

OC04: Gillian’s Wonderland Pier, Ocean City, Cape May County, New Jersey

Environmental Data

Date Taken: 08/25/2022
Time: 12:47 PM
Temperature: 91°F
Humidity: 29%
Visibility*: 10+ miles
Wind Direction: Northwest
Wind Speed: 3 mph
Conditions Observed: Fair

Camera Information
Camera: Canon EOS 5D Mark IV
Resolution: 30.4 Megapixels
Lens Focal Length: 50 mm
Camera Height: 5.10 feet AMSL

Key Observation Point Information

County: Cape May
Town: Ocean City
State: New Jersey
Location: Gillian's Wonderland Pier
Latitude, Longitude: 39.27506°N, 74.56878°W
Direction of View (Center): East (80.3°)
Field of View: 124° x 55°

Visual Resources
Character Area: Commercial Beachfront, Seascape (SCA)
User Group: Residents/Tourists, Fishermen
Visually Sensitive Resource: Ocean City Beachfront

Key Observation Point Context

● Key Observation Point

Wind Turbine Generator (See Image 1)

Fully Visible

Platform Screened

Mid-Tower Screened

Nacelle Screened

✦ Not Visible

Offshore Substation

Visible

Not Visible

Ocean Wind (OCS-A 0498)

Ocean Wind II (OCS-A 0532)

Atlantic Shores Offshore Wind North (OCS-A 0549)

Atlantic Shores Offshore Wind South (OCS-A 0499)

US Wind (OCS-A 0489 and 0490)

Skipjack (OCS-A 0519)

Garden State (OCS-A 0482)

Ocean Wind East (OCS-A 0537)

Attentive Energy (OCS-A 0538)

Bight Wind Holdings (OCS-A 0539)

Invenergy Wind Offshore (OCS-A 0542)

Atlantic Shores Offshore Wind Bight (OCS-A 0541)

Empire Wind II (OCS-A 0512)

Empire Wind (OCS-A 0512)

Mid-Atlantic Offshore Wind (OCS-A 0544)

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

Reasonably Foreseeable Projects Represented in Photosimulation								
Scenario 5	Scenario 2	Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP**	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
		Atlantic Shores Offshore Wind South (OCS-A 0499)	2025-2027	1,047	204	205	17.2	33.6
		Ocean Wind (OCS-A 0498)	2023-2025	906	111	111	15.6	26.3
		Empire Wind (OCS-A 0512)	2024-2025	951	0	72	Not Visible	Not Visible
		Empire Wind II (OCS-A 0512)	2023-2027	951	0	104	Not Visible	Not Visible
Scenario 4	Scenario 3	Skipjack (OCS-A 0519)	2024-2030	853	0	33	Not Visible	Not Visible
		Garden State (OCS-A 0482)	2023-2030	853	32	80	37.6	42.6
		US Wind (OCS-A 0489 and 0490)	2024	938	0	101	Not Visible	Not Visible
		Atlantic Shores Offshore Wind North (OCS-A 0549)	2025-2030	1,047	118	164	26.1	43.5
		Ocean Wind II (OCS-A 0532)	2026-2030	906	111	111	11.0	26.8
		Mid-Atlantic Offshore Wind (OCS-A 0544)	by 2030	853	0	104	Not Visible	Not Visible
		Ocean Wind East (OCS-A 0537)	by 2030	853	0	82	Not Visible	Not Visible
		Attentive Energy (OCS-A 0538)	by 2030	853	0	101	Not Visible	Not Visible
		Bight Wind Holdings (OCS-A 0539)	by 2030	853	0	148	Not Visible	Not Visible
		Atlantic Shores Offshore Wind Bight (OCS-A 0541)	by 2030	853	0	95	Not Visible	Not Visible
		Invenergy Wind Offshore (OCS-A 0542)	by 2030	853	0	99	Not Visible	Not Visible

Notes:

- Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
- *Historical meteorological data predicts visibility within a limit of 10 statute miles. However, visibility may extend beyond this distance. The photosimulations assume visibility extends to the limit of physical visibility (including a standard refraction index).
- WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) than the viewshed analysis results which use a refraction coefficient of 0.13.
- **The number of WTGs visible from the KOP was determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (72 m) in lost maximum height depending on the rotation position.
- The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WTG visibility.
- The Key Observation Point Context map considers screening by curvature of the earth, viewer height, and turbine height. Landscape screening features are not considered. Therefore, in this view, the number of visible turbines depicted on the map may not match the table due to the presence of landscape screening features.



ATLANTIC SHORES offshore wind

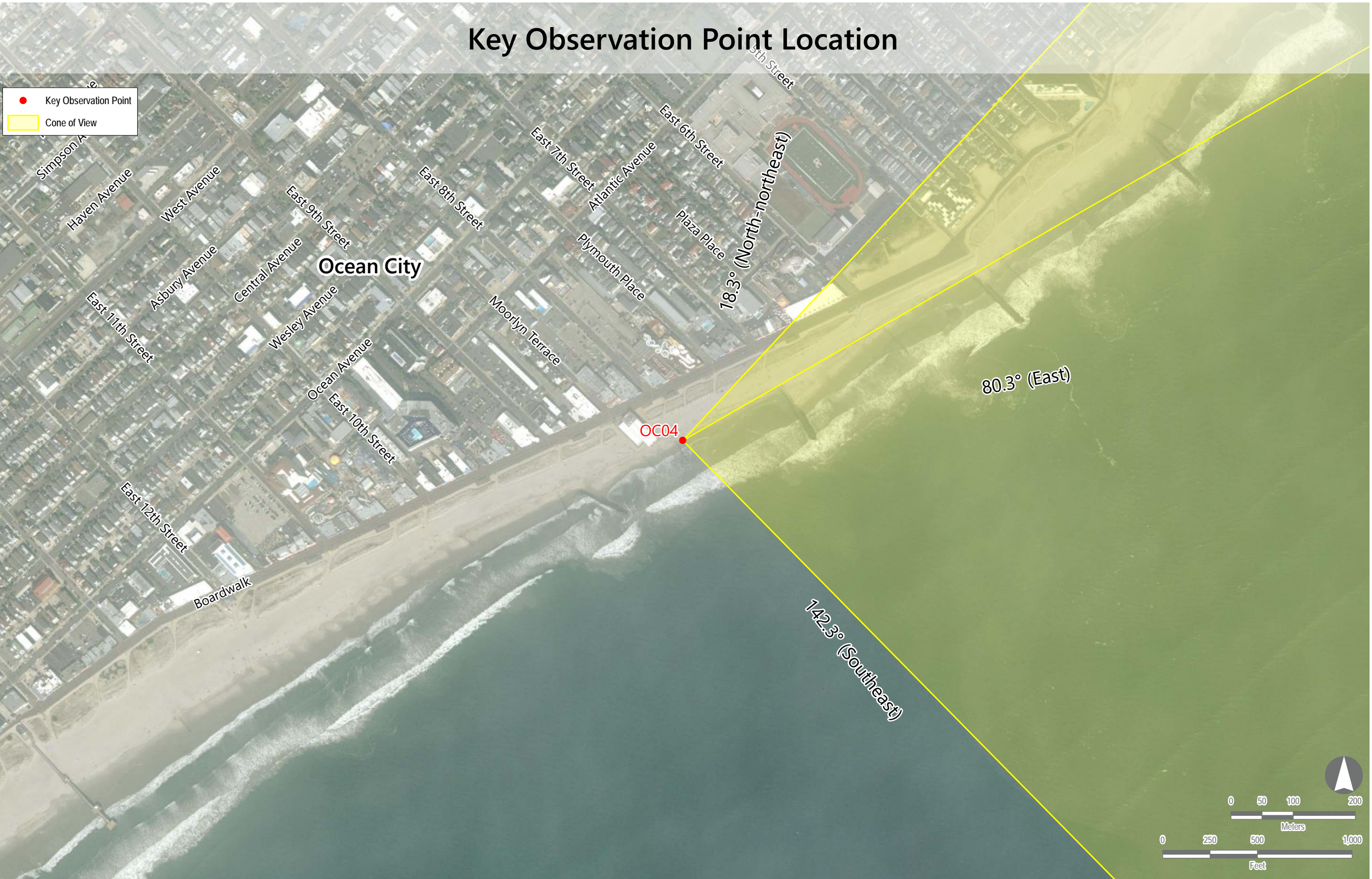
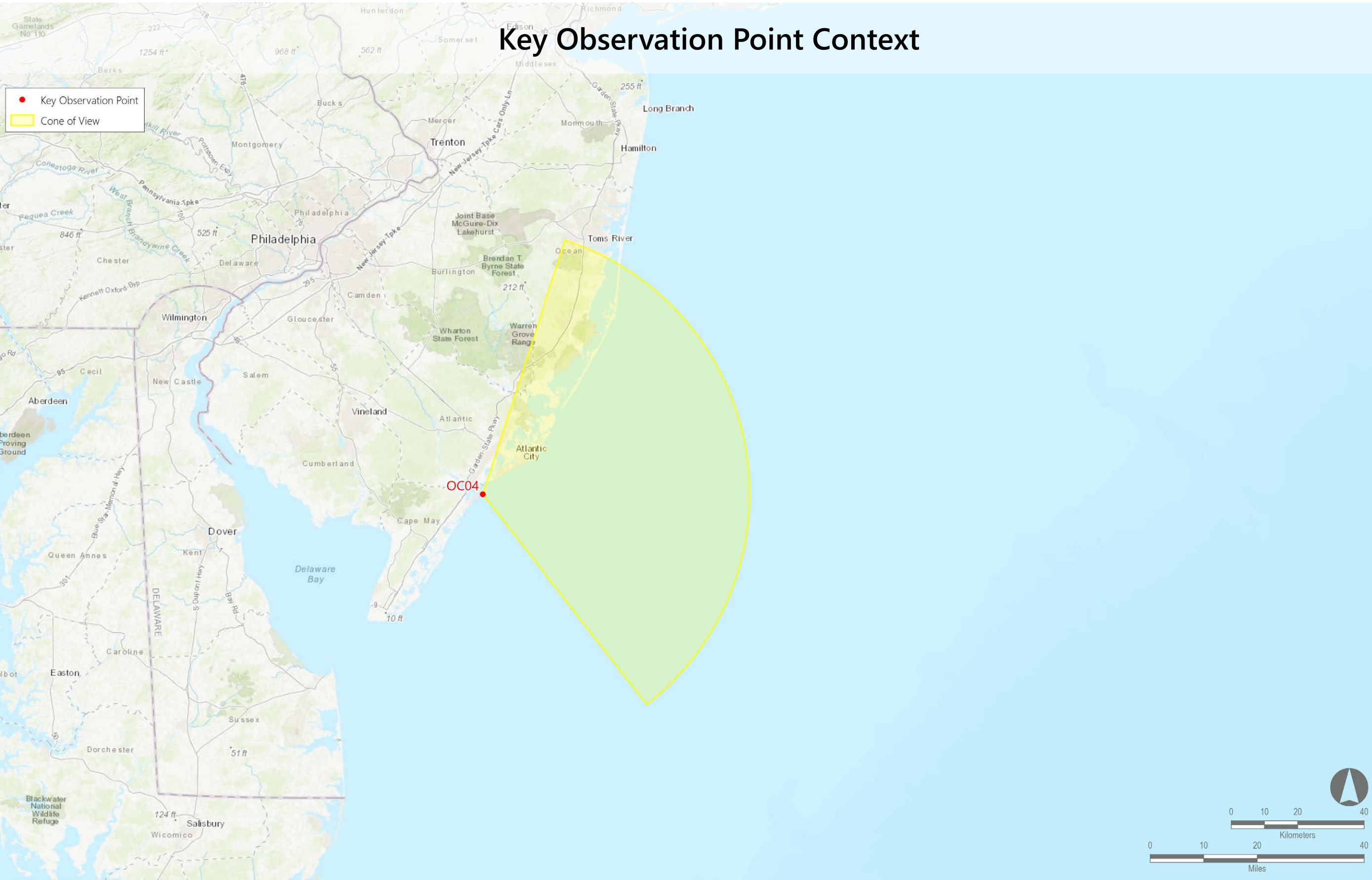
Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

OC04: Gillian's Wonderland Pier, Ocean City, Cape May County, New Jersey

Existing Conditions (Panorama 1)

Notes:

- Photosimulation Size: 66" in width by 29.3" in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.





ATLANTIC SHORES offshore wind

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

OC04: Gillian's Wonderland Pier, Ocean City, Cape May County, New Jersey

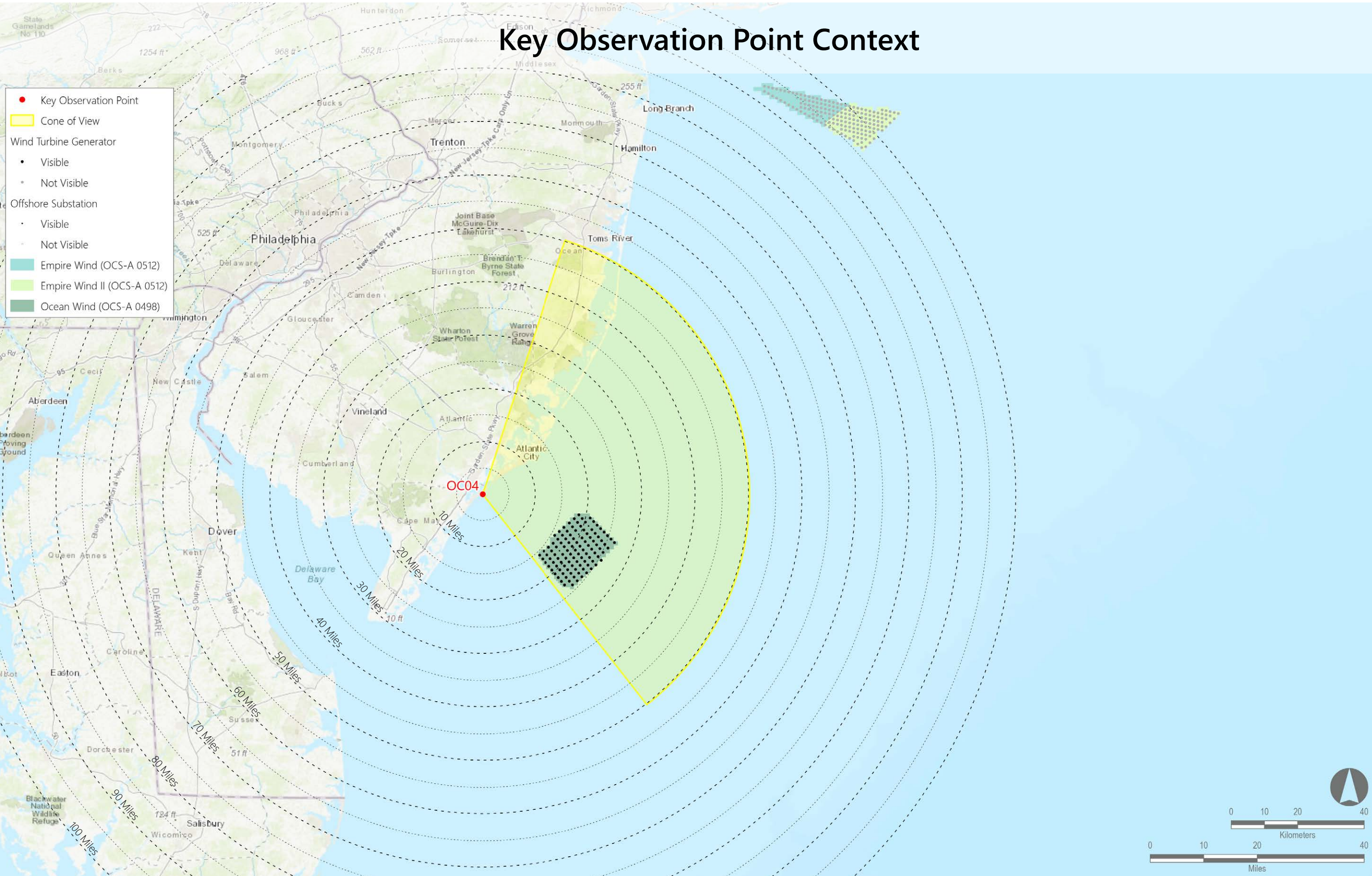
Photosimulation (Panorama 1): Scenario 1: 2023-2025 Project Construction (Ocean Wind, Empire Wind, Empire Wind II)

Simulation Size: 66" in width by 29.3" in height. Images should be viewed from a distance of 18 inches in order to obtain the proper perspective.

This box should enclose the 1" flag on the printed panorama.

- Notes:**
- Photosimulation Size: 66" in width by 29.3" in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
 - Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
 - WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) than the viewshed analysis results which use a refraction coefficient of 0.13.
 - WTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
 - The number of WTGs visible from the KOP was determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (72 m) in lost maximum height depending on the rotation position.
 - The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WTG visibility.
 - The resolution of the cumulative photosimulations balances the size and usability of the documents with the need for high resolution to see distant project components. Similarly to human vision, very distant turbines may appear blurry or difficult to decipher due to resolution limitations.
 - The Key Observation Point Context map considers screening by curvature of the earth, viewer height, and turbine height. Landscape screening features are not considered. Therefore, in this view, the number of visible turbines depicted on the map may not match the table due to the presence of landscape screening features.

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Ocean Wind (OCS-A 0498)	2024-2025	906	111	111	15.6	26.3
Empire Wind (OCS-A 0512)	2023-2027	951	0	72	Not Visible	Not Visible
Empire Wind II (OCS-A 0512)	2025-2027	951	0	104	Not Visible	Not Visible





ATLANTIC SHORES offshore wind

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

OC04: Gillian's Wonderland Pier, Ocean City, Cape May County, New Jersey

Photosimulation (Panorama 1): Scenario 2: Atlantic Shores Construction (2025-2027) added to Scenario 1 (Ocean Wind, Empire Wind, Empire Wind II, Atlantic Shores South)

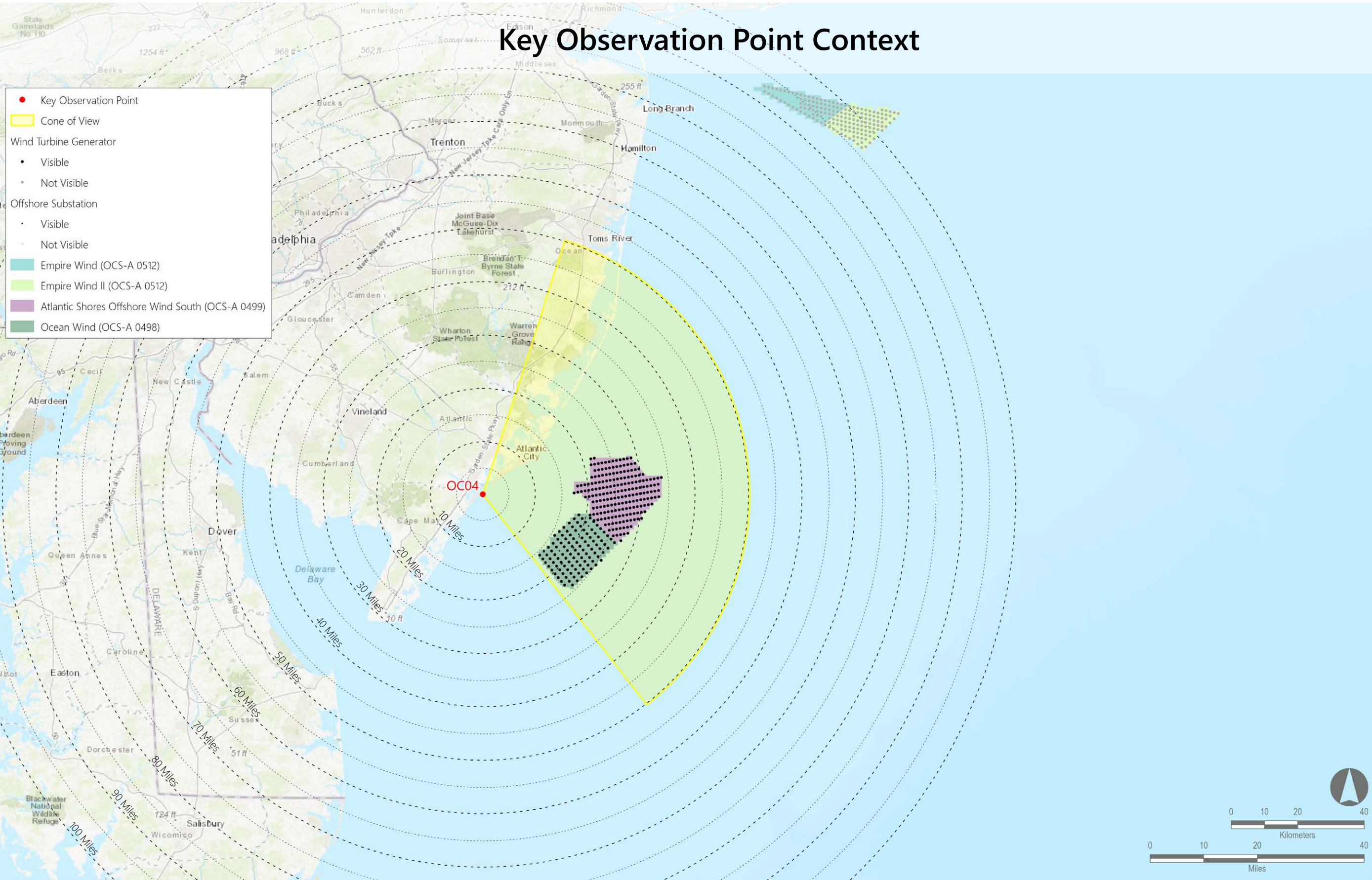
Simulation Size: 60" in width by 29.3" in height. Images should be viewed from a distance of 18 inches in order to obtain the proper perspective.

This box should always be kept on the printed panorama.

Notes:

- Photosimulation Size: 66" in width by 29.3" in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
- Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
- WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) than the viewshed analysis results which use a refraction coefficient of 0.13.
- WTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
- The number of WTGs visible from the KOP was determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (72 m) in lost maximum height depending on the rotation position.
- The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WTG visibility.
- The resolution of the cumulative photosimulations balances the size and usability of the documents with the need for high resolution to see distant project components. Similarly to human vision, very distant turbines may appear blurry or difficult to decipher due to resolution limitations.
- The Key Observation Point Context map considers screening by curvature of the earth, viewer height, and turbine height. Landscape screening features are not considered. Therefore, in this view, the number of visible turbines depicted on the map may not match the table due to the presence of landscape screening features.

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Atlantic Shores Offshore Wind South (OCS-A 0499)	2023-2025	1,047	204	205	17.2	33.6
Ocean Wind (OCS-A 0498)	2024-2025	906	111	111	15.6	26.3
Empire Wind (OCS-A 0512)	2023-2027	951	0	72	Not Visible	Not Visible
Empire Wind II (OCS-A 0512)	2025-2027	951	0	104	Not Visible	Not Visible





ATLANTIC SHORES offshore wind

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

OC04: Gillian's Wonderland Pier, Ocean City, Cape May County, New Jersey

Photosimulation (Panorama 1): Scenario 3: 2024-2030 Project construction added after the construction of Atlantic Shores South (Full Lease Build-out Including Atlantic Shores South)

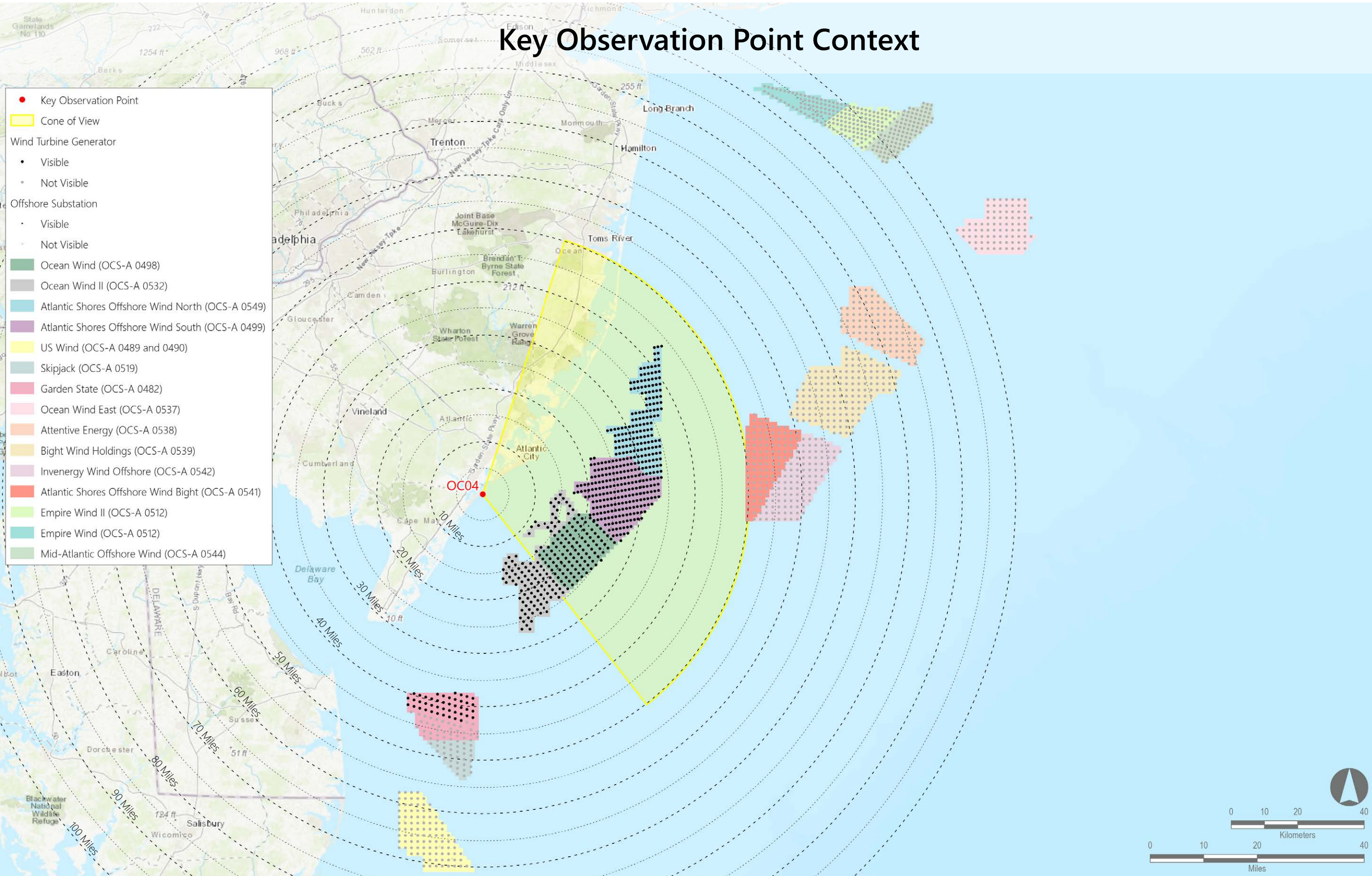
Simulation Size: 60" in width by 29.3" in height. Images should be viewed from a distance of 18 inches in order to obtain the proper perspective.

This box should always be kept on the printed panorama.

