **70%** of daylight hours
- ≥ 10 miles: **60%** of daylight hours.

Finally, we calculated 2019 average visibility for each month, the summer months combined, and the entire year. Each of these were broken down into morning (13Z), mid-day (17Z), and late afternoon (21Z) average visibility. The yearly, monthly, and summer average visibility each share a trend of increasing visibility from the morning to the late afternoon. Higher visibility over the land appears to extend out into the ocean throughout the day. This is consistent with warmer temperatures during the day lowering the relative humidity and causing higher visibility (recall the FSL calculation method).

In addition to averages at certain times of day, complete averages of all daylight hours were plotted for each month and for the combined summer months (see Figure 9). While these plots demonstrate some similarities to the observed monthly visibility frequencies at 26N, they reveal notable differences in the summer months. Over the ocean, the average visibility in April, May and June ranged from 2.5 to 10 miles, which is consistent with lower frequencies above 10 miles in the 26N observations. However, in July and August, when visibility frequencies over 10 miles in Ocean City are above 75%, average visibility off the coast ranges from 5 to 12 miles (Figure 10). The highest offshore visibility occurred in the late fall and winter.





Possible visibility instruments for Shore-based and Floating Lidars:

One item of interest to ASOW was the possibility of installing a visibility instrument on either the shore-based lidar system installed at the Rutgers University Marine Field Station (RUMFS), and/or for deployment on one of their floating lidar buoys, to provide additional observations for validation. A selection of possible instruments is indicated below:

- Campbell Scientific
 - CS120A (visibility sensor only)
 - CS125 (visibility sensor plus current weather)
 - If RH is connected, the instrument can determine if obscuration is wet or dry, and it can tell liquid from frozen precip
 - Range: 5m – 75 km
 - Weight: 3 kg
 - Dimensions (inches): 21.26 x 25.2 x 9.7
- R.M. Young Sentry Visibility Sensor
 - Range: 30 m -16 km
 - Weight: 8 kg
 - Dimensions (inches): 35 x 11.5 x 12
 - Used/tested by NWS and FAA

- Vaisala – Visibility Sensor PWD50
 - Described as good instrument for marine environments with turbine applications
 - Range: 10m – 50km
 - Weight: 3 kg
 - Dimensions (inches): 5.51 x 15.91 x 27.36

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