



Construction and Operations Plan

Lease Area OCS-A0534

Volume III Appendices

February 2024

Submitted by
Park City Wind LLC

Submitted to
Bureau of Ocean Energy
Management
45600 Woodland Rd
Sterling, VA 20166

Prepared by
Epsilon Associates, Inc.

Epsilon
ASSOCIATES INC.





New England Wind



New England Wind Construction and Operations Plan for Lease Area OCS-A 0534

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Submitted to:

BUREAU OF OCEAN ENERGY MANAGEMENT
45600 Woodland Rd
Sterling, VA 20166

Submitted by:

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February 2024

**Appendix III-T – New England Wind Maximum
Potential Seafloor Disturbance Tables**

New England Wind

Maximum Potential Seafloor Disturbance Tables

Prepared for:

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August 2023

APPENDIX III-T NEW ENGLAND WIND MAXIMUM POTENTIAL SEAFLOOR DISTURBANCE TABLES

Tables 1 through 3 present the maximum area of potential seafloor disturbance during construction within the Southern Wind Development Area (SWDA) for both Phases, Phase 1 individually, and Phase 2 individually. Tables 4 through 6 present the maximum area of potential seafloor disturbance during construction within the Offshore Export Cable Corridor (OECC) that travels along the eastern side of Muskeget Channel for both Phases, Phase 1 individually, and Phase 2 individually. Tables 7 and 8 compare the maximum area of potential seafloor disturbance within the OECC (from the SWDA boundary to the landfall site[s]) for both Phases and Phase 2 individually under the following scenarios:

1. Three Phase 2 offshore export cables are installed in the OECC that travels along the eastern side of Muskeget Channel (see Figure 4.1-8a of COP Volume I);
2. Two Phase 2 offshore export cables are installed in the OECC that travels along the eastern side of Muskeget Channel and one Phase 2 cable uses the Western Muskeget Variant (see Figure 4.1-8b of COP Volume I); and
3. One Phase 2 offshore export cable is installed in the OECC that travels along the eastern side of Muskeget Channel and two Phase 2 cables use the Western Muskeget Variant (See Figure 4.1-8e of COP Volume I)¹.

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¹ It is highly unlikely that more than one cable could be installed within the Western Muskeget Variant due to multiple technical reasons related to challenging site conditions."

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Table 1 New England Wind (Phases 1 and 2) Maximum Area of Potential Seafloor Disturbance During Construction at the SWDA

SOUTHERN WIND DEVELOPMENT AREA - BOTTOM DISTURBANCE DUE TO STRUCTURES OR CABLE/SCOUR PROTECTION							
Foundations and Scour Protection	Max Number of Foundations¹		Max Area of Scour Protection per Foundation² (m²)		Total Area of Scour Protection		
					m²	km²	acres
Phase 1 Wind Turbine Generator (WTG) Foundations and Scour Protection	41		4,624		231,200	0.23	57
Phase 1 Electrical Service Platform (ESP) Foundations and Scour Protection	2 (co-located)		4,072		8,144	0.01	2
Phase 2 WTG Foundations and Scour Protection	85		9,754		741,304	0.74	183
Phase 2 ESP Foundations and Scour Protection	3		21,316		63,948	0.06	16
Cable Protection³	Max Length of Cable (m)	Percentage Requiring Cable Protection	Length of Cable Protected (m)	Width of Cable Protection (m)	Total Area of Cable Protection		
					m²	km²	acres
Inter-link Cable ⁴	80,000	2%	1,600	9	14,400	0.01	4
Inter-array Cables	475,000	2%	9,500	9	85,500	0.09	21
Offshore Export Cables (within SWDA)	146,000	2%	2,920	9	26,280	0.03	6
					Total Scour + Cable Protection		
					m²	km²	acres
TOTAL BOTTOM DISTURBANCE DUE TO STRUCTURES OR CABLE/SCOUR PROTECTION IN THE SWDA					1,170,776	1.17	289
SOUTHERN WIND DEVELOPMENT AREA - BOTTOM DISTURBANCE DUE TO VESSELS, CABLE INSTALLATION, AND BUOYS							
Jack-up and/or Anchored Vessels	Max Area Impacted by Each Jack-up or Anchored Vessel (m²)	Max No. of Jack-ups/Anchor Sets	Max No. of WTGs/ESPs⁵	Total Area of Vessel Disturbance			
				m²	km²	acres	
WTG Foundation Installation ⁶	1200	3 per WTG	127	457,200	0.46	113	
WTG Installation ⁶	1200	4 per WTG	127	609,600	0.61	151	
ESP Topside and Foundation Installation ⁶	1200	8	5	48,000	0.05	12	
Inter-link Cable Installation ⁷	280	200	N/A	56,000	0.06	14	
Offshore Export Cable Installation (within SWDA) ⁷	280	365	N/A	102,200	0.10	25	