Notes:

- Photosimulation Size: 66" in width by 29.3" in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
- Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
- WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) than the viewshed analysis results which use a refraction coefficient of 0.13.
- WTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
- The number of WTGs visible from the KOP was determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (72 m) in lost maximum height depending on the rotation position.
- The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WTG visibility.
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Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Atlantic Shores Offshore Wind South (OCS-A 0499)	2023-2025	1,047	204	205	17.2	33.6
Ocean Wind (OCS-A 0498)	2024-2025	906	111	111	15.6	26.3
Empire Wind (OCS-A 0512)	2023-2027	951	0	72	Not Visible	Not Visible
Empire Wind II (OCS-A 0512)	2025-2027	951	0	104	Not Visible	Not Visible
Skipjack (OCS-A 0519)	2024-2030	853	0	33	Not Visible	Not Visible
Garden State (OCS-A 0482)	2023-2030	853	32	80	37.6	42.6
US Wind (OCS-A 0489 and 0490)	2024	938	0	101	Not Visible	Not Visible
Atlantic Shores Offshore Wind North (OCS-A 0549)	2025-2030	1,047	118	164	26.1	43.5
Ocean Wind II (OCS-A 0532)	2026-2030	906	111	111	11.0	26.8
Mid-Atlantic Offshore Wind (OCS-A 0544)	by 2030	853	0	104	Not Visible	Not Visible
Ocean Wind East (OCS-A 0537)	by 2030	853	0	82	Not Visible	Not Visible
Altavere Energy (OCS-A 0538)	by 2030	853	0	101	Not Visible	Not Visible
Bight Wind Holdings (OCS-A 0539)	by 2030	853	0	148	Not Visible	Not Visible
Atlantic Shores Offshore Wind Bight (OCS-A 0541)	by 2030	853	0	95	Not Visible	Not Visible
Invenergy Wind Offshore (OCS-A 0542)	by 2030	853	0	99	Not Visible	Not Visible





ATLANTIC SHORES offshore wind

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

OC04: Gillian's Wonderland Pier, Ocean City, Cape May County, New Jersey

Photosimulation (Panorama 1): Scenario 4: Full buildout of all lease areas without Atlantic Shores South

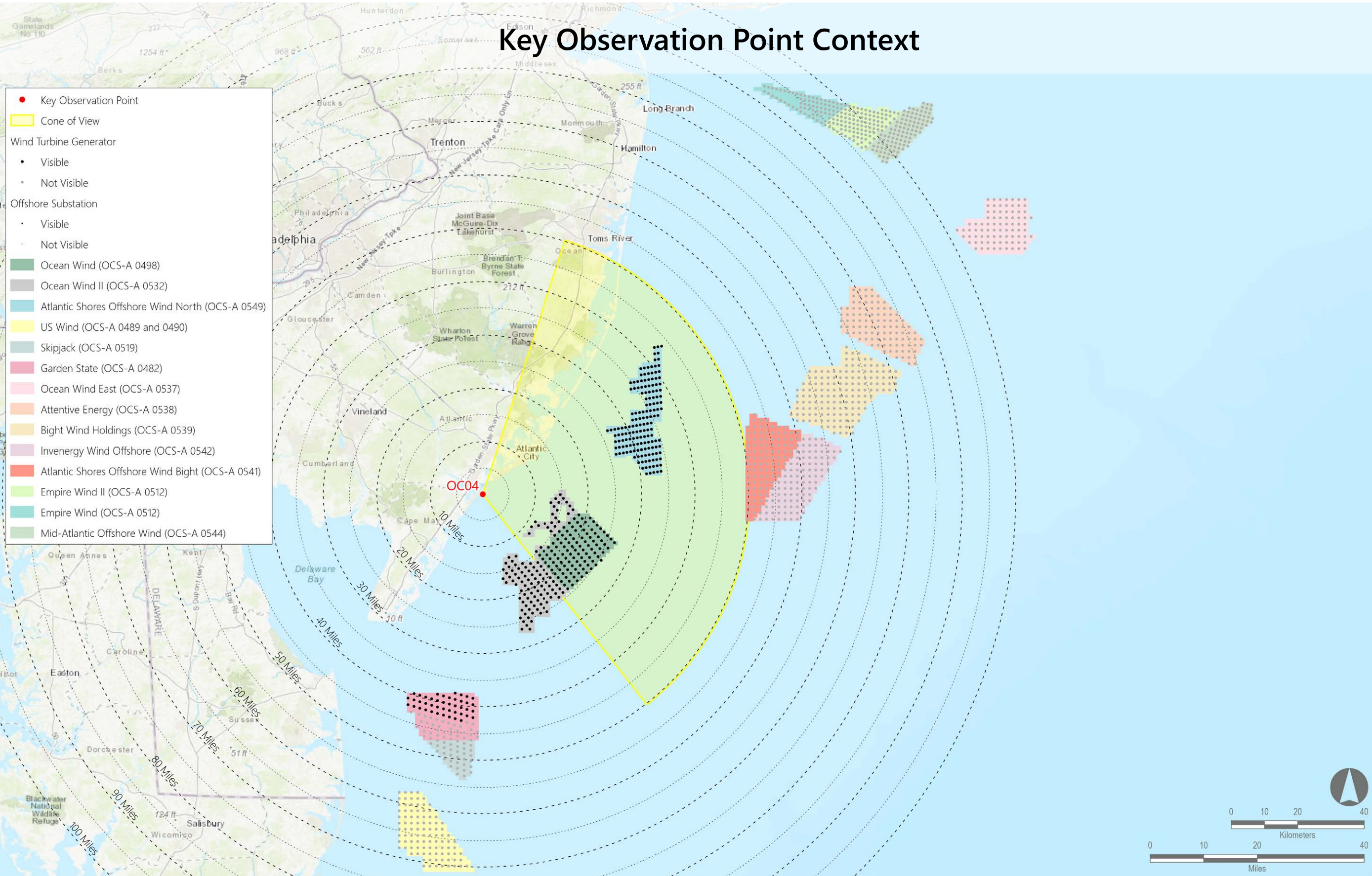
Simulation Size: 60" in width by 29.3" in height. Images should be viewed from a distance of 18 inches in order to obtain the proper perspective.

This box should measure 9" high on the printed panorama

Notes:

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- WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) than the viewshed analysis results which use a refraction coefficient of 0.13.
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US Wind (OCS-A 0489 and 0490)	2024	938	0	101	Not Visible	Not Visible
Atlantic Shores Offshore Wind North (OCS-A 0549)	2025-2030	1,047	118	164	26.1	43.5
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Atlantic Shores Offshore Wind Bight (OCS-A 0541)	by 2030	853	0	95	Not Visible	Not Visible
Inverness Wind Offshore (OCS-A 0542)	by 2030	853	0	99	Not Visible	Not Visible





ATLANTIC SHORES offshore wind

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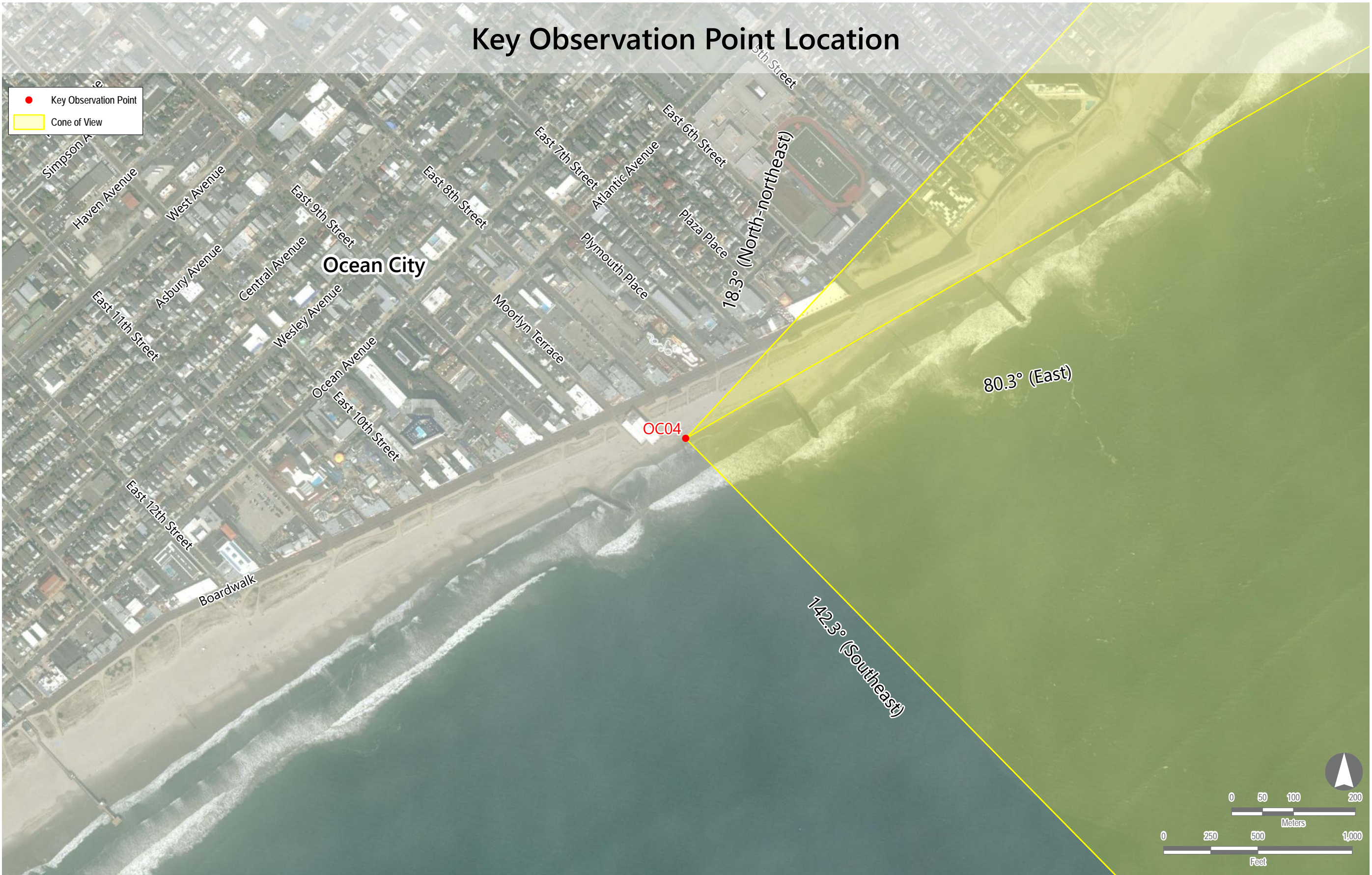
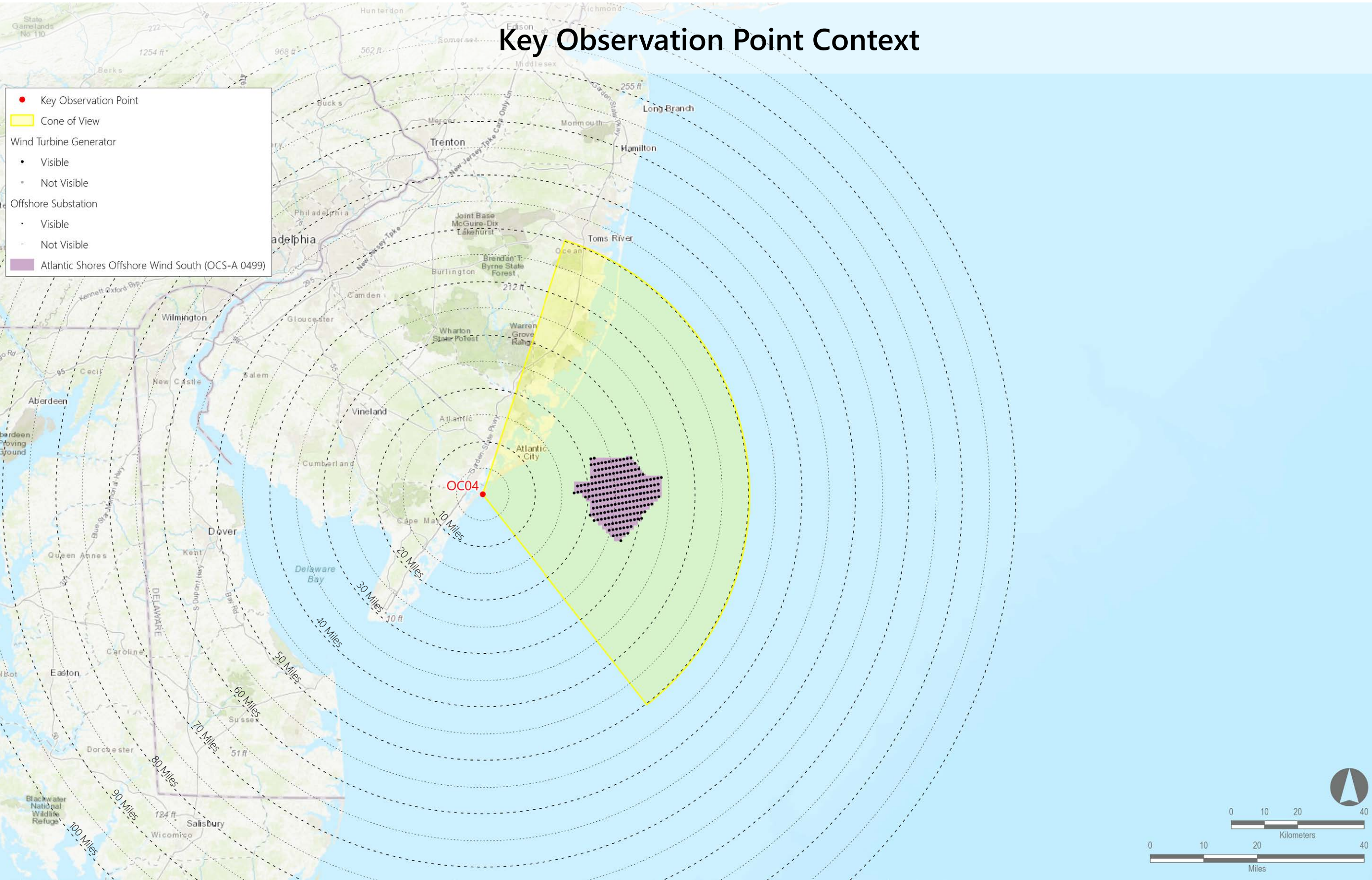
Photosimulation (Panorama 1): Scenario 5: Atlantic Shores South without the construction of other foreseeable planned activities

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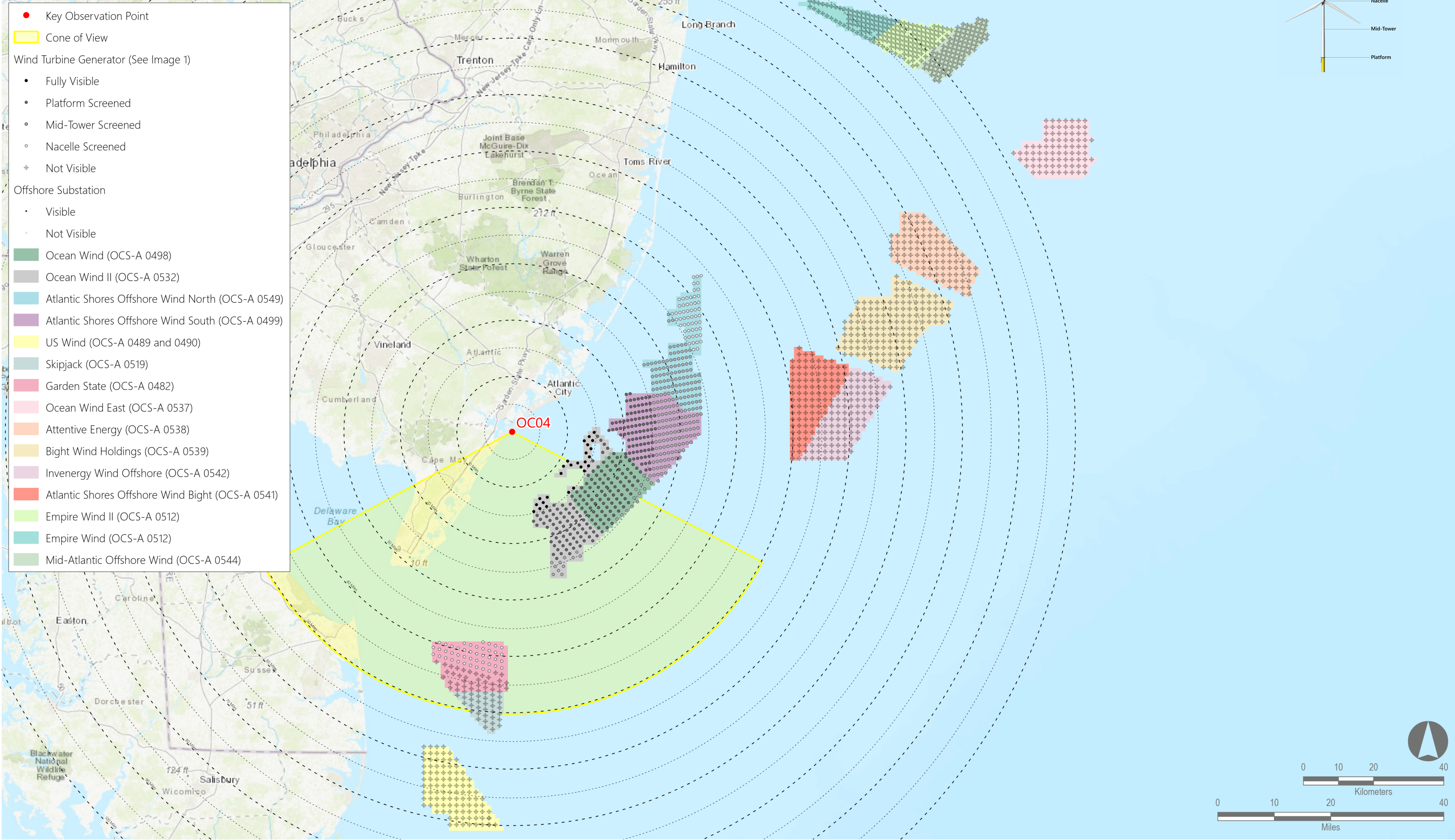
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Lens Focal Length: 50 mm
Camera Height: 5.10 feet AMSL

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User Group: Residents/Tourists, Fishermen
Visually Sensitive Resource: Ocean City Beachfront

Key Observation Point Context



Reasonably Foreseeable Projects Represented in Photosimulation

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		US Wind (OCS-A 0489 and 0490)	2024	938	0	101	Not Visible	Not Visible
		Atlantic Shores Offshore Wind North (OCS-A 0549)	2025-2030	1,047	118	164	26.1	43.5
		Ocean Wind II (OCS-A 0532)	2026-2030	906	111	111	11.0	26.8
		Mid-Atlantic Offshore Wind (OCS-A 0544)	by 2030	853	0	104	Not Visible	Not Visible
		Ocean Wind East (OCS-A 0537)	by 2030	853	0	82	Not Visible	Not Visible
		Attentive Energy (OCS-A 0538)	by 2030	853	0	101	Not Visible	Not Visible
		Bight Wind Holdings (OCS-A 0539)	by 2030	853	0	148	Not Visible	Not Visible
		Atlantic Shores Offshore Wind Bight (OCS-A 0541)	by 2030	853	0	95	Not Visible	Not Visible
		Invenergy Wind Offshore (OCS-A 0542)	by 2030	853	0	99	Not Visible	Not Visible

- Notes:**
- Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
 - *Historical meteorological data predicts visibility within a limit of 10 statute miles. However, visibility may extend beyond this distance. The photosimulations assume visibility extends to the limit of physical visibility (including a standard refraction index).
 - WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) than the viewshed analysis results which use a refraction coefficient of 0.13.
 - **The number of WTGs visible from the KOP was determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (72 m) in lost maximum height depending on the rotation position.
 - The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WTG visibility.
 - The Key Observation Point Context map considers screening by curvature of the earth, viewer height, and turbine height. Landscape screening features are not considered. Therefore, in this view, the number of visible turbines depicted on the map may not match the table due to the presence of landscape screening features.



MATCH LINE OC04 PANO #1



ATLANTIC SHORES offshore wind

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

OC04: Gillian's Wonderland Pier, Ocean City, Cape May County, New Jersey

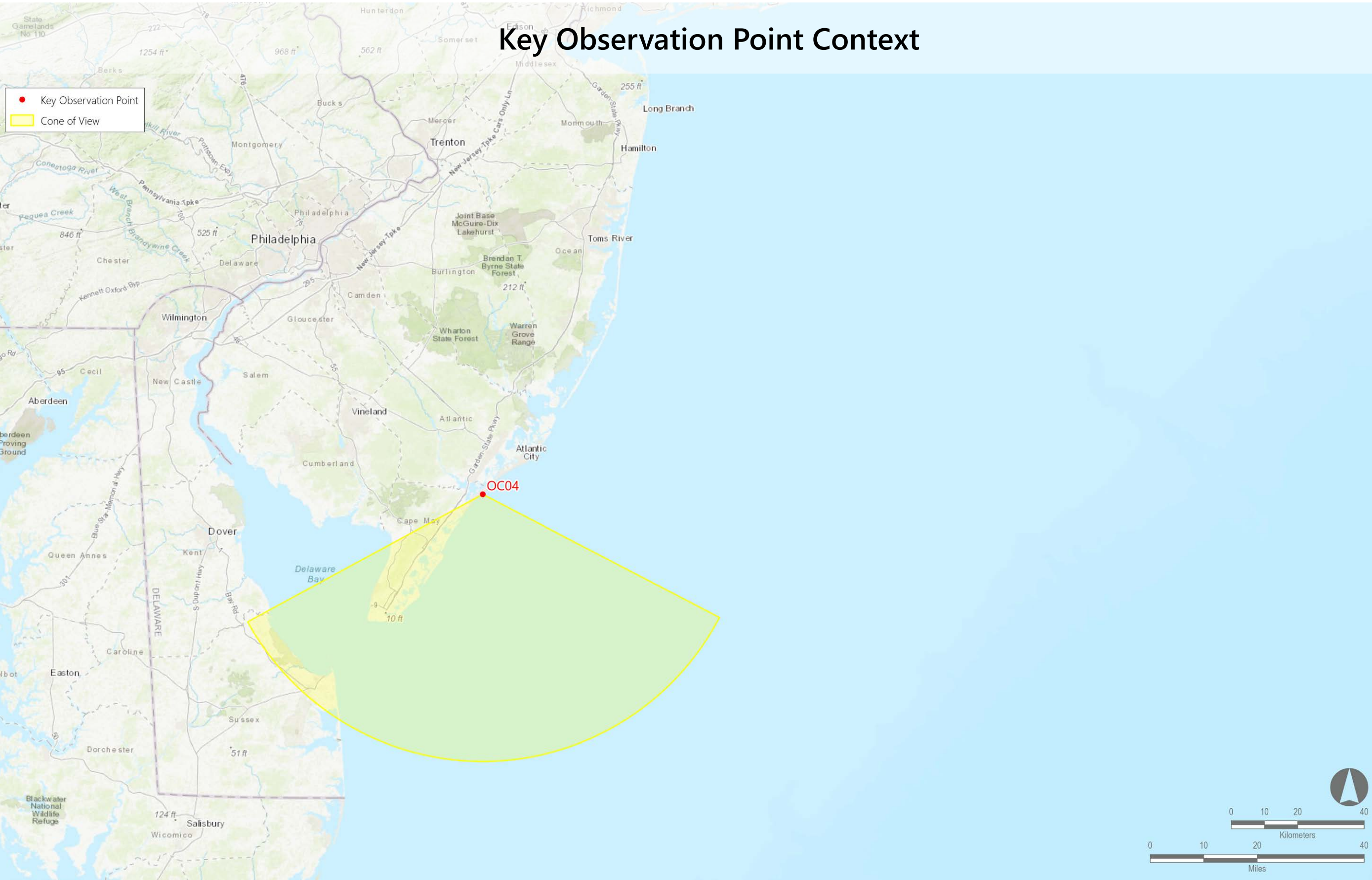
Existing Conditions (Panorama 2)

Notes:

- Photosimulation Size: 66" in width by 29.3" in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.

Simulation Size: 66" in width by 29.3" in height. Images should be viewed from a distance of 18 inches in order to obtain the proper perspective.

This box should be viewed from a distance of 18 inches on the printed panorama.





ATLANTIC SHORES

offshore wind

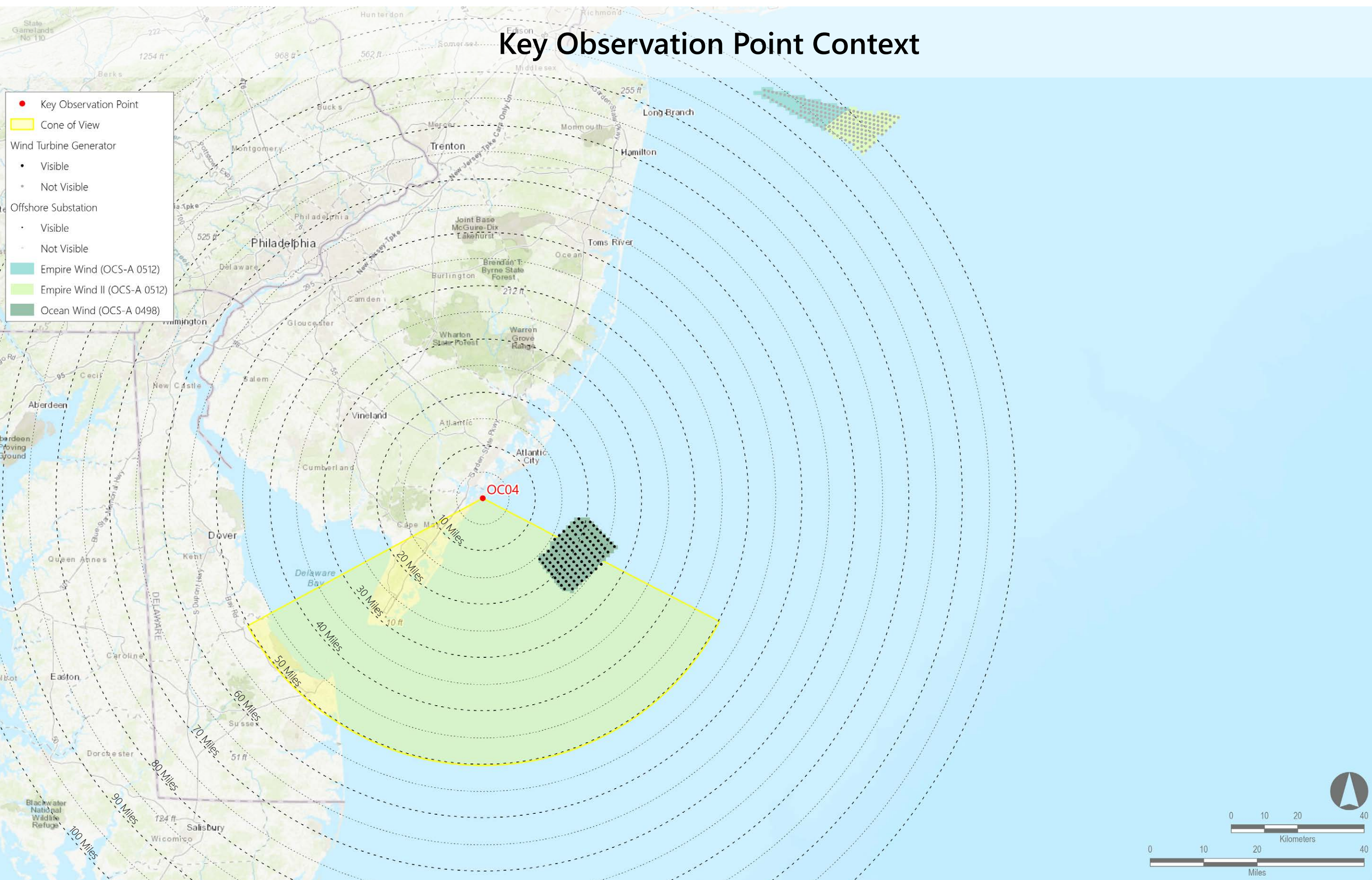
Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

OC04: Gillian's Wonderland Pier, Ocean City, Cape May County, New Jersey

Photosimulation (Panorama 2): Scenario 1: 2023-2025 Project Construction (Ocean Wind, Empire Wind, Empire Wind II)

- Notes:**
- Photosimulation Size: 66" in width by 29.3" in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
 - Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
 - WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) than the viewshed analysis results which use a refraction coefficient of 0.13.
 - WTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
 - The number of WTGs visible from the KOP was determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (72 m) in lost maximum height depending on the rotation position.
 - The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WTG visibility.
 - The resolution of the cumulative photosimulations balances the size and usability of the documents with the need for high resolution to see distant project components. Similarly to human vision, very distant turbines may appear blurry or difficult to decipher due to resolution limitations.
 - The Key Observation Point Context map considers screening by curvature of the earth, viewer height, and turbine height. Landscape screening features are not considered. Therefore, in this view, the number of visible turbines depicted on the map may not match the table due to the presence of landscape screening features.

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Ocean Wind (OCS-A 0498)	2024-2025	906	111	111	15.6	26.3
Empire Wind (OCS-A 0512)	2023-2027	951	0	72	Not Visible	Not Visible
Empire Wind II (OCS-A 0512)	2025-2027	951	0	104	Not Visible	Not Visible





ATLANTIC SHORES offshore wind

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

OC04: Gillian's Wonderland Pier, Ocean City, Cape May County, New Jersey

Photosimulation (Panorama 2): Scenario 2: Atlantic Shores Construction (2025-2027) added to Scenario 1 (Ocean Wind, Empire Wind, Empire Wind II, Atlantic Shores South)

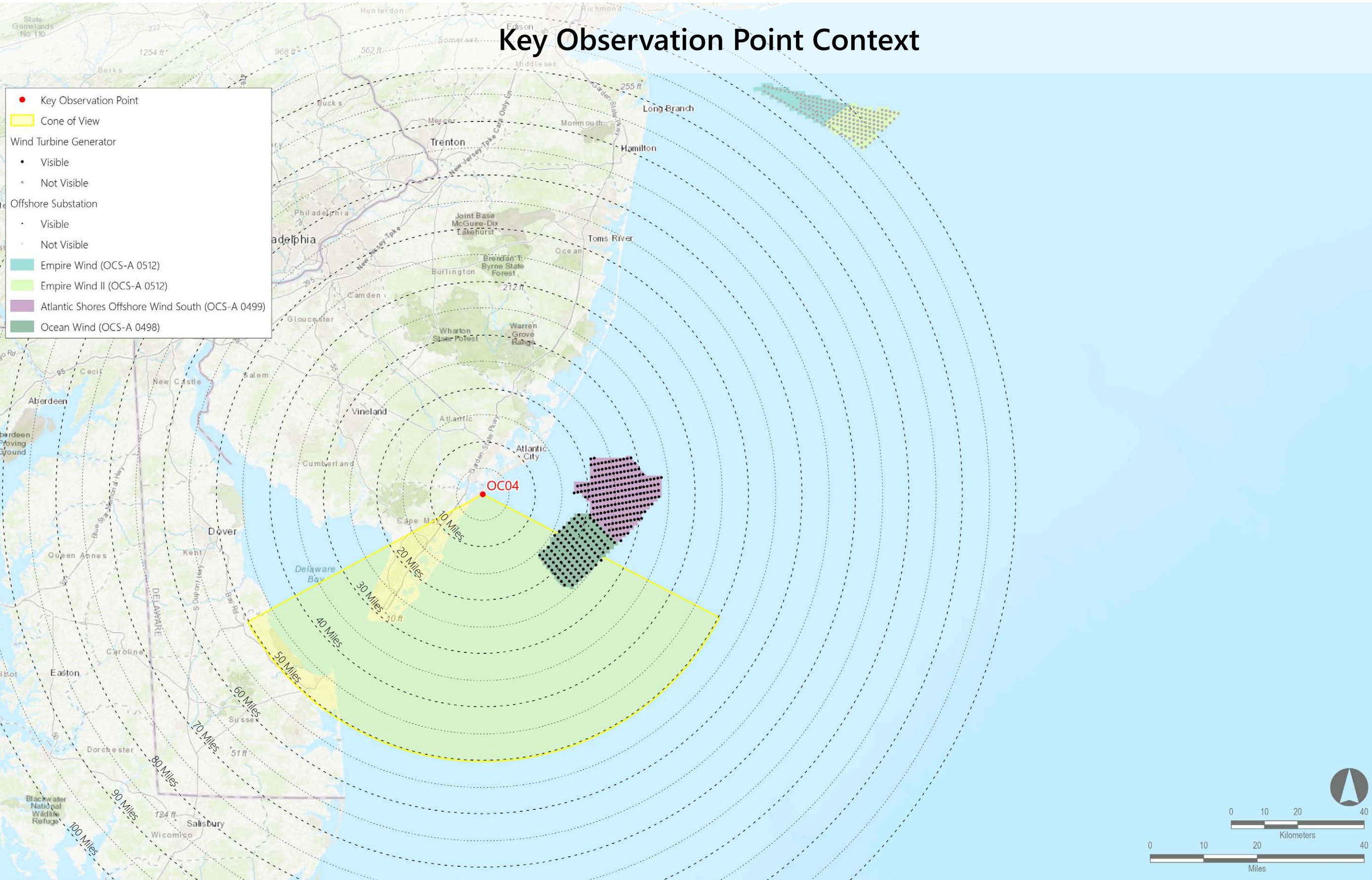
Simulation Size: 66" in width by 29.3" in height. Images should be viewed from a distance of 18 inches in order to obtain the proper perspective.