Table 1 New England Wind (Phases 1 and 2) Maximum Area of Potential Seafloor Disturbance During Construction at the SWDA (Continued)

SOUTHERN WIND DEVELOPMENT AREA – BOTTOM DISTURBANCE DUE TO VESSELS, CABLE INSTALLATION, AND BUOYS (CONTINUED)						
Cable Installation	Max Length of Cable⁸ (m)	Trench Width (m)	Total Skid/Track Width (m)	Total Area of Cable Installation Disturbance		
				m²	km²	acres
Inter-link Cable	80,000	1	3	320,000	0.32	79
Inter-array Cables	475,000	1	3	1,900,000	1.9	469
Offshore Export Cables (within SWDA)	146,000	1	3	584,000	0.58	144
Metocean Buoys	Max Area Impacted by Each Buoy Anchor (m²)	No. of Buoys		Total Area of Buoy Disturbance		
				m²	km²	acres
Metocean Buoy Anchors	4	100		400	0.00	0
				Total Vessel + Cable Installation + Buoys		
				m²	km²	acres
BOTTOM DISTURBANCE DUE TO VESSELS, CABLE INSTALLATION, AND BUOYS IN THE SWDA				4,077,400	4.08	1,008
TOTAL SEAFLOOR DISTURBANCE IN THE SWDA⁹				5,192,096	5.19	1,283

Notes:

- Phase 1 will include a minimum of 41 WTGs and one ESP. Phase 2 will include a maximum of 88 WTG/ESP positions; up to three of those positions may be occupied by ESPs, which have a larger maximum scour protection area than the WTGs. The total area of scour protection was calculated using the following assumptions: for Phase 1, it was assumed that there would be 50 WTGs and two co-located ESPs (51 total positions). For Phase 2, it was assumed there would be 76 WTGs and three ESPs (79 total WTG/ESP positions). This sum provides a maximum of total impacts for both Phases that also covers the scenario where more than 79 Phase 2 WTG/ESP positions are installed (i.e., even if up to the maximum of 88 foundations are installed [of which, 3 may be ESPs]. The maximum area of potential seafloor disturbance included in Table 1 will not be exceeded.)
- The area of scour protection includes the physical footprint of the foundation.
- The majority of the cable entry protection system and any cable protection placed over it would lie on top of the scour protection and is therefore largely included in the area of scour protection. The estimate of inter-array cable protection includes any length of the cable entry protection system beyond the scour protection.
- The inter-link cables may not be used.
- Since seafloor impacts from anchoring and jacking-up during ESP installation are greater than the impacts from WTG and WTG foundation installation, the maximum seafloor impacts from jacking-up and anchoring were calculated based on the maximum number of ESPs that could be installed (i.e. 5 ESPs). Assuming two co-located ESPs for Phase 1 and three ESPs for Phase 2 (two of which are co-located), there would be up to 127 positions remaining for WTGs.
- Vessels may be jack-up, anchored, or dynamic positioning vessels. It is estimated that each jack-up vessel would impact approximately 1,200 m² (0.30 acres) of seafloor whereas each anchored vessel will only disturb approximately 784 m² (0.19 acres), excluding anchor sweep (which cannot be quantified at this early stage in the construction planning process). Thus, the maximum seafloor disturbance is calculated assuming all vessels jack-up.
- Conservatively assumes a nine-anchor spread where each anchor impacts 30 m² (323 ft²) and two spud legs that impact 10 m² (108 ft²). The anchoring footprint excludes anchor sweep, which cannot be quantified at this early stage in the construction planning process.
- Maximum total Phase 1 and Phase 2 cable lengths.
- To avoid double-counting impacts, the total seafloor disturbance in the SWDA does not include the 1 m (3.3 ft) wide cable installation trench and 3 m (10 ft) skid/track width for the length of cable covered by cable protection.