This box should always be kept on the printed panorama.

Notes:

- Photosimulation Size: 66" in width by 29.3" in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
- Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
- WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) than the viewshed analysis results which use a refraction coefficient of 0.13.
- WTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
- The number of WTGs visible from the KOP was determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (72 m) in lost maximum height depending on the rotation position.
- The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WTG visibility.
- The resolution of the cumulative photosimulations balances the size and usability of the documents with the need for high resolution to see distant project components. Similarly to human vision, very distant turbines may appear blurry or difficult to decipher due to resolution limitations.
- The Key Observation Point Context map considers screening by curvature of the earth, viewer height, and turbine height. Landscape screening features are not considered. Therefore, in this view, the number of visible turbines depicted on the map may not match the table due to the presence of landscape screening features.

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Atlantic Shores Offshore Wind South (OCS-A 0499)	2023-2025	1,047	204	205	17.2	33.6
Ocean Wind (OCS-A 0498)	2024-2025	906	111	111	15.6	26.3
Empire Wind (OCS-A 0512)	2023-2027	951	0	72	Not Visible	Not Visible
Empire Wind II (OCS-A 0512)	2025-2027	951	0	104	Not Visible	Not Visible





ATLANTIC SHORES offshore wind

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

OC04: Gillian's Wonderland Pier, Ocean City, Cape May County, New Jersey

Photosimulation (Panorama 2): Scenario 3: 2024-2030 Project construction added after the construction of Atlantic Shores South (Full Lease Build-out Including Atlantic Shores South)

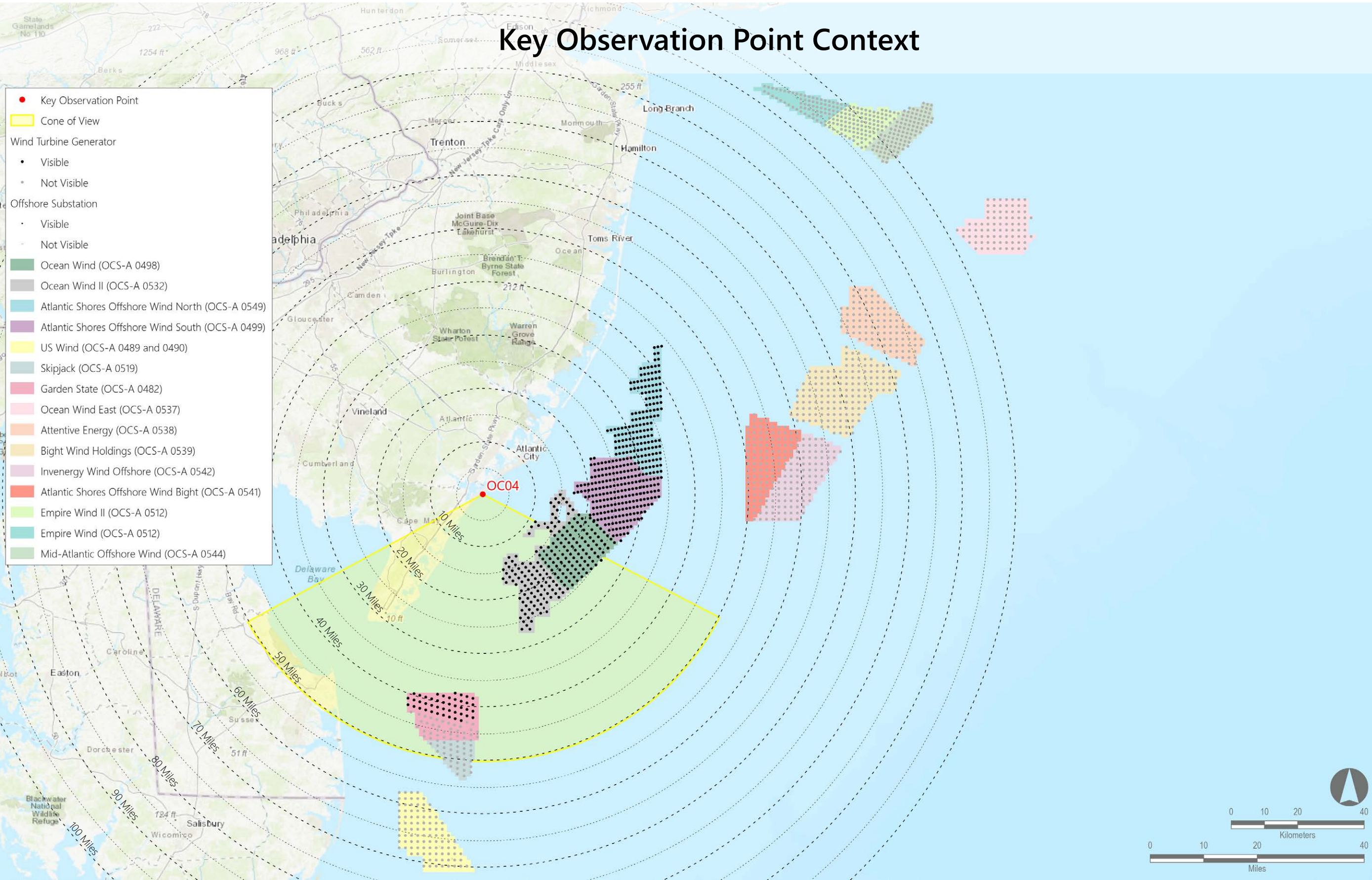
Simulation Size: 60" in width by 29.3" in height. Images should be viewed from a distance of 18 inches in order to obtain the proper perspective.

This box should
display a 1" flag
on the printed
panorama

Notes:

- Photosimulation Size: 60" in width by 29.3" in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
- Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
- WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) than the viewshed analysis results which use a refraction coefficient of 0.13.
- WTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
- The number of WTGs visible from the KOP was determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (72 m) in lost maximum height depending on the rotation position.
- The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WTG visibility.
- The resolution of the cumulative photosimulations balances the size and usability of the documents with the need for high resolution to see distant project components. Similarly to human vision, very distant turbines may appear blurry or difficult to decipher due to resolution limitations.
- The Key Observation Point Context map considers screening by curvature of the earth, viewer height, and turbine height. Landscape screening features are not considered. Therefore, in this view, the number of visible turbines depicted on the map may not match the table due to the presence of landscape screening features.

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Atlantic Shores Offshore Wind South (OCS-A 0499)	2023-2025	1,047	204	205	17.2	33.6
Ocean Wind (OCS-A 0498)	2024-2025	906	111	111	15.6	26.3
Empire Wind (OCS-A 0512)	2023-2027	951	0	72	Not Visible	Not Visible
Empire Wind II (OCS-A 0512)	2025-2027	951	0	104	Not Visible	Not Visible
Skipjack (OCS-A 0519)	2024-2030	853	0	33	Not Visible	Not Visible
Garden State (OCS-A 0482)	2023-2030	853	32	80	37.6	42.6
US Wind (OCS-A 0489 and 0490)	2024	938	0	101	Not Visible	Not Visible
Atlantic Shores Offshore Wind North (OCS-A 0549)	2025-2030	1,047	118	164	26.1	43.5
Ocean Wind II (OCS-A 0532)	2026-2030	906	111	111	11.0	26.8
Mid-Atlantic Offshore Wind (OCS-A 0544)	by 2030	853	0	104	Not Visible	Not Visible
Ocean Wind East (OCS-A 0537)	by 2030	853	0	82	Not Visible	Not Visible
Attentive Energy (OCS-A 0538)	by 2030	853	0	101	Not Visible	Not Visible
Bight Wind Holdings (OCS-A 0539)	by 2030	853	0	148	Not Visible	Not Visible
Atlantic Shores Offshore Wind Bight (OCS-A 0541)	by 2030	853	0	95	Not Visible	Not Visible
Inverenergy Wind Offshore (OCS-A 0542)	by 2030	853	0	99	Not Visible	Not Visible





ATLANTIC SHORES offshore wind

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

OC04: Gillian's Wonderland Pier, Ocean City, Cape May County, New Jersey

Photosimulation (Panorama 2): Scenario 4: Full buildout of all lease areas without Atlantic Shores South

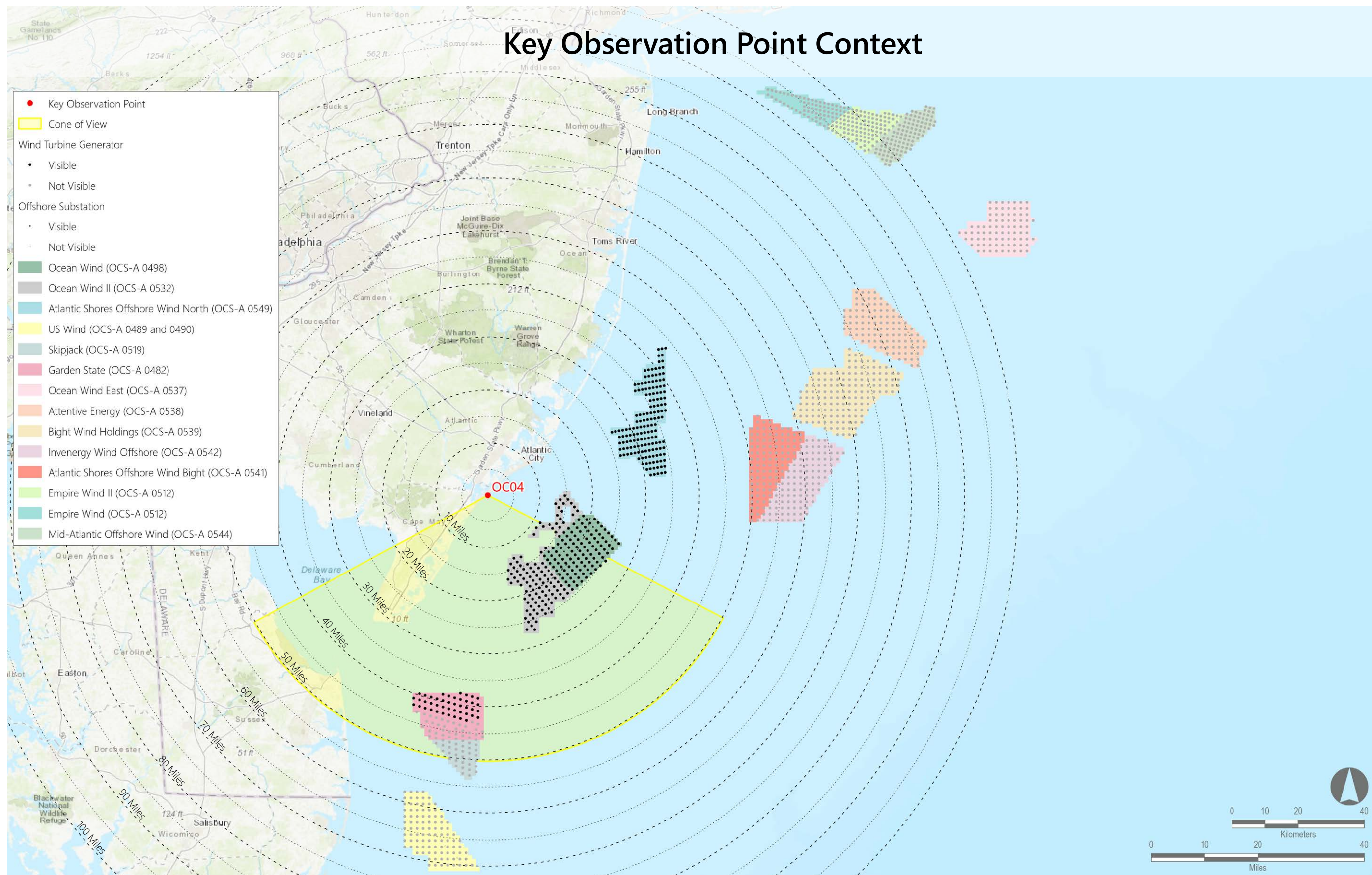
Simulation Size: 66" in width by 29.3" in height. Images should be viewed from a distance of 18 inches in order to obtain the proper perspective.

This box should enclose 1" of height on the printed panorama.

Notes:

- Photosimulation Size: 66" in width by 29.3" in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
- Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
- WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) than the viewshed analysis results which use a refraction coefficient of 0.13.
- WTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
- The number of WTGs visible from the KOP was determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (72 m) in lost maximum height depending on the rotation position.
- The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WTG visibility.
- The resolution of the cumulative photosimulations balances the size and usability of the documents with the need for high resolution to see distant project components. Similarly to human vision, very distant turbines may appear blurry or difficult to decipher due to resolution limitations.
- The Key Observation Point Context map considers screening by curvature of the earth, viewer height, and turbine height. Landscape screening features are not considered. Therefore, in this view, the number of visible turbines depicted on the map may not match the table due to the presence of landscape screening features.

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Ocean Wind (OCS-A 0498)	2024-2025	906	111	111	15.6	26.3
Empire Wind (OCS-A 0512)	2023-2027	951	0	72	Not Visible	Not Visible
Empire Wind II (OCS-A 0512)	2025-2027	951	0	104	Not Visible	Not Visible
Skipjack (OCS-A 0519)	2024-2030	853	0	33	Not Visible	Not Visible
Garden State (OCS-A 0482)	2023-2030	853	32	80	37.6	42.6
US Wind (OCS-A 0489 and 0490)	2024	938	0	101	Not Visible	Not Visible
Atlantic Shores Offshore Wind North (OCS-A 0549)	2025-2030	1,047	118	164	26.1	43.5
Ocean Wind II (OCS-A 0532)	2026-2030	906	111	111	11.0	26.8
Mid-Atlantic Offshore Wind (OCS-A 0544)	by 2030	853	0	104	Not Visible	Not Visible
Ocean Wind East (OCS-A 0537)	by 2030	853	0	82	Not Visible	Not Visible
Attentive Energy (OCS-A 0539)	by 2030	853	0	101	Not Visible	Not Visible
Bight Wind Holdings (OCS-A 0539)	by 2030	853	0	148	Not Visible	Not Visible
Atlantic Shores Offshore Wind Bight (OCS-A 0541)	by 2030	853	0	95	Not Visible	Not Visible
Inverenergy Wind Offshore (OCS-A 0542)	by 2030	853	0	99	Not Visible	Not Visible





ATLANTIC SHORES offshore wind

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

OC04: Gillian's Wonderland Pier, Ocean City, Cape May County, New Jersey

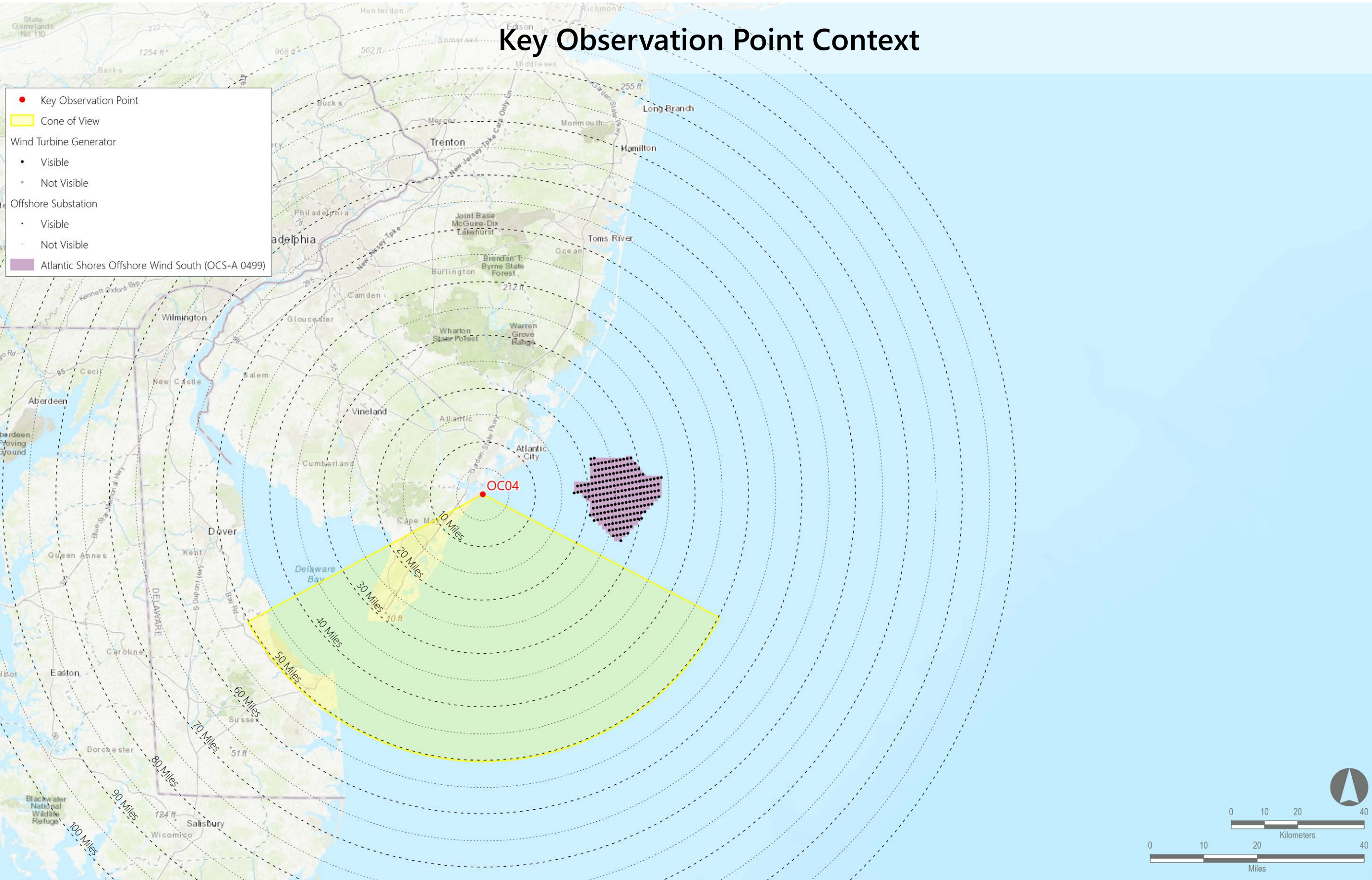
Photosimulation (Panorama 2): Scenario 5: Atlantic Shores South without the construction of other foreseeable planned activities

Simulation Size: 60" in width by 29.3" in height. Images should be viewed from a distance of 18 inches in order to obtain the proper perspective.

This box should enclose the image on the printed panorama.

- Notes:**
- Photosimulation Size: 60" in width by 29.3" in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
 - Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
 - WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) than the viewshed analysis results which use a refraction coefficient of 0.13.
 - WTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
 - The number of WTGs visible from the KOP was determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (72 m) in lost maximum height depending on the rotation position.
 - The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WTG visibility.
 - The resolution of the cumulative photosimulations balances the size and usability of the documents with the need for high resolution to see distant project components. Similarly to human vision, very distant turbines may appear blurry or difficult to decipher due to resolution limitations.
 - The Key Observation Point Context map considers screening by curvature of the earth, viewer height, and turbine height. Landscape screening features are not considered. Therefore, in this view, the number of visible turbines depicted on the map may not match the table due to the presence of landscape screening features.

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Atlantic Shores Offshore Wind South (OC3-A 0499)	2023-2025	1,047	204	205	17.2	33.6



SIC02: Townsend’s Inlet Bridge, Sea Isle City, Cape May County, New Jersey

Environmental Data

Date Taken: 08/25/2022
Time: 4:58 PM
Temperature: 84°F
Humidity: 53%
Visibility*: 10+ miles
Wind Direction: South-southeast
Wind Speed: 10 mph
Conditions Observed: Fair

Camera Information
Camera: Canon EOS 5D Mark IV
Resolution: 30.4 Megapixels
Lens Focal Length: 50 mm
Camera Height: 40.18 feet AMSL

Key Observation Point Information

County: Cape May
Town: Ocean City
State: New Jersey
Location: Townsend's Inlet Bridge
Latitude, Longitude: 39.11919°N, 74.71576°W
Direction of View (Center): East-northeast (73.4°)
Field of View: 124° x 55°

Visual Resources
Character Area: Open Water/Ocean, Undeveloped Bay, Seascape (SCA)
User Group: Residents/Tourists
Visually Sensitive Resource: Sea Isle City Beach Dune Upland, Townsend Inlet Bridge (SI&A #3100003)

Key Observation Point Context

● Key Observation Point

Wind Turbine Generator (See Image 1)

Fully Visible

Platform Screened

Mid-Tower Screened

Nacelle Screened

Not Visible

Offshore Substation

Visible

Not Visible

Ocean Wind (OCS-A 0498)

Ocean Wind II (OCS-A 0532)

Atlantic Shores Offshore Wind North (OCS-A 0549)

Atlantic Shores Offshore Wind South (OCS-A 0499)

US Wind (OCS-A 0489 and 0490)

Skipjack (OCS-A 0519)

Garden State (OCS-A 0482)

Ocean Wind East (OCS-A 0537)

Attentive Energy (OCS-A 0538)

Bight Wind Holdings (OCS-A 0539)

Invenergy Wind Offshore (OCS-A 0542)

Atlantic Shores Offshore Wind Bight (OCS-A 0541)

Empire Wind II (OCS-A 0512)

Empire Wind (OCS-A 0512)

Mid-Atlantic Offshore Wind (OCS-A 0544)

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

Reasonably Foreseeable Projects Represented in Photosimulation

		Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP**	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Scenario 5	Scenario 2	Atlantic Shores Offshore Wind South (OCS-A 0499)	2025-2027	1,047	200	205	27.4	43.6
		Ocean Wind (OCS-A 0498)	2023-2025	906	111	111	18.5	32.6
Scenario 4	Scenario 1	Empire Wind (OCS-A 0512)	2024-2025	951	0	72	Not Visible	Not Visible
		Empire Wind II (OCS-A 0512)	2023-2027	951	0	104	Not Visible	Not Visible
	Scenario 3	Skipjack (OCS-A 0519)	2024-2030	853	1	33	35.3	42.2
		Garden State (OCS-A 0482)	2023-2030	853	62	80	26.6	35.7
		US Wind (OCS-A 0489 and 0490)	2024	938	0	101	Not Visible	Not Visible
		Atlantic Shores Offshore Wind North (OCS-A 0549)	2025-2030	1,047	134	164	37.6	51.1
		Ocean Wind II (OCS-A 0532)	2026-2030	906	111	111	12.1	26.0
		Mid-Atlantic Offshore Wind (OCS-A 0544)	by 2030	853	0	104	Not Visible	Not Visible
		Ocean Wind East (OCS-A 0537)	by 2030	853	0	82	Not Visible	Not Visible
		Attentive Energy (OCS-A 0538)	by 2030	853	0	101	Not Visible	Not Visible
		Bight Wind Holdings (OCS-A 0539)	by 2030	853	0	148	Not Visible	Not Visible
		Atlantic Shores Offshore Wind Bight (OCS-A 0541)	by 2030	853	0	95	Not Visible	Not Visible
		Invenergy Wind Offshore (OCS-A 0542)	by 2030	853	0	99	Not Visible	Not Visible

Notes:

- Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
- *Historical meteorological data predicts visibility within a limit of 10 statute miles. However, visibility may extend beyond this distance. The photosimulations assume visibility extends to the limit of physical visibility (including a standard refraction index).
- WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) than the viewshed analysis results which use a refraction coefficient of 0.13.
- **The number of WTGs visible from the KOP was determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (72 m) in lost maximum height depending on the rotation position.
- The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WTG visibility.
- The Key Observation Point Context map considers screening by curvature of the earth, viewer height, and turbine height. Landscape screening features are not considered. Therefore, in this view, the number of visible turbines depicted on the map may not match the table due to the presence of landscape screening features.



ATLANTIC SHORES offshore wind

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

SIC02: Townsend's Inlet Bridge, Sea Isle City, Cape May County, New Jersey

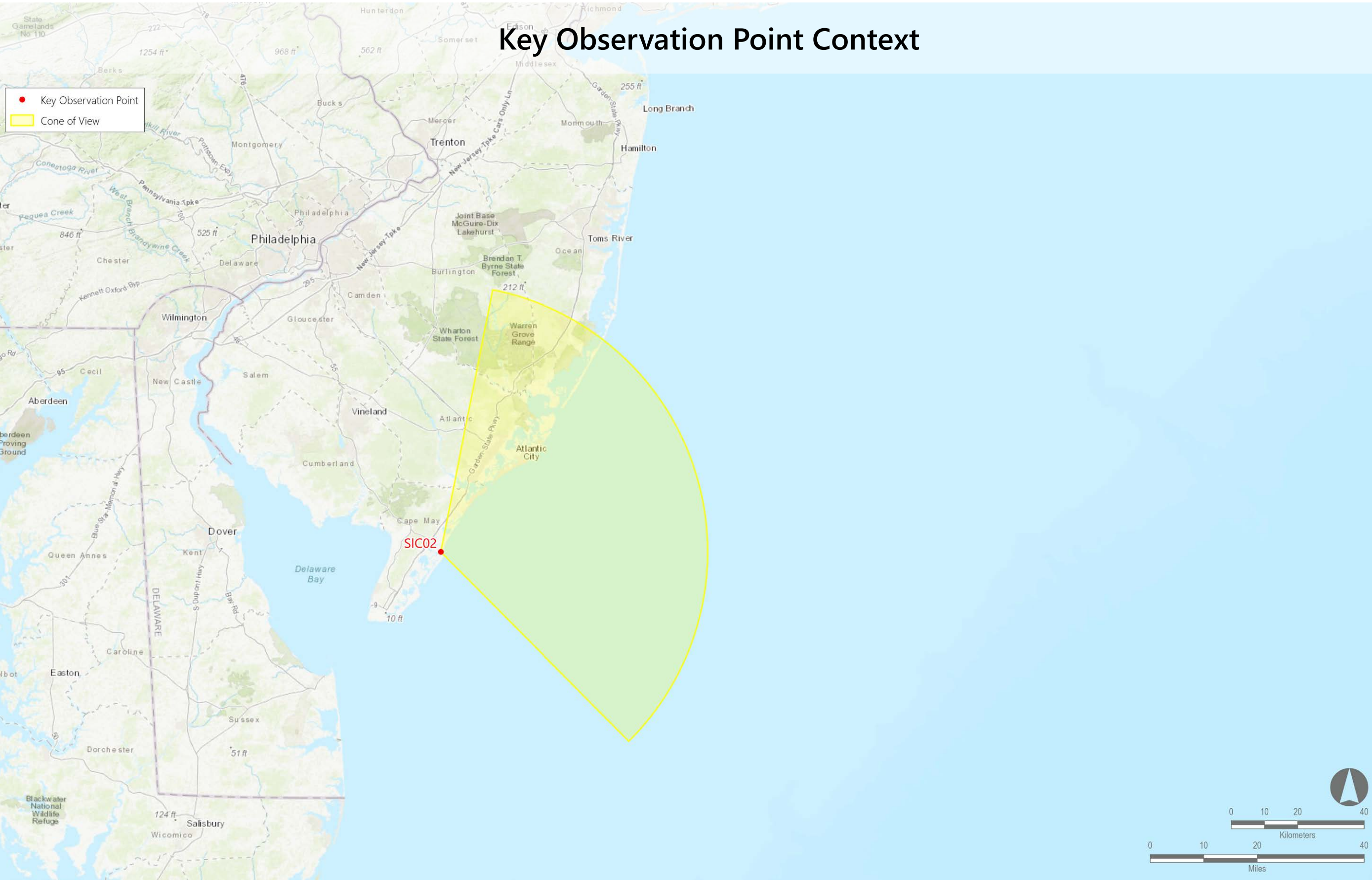
Existing Conditions (Panorama 1)

Notes:

- Photosimulation Size: 66" in width by 29.3" in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.