Table 2 Phase 1 Maximum Area of Potential Seafloor Disturbance During Construction at the SWDA

SOUTHERN WIND DEVELOPMENT AREA – BOTTOM DISTURBANCE DUE TO STRUCTURES OR CABLE/SCOUR PROTECTION							
Foundations and Scour Protection	Max Number of Foundations		Max Area of Scour Protection per Foundation ¹ (m ²)		Total Area of Scour Protection		
					m ²	km ²	acres
WTG Foundations and Scour Protection	62		4,624		286,688	0.29	71
ESP Foundations and Scour Protection	2		6,023		12,046	0.01	3
Cable Protection ²	Max Length of Cable (m)	Percentage Requiring Cable Protection	Length of Cable Protected (m)	Width of Cable Protection (m)	Total Area of Cable Protection		
					m ²	km ²	acres
Inter-link Cable ³	20,000	2%	400	9	3,600	0.00	1
Inter-array Cables	225,000	2%	4,500	9	40,500	0.04	10
Offshore Export Cables (within SWDA)	36,000	2%	720	9	6,480	0.01	2
					Total Scour + Cable Protection		
					m ²	km ²	acres
TOTAL BOTTOM DISTURBANCE DUE TO STRUCTURES OR CABLE/SCOUR PROTECTION IN THE SWDA					349,314	0.35	86
SOUTHERN WIND DEVELOPMENT AREA – BOTTOM DISTURBANCE DUE TO VESSELS, CABLE INSTALLATION, AND BUOYS							
Jack-up and/or Anchored Vessels	Max Area Impacted by Each Jack-up or Anchored Vessel (m ²)		Max No. of Jack-ups/Anchor Sets	Max No. of WTGs/ESPs	Total Area of Vessel Disturbance		
					m ²	km ²	acres
WTG Foundation Installation ⁴	1,200		3 per WTG	62	223,200	0.22	55
WTG Installation ⁴	1,200		4 per WTG	62	297,600	0.30	74
ESP Topside and Foundation Installation ⁴	1,200		8 per ESP	2	19,200	0.02	5
Inter-link Cable Installation ⁵	280		50	N/A	14,000	0.01	3
Offshore Export Cable Installation (within SWDA) ⁵	280		90	N/A	25,200	0.03	6
Cable Installation	Max Length of Cable ⁶ (m)	Trench Width (m)	Total Skid/Track Width (m)	Total Area of Cable Installation Disturbance			
				m ²	km ²	acres	
Inter-link Cable	20,000	1	3	80,000	0.08	20	
Inter-array Cables	225,000	1	3	900,000	0.90	222	
Offshore Export Cables (within SWDA)	36,000	1	3	144,000	0.14	36	

Table 2 Phase 1 Maximum Area of Potential Seafloor Disturbance During Construction at the SWDA (Continued)

SOUTHERN WIND DEVELOPMENT AREA – BOTTOM DISTURBANCE DUE TO VESSELS, CABLE INSTALLATION, AND BUOYS (CONTINUED)					
Metocean Buoys	Max Area Impacted by Each Buoy Anchor (m²)	No. of Buoys	Total Area of Buoy Disturbance		
			m²	km²	acres
Metocean Buoy Anchors	4	50	200	0.00	0
			Total Vessel + Cable Installation + Buoys		
			m²	km²	acres
BOTTOM DISTURBANCE DUE TO VESSELS, CABLE INSTALLATION, AND BUOYS IN THE SWDA			1,703,400	1.70	421
TOTAL SEAFLOOR DISTURBANCE IN THE SWDA⁷			2,030,234	2.03	502

Notes:

1. The area of scour protection includes the physical footprint of the foundation.
2. The majority of the cable entry protection system and any cable protection placed over it would lie on top of the scour protection and is therefore largely included in the area of scour protection. The estimate of inter-array cable protection includes any length of the cable entry protection system beyond the scour protection.
3. The inter-link cable may not be used.
4. Vessels may be jack-up, anchored, or dynamic positioning vessels. It is estimated that each jack-up vessel would impact approximately 1,200 m² (0.30 acres) of seafloor whereas each anchored vessel will only disturb approximately 784 m² (0.19 acres), excluding anchor sweep (which cannot be quantified at this early stage in the construction planning process). Thus, the maximum seafloor disturbance is calculated assuming all vessels jack-up.
5. Conservatively assumes a nine-anchor spread where each anchor impacts 30 m² (323 ft²) and two spud legs that impact 10 m² (108 ft²). The anchoring footprint excludes anchor sweep, which cannot be quantified at this early stage in the construction planning process.
6. Maximum total Phase 1 cable lengths.
7. To avoid double-counting impacts, the total seafloor disturbance in the SWDA does not include the 1 m (3.3 ft) wide cable installation trench and 3 m (10 ft) skid/track width for the length of cable covered by cable protection.

Table 3 Phase 2 Maximum Area of Potential Seafloor Disturbance During Construction at the SWDA

SOUTHERN WIND DEVELOPMENT AREA – BOTTOM DISTURBANCE DUE TO STRUCTURES OR CABLE/SCOUR PROTECTION							
Foundations and Scour Protection	Max Number of Foundations ¹		Max Area of Scour Protection per Foundation ² (m ²)		Total Area of Scour Protection		
					m ²	km ²	acres
WTG Foundations and Scour Protection	85		9,754		741,304	0.74	183
ESP Foundations and Scour Protection	3		21,316		63,948	0.06	16
Cable Protection ³	Max Length of Cable (m)	Percentage Requiring Cable Protection	Length of Cable Protected (m)	Width of Cable Protection (m)	Total Area of Cable Protection		
					m ²	km ²	acres
Inter-link Cable ⁴	60,000	2%	1,200	9	10,800	0.01	3
Inter-array Cables	325,000	2%	6,500	9	58,500	0.06	14
Offshore Export Cables (within SWDA)	110,000	2%	2,200	9	19,800	0.02	5
					Total Scour + Cable Protection		
					m ²	km ²	acres
TOTAL BOTTOM DISTURBANCE DUE TO STRUCTURES OR CABLE/SCOUR PROTECTION IN THE SWDA					894,352	0.89	221
SOUTHERN WIND DEVELOPMENT AREA – BOTTOM DISTURBANCE DUE TO VESSELS, CABLE INSTALLATION, AND BUOYS							
Jack-up and/or Anchored Vessels	Max Area Impacted by Each Jack-up or Anchored Vessel (m ²)		Max No. of Jack-ups/Anchor Sets	Max No. of WTGs/ESPs ⁵	Total Area of Vessel Disturbance		
					m ²	km ²	acres
WTG Foundation Installation ⁶	1,200		3 per WTG	77	277,200	0.28	68
WTG Installation ⁶	1,200		4 per WTG	77	369,600	0.37	91
ESP Topside and Foundation Installation ⁶	1,200		8 per ESP	3	28,800	0.03	7
Inter-link Cable Installation ⁷	280		150	N/A	42,000	0.04	10
Offshore Export Cable Installation (within SWDA) ⁷	280		275	N/A	77,000	0.08	19
Cable Installation	Max Length of Cable ⁸ (m)		Trench Width (m)	Total Skid/Track Width (m)	Total Area of Cable Installation Disturbance		
					m ²	km ²	acres
Inter-link Cable	60,000		1	3	240,000	0.24	59
Inter-array Cables	325,000		1	3	1,300,000	1.3	321
Offshore Export Cables (within SWDA)	110,000		1	3	440,000	0.44	109

Table 3 Phase 2 Maximum Area of Potential Seafloor Disturbance During Construction at the SWDA (Continued)