Simulation Size: 66" in width by 29.3" in height. Images should be viewed from a distance of 18 inches in order to obtain the proper perspective.

This box should be viewed from a distance of 18 inches on the printed panorama.





ATLANTIC SHORES

offshore wind

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

SIC02: Townsend's Inlet Bridge, Sea Isle City, Cape May County, New Jersey

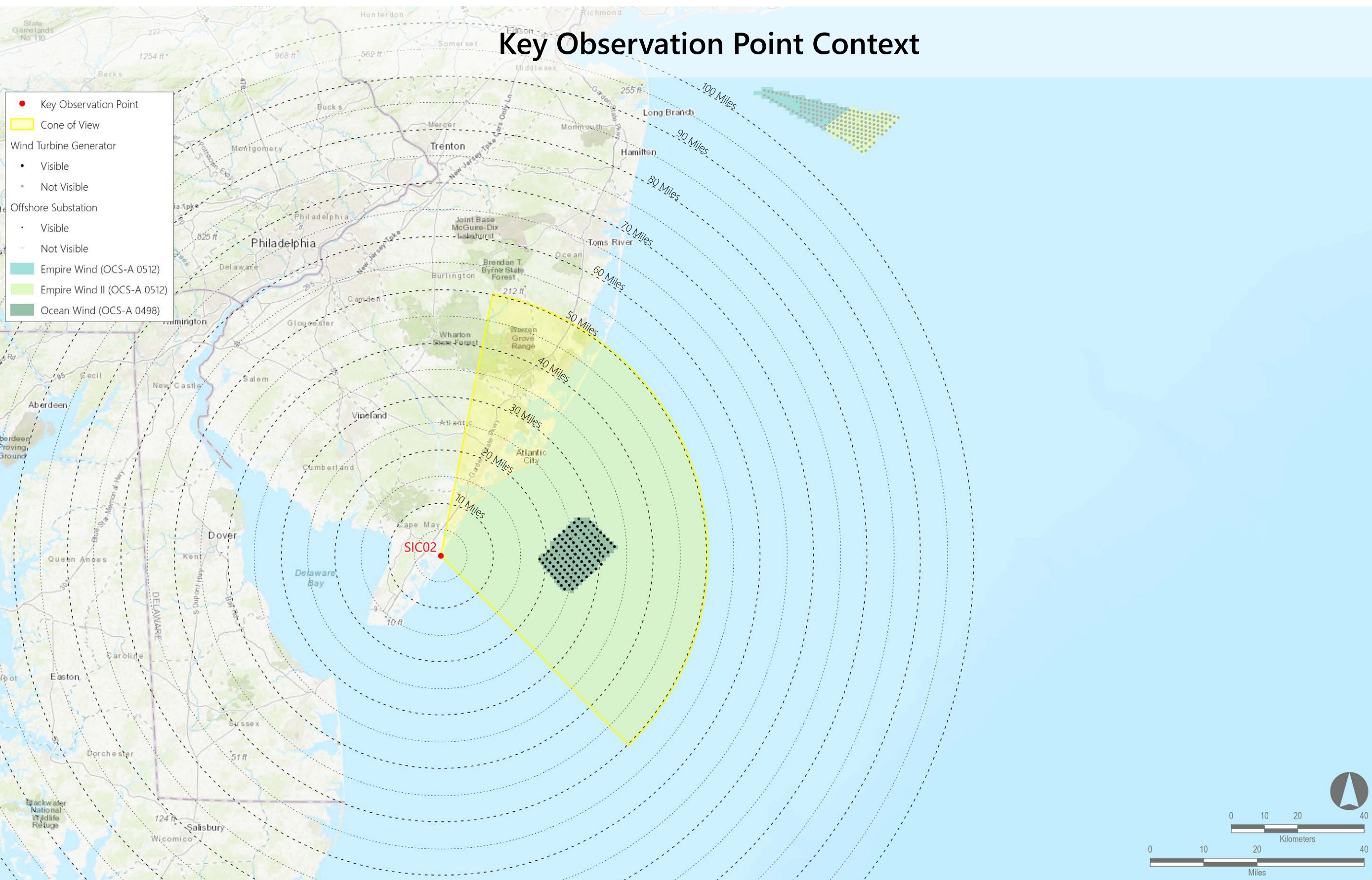
Photosimulation (Panorama 1): Scenario 1: 2023-2025 Project Construction (Ocean Wind, Empire Wind, Empire Wind II)

Simulation Size: 66" in width by 29.3" in height. Images should be viewed from a distance of 18 inches in order to obtain the proper perspective.

This box should be placed 1" high on the printed panorama.

- Notes:**
- Photosimulation Size: 66" in width by 29.3" in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
 - Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
 - WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) than the viewshed analysis results which use a refraction coefficient of 0.13.
 - WTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
 - The number of WTGs visible from the KOP is determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (72 m) in lost maximum height depending on the rotation position.
 - The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WTG visibility.
 - The resolution of the cumulative photosimulations balances the size and usability of the documents with the need for high resolution to see distant project components. Similarly to human vision, very distant turbines may appear blurry or difficult to decipher due to resolution limitations.
 - The Key Observation Point Context map considers screening by curvature of the earth, viewer height, and turbine height. Landscape screening features are not considered. Therefore, in this view, the number of visible turbines depicted on the map may not match the table due to the presence of landscape screening features.

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Ocean Wind (OCS-A 0498)	2024-2025	906	111	111	18.5	32.6
Empire Wind (OCS-A 0512)	2023-2027	951	0	72	Not Visible	Not Visible
Empire Wind II (OCS-A 0512)	2025-2027	951	0	104	Not Visible	Not Visible





ATLANTIC SHORES

offshore wind

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

SIC02: Townsend's Inlet Bridge, Sea Isle City, Cape May County, New Jersey

Photosimulation (Panorama 1): Scenario 2: Atlantic Shores Construction (2025-2027) added to Scenario 1 (Ocean Wind, Empire Wind, Empire Wind II, Atlantic Shores South)

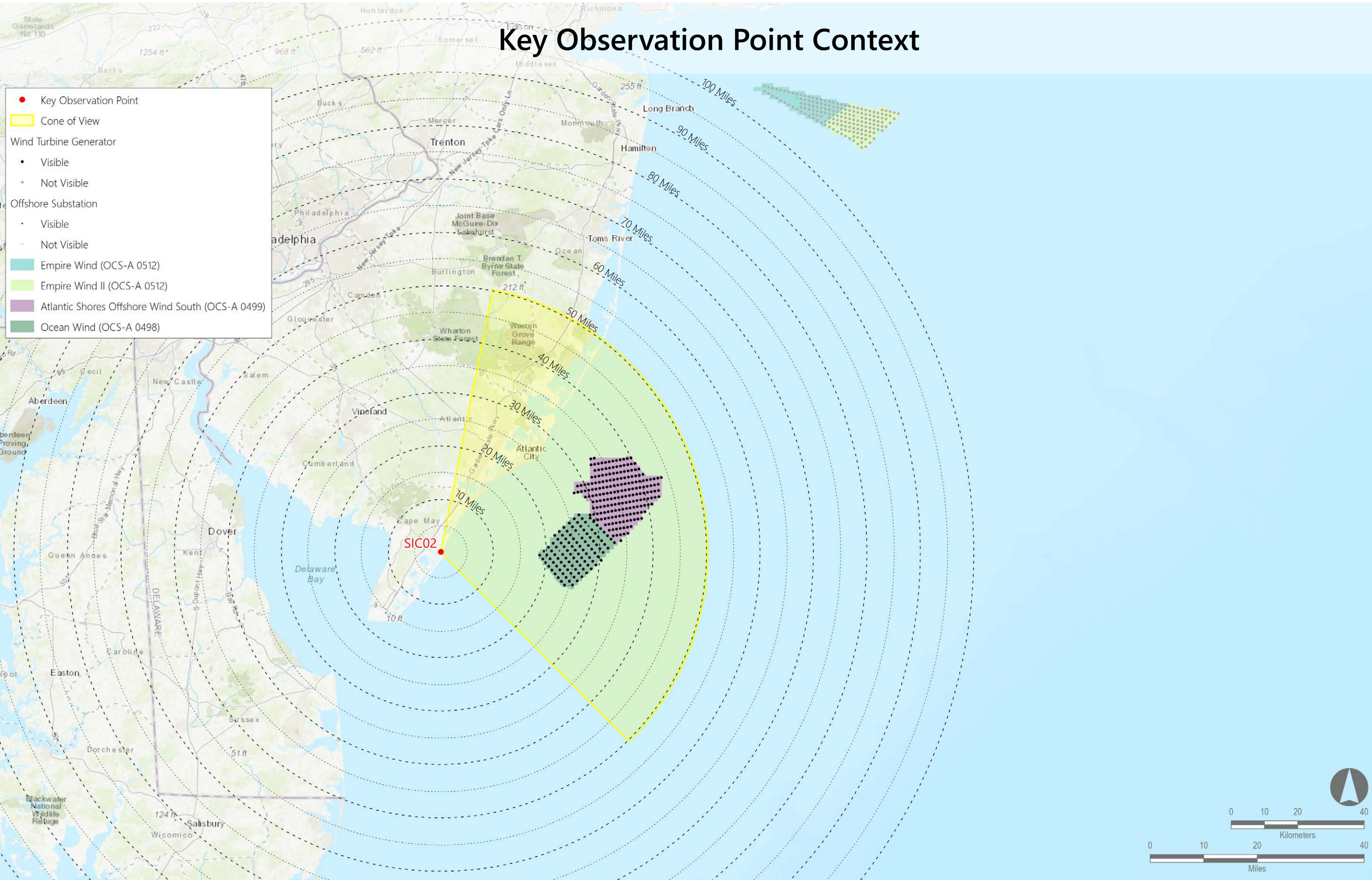
Simulation Size: 66" in width by 29.3" in height. Images should be viewed from a distance of 18 inches in order to obtain the proper perspective.

This box should be placed 9" high on the printed panorama.

Notes:

- Photosimulation Size: 66" in width by 29.3" in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
- Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
- WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) than the viewshed analysis results which use a refraction coefficient of 0.13.
- WTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
- The number of WTGs visible from the KOP is determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (72 m) in lost maximum height depending on the rotation position.
- The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WTG visibility.
- The resolution of the cumulative photosimulations balances the size and usability of the documents with the need for high resolution to see distant project components. Similarly to human vision, very distant turbines may appear blurry or difficult to decipher due to resolution limitations.
- The Key Observation Point Context map considers screening by curvature of the earth, viewer height, and turbine height. Landscape screening features are not considered. Therefore, in this view, the number of visible turbines depicted on the map may not match the table due to the presence of landscape screening features.

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Atlantic Shores Offshore Wind South (OCS-A 0499)	2023-2025	1,047	200	205	27.4	43.6
Ocean Wind (OCS-A 0498)	2024-2025	906	111	111	18.5	32.6
Empire Wind (OCS-A 0512)	2023-2027	951	0	72	Not Visible	Not Visible
Empire Wind II (OCS-A 0512)	2025-2027	951	0	104	Not Visible	Not Visible





ATLANTIC SHORES offshore wind

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

SIC02: Townsend's Inlet Bridge, Sea Isle City, Cape May County, New Jersey

Photosimulation (Panorama 1): Scenario 3: 2024-2030 Project construction added after the construction of Atlantic Shores South (Full Lease Build-out Including Atlantic Shores South)

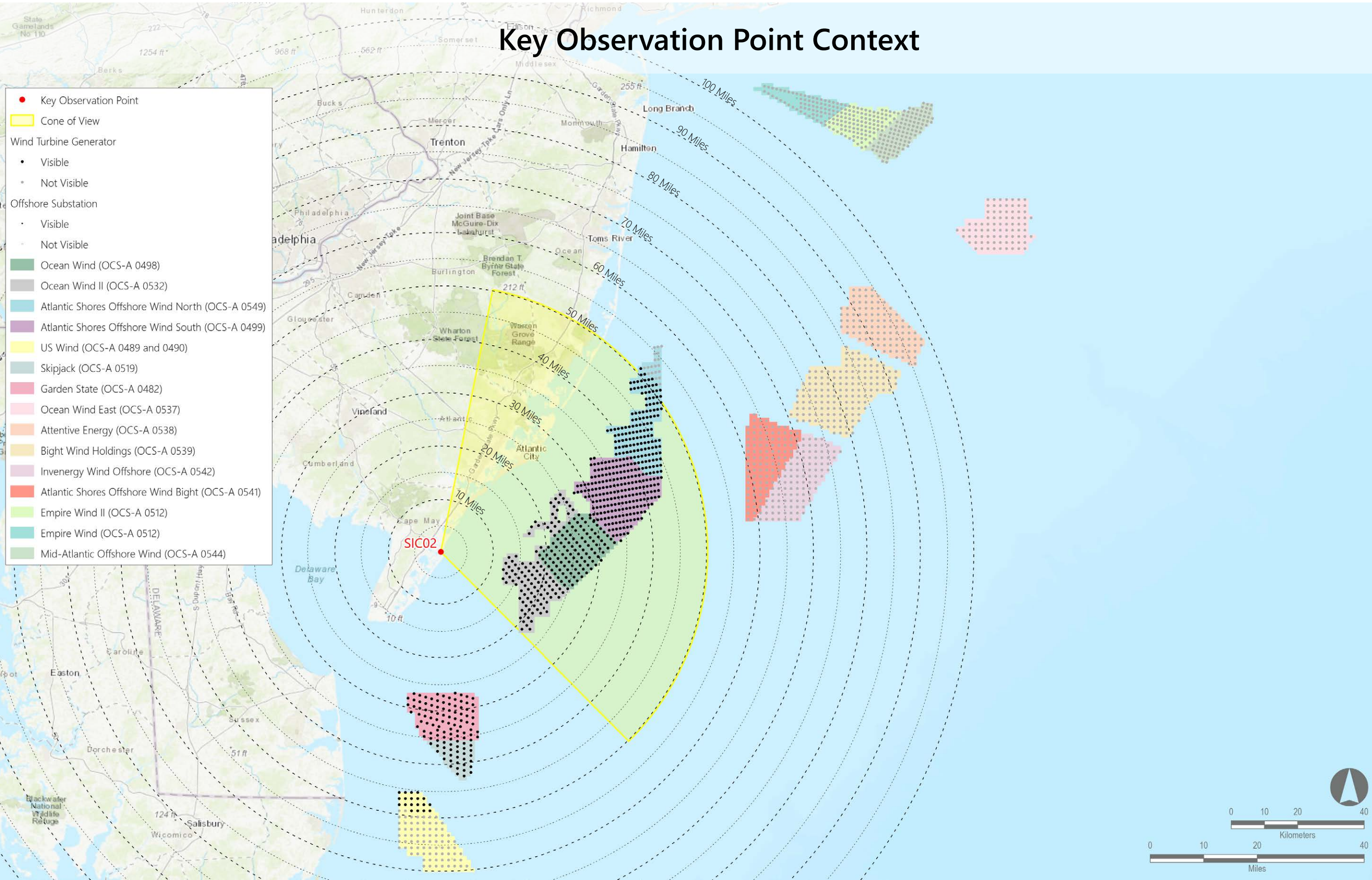
Simulation Size: 66" in width by 29.3" in height. Images should be viewed from a distance of 18 inches in order to obtain the proper perspective.

This box should be viewed from a distance of 18 inches on the printed panorama.

Notes:

- Photosimulation Size: 66" in width by 29.3" in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
- Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
- WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) than the viewshed analysis results which use a refraction coefficient of 0.13.
- WTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
- The number of WTGs visible from the KOP is determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (72 m) in lost maximum height depending on the rotation position.
- The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WTG visibility.
- The resolution of the cumulative photosimulations balances the size and usability of the documents with the need for high resolution to see distant project components. Similarly to human vision, very distant turbines may appear blurry or difficult to decipher due to resolution limitations.
- The Key Observation Point Context map considers screening by curvature of the earth, viewer height, and turbine height. Landscape screening features are not considered. Therefore, in this view, the number of visible turbines depicted on the map may not match the table due to the presence of landscape screening features.

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Atlantic Shores Offshore Wind South (OCS-A 0499)	2023-2025	1,047	200	205	27.4	43.6
Ocean Wind (OCS-A 0498)	2024-2025	906	111	111	18.5	32.6
Empire Wind (OCS-A 0512)	2023-2027	951	0	72	Not Visible	Not Visible
Empire Wind II (OCS-A 0512)	2025-2027	951	0	104	Not Visible	Not Visible
Skipjack (OCS-A 0519)	2024-2030	853	1	33	35.3	42.2
Garden State (OCS-A 0482)	2023-2030	853	62	80	26.6	35.7
US Wind (OCS-A 0489 and 0490)	2024	938	0	101	Not Visible	Not Visible
Atlantic Shores Offshore Wind North (OCS-A 0548)	2025-2030	1,047	134	164	37.6	51.1
Ocean Wind II (OCS-A 0532)	2026-2030	906	111	111	12.1	26.0
Mid-Atlantic Offshore Wind (OCS-A 0544)	by 2030	853	0	104	Not Visible	Not Visible
Ocean Wind East (OCS-A 0537)	by 2030	853	0	82	Not Visible	Not Visible
Attentive Energy (OCS-A 0538)	by 2030	853	0	101	Not Visible	Not Visible
Bight Wind Holdings (OCS-A 0539)	by 2030	853	0	148	Not Visible	Not Visible
Atlantic Shores Offshore Wind Bight (OCS-A 0541)	by 2030	853	0	95	Not Visible	Not Visible
Inverenergy Wind Offshore (OCS-A 0542)	by 2030	853	0	99	Not Visible	Not Visible





ATLANTIC SHORES offshore wind

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

SIC02: Townsend's Inlet Bridge, Sea Isle City, Cape May County, New Jersey

Photosimulation (Panorama 1): Scenario 4: Full buildout of all lease areas without Atlantic Shores South

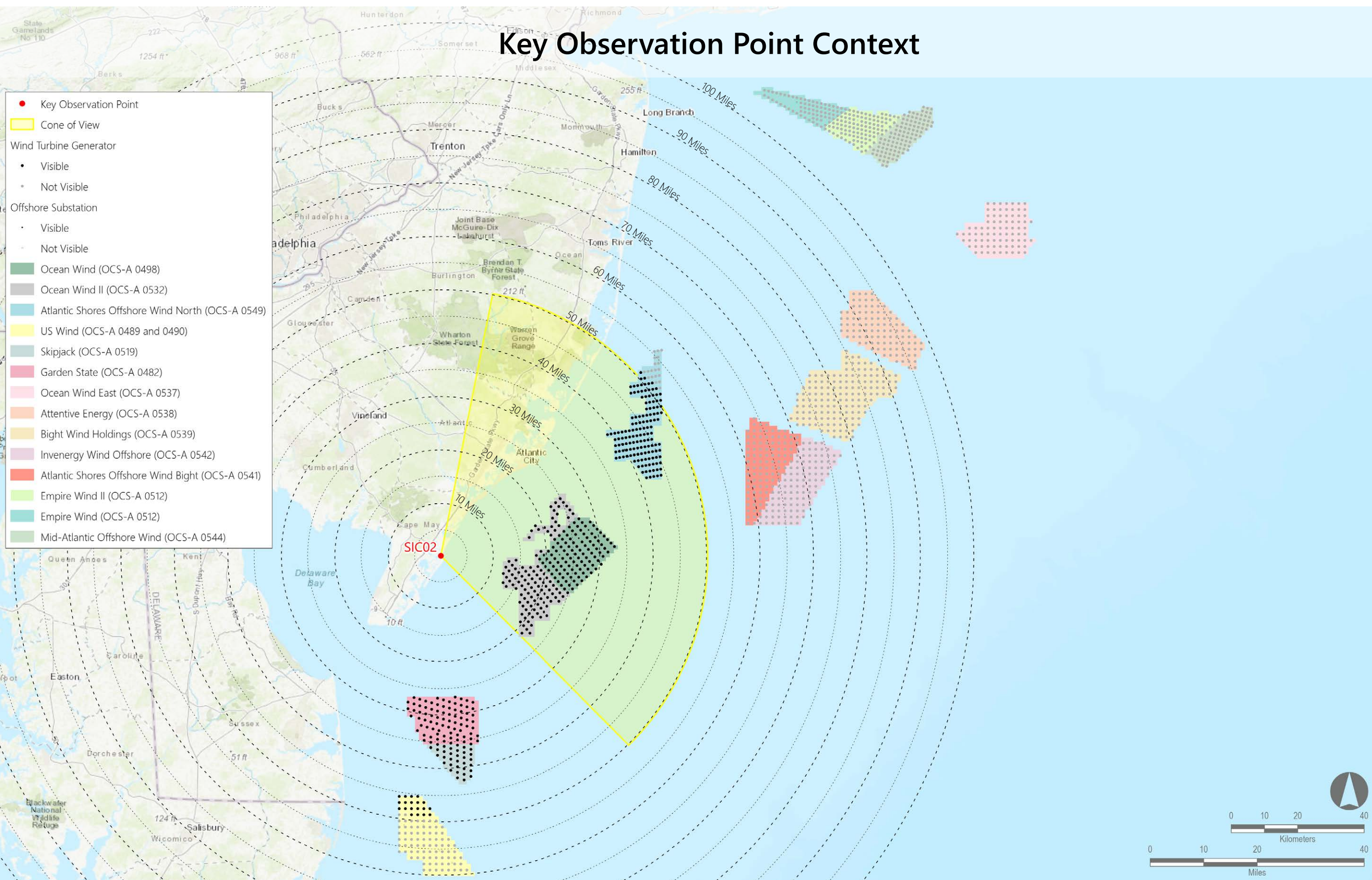
Simulation Size: 60" in width by 29.3" in height. Images should be viewed from a distance of 18 inches in order to obtain the proper perspective.

This box should be placed 1" high on the printed panorama.

Notes:

- Photosimulation Size: 66" in width by 29.3" in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
- Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
- WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) than the viewshed analysis results which use a refraction coefficient of 0.13.
- WTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
- The number of WTGs visible from the KOP is determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (72 m) in lost maximum height depending on the rotation position.
- The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WTG visibility.
- The resolution of the cumulative photosimulations balances the size and usability of the documents with the need for high resolution to see distant project components. Similarly to human vision, very distant turbines may appear blurry or difficult to decipher due to resolution limitations.
- The Key Observation Point Context map considers screening by curvature of the earth, viewer height, and turbine height. Landscape screening features are not considered. Therefore, in this view, the number of visible turbines depicted on the map may not match the table due to the presence of landscape screening features.

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Ocean Wind (OCS-A 0498)	2024-2025	906	111	111	18.5	32.6
Empire Wind (OCS-A 0512)	2023-2027	951	0	72	Not Visible	Not Visible
Empire Wind II (OCS-A 0512)	2025-2027	951	0	104	Not Visible	Not Visible
Skipjack (OCS-A 0519)	2024-2030	853	1	33	35.3	42.2
Garden State (OCS-A 0482)	2023-2030	853	62	80	26.6	35.7
US Wind (OCS-A 0489 and 0490)	2024	938	0	101	Not Visible	Not Visible
Atlantic Shores Offshore Wind North (OCS-A 0549)	2025-2030	1,047	134	164	37.6	51.1
Ocean Wind II (OCS-A 0532)	2026-2030	906	111	111	12.1	26.0
Mid-Atlantic Offshore Wind (OCS-A 0544)	by 2030	853	0	104	Not Visible	Not Visible
Ocean Wind East (OCS-A 0537)	by 2030	853	0	82	Not Visible	Not Visible
Attentive Energy (OCS-A 0539)	by 2030	853	0	101	Not Visible	Not Visible
Bight Wind Holdings (OCS-A 0539)	by 2030	853	0	148	Not Visible	Not Visible
Atlantic Shores Offshore Wind Bight (OCS-A 0541)	by 2030	853	0	95	Not Visible	Not Visible
Inverness Wind Offshore (OCS-A 0542)	by 2030	853	0	99	Not Visible	Not Visible





ATLANTIC SHORES offshore wind

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

SIC02: Townsend’s Inlet Bridge, Sea Isle City, Cape May County, New Jersey

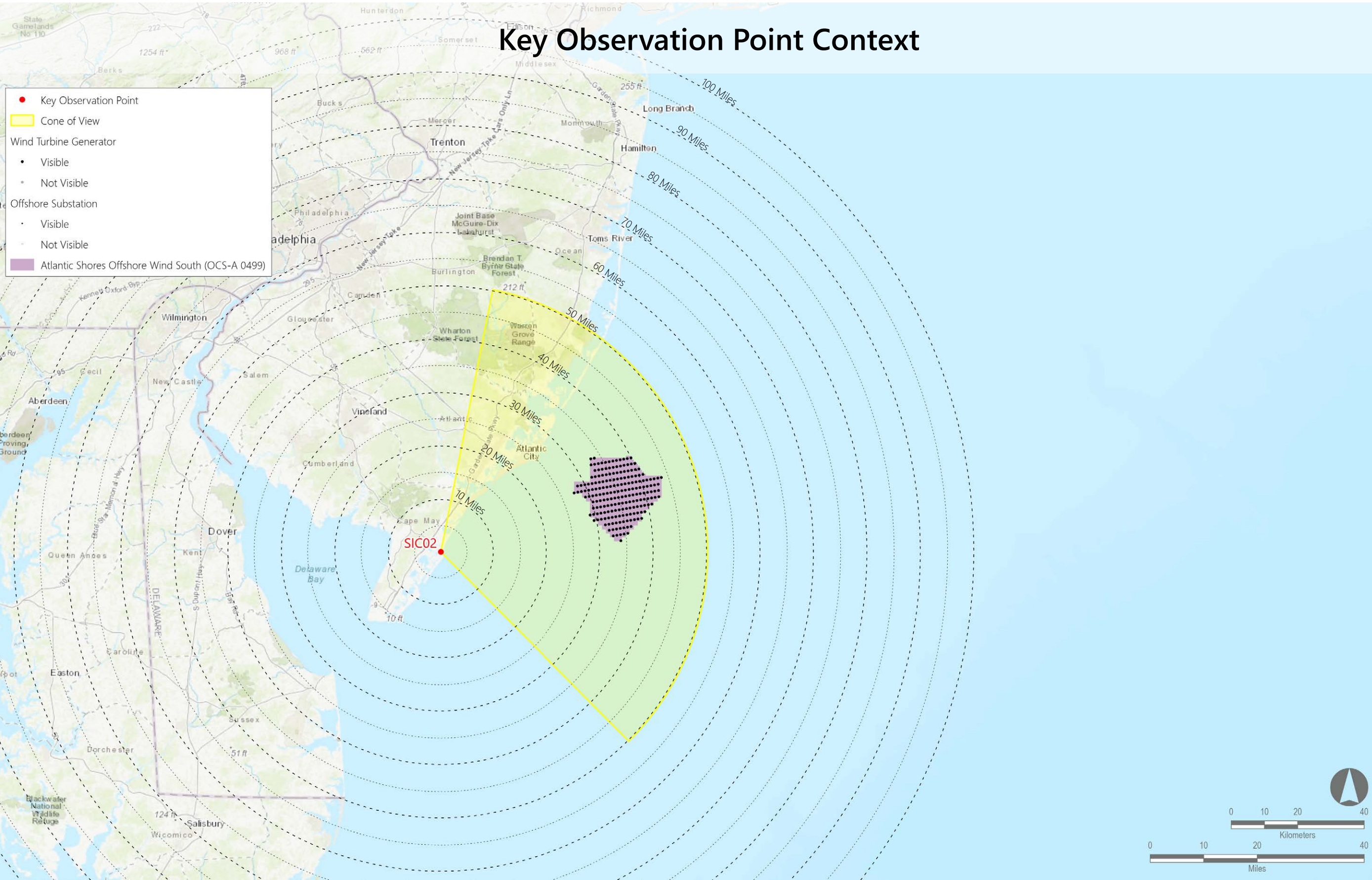
Photosimulation (Panorama 1): Scenario 5: Atlantic Shores South without the construction of other foreseeable planned activities

Simulation Size: 60" in width by 29.3" in height. Images should be viewed from a distance of 18 inches in order to obtain the proper perspective.

This box should be placed 1" high on the printed panorama.

- Notes:**
- Photosimulation Size: 66" in width by 29.3" in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
 - Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
 - WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) that the viewshed analysis results which use a refraction coefficient of 0.13.
 - WTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
 - The number of WTGs visible from the KOP is determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (72 m) in lost maximum height depending on the rotation position.
 - The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WTG visibility.
 - The resolution of the cumulative photosimulations balances the size and usability of the documents with the need for high resolution to see distant project components. Similarly to human vision, very distant turbines may appear blurry or difficult to decipher due to resolution limitations.
 - The Key Observation Point Context map considers screening by curvature of the earth, viewer height, and turbine height. Landscape screening features are not considered. Therefore, in this view, the number of visible turbines depicted on the map may not match the table due to the presence of landscape screening features.

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Atlantic Shores Offshore Wind South (OCS-A 0499)	2023-2025	1,047	200	205	27.4	43.6



SIC02: Townsend’s Inlet Bridge, Sea Isle City, Cape May County, New Jersey

Environmental Data

Date Taken: 08/25/2022
Time: 4:58 PM
Temperature: 84°F
Humidity: 53%
Visibility*: 10+ miles
Wind Direction: South-southeast
Wind Speed: 10 mph
Conditions Observed: Fair

Camera Information
Camera: Canon EOS 5D Mark IV
Resolution: 30.4 Megapixels
Lens Focal Length: 50 mm
Camera Height: 40.18 feet AMSL

Key Observation Point Information

County: Cape May
Town: Ocean City
State: New Jersey
Location: Townsend's Inlet Bridge
Latitude, Longitude: 39.11919°N, 74.71576°W
Direction of View (Center): Southeast (135.6°)
Field of View: 124° x 55°

Visual Resources
Character Area: Open Water/Ocean, Undeveloped Bay, Seascape (SCA)
User Group: Residents/Tourists
Visually Sensitive Resource: Sea Isle City Beach Dune Upland, Townsend Inlet Bridge (SI&A #3100003)

Key Observation Point Context

● Key Observation Point

Wind Turbine Generator (See Image 1)

Fully Visible

Platform Screened

Mid-Tower Screened

Nacelle Screened

Not Visible

Offshore Substation

Visible

Not Visible

Ocean Wind (OCS-A 0498)

Ocean Wind II (OCS-A 0532)

Atlantic Shores Offshore Wind North (OCS-A 0549)

Atlantic Shores Offshore Wind South (OCS-A 0499)

US Wind (OCS-A 0489 and 0490)

Skipjack (OCS-A 0519)

Garden State (OCS-A 0482)

Ocean Wind East (OCS-A 0537)

Attentive Energy (OCS-A 0538)

Bight Wind Holdings (OCS-A 0539)

Invenergy Wind Offshore (OCS-A 0542)

Atlantic Shores Offshore Wind Bight (OCS-A 0541)

Empire Wind II (OCS-A 0512)

Empire Wind (OCS-A 0512)

Mid-Atlantic Offshore Wind (OCS-A 0544)

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

Reasonably Foreseeable Projects Represented in Photosimulation									
Scenario 5	Scenario 2	Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP**	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)	
		Atlantic Shores Offshore Wind South (OCS-A 0499)	2025-2027	1,047	200	205	27.4	43.6	
	Scenario 1	Ocean Wind (OCS-A 0498)	2023-2025	906	111	111	18.5	32.6	
		Empire Wind (OCS-A 0512)	2024-2025	951	0	72	Not Visible	Not Visible	
	Scenario 3	Empire Wind II (OCS-A 0512)	2023-2027	951	0	104	Not Visible	Not Visible	
Scenario 4		Skipjack (OCS-A 0519)	2024-2030	853	1	33	35.3	42.2	
		Garden State (OCS-A 0482)	2023-2030	853	62	80	26.6	35.7	
		US Wind (OCS-A 0489 and 0490)	2024	938	0	101	Not Visible	Not Visible	
		Atlantic Shores Offshore Wind North (OCS-A 0549)	2025-2030	1,047	134	164	37.6	51.1	
		Ocean Wind II (OCS-A 0532)	2026-2030	906	111	111	12.1	26.0	
		Mid-Atlantic Offshore Wind (OCS-A 0544)	by 2030	853	0	104	Not Visible	Not Visible	
		Ocean Wind East (OCS-A 0537)	by 2030	853	0	82	Not Visible	Not Visible	
		Attentive Energy (OCS-A 0538)	by 2030	853	0	101	Not Visible	Not Visible	
		Bight Wind Holdings (OCS-A 0539)	by 2030	853	0	148	Not Visible	Not Visible	
		Atlantic Shores Offshore Wind Bight (OCS-A 0541)	by 2030	853	0	95	Not Visible	Not Visible	
		Invenergy Wind Offshore (OCS-A 0542)	by 2030	853	0	99	Not Visible	Not Visible	

Notes:

- Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
- *Historical meteorological data predicts visibility within a limit of 10 statute miles. However, visibility may extend beyond this distance. The photosimulations assume visibility extends to the limit of physical visibility (including a standard refraction index).
- WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) than the viewshed analysis results which use a refraction coefficient of 0.13.
- **The number of WTGs visible from the KOP was determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (72 m) in lost maximum height depending on the rotation position.
- The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WTG visibility.
- The Key Observation Point Context map considers screening by curvature of the earth, viewer height, and turbine height. Landscape screening features are not considered. Therefore, in this view, the number of visible turbines depicted on the map may not match the table due to the presence of landscape screening features.

MATCH LINE SIC02 PANO #1



ATLANTIC SHORES

offshore wind

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

SIC02: Townsend's Inlet Bridge, Sea Isle City, Cape May County, New Jersey

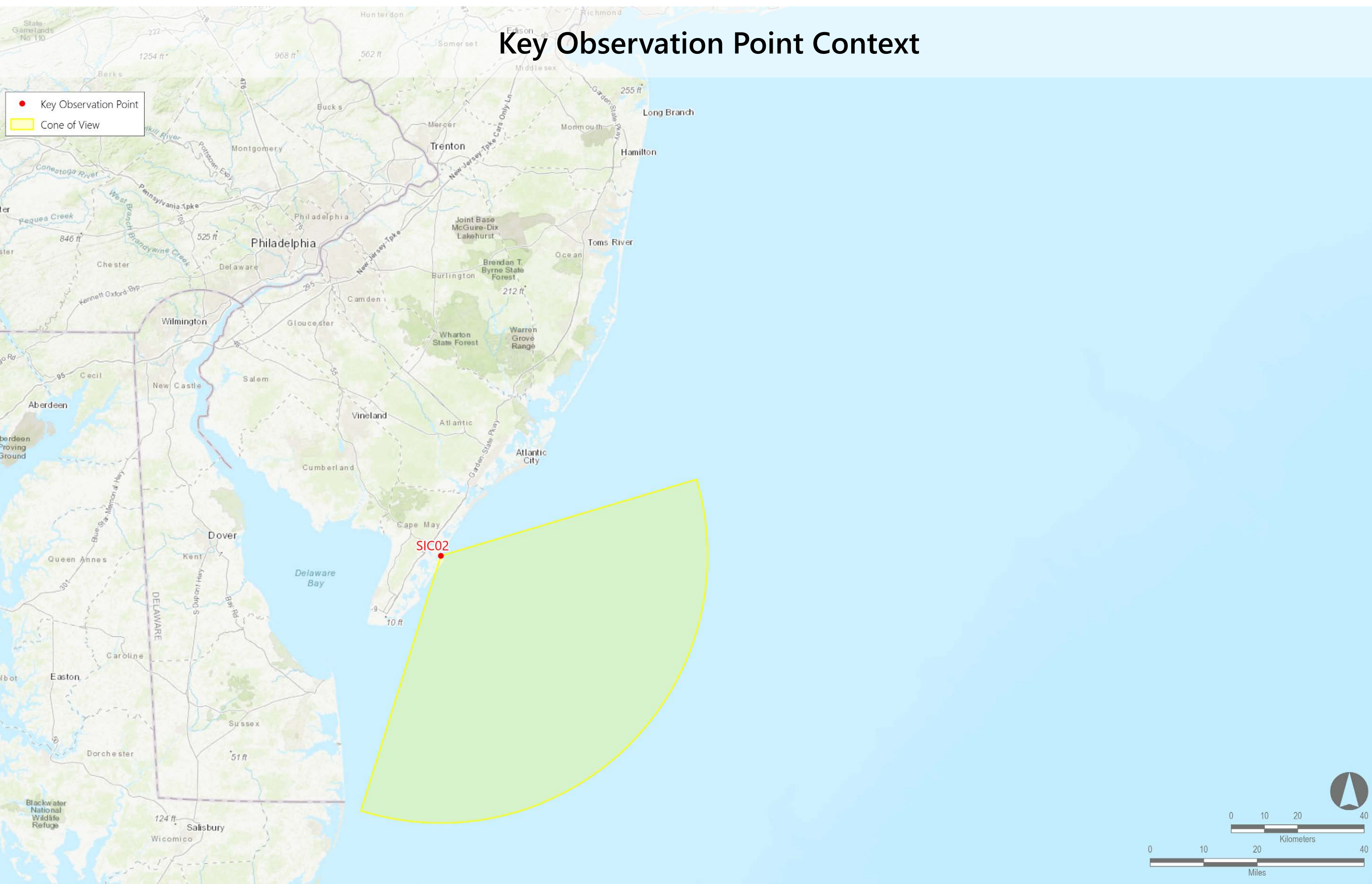
Existing Conditions (Panorama 2)

Notes:

- Photosimulation Size: 66" in width by 29.3" in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.

Simulation Size: 66" in width by 29.3" in height. Images should be viewed from a distance of 18 inches in order to obtain the proper perspective.

This box should be viewed from a distance of 18 inches on the printed panorama.





ATLANTIC SHORES

offshore wind

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

SIC02: Townsend's Inlet Bridge, Sea Isle City, Cape May County, New Jersey

Photosimulation (Panorama 2): Scenario 1: 2023-2025 Project Construction (Ocean Wind, Empire Wind, Empire Wind II)

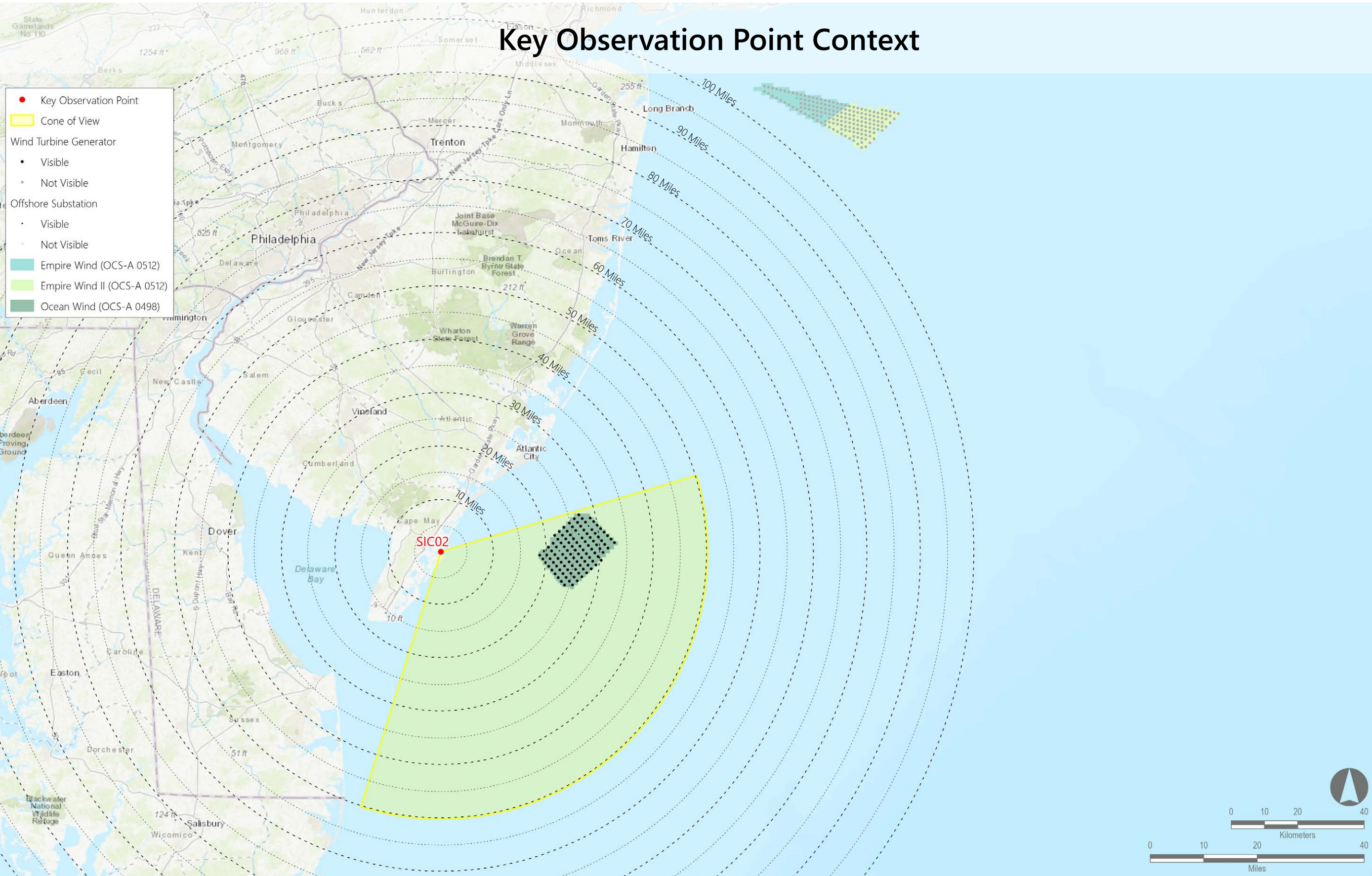
Simulation Size: 66" in width by 29.3" in height. Images should be viewed from a distance of 18 inches in order to obtain the proper perspective.

This box should always be held on the printed panorama.

Notes:

- Photosimulation Size: 66" in width by 29.3" in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
- Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
- WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) than the viewshed analysis results which use a refraction coefficient of 0.13.
- WTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
- The number of WTGs visible from the KOP was determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (72 m) in lost maximum height depending on the rotation position.
- The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WTG visibility.
- The resolution of the cumulative photosimulations balances the size and usability of the documents with the need for high resolution to see distant project components. Similarly to human vision, very distant turbines may appear blurry or difficult to decipher due to resolution limitations.
- The Key Observation Point Context map considers screening by curvature of the earth, viewer height, and turbine height. Landscape screening features are not considered. Therefore, in this view, the number of visible turbines depicted on the map may not match the table due to the presence of landscape screening features.

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Ocean Wind (OCS-A 0498)	2024-2025	906	111	111	18.5	32.6
Empire Wind (OCS-A 0512)	2023-2027	951	0	72	Not Visible	Not Visible
Empire Wind II (OCS-A 0512)	2025-2027	951	0	104	Not Visible	Not Visible





ATLANTIC SHORES offshore wind

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

SIC02: Townsend's Inlet Bridge, Sea Isle City, Cape May County, New Jersey

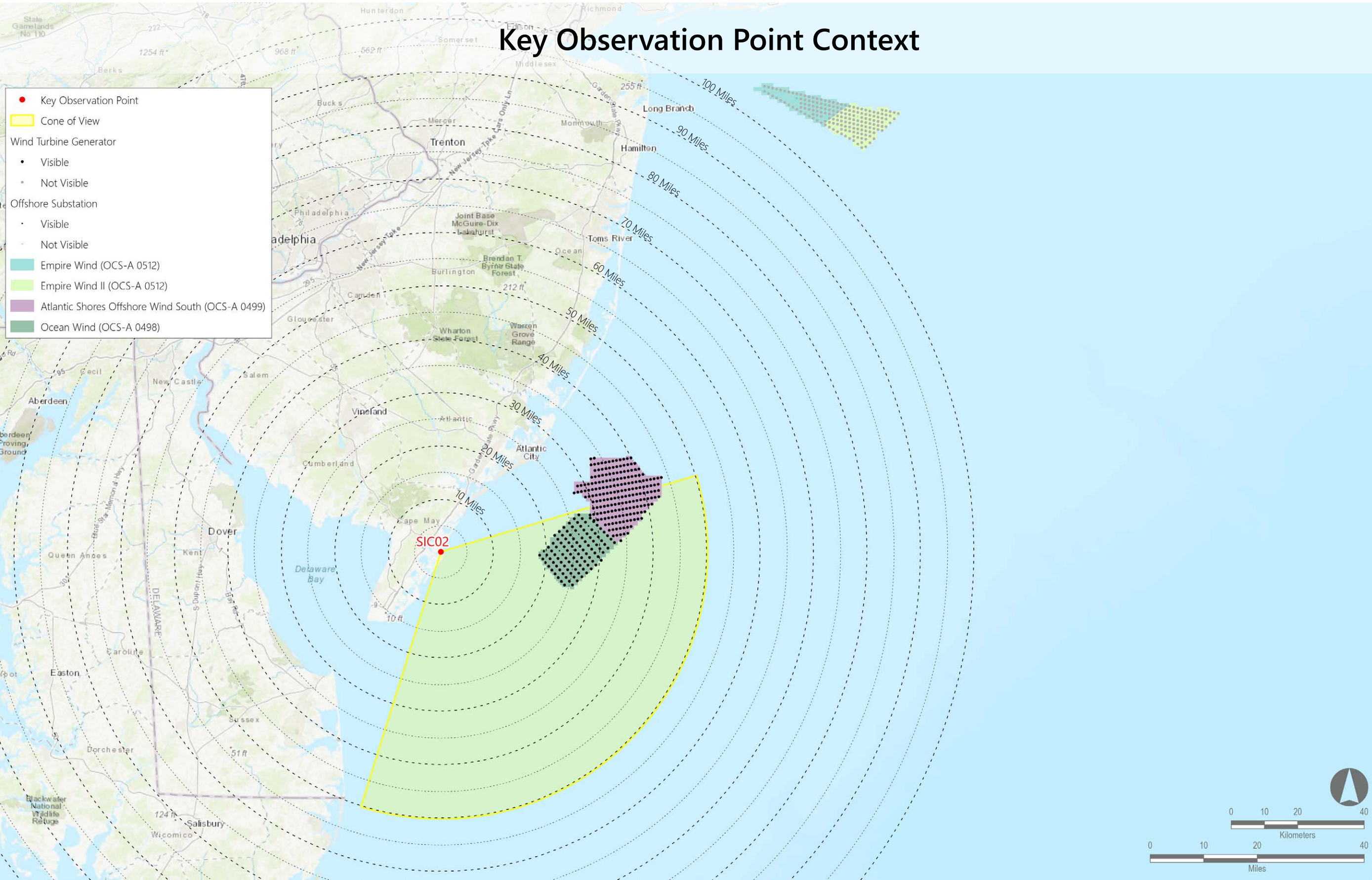
Photosimulation (Panorama 2): Scenario 2: Atlantic Shores Construction (2025-2027) added to Scenario 1 (Ocean Wind, Empire Wind, Empire Wind II, Atlantic Shores South)

Simulation Size: 66" in width by 29.3" in height. Images should be viewed from a distance of 18 inches in order to obtain the proper perspective.

This box should be placed 1" high on the printed panorama.

- Notes:**
- Photosimulation Size: 66" in width by 29.3" in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
 - Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
 - WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) than the viewshed analysis results which use a refraction coefficient of 0.13.
 - WTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
 - The number of WTGs visible from the KOP is determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (72 m) in lost maximum height depending on the rotation position.
 - The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WTG visibility.
 - The resolution of the cumulative photosimulations balances the size and usability of the documents with the need for high resolution to see distant project components. Similarly to human vision, very distant turbines may appear blurry or difficult to decipher due to resolution limitations.
 - The Key Observation Point Context map considers screening by curvature of the earth, viewer height, and turbine height. Landscape screening features are not considered. Therefore, in this view, the number of visible turbines depicted on the map may not match the table due to the presence of landscape screening features.

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Atlantic Shores Offshore Wind South (OCS-A 0499)	2023-2025	1,047	200	205	27.4	43.6
Ocean Wind (OCS-A 0498)	2024-2025	906	111	111	18.5	32.6
Empire Wind (OCS-A 0512)	2023-2027	951	0	72	Not Visible	Not Visible
Empire Wind II (OCS-A 0512)	2025-2027	951	0	104	Not Visible	Not Visible





ATLANTIC SHORES offshore wind

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

SIC02: Townsend's Inlet Bridge, Sea Isle City, Cape May County, New Jersey

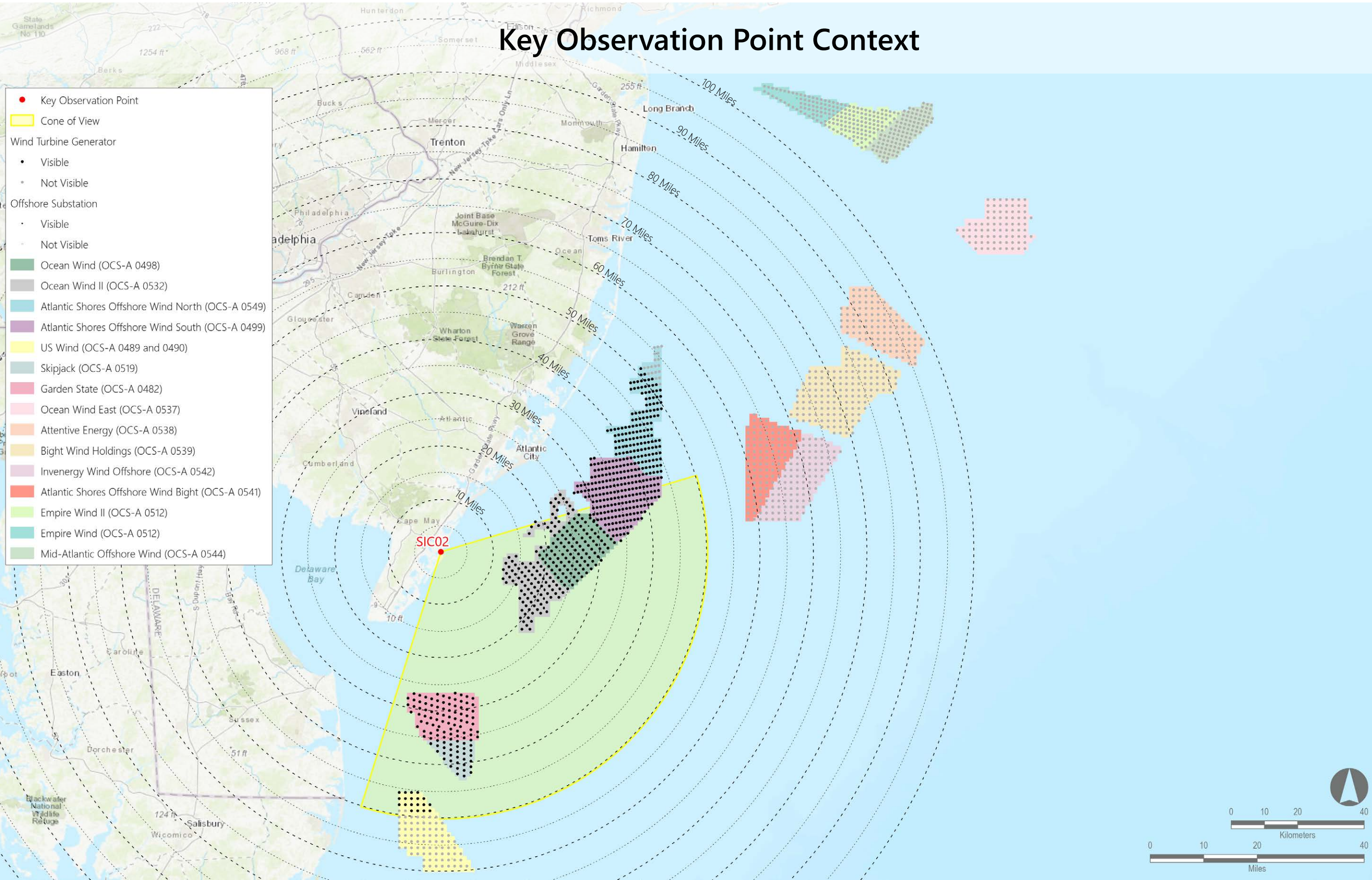
Photosimulation (Panorama 2): Scenario 3: 2024-2030 Project construction added after the construction of Atlantic Shores South (Full Lease Build-out Including Atlantic Shores South)

Simulation Size: 66" in width by 29.3" in height. Images should be viewed from a distance of 18 inches in order to obtain the proper perspective.

This box should be placed 1" high on the printed panorama.

- Notes:**
- Photosimulation Size: 66" in width by 29.3" in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
 - Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
 - WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) than the viewshed analysis results which use a refraction coefficient of 0.13.
 - WTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
 - The number of WTGs visible from the KOP is determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (72 m) in lost maximum height depending on the rotation position.
 - The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WTG visibility.
 - The resolution of the cumulative photosimulations balances the size and usability of the documents with the need for high resolution to see distant project components. Similarly to human vision, very distant turbines may appear blurry or difficult to decipher due to resolution limitations.
 - The Key Observation Point Context map considers screening by curvature of the earth, viewer height, and turbine height. Landscape screening features are not considered. Therefore, in this view, the number of visible turbines depicted on the map may not match the table due to the presence of landscape screening features.

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Atlantic Shores Offshore Wind South (OCS-A 0499)	2023-2025	1,047	200	205	27.4	43.6
Ocean Wind (OCS-A 0498)	2024-2025	906	111	111	18.5	32.6
Empire Wind (OCS-A 0512)	2023-2027	951	0	72	Not Visible	Not Visible
Empire Wind II (OCS-A 0512)	2025-2027	951	0	104	Not Visible	Not Visible
Skipjack (OCS-A 0519)	2024-2030	853	1	33	35.3	42.2
Garden State (OCS-A 0482)	2023-2030	853	62	80	26.6	35.7
US Wind (OCS-A 0489 and 0490)	2024	938	0	101	Not Visible	Not Visible
Atlantic Shores Offshore Wind North (OCS-A 0549)	2025-2030	1,047	134	164	37.6	51.1
Ocean Wind II (OCS-A 0532)	2026-2030	906	111	111	12.1	26.0
Mid-Atlantic Offshore Wind (OCS-A 0544)	by 2030	853	0	104	Not Visible	Not Visible
Ocean Wind East (OCS-A 0537)	by 2030	853	0	82	Not Visible	Not Visible
Attentive Energy (OCS-A 0538)	by 2030	853	0	101	Not Visible	Not Visible
Bight Wind Holdings (OCS-A 0539)	by 2030	853	0	148	Not Visible	Not Visible
Atlantic Shores Offshore Wind Bight (OCS-A 0541)	by 2030	853	0	95	Not Visible	Not Visible
Inverenergy Wind Offshore (OCS-A 0542)	by 2030	853	0	99	Not Visible	Not Visible





ATLANTIC SHORES offshore wind

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

SIC02: Townsend's Inlet Bridge, Sea Isle City, Cape May County, New Jersey

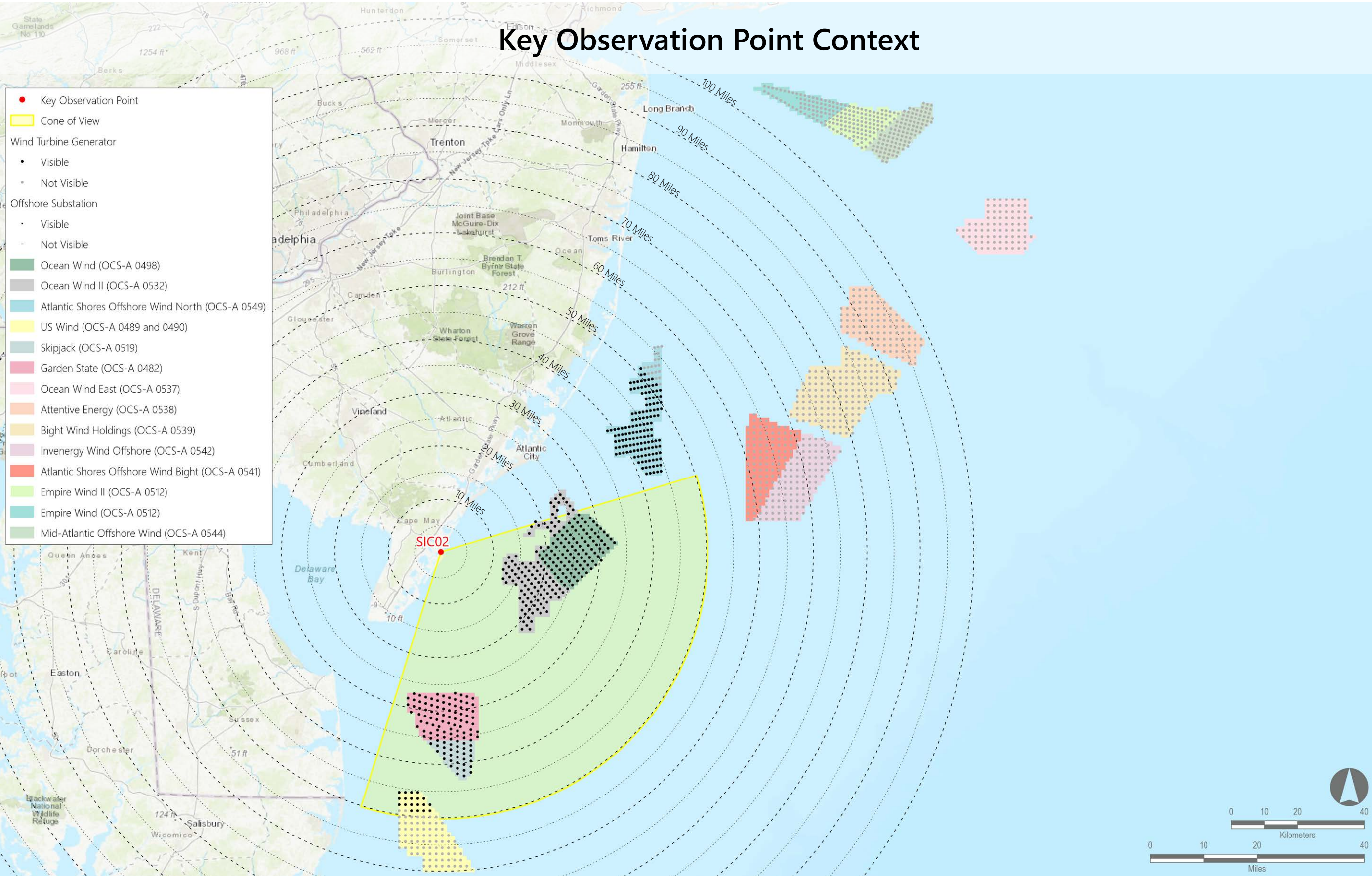
Photosimulation (Panorama 2): Scenario 4: Full buildout of all lease areas without Atlantic Shores South

Simulation Size: 66" in width by 29.3" in height. Images should be viewed from a distance of 18 inches in order to obtain the proper perspective.

This box should measure 1" high on the printed panorama

- Notes:**
- Photosimulation Size: 66" in width by 29.3" in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
 - Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
 - WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) than the viewshed analysis results which use a refraction coefficient of 0.13.
 - WTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
 - The number of WTGs visible from the KOP is determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (72 m) in lost maximum height depending on the rotation position.
 - The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WTG visibility.
 - The resolution of the cumulative photosimulations balances the size and usability of the documents with the need for high resolution to see distant project components. Similarly to human vision, very distant turbines may appear blurry or difficult to decipher due to resolution limitations.
 - The Key Observation Point Context map considers screening by curvature of the earth, viewer height, and turbine height. Landscape screening features are not considered. Therefore, in this view, the number of visible turbines depicted on the map may not match the table due to the presence of landscape screening features.

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Ocean Wind (OCS-A 0498)	2024-2025	906	111	111	18.5	32.6
Empire Wind (OCS-A 0512)	2023-2027	951	0	72	Not Visible	Not Visible
Empire Wind II (OCS-A 0512)	2025-2027	951	0	104	Not Visible	Not Visible
Skipjack (OCS-A 0519)	2024-2030	853	1	33	35.3	42.2
Garden State (OCS-A 0482)	2023-2030	853	62	80	26.6	35.7
US Wind (OCS-A 0489 and 0490)	2024	938	0	101	Not Visible	Not Visible
Atlantic Shores Offshore Wind North (OCS-A 0549)	2025-2030	1,047	134	164	37.6	51.1
Ocean Wind II (OCS-A 0532)	2026-2030	906	111	111	12.1	26.0
Mid-Atlantic Offshore Wind (OCS-A 0544)	by 2030	853	0	104	Not Visible	Not Visible
Ocean Wind East (OCS-A 0537)	by 2030	853	0	82	Not Visible	Not Visible
Attentive Energy (OCS-A 0539)	by 2030	853	0	101	Not Visible	Not Visible
Bight Wind Holdings (OCS-A 0539)	by 2030	853	0	148	Not Visible	Not Visible
Atlantic Shores Offshore Wind Bight (OCS-A 0541)	by 2030	853	0	95	Not Visible	Not Visible
Inverenergy Wind Offshore (OCS-A 0542)	by 2030	853	0	99	Not Visible	Not Visible





ATLANTIC SHORES offshore wind

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

SIC02: Townsend’s Inlet Bridge, Sea Isle City, Cape May County, New Jersey

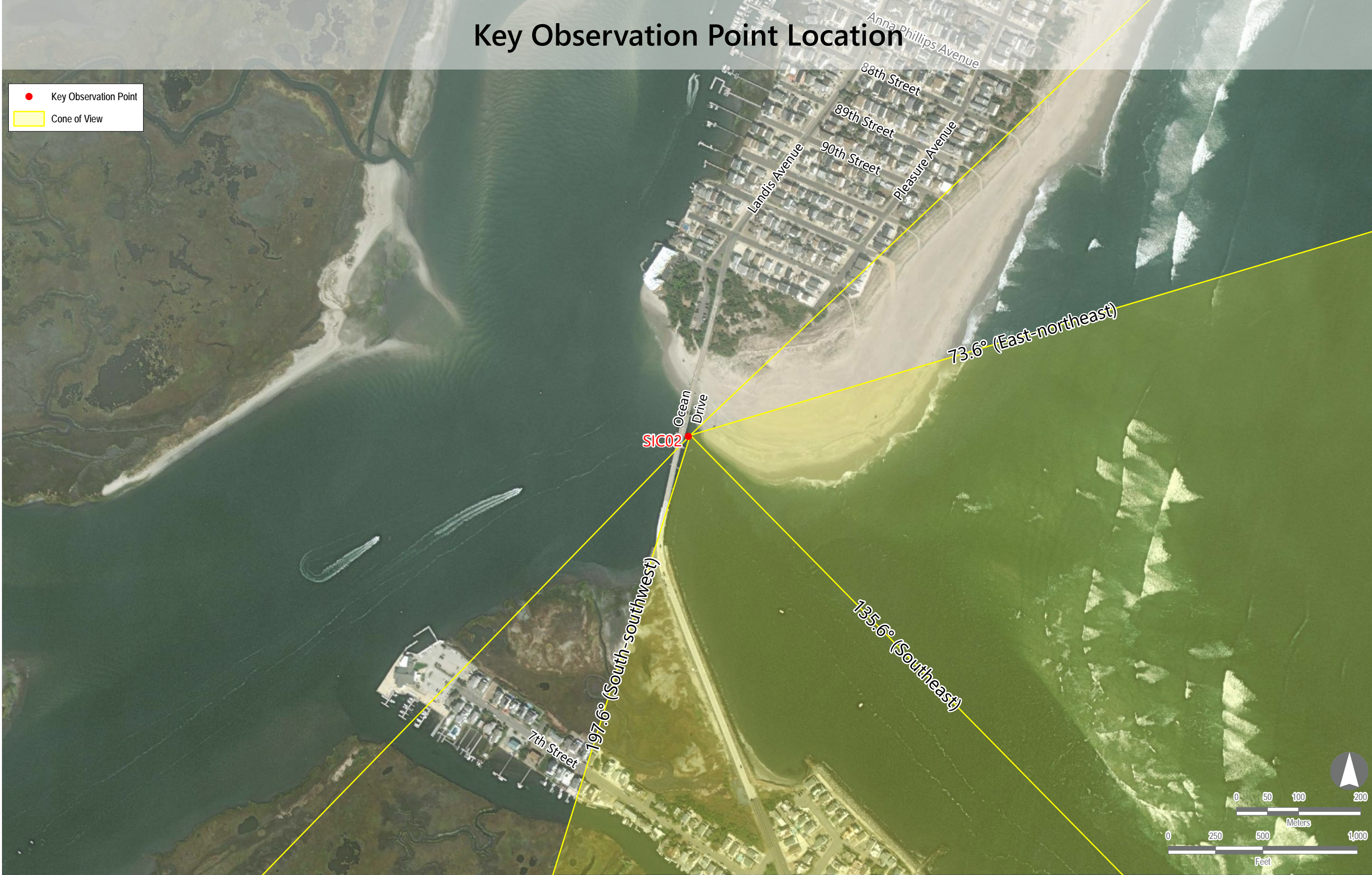
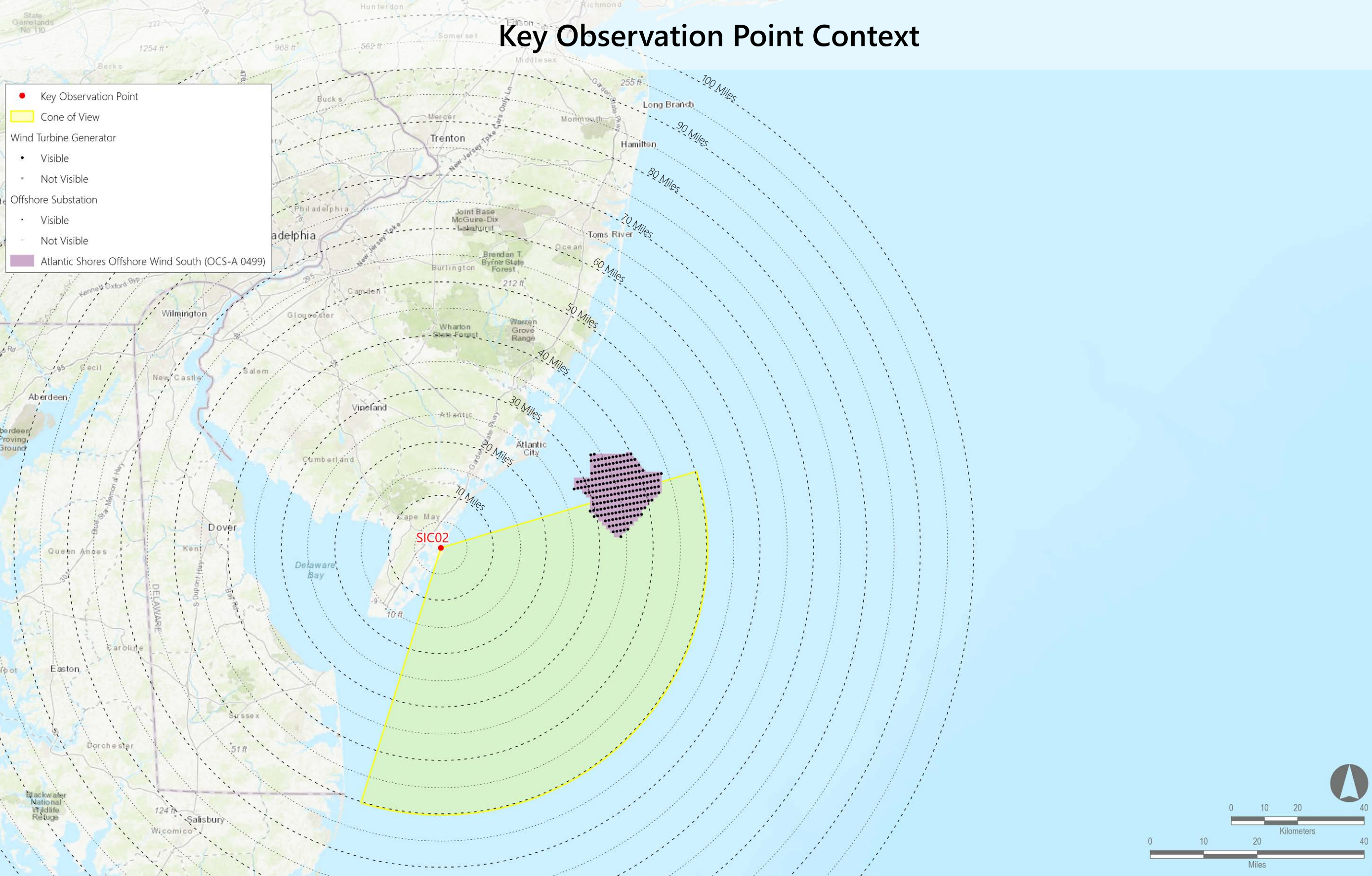
Photosimulation (Panorama 2): Scenario 5: Atlantic Shores South without the construction of other foreseeable planned activities

Simulation Size: 60" in width by 29.3" in height. Images should be viewed from a distance of 18 inches in order to obtain the proper perspective.

This box should be placed 1" high on the printed panorama.

- Notes:**
- Photosimulation Size: 60" in width by 29.3" in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
 - Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
 - WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) that the viewshed analysis results which use a refraction coefficient of 0.13.
 - WTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
 - The number of WTGs visible from the KOPP was determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (72 m) in lost maximum height depending on the rotation position.
 - The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WTG visibility.
 - The resolution of the cumulative photosimulations balances the size and usability of the documents with the need for high resolution to see distant project components. Similarly to human vision, very distant turbines may appear blurry or difficult to decipher due to resolution limitations.
 - The Key Observation Point Context map considers screening by curvature of the earth, viewer height, and turbine height. Landscape screening features are not considered. Therefore, in this view, the number of visible turbines depicted on the map may not match the table due to the presence of landscape screening features.

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Atlantic Shores Offshore Wind South (OCS-A 0499)	2023-2025	1,047	200	205	27.4	43.6



SPB01: Seaside Park Beach, Seaside Park Borough, Ocean County, New Jersey

Environmental Data

Date Taken: 08/25/2022
Time: 7:05 AM
Temperature: 67°F
Humidity: 84%
Visibility*: 10+ miles
Wind Direction: West-northwest
Wind Speed: 3 mph
Conditions Observed: Fair

Camera Information
Camera: Canon EOS 5D Mark IV
Resolution: 30.4 Megapixels
Lens Focal Length: 50 mm
Camera Height: 16.23 feet AMSL

Key Observation Point Information

County: Ocean
Town: Seaside Park Borough
State: New Jersey
Location: Seaside Park Beach
Latitude, Longitude: 39.93530°N, 74.07163°W
Direction of View (Center): East-northeast (58.6°)
Field of View: 124° x 55°

Visual Resources
Character Area: Commercial Beachfront, Seascape (SCA)
User Group: Residents/Tourists, Fishermen
Visually Sensitive Resource: Seaside Park Beach and Boardwalk, U.S. Life Saving Station No. 13

Key Observation Point Context

Key Observation Point

Cone of View

Wind Turbine Generator (See Image 1)

Fully Visible

Platform Screened

Mid-Tower Screened

Nacelle Screened

Not Visible

Offshore Substation

Visible

Not Visible

Ocean Wind (OCS-A 0498)

Ocean Wind II (OCS-A 0532)

Atlantic Shores Offshore Wind North (OCS-A 0549)

Atlantic Shores Offshore Wind South (OCS-A 0499)

US Wind (OCS-A 0489 and 0490)

Skipjack (OCS-A 0519)

Garden State (OCS-A 0482)

Ocean Wind East (OCS-A 0537)

Attentive Energy (OCS-A 0538)

Bight Wind Holdings (OCS-A 0539)

Invenergy Wind Offshore (OCS-A 0542)

Atlantic Shores Offshore Wind Bight (OCS-A 0541)

Empire Wind II (OCS-A 0512)

Empire Wind (OCS-A 0512)

Mid-Atlantic Offshore Wind (OCS-A 0544)

Image 1

Blade Tip

Nacelle

Mid-Tower

Platform

0

10

20

40

0

10

20

40

Kilometers

Miles

0

10

20

40

0

10

20

40

Kilometers

Miles

Reasonably Foreseeable Projects Represented in Photosimulation

		Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP**	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Scenario 5	Scenario 2	Atlantic Shores Offshore Wind South (OCS-A 0499)	2025-2027	1,047	118	205	39.0	48.0
		Ocean Wind (OCS-A 0498)	2023-2025	906	0	111	Not Visible	Not Visible
	Scenario 1	Empire Wind (OCS-A 0512)	2024-2025	951	52	72	39.8	46.1
		Empire Wind II (OCS-A 0512)	2023-2027	951	6	104	44.6	46.0
		Skipjack (OCS-A 0519)	2024-2030	853	0	33	Not Visible	Not Visible
Scenario 4	Scenario 3	Garden State (OCS-A 0482)	2023-2030	853	0	80	Not Visible	Not Visible
		US Wind (OCS-A 0489 and 0490)	2024	938	0	101	Not Visible	Not Visible
		Atlantic Shores Offshore Wind North (OCS-A 0549)	2025-2030	1,047	157	164	19.3	42.2
		Ocean Wind II (OCS-A 0532)	2026-2030	906	0	111	Not Visible	Not Visible
		Mid-Atlantic Offshore Wind (OCS-A 0544)	by 2030	853	0	104	Not Visible	Not Visible
		Ocean Wind East (OCS-A 0537)	by 2030	853	0	82	Not Visible	Not Visible
		Attentive Energy (OCS-A 0538)	by 2030	853	7	101	42.4	43.9
		Bight Wind Holdings (OCS-A 0539)	by 2030	853	13	148	41.8	43.8
		Atlantic Shores Offshore Wind Bight (OCS-A 0541)	by 2030	853	17	95	39.5	43.9
		Invenergy Wind Offshore (OCS-A 0542)	by 2030	853	0	99	Not Visible	Not Visible

- Notes:**
- Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
 - *Historical meteorological data predicts visibility within a limit of 10 statute miles. However, visibility may extend beyond this distance. The photosimulations assume visibility extends to the limit of physical visibility (including a standard refraction index).
 - WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) than the viewshed analysis results which use a refraction coefficient of 0.13.
 - **The number of WTGs visible from the KOP was determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (72 m) in lost maximum height depending on the rotation position.
 - The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WTG visibility.
 - The Key Observation Point Context map considers screening by curvature of the earth, viewer height, and turbine height. Landscape screening features are not considered. Therefore, in this view, the number of visible turbines depicted on the map may not match the table due to the presence of landscape screening features.





ATLANTIC SHORES offshore wind

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

SPB01: Seaside Park Beach, Seaside Park Borough, Ocean County, New Jersey

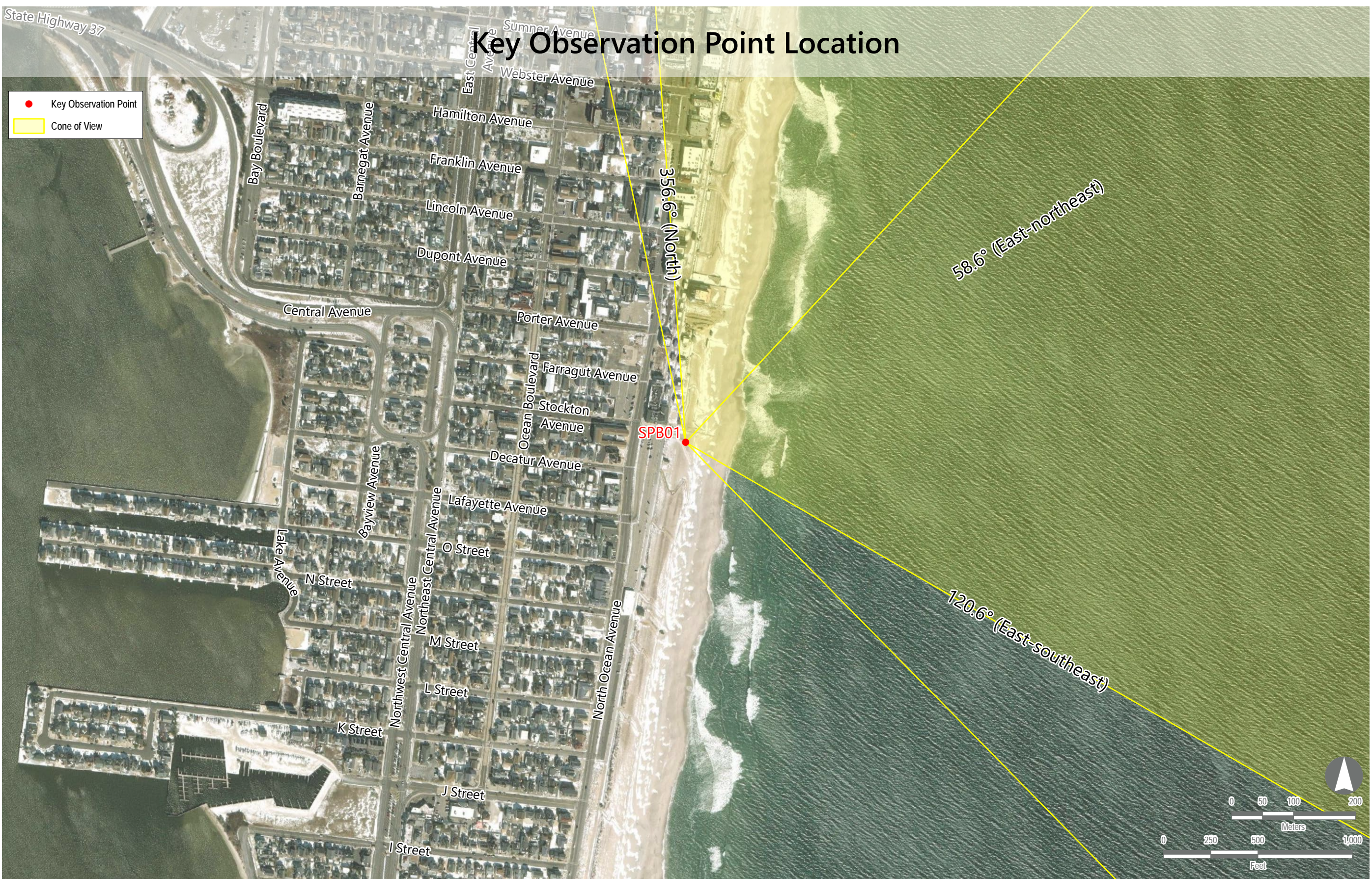
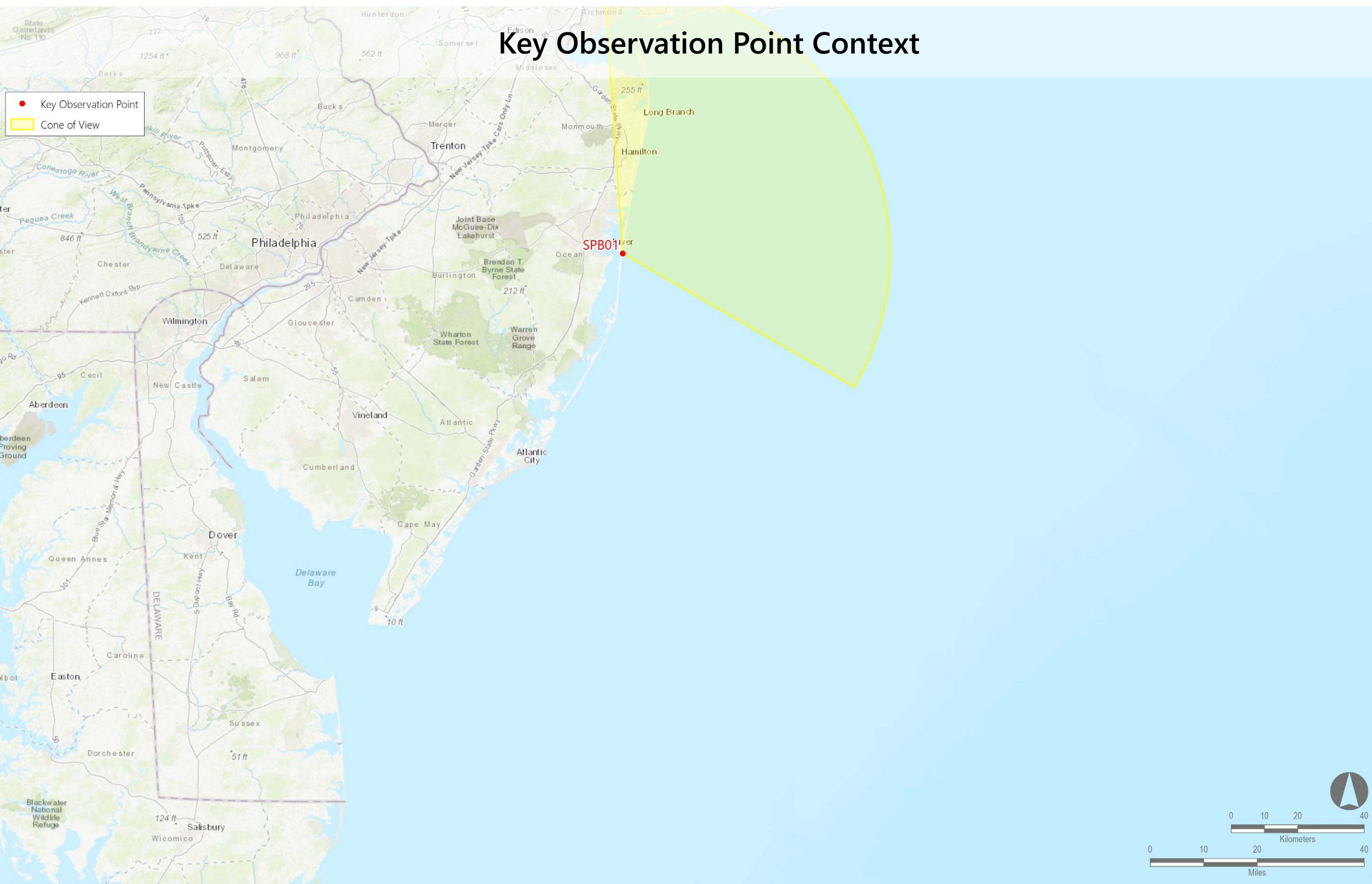
Existing Conditions (Panorama 1)

Notes:

- Photosimulation Size: 66" in width by 29.3" in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.

Simulation Size: 66" in width by 29.3" in height. Images should be viewed from a distance of 18 inches in order to obtain the proper perspective.

This box should be viewed from a distance of 18 inches on the printed panorama.





ATLANTIC SHORES

offshore wind

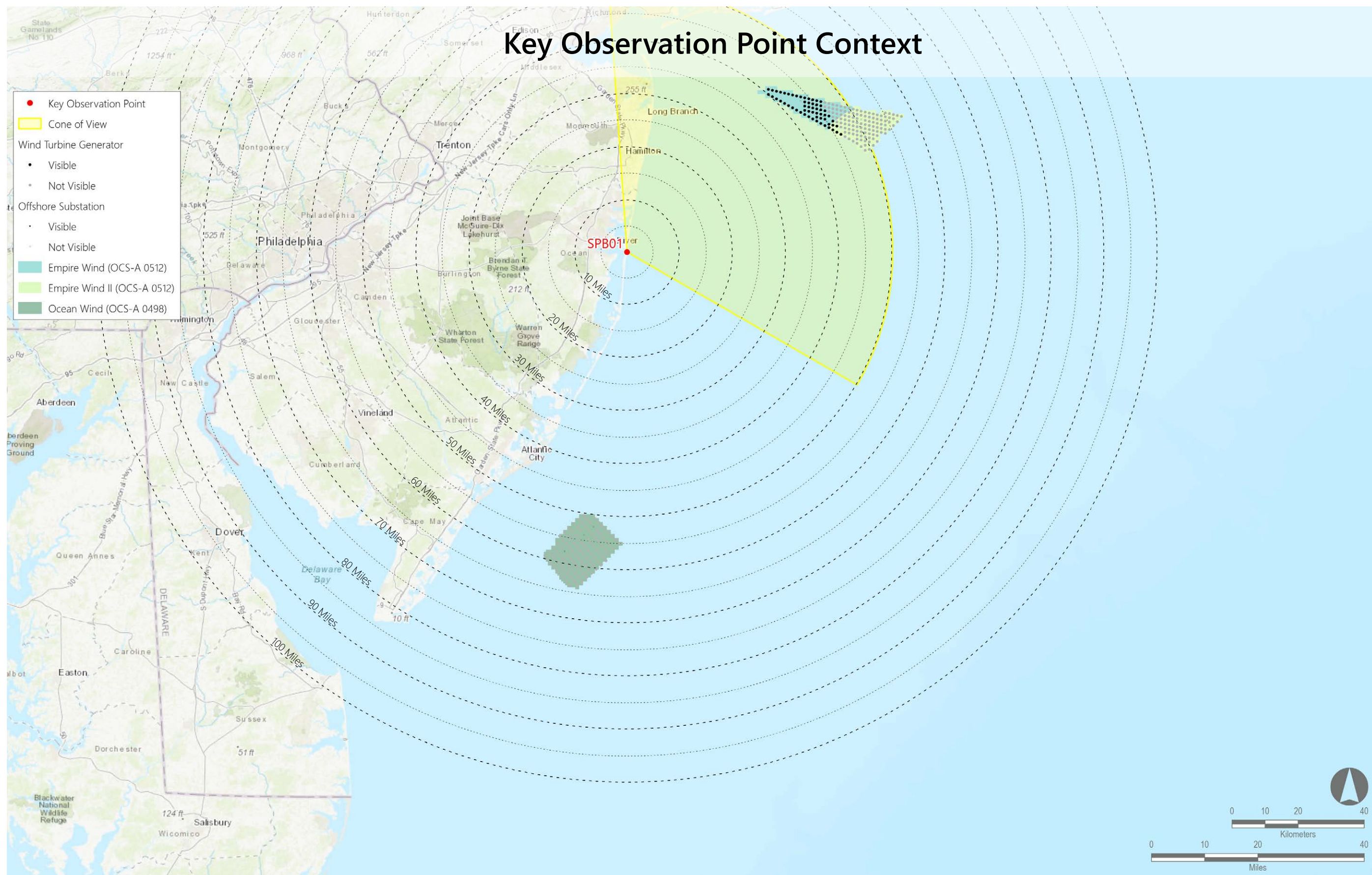
Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

SPB01: Seaside Park Beach, Seaside Park Borough, Ocean County, New Jersey

Photosimulation (Panorama 1): Scenario 1: 2023-2025 Project Construction (Ocean Wind, Empire Wind, Empire Wind II)

- Notes:**
- Photosimulation Size: 66" in width by 29.3" in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
 - Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
 - WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) than the viewshed analysis results which use a refraction coefficient of 0.13.
 - WTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
 - The number of WTGs visible from the KOP was determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (72 m) in lost maximum height depending on the rotation position.
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 - The Key Observation Point Context map considers screening by curvature of the earth, viewer height, and turbine height. Landscape screening features are not considered. Therefore, in this view, the number of visible turbines depicted on the map may not match the table due to the presence of landscape screening features.

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Ocean Wind (OCS-A 0498)	2024-2025	906	0	111	Not Visible	Not Visible
Empire Wind (OCS-A 0512)	2023-2027	951	52	72	39.8	46.1
Empire Wind II (OCS-A 0512)	2025-2027	951	6	104	44.6	46.0





ATLANTIC SHORES offshore wind

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

SPB01: Seaside Park Beach, Seaside Park Borough, Ocean County, New Jersey

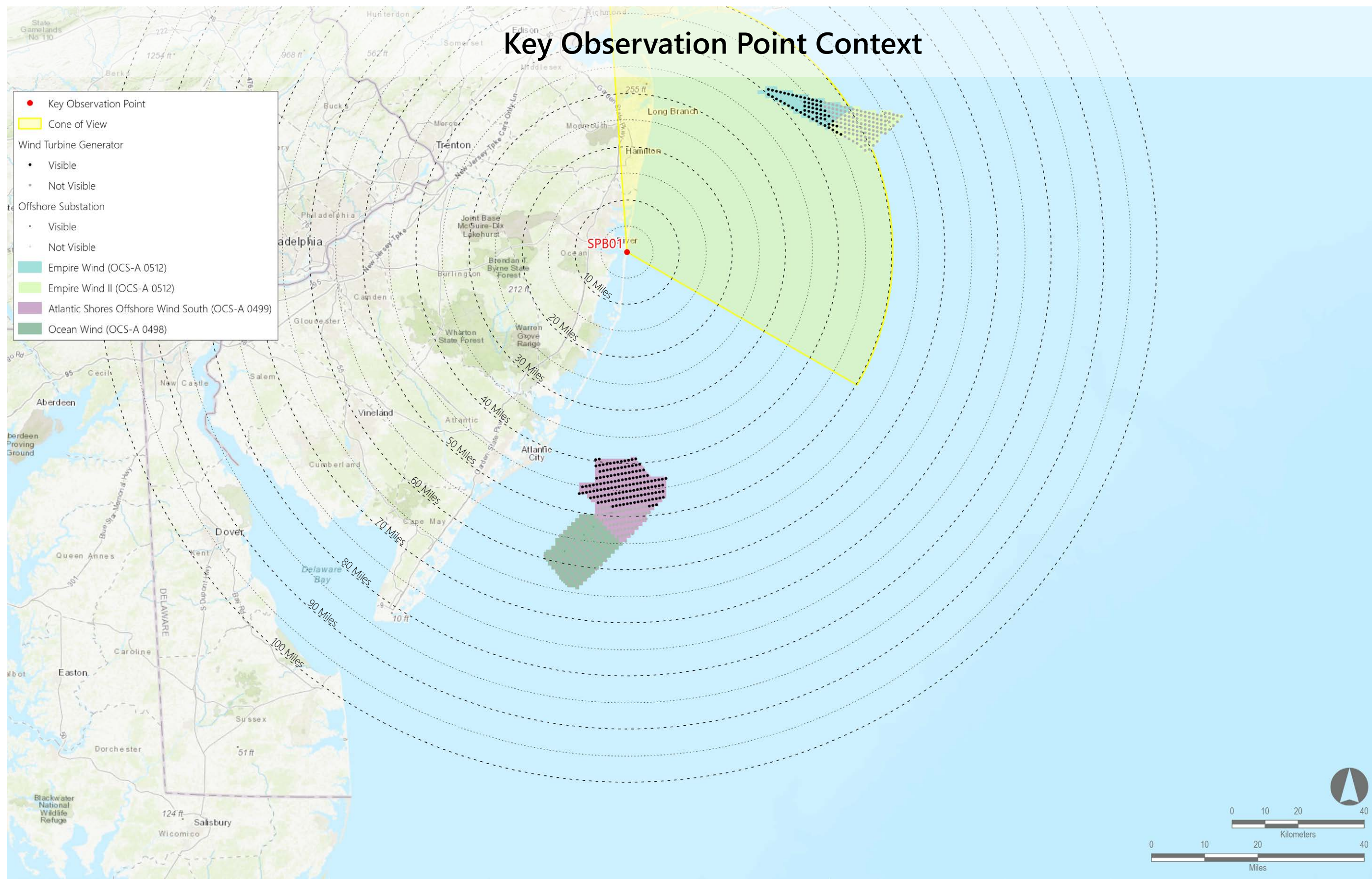
Photosimulation (Panorama 1): Scenario 2: Atlantic Shores Construction (2025-2027) added to Scenario 1 (Ocean Wind, Empire Wind, Empire Wind II, Atlantic Shores South)

Simulation Size: 60" in width by 29.3" in height. Images should be viewed from a distance of 18 inches in order to obtain the proper perspective.

This box should always be placed on the printed panorama.

- Notes:**
- Photosimulation Size: 66" in width by 29.3" in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
 - Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
 - WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) than the viewshed analysis results which use a refraction coefficient of 0.13.
 - WTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
 - The number of WTGs visible from the KOP is determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (72 m) in lost maximum height depending on the rotation position.
 - The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WTG visibility.
 - The resolution of the cumulative photosimulations balances the size and usability of the documents with the need for high resolution to see distant project components. Similarly to human vision, very distant turbines may appear blurry or difficult to decipher due to resolution limitations.
 - The Key Observation Point Context map considers screening by curvature of the earth, viewer height, and turbine height. Landscape screening features are not considered. Therefore, in this view, the number of visible turbines depicted on the map may not match the table due to the presence of landscape screening features.

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Atlantic Shores Offshore Wind South (OCS-A 0499)	2023-2025	1,047	118	205	39.0	48.0
Ocean Wind (OCS-A 0498)	2024-2025	906	0	111	Not Visible	Not Visible
Empire Wind (OCS-A 0512)	2023-2027	951	52	72	39.8	46.1
Empire Wind II (OCS-A 0512)	2025-2027	951	6	104	44.6	46.0





ATLANTIC SHORES offshore wind

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

SPB01: Seaside Park Beach, Seaside Park Borough, Ocean County, New Jersey

Photosimulation (Panorama 1): Scenario 3: 2024-2030 Project construction added after the construction of Atlantic Shores South (Full Lease Build-out Including Atlantic Shores South)

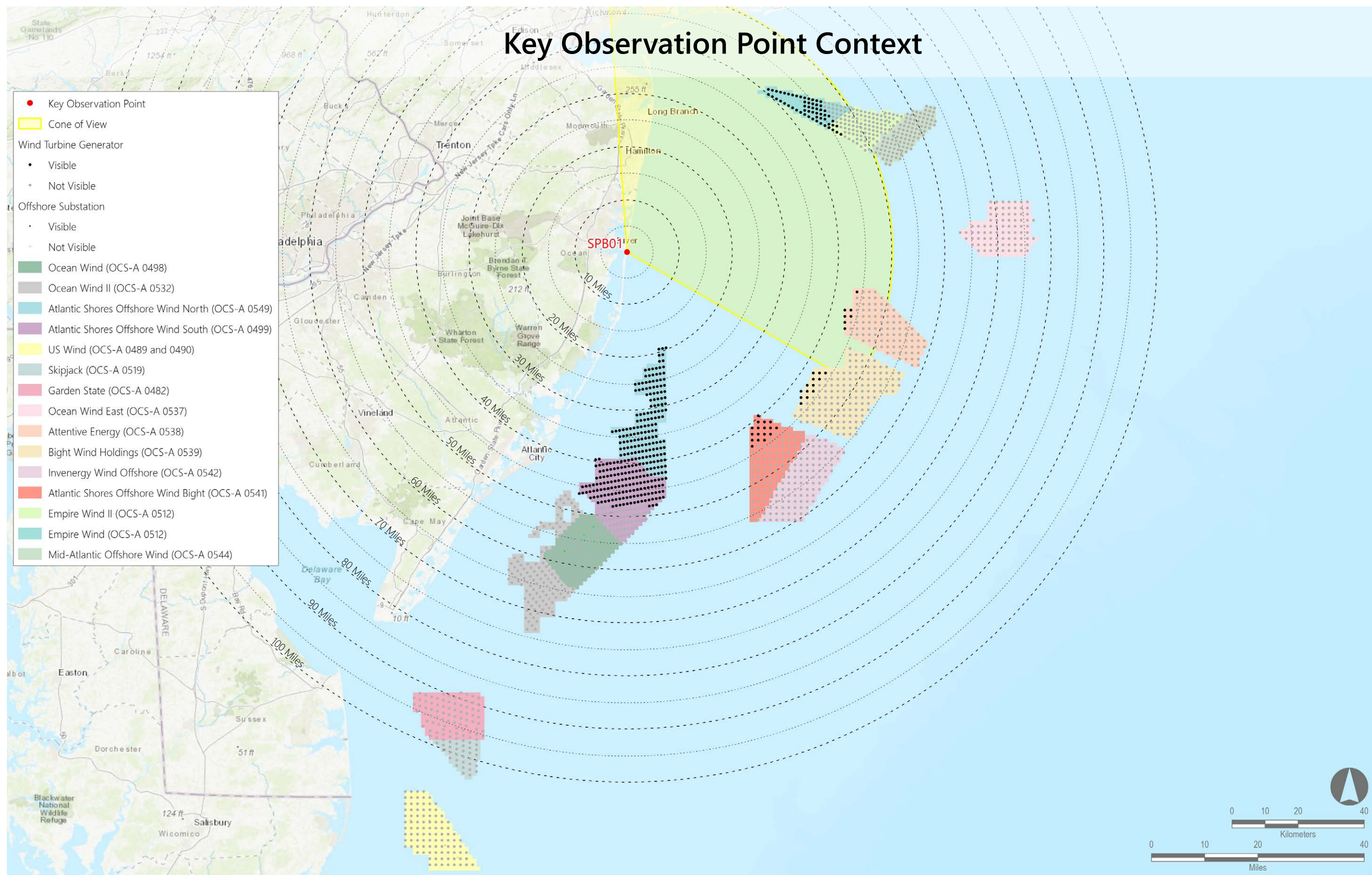
Simulation Size: 60" in width by 29.3" in height. Images should be viewed from a distance of 18 inches in order to obtain the proper perspective.

This box should always be placed on the printed panorama.

Notes:

- Photosimulation Size: 60" in width by 29.3" in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
- Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
- WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) than the viewshed analysis results which use a refraction coefficient of 0.13.
- WTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
- The number of WTGs visible from the KOP is determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (72 m) in lost maximum height depending on the rotation position.
- The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WTG visibility.
- The resolution of the cumulative photosimulations balances the size and usability of the documents with the need for high resolution to see distant project components. Similarly to human vision, very distant turbines may appear blurry or difficult to decipher due to resolution limitations.
- The Key Observation Point Context map considers screening by curvature of the earth, viewer height, and turbine height. Landscape screening features are not considered. Therefore, in this view, the number of visible turbines depicted on the map may not match the table due to the presence of landscape screening features.

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Atlantic Shores Offshore Wind South (OCS-A 0499)	2023-2025	1,047	118	205	39.0	48.0
Ocean Wind (OCS-A 0498)	2024-2025	906	0	111	Not Visible	Not Visible
Empire Wind (OCS-A 0512)	2023-2027	951	52	72	39.8	46.1
Empire Wind II (OCS-A 0512)	2025-2027	951	6	104	44.6	46.0
Skipjack (OCS-A 0519)	2024-2030	853	0	33	Not Visible	Not Visible
Garden State (OCS-A 0482)	2023-2030	853	0	80	Not Visible	Not Visible
US Wind (OCS-A 0489 and 0490)	2024	938	0	101	Not Visible	Not Visible
Atlantic Shores Offshore Wind North (OCS-A 0549)	2025-2030	1,047	157	164	19.3	42.2
Ocean Wind II (OCS-A 0532)	2026-2030	906	0	111	Not Visible	Not Visible
Mid-Atlantic Offshore Wind (OCS-A 0544)	by 2030	853	0	104	Not Visible	Not Visible
Ocean Wind East (OCS-A 0537)	by 2030	853	0	82	Not Visible	Not Visible
Attentive Energy (OCS-A 0538)	by 2030	853	7	101	42.4	43.9
Bight Wind Holdings (OCS-A 0539)	by 2030	853	13	148	41.8	43.8
Atlantic Shores Offshore Wind Bight (OCS-A 0541)	by 2030	853	17	95	39.5	43.9
Inverenergy Wind Offshore (OCS-A 0542)	by 2030	853	0	99	Not Visible	Not Visible





ATLANTIC SHORES

offshore wind

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

SPB01: Seaside Park Beach, Seaside Park Borough, Ocean County, New Jersey

Photosimulation (Panorama 1): Scenario 4: Full buildout of all lease areas without Atlantic Shores South

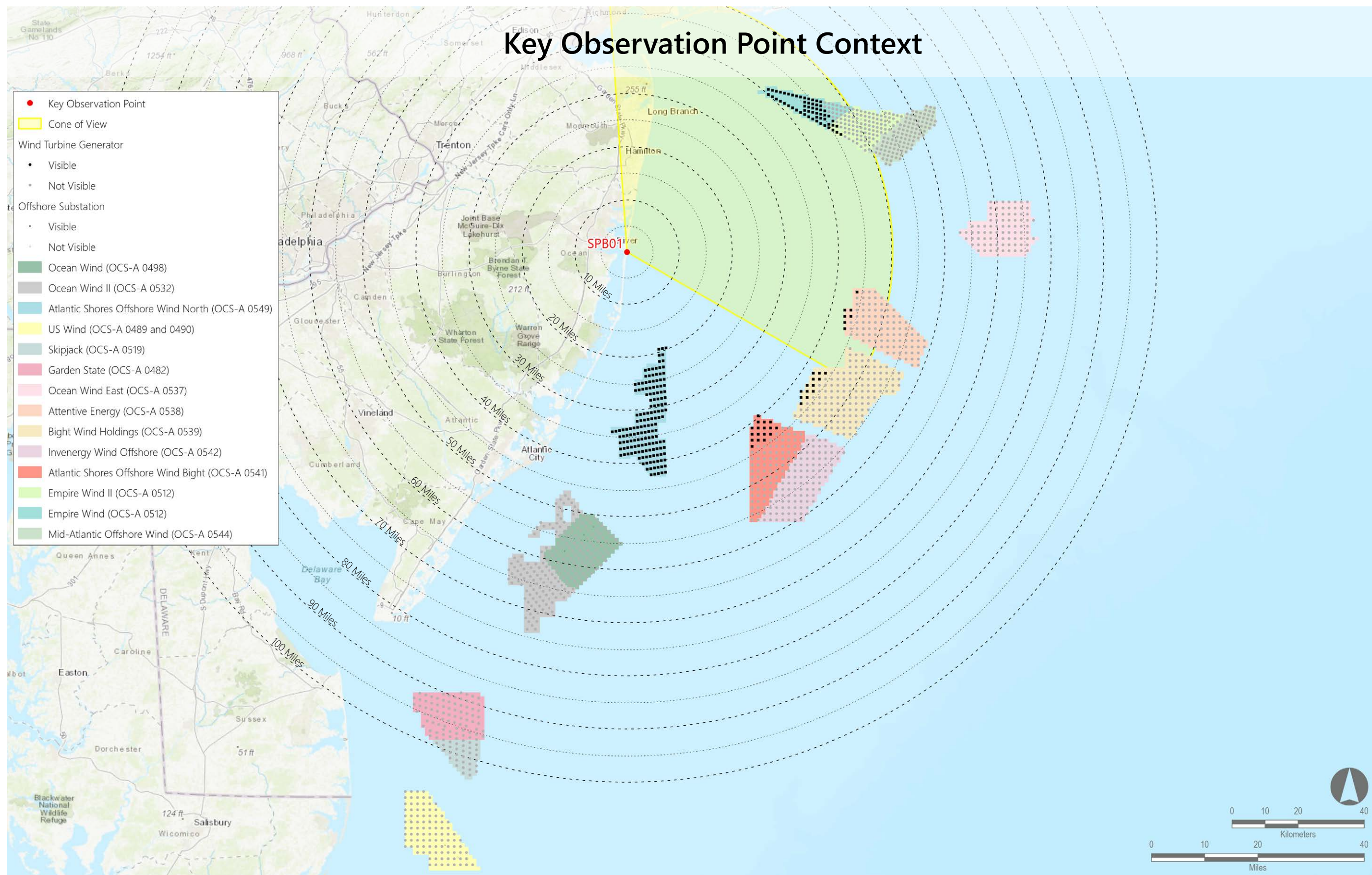
Simulation Size: 60" in width by 29.3" in height. Images should be viewed from a distance of 18 inches in order to obtain the proper perspective.

This box should always be kept on the printed panorama.

Notes:

- Photosimulation Size: 60" in width by 29.3" in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
- Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
- WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) than the viewshed analysis results which use a refraction coefficient of 0.13.
- WTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
- The number of WTGs visible from the KOP is determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (72 m) in lost maximum height depending on the rotation position.
- The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WTG visibility.
- The resolution of the cumulative photosimulations balances the size and usability of the documents with the need for high resolution to see distant project components. Similarly to human vision, very distant turbines may appear blurry or difficult to decipher due to resolution limitations.
- The Key Observation Point Context map considers screening by curvature of the earth, viewer height, and turbine height. Landscape screening features are not considered. Therefore, in this view, the number of visible turbines depicted on the map may not match the table due to the presence of landscape screening features.

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Ocean Wind (OCS-A 0498)	2024-2025	906	0	111	Not Visible	Not Visible
Empire Wind (OCS-A 0512)	2023-2027	951	52	72	39.8	46.1
Empire Wind II (OCS-A 0512)	2025-2027	951	6	104	44.6	46.0
Skipjack (OCS-A 0519)	2024-2030	853	0	33	Not Visible	Not Visible
Garden State (OCS-A 0482)	2023-2030	853	0	80	Not Visible	Not Visible
US Wind (OCS-A 0489 and 0490)	2024	938	0	101	Not Visible	Not Visible
Atlantic Shores Offshore Wind North (OCS-A 0549)	2025-2030	1,047	157	164	19.3	42.2
Ocean Wind II (OCS-A 0532)	2026-2030	906	0	111	Not Visible	Not Visible
Mid-Atlantic Offshore Wind (OCS-A 0544)	by 2030	853	0	104	Not Visible	Not Visible
Attentive Energy (OCS-A 0537)	by 2030	853	7	101	42.4	43.9
Bight Wind Holdings (OCS-A 0539)	by 2030	853	13	148	41.8	43.8
Atlantic Shores Offshore Wind Bight (OCS-A 0541)	by 2030	853	17	95	39.5	43.9
Invermay Wind Offshore (OCS-A 0542)	by 2030	853	0	99	Not Visible	Not Visible





ATLANTIC SHORES offshore wind

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

SPB01: Seaside Park Beach, Seaside Park Borough, Ocean County, New Jersey

Photosimulation (Panorama 1): Scenario 5: Atlantic Shores South without the construction of other foreseeable planned activities

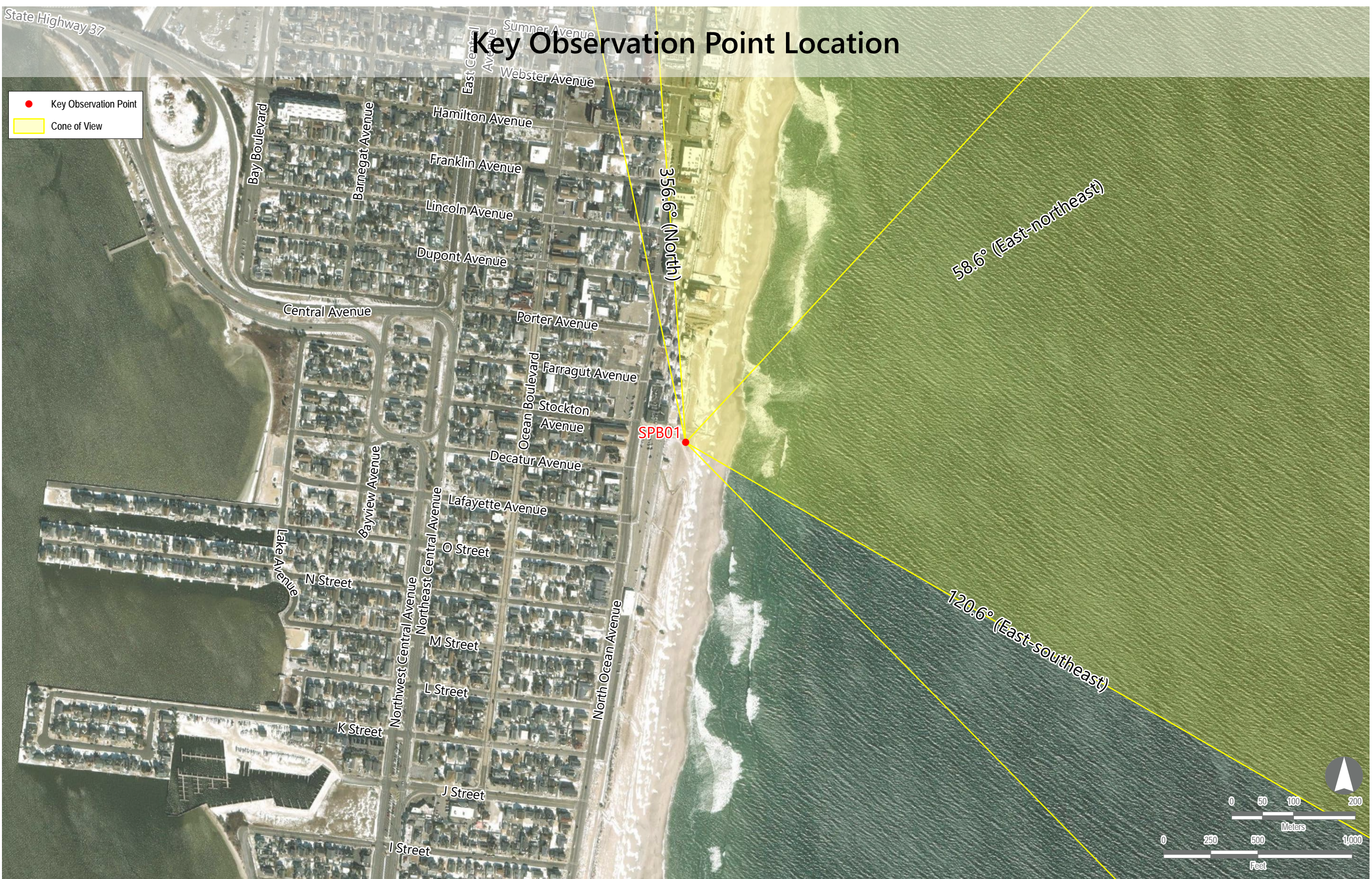
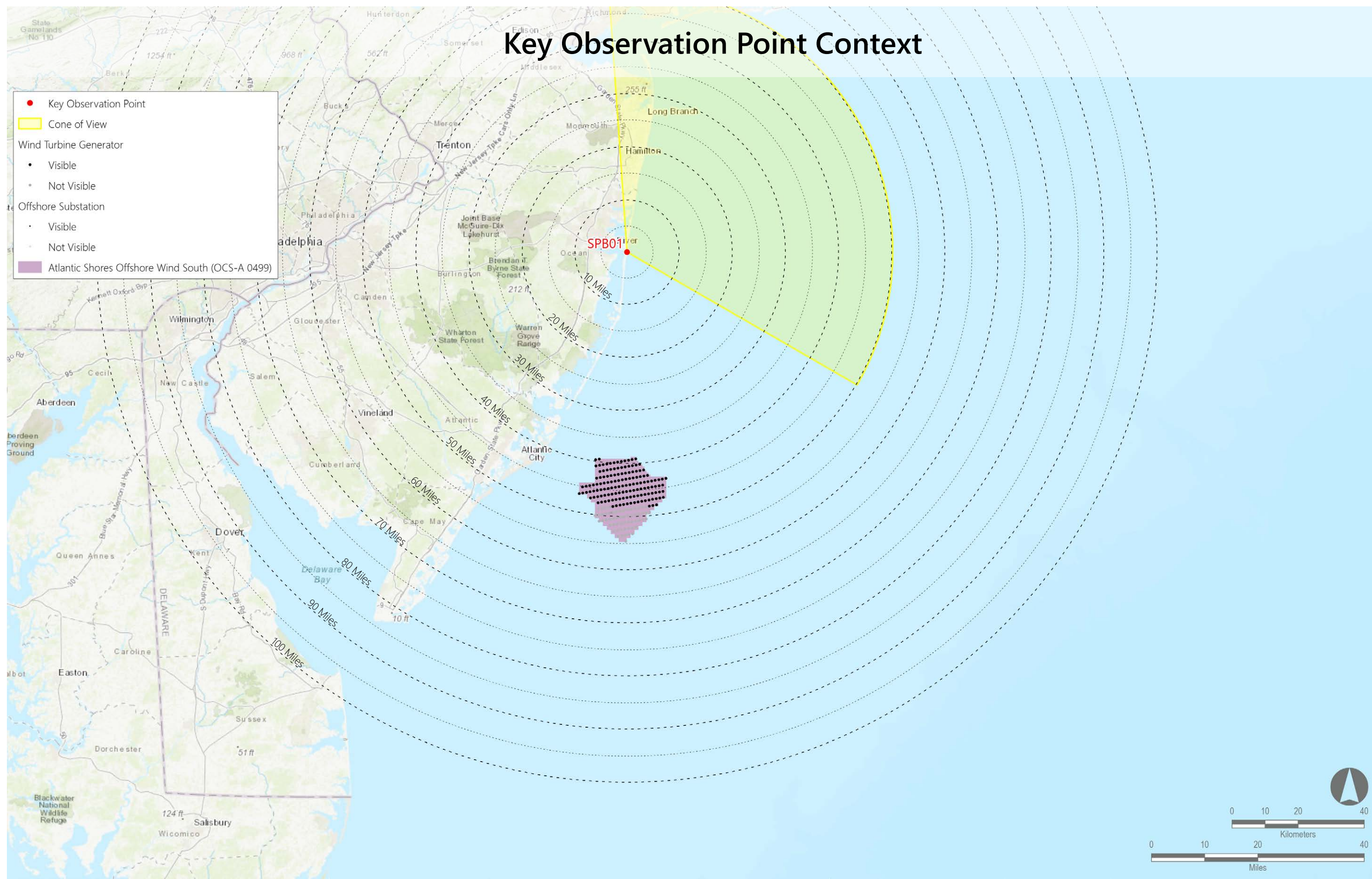
Simulation Size: 60" in width by 29.3" in height. Images should be viewed from a distance of 18 inches in order to obtain the proper perspective.

This box should always be kept on the printed panorama.

Notes:

- Photosimulation Size: 60" in width by 29.3" in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
- Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
- WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) than the viewshed analysis results which use a refraction coefficient of 0.13.
- WTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
- The number of WTGs visible from the KOP was determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (72 m) in lost maximum height depending on the rotation position.
- The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WTG visibility.
- The resolution of the cumulative photosimulations balances the size and usability of the documents with the need for high resolution to see distant project components. Similarly to human vision, very distant turbines may appear blurry or difficult to decipher due to resolution limitations.
- The Key Observation Point Context map considers screening by curvature of the earth, viewer height, and turbine height. Landscape screening features are not considered. Therefore, in this view, the number of visible turbines depicted on the map may not match the table due to the presence of landscape screening features.

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Atlantic Shores Offshore Wind South (OC-SA 0499)	2023-2025	1,047	118	205	39.0	48.0



SPB01: Seaside Park Beach, Seaside Park Borough, Ocean County, New Jersey

Environmental Data

Date Taken: 08/25/2022
Time: 7:05 AM
Temperature: 67°F
Humidity: 84%
Visibility*: 10+ miles
Wind Direction: West-northwest
Wind Speed: 3 mph
Conditions Observed: Fair

Camera Information
Camera: Canon EOS 5D Mark IV
Resolution: 30.4 Megapixels
Lens Focal Length: 50 mm
Camera Height: 16.23 feet AMSL

Key Observation Point Information

County: Ocean
Town: Seaside Park Borough
State: New Jersey
Location: Seaside Park Beach
Latitude, Longitude: 39.93530°N, 74.07163°W
Direction of View (Center): East-northeast (58.6°)
Field of View: 124° x 55°

Visual Resources
Character Area: Commercial Beachfront, Seascape (SCA)
User Group: Residents/Tourists, Fishermen
Visually Sensitive Resource: Seaside Park Beach and Boardwalk, U.S.
Life Saving Station No. 13

Key Observation Point Context

● Key Observation Point

Wind Turbine Generator (See Image 1)

Fully Visible

Platform Screened

Mid-Tower Screened

Nacelle Screened

Not Visible

Offshore Substation

Visible

Not Visible

Ocean Wind (OCS-A 0498)

Ocean Wind II (OCS-A 0532)

Atlantic Shores Offshore Wind North (OCS-A 0549)

Atlantic Shores Offshore Wind South (OCS-A 0499)

US Wind (OCS-A 0489 and 0490)

Skipjack (OCS-A 0519)

Garden State (OCS-A 0482)

Ocean Wind East (OCS-A 0537)

Attentive Energy (OCS-A 0538)

Bight Wind Holdings (OCS-A 0539)

Invenergy Wind Offshore (OCS-A 0542)

Atlantic Shores Offshore Wind Bight (OCS-A 0541)

Empire Wind II (OCS-A 0512)

Empire Wind (OCS-A 0512)

Mid-Atlantic Offshore Wind (OCS-A 0544)

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

Reasonably Foreseeable Projects Represented in Photosimulation

		Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP**	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Scenario 5	Scenario 2	Atlantic Shores Offshore Wind South (OCS-A 0499)	2025-2027	1,047	118	205	39.0	48.0
		Ocean Wind (OCS-A 0498)	2023-2025	906	0	111	Not Visible	Not Visible
Scenario 4	Scenario 1	Empire Wind (OCS-A 0512)	2024-2025	951	52	72	39.8	46.1
		Empire Wind II (OCS-A 0512)	2023-2027	951	6	104	44.6	46.0
	Scenario 3	Skipjack (OCS-A 0519)	2024-2030	853	0	33	Not Visible	Not Visible
		Garden State (OCS-A 0482)	2023-2030	853	0	80	Not Visible	Not Visible
		US Wind (OCS-A 0489 and 0490)	2024	938	0	101	Not Visible	Not Visible
		Atlantic Shores Offshore Wind North (OCS-A 0549)	2025-2030	1,047	157	164	19.3	42.2
		Ocean Wind II (OCS-A 0532)	2026-2030	906	0	111	Not Visible	Not Visible
		Mid-Atlantic Offshore Wind (OCS-A 0544)	by 2030	853	0	104	Not Visible	Not Visible
		Ocean Wind East (OCS-A 0537)	by 2030	853	0	82	Not Visible	Not Visible
		Attentive Energy (OCS-A 0538)	by 2030	853	7	101	42.4	43.9
		Bight Wind Holdings (OCS-A 0539)	by 2030	853	13	148	41.8	43.8
		Atlantic Shores Offshore Wind Bight (OCS-A 0541)	by 2030	853	17	95	39.5	43.9
		Invenergy Wind Offshore (OCS-A 0542)	by 2030	853	0	99	Not Visible	Not Visible

Notes:

- Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
- *Historical meteorological data predicts visibility within a limit of 10 statute miles. However, visibility may extend beyond this distance. The photosimulations assume visibility extends to the limit of physical visibility (including a standard refraction index).
- WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) than the viewshed analysis results which use a refraction coefficient of 0.13.
- **The number of WTGs visible from the KOP was determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (72 m) in lost maximum height depending on the rotation position.
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ATLANTIC SHORES offshore wind

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

SPB01: Seaside Park Beach, Seaside Park Borough, Ocean County, New Jersey

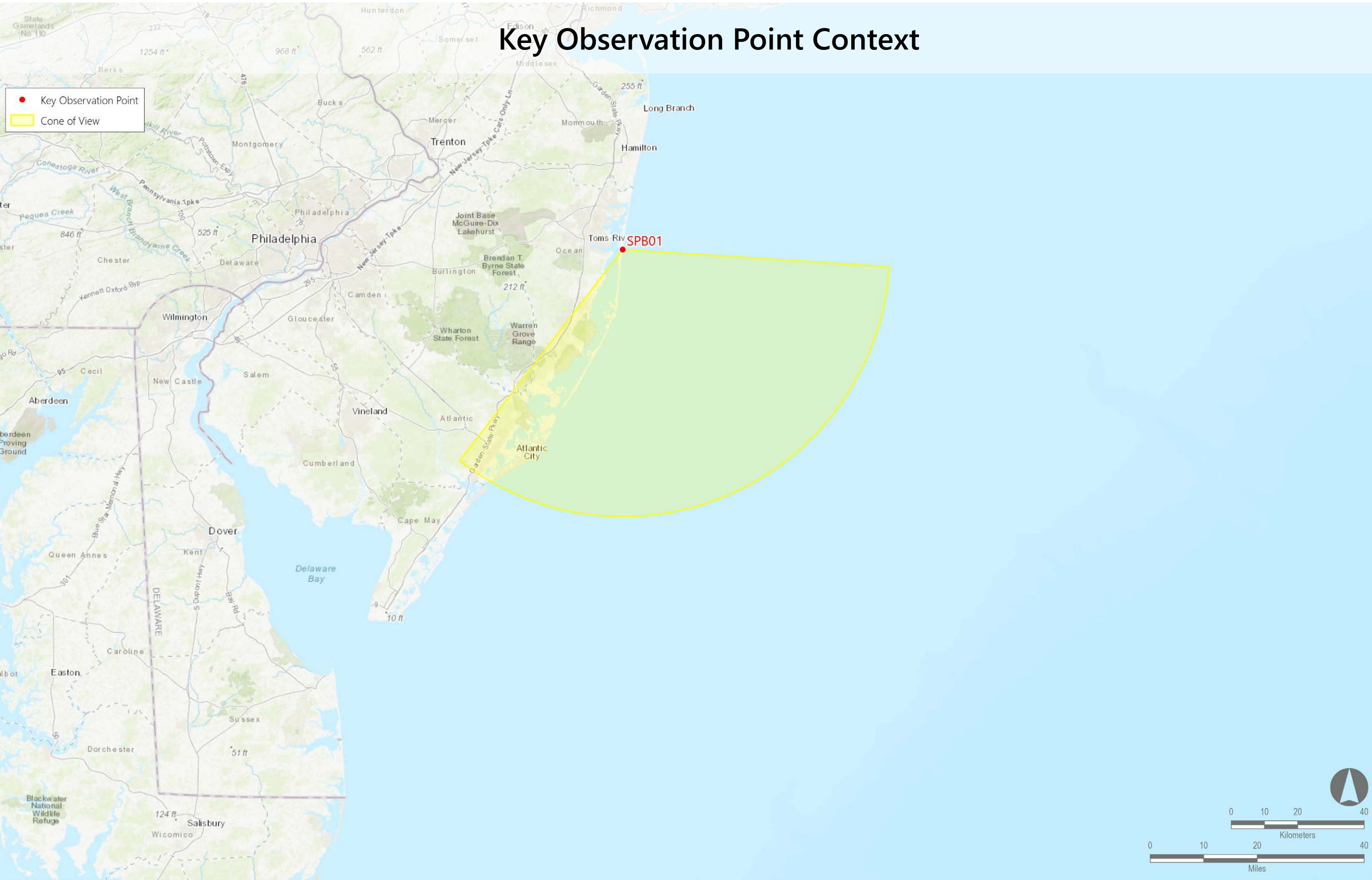
Existing Conditions (Panorama 2)

Notes:

- Photosimulation Size: 66" in width by 29.3" in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.

Simulation Size: 66" in width by 29.3" in height. Images should be viewed from a distance of 18 inches in order to obtain the proper perspective.

This box should be viewed from a distance of 18 inches on the printed panorama.





ATLANTIC SHORES

offshore wind

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

SPB01: Seaside Park Beach, Seaside Park Borough, Ocean County, New Jersey

Photosimulation (Panorama 2): Scenario 1: 2023-2025 Project Construction (Ocean Wind, Empire Wind, Empire Wind II)

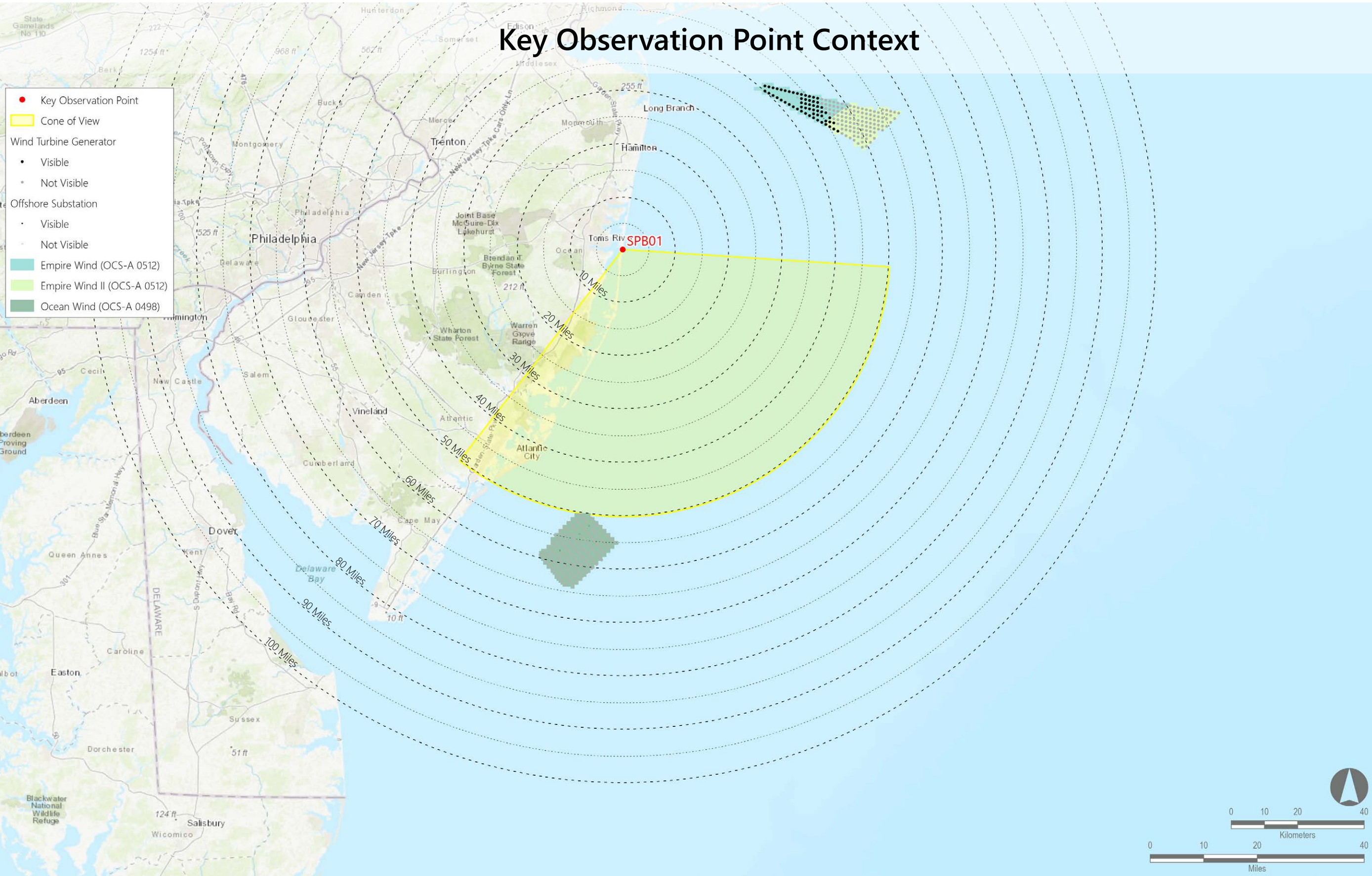
Simulation Size: 60" in width by 29.3" in height. Images should be viewed from a distance of 18 inches in order to obtain the proper perspective.

This box should always be placed on the printed panorama.

Notes:

- Photosimulation Size: 66" in width by 29.3" in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
- Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
- WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) than the viewshed analysis results which use a refraction coefficient of 0.13.
- WTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
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Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Ocean Wind (OCS-A 0498)	2024-2025	906	0	111	Not Visible	Not Visible
Empire Wind (OCS-A 0512)	2023-2027	951	52	72	39.8	46.1
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ATLANTIC SHORES offshore wind

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

SPB01: Seaside Park Beach, Seaside Park Borough, Ocean County, New Jersey

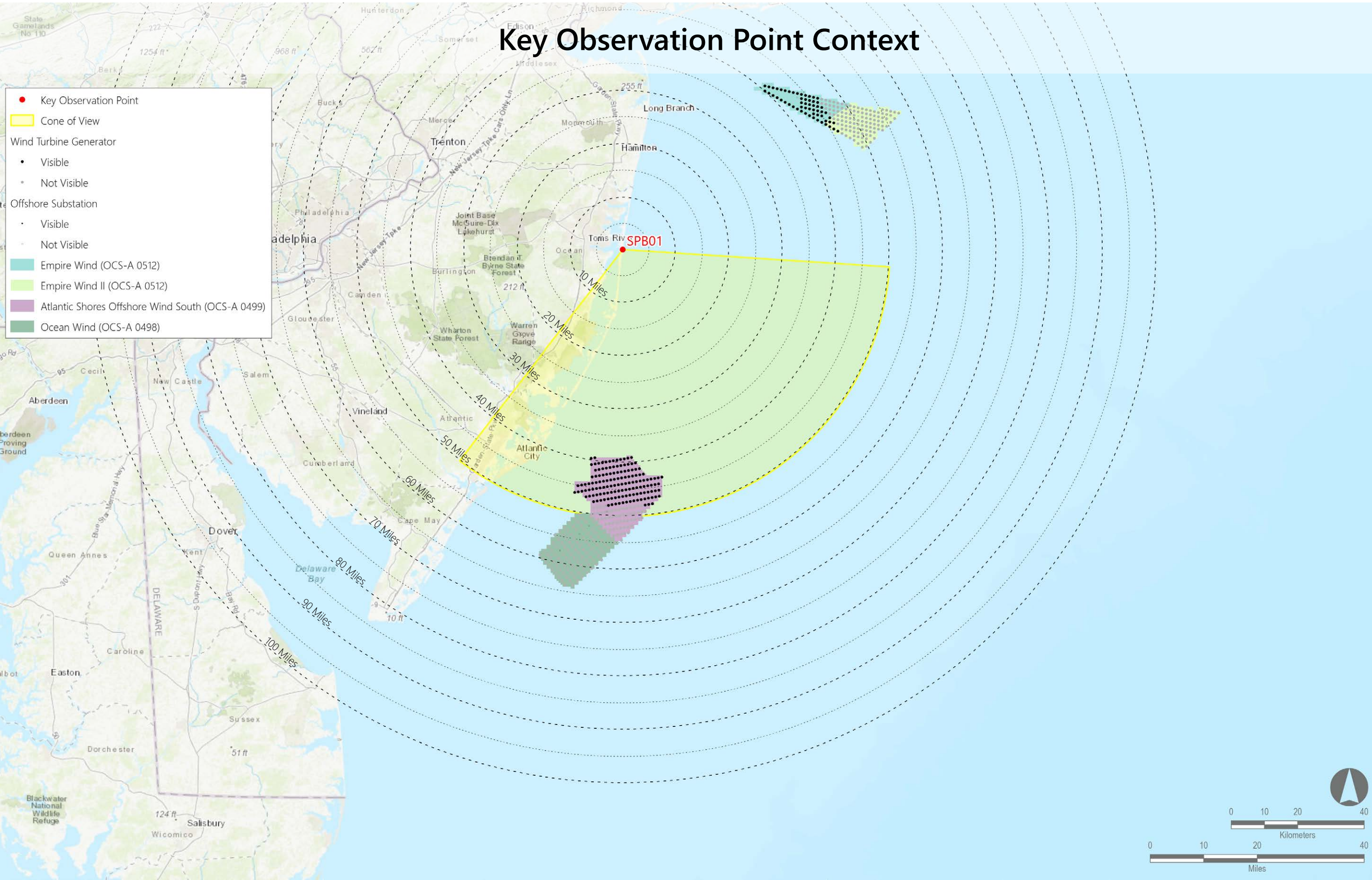
Photosimulation (Panorama 2): Scenario 2: Atlantic Shores Construction (2025-2027) added to Scenario 1 (Ocean Wind, Empire Wind, Empire Wind II, Atlantic Shores South)

Simulation Size: 60" in width by 29.3" in height. Images should be viewed from a distance of 18 inches in order to obtain the proper perspective.

This box should always be held on the ground in order to obtain the proper perspective.

- Notes:**
- Photosimulation Size: 60" in width by 29.3" in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
 - Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
 - WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) that the viewshed analysis results which use a refraction coefficient of 0.13.
 - WTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
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 - The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WTG visibility.
 - The resolution of the cumulative photosimulations balances the size and usability of the documents with the need for high resolution to see distant project components. Similarly to human vision, very distant turbines may appear blurry or difficult to decipher due to resolution limitations.
 - The Key Observation Point Context map considers screening by curvature of the earth, viewer height, and turbine height. Landscape screening features are not considered. Therefore, in this view, the number of visible turbines depicted on the map may not match the table due to the presence of landscape screening features.

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Atlantic Shores Offshore Wind South (OCS-A 0499)	2023-2025	1,047	118	205	39.0	48.0
Ocean Wind (OCS-A 0498)	2024-2025	906	0	111	Not Visible	Not Visible
Empire Wind (OCS-A 0512)	2023-2027	951	52	72	39.8	46.1
Empire Wind II (OCS-A 0512)	2025-2027	951	6	104	44.6	46.0





ATLANTIC SHORES offshore wind

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

SPB01: Seaside Park Beach, Seaside Park Borough, Ocean County, New Jersey

Photosimulation (Panorama 2): Scenario 3: 2024-2030 Project construction added after the construction of Atlantic Shores South (Full Lease Build-out Including Atlantic Shores South)

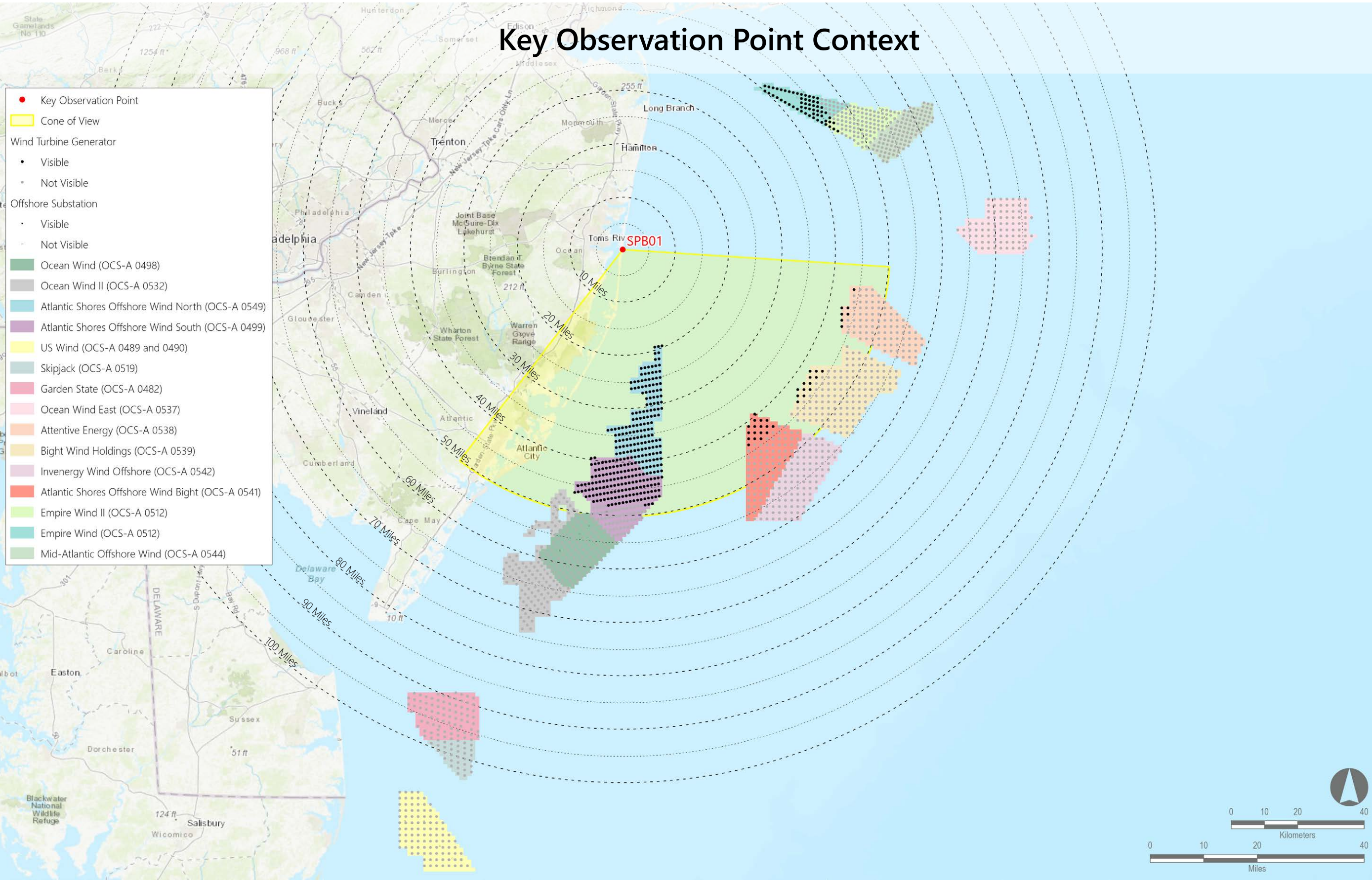
Simulation Size: 60" in width by 29.3" in height. Images should be viewed from a distance of 18 inches in order to obtain the proper perspective.

This box should measure 9" high on the printed panorama.

Notes:

- Photosimulation Size: 60" in width by 29.3" in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
- Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
- WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) than the viewshed analysis results which use a refraction coefficient of 0.13.
- WTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
- The number of WTGs visible from the KOP is determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (72 m) in lost maximum height depending on the rotation position.
- The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WTG visibility.
- The resolution of the cumulative photosimulations balances the size and usability of the documents with the need for high resolution to see distant project components. Similarly to human vision, very distant turbines may appear blurry or difficult to decipher due to resolution limitations.
- The Key Observation Point Context map considers screening by curvature of the earth, viewer height, and turbine height. Landscape screening features are not considered. Therefore, in this view, the number of visible turbines depicted on the map may not match the table due to the presence of landscape screening features.

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Atlantic Shores Offshore Wind South (OCS-A 0499)	2023-2025	1,047	118	205	39.0	48.0
Ocean Wind (OCS-A 0498)	2024-2025	906	0	111	Not Visible	Not Visible
Empire Wind (OCS-A 0512)	2023-2027	951	52	72	39.8	46.1
Empire Wind II (OCS-A 0512)	2025-2027	951	6	104	44.6	46.0
Skipjack (OCS-A 0519)	2024-2030	853	0	33	Not Visible	Not Visible
Garden State (OCS-A 0482)	2023-2030	853	0	80	Not Visible	Not Visible
US Wind (OCS-A 0489 and 0490)	2024	938	0	101	Not Visible	Not Visible
Atlantic Shores Offshore Wind North (OCS-A 0549)	2025-2030	1,047	157	164	19.3	42.2
Ocean Wind II (OCS-A 0532)	2026-2030	906	0	111	Not Visible	Not Visible
Mid-Atlantic Offshore Wind (OCS-A 0544)	by 2030	853	0	104	Not Visible	Not Visible
Ocean Wind East (OCS-A 0537)	by 2030	853	0	82	Not Visible	Not Visible
Altitude Energy (OCS-A 0538)	by 2030	853	7	101	42.4	43.9
Bight Wind Holdings (OCS-A 0539)	by 2030	853	13	148	41.8	43.8
Atlantic Shores Offshore Wind Bight (OCS-A 0541)	by 2030	853	17	95	39.5	43.9
Invernergy Wind Offshore (OCS-A 0542)	by 2030	853	0	99	Not Visible	Not Visible





ATLANTIC SHORES offshore wind

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

SPB01: Seaside Park Beach, Seaside Park Borough, Ocean County, New Jersey

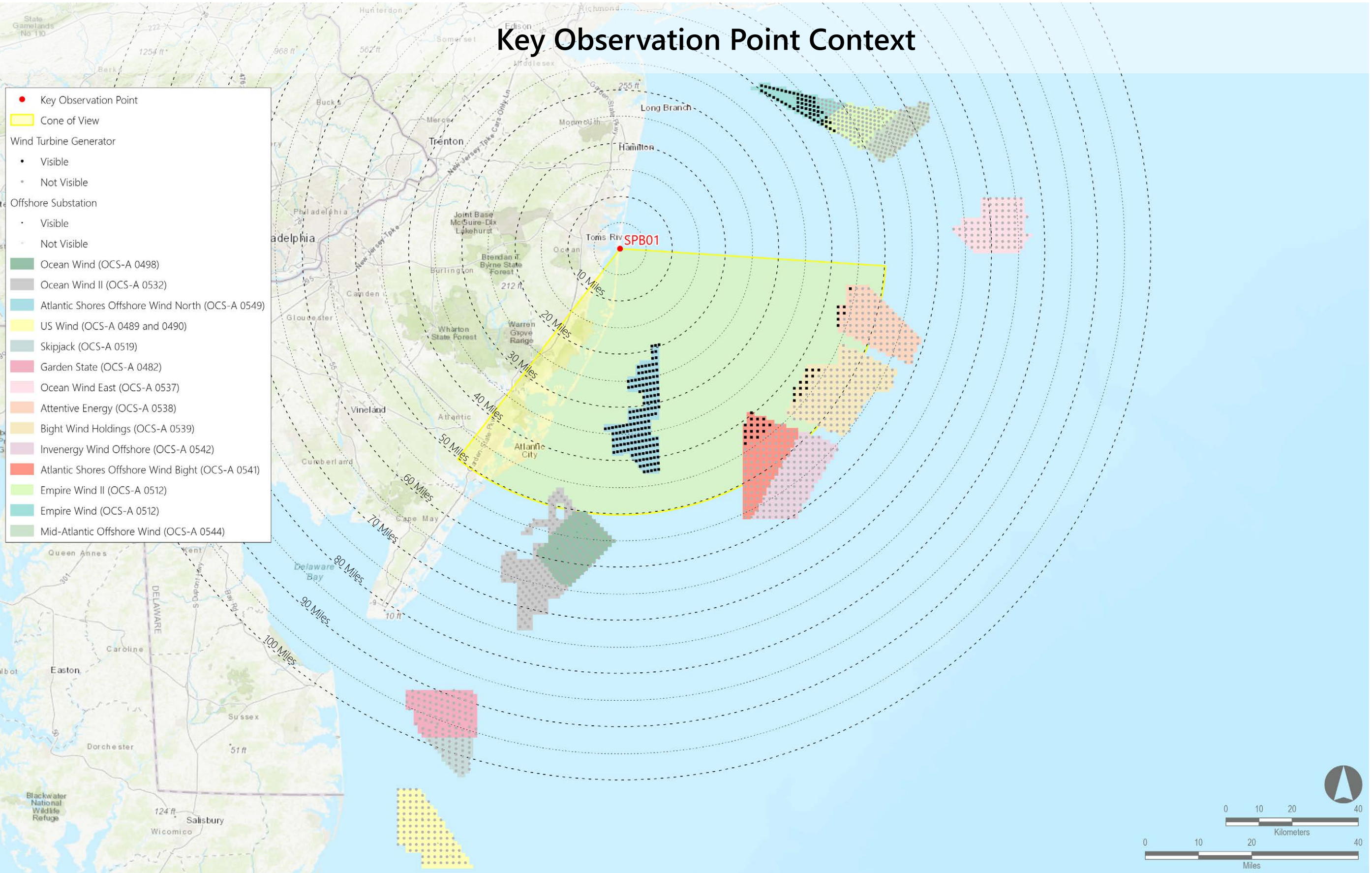
Photosimulation (Panorama 2): Scenario 4: Full buildout of all lease areas without Atlantic Shores South

Simulation Size: 60" in width by 29.3" in height. Images should be viewed from a distance of 18 inches in order to obtain the proper perspective.

This box should measure 8.7" high on the printed panorama.

- Notes:**
- Photosimulation Size: 60" in width by 29.3" in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
 - Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
 - WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) than the viewshed analysis results which use a refraction coefficient of 0.13.
 - WTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
 - The number of WTGs visible from the KOP is determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (72 m) in lost maximum height depending on the rotation position.
 - The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WTG visibility.
 - The resolution of the cumulative photosimulations balances the size and usability of the documents with the need for high resolution to see distant project components. Similarly to human vision, very distant turbines may appear blurry or difficult to decipher due to resolution limitations.
 - The Key Observation Point Context map considers screening by curvature of the earth, viewer height, and turbine height. Landscape screening features are not considered. Therefore, in this view, the number of visible turbines depicted on the map may not match the table due to the presence of landscape screening features.

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Ocean Wind (OCS-A 0498)	2024-2025	906	0	111	Not Visible	Not Visible
Empire Wind (OCS-A 0512)	2023-2027	951	52	72	39.8	46.1
Empire Wind II (OCS-A 0512)	2025-2027	951	6	104	44.6	46.0
Skipjack (OCS-A 0519)	2024-2030	853	0	33	Not Visible	Not Visible
Garden State (OCS-A 0482)	2023-2030	853	0	80	Not Visible	Not Visible
US Wind (OCS-A 0489 and 0490)	2024	938	0	101	Not Visible	Not Visible
Atlantic Shores Offshore Wind North (OCS-A 0549)	2025-2030	1,047	157	164	19.3	42.2
Ocean Wind II (OCS-A 0532)	2026-2030	906	0	111	Not Visible	Not Visible
Mid-Atlantic Offshore Wind (OCS-A 0544)	by 2030	853	0	104	Not Visible	Not Visible
Attentive Energy (OCS-A 0537)	by 2030	853	0	82	Not Visible	Not Visible
Bight Wind Holdings (OCS-A 0539)	by 2030	853	7	101	42.4	43.9
Atlantic Shores Offshore Wind Bight (OCS-A 0541)	by 2030	853	13	148	41.8	43.8
Inverness Wind Offshore (OCS-A 0542)	by 2030	853	17	95	39.5	43.9
Inverness Wind Offshore (OCS-A 0542)	by 2030	853	0	99	Not Visible	Not Visible





ATLANTIC SHORES offshore wind

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

SPB01: Seaside Park Beach, Seaside Park Borough, Ocean County, New Jersey

Photosimulation (Panorama 2): Scenario 5: Atlantic Shores South without the construction of other foreseeable planned activities

Simulation Size: 60" in width by 29.3" in height. Images should be viewed from a distance of 18 inches in order to obtain the proper perspective.

This box should be viewed from a distance of 18 inches on the printed panorama.

- Notes:**
- Photosimulation Size: 60" in width by 29.3" in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
 - Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
 - WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) than the viewshed analysis results which use a refraction coefficient of 0.13.
 - WTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
 - The number of WTGs visible from the KOP was determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (72 m) in lost maximum height depending on the rotation position.
 - The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WTG visibility.
 - The resolution of the cumulative photosimulations balances the size and usability of the documents with the need for high resolution to see distant project components. Similarly to human vision, very distant turbines may appear blurry or difficult to decipher due to resolution limitations.
 - The Key Observation Point Context map considers screening by curvature of the earth, viewer height, and turbine height. Landscape screening features are not considered. Therefore, in this view, the number of visible turbines depicted on the map may not match the table due to the presence of landscape screening features.

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Atlantic Shores Offshore Wind South (OCS-A 0499)	2023-2025	1,047	118	205	39.0	48.0