SOUTHERN WIND DEVELOPMENT AREA - BOTTOM DISTURBANCE DUE TO VESSELS, CABLE INSTALLATION, AND BUOYS (CONTINUED)					
Metocean Buoys	Max Area Impacted by Each Buoy Anchor (m²)	No. of Buoys	Total Area of Buoy Disturbance		
			m²	km²	acres
Metocean Buoy Anchors	4	50	200	0.00	0
			Total Vessel + Cable Installation + Buoys		
			m²	km²	acres
BOTTOM DISTURBANCE DUE TO VESSELS, CABLE INSTALLATION, AND BUOYS IN THE SWDA			2,774,800	2.77	686
TOTAL SEAFLOOR DISTURBANCE IN THE SWDA⁹			3,629,552	3.63	897

Notes:

1. Phase 2 will include a maximum of 88 WTG/ESP positions; up to three of those positions may be occupied by ESPs, which have a larger maximum scour protection area than the WTGs. The total area of scour protection was calculated based on the sum of (1) 76 WTG foundations with suction bucket bottom-frame foundations, which require the largest area of scour protection at 9,754 m² each and (2) 3 ESPs. This sum provides an upper limit that also covers the scenario where more than 76 WTGs are installed (i.e., even if up to the maximum of 88 foundations are installed [of which, 3 may be ESPs]. The maximum area of potential seafloor disturbance included in Table 3 will not be exceeded).
2. The area of scour protection includes the physical footprint of the foundation.
3. The majority of the cable entry protection system and any cable protection placed over it would lie on top of the scour protection and is therefore largely included in the area of scour protection. The estimate of inter-array cable protection includes any length of the cable entry protection system beyond the scour protection.
4. The inter-link cables may not be used.
5. Phase 2 may include two co-located ESPs. In this scenario, Phase 2 could include three ESPs at two WTG/ESP positions and 77 WTGs, resulting in 80 total foundations.
6. Vessels may be jack-up, anchored, or dynamic positioning vessels. It is estimated that each jack-up vessel would impact approximately 1,200 m² (0.30 acres) of seafloor whereas each anchored vessel will only disturb approximately 784 m² (0.19 acres), excluding anchor sweep (which cannot be quantified at this early stage in the construction planning process). Thus, the maximum seafloor disturbance is calculated assuming all vessels jack-up.
7. Conservatively assumes a nine-anchor spread where each anchor impacts 30 m² (323 ft²) and two spud legs that impact 10 m² (108 ft²). The anchoring footprint excludes anchor sweep, which cannot be quantified at this early stage in the construction planning process.
8. Maximum total Phase 2 cable lengths.
9. To avoid double-counting impacts, the total seafloor disturbance in the SWDA does not include the 1 m (3.3 ft) wide cable installation trench and 3 m (10 ft) skid/track width for the length of cable covered by cable protection.

Table 4 New England Wind (Phases 1 and 2) Maximum Area of Potential Seafloor Disturbance During Construction along the OECC

OFFSHORE EXPORT CABLE CORRIDOR - BOTTOM DISTURBANCE DUE TO CABLE PROTECTION							
Cable Protection	Maximum Length of Cable (m)	Percentage Requiring Cable Protection ¹	Length of Cable to be Protected (m)	Width of Cable Protection ² (m)	Total Area of Cable Protection		
					m ²	km ²	acres
Offshore Export Cables (Outside SWDA)	412,000	~6%	24,340	9	219,060	0.22	54
TOTAL BOTTOM DISTURBANCE DUE TO CABLE PROTECTION IN THE OECC					219,060	0.22	54
OFFSHORE EXPORT CABLE CORRIDOR - BOTTOM DISTURBANCE DUE TO VESSELS, CABLE INSTALLATION, AND DREDGING							
Jack-up Vessels	Area Impacted by Each Jack-up (m ²)	No. of Jack-ups per Splice	Max No. of Splices	Total Area of Jack-up Disturbance			
				m ²	km ²	acres	
Jack-up Vessels for Cable Splicing	600	1	15 (3 per cable)	9,000	0.01	2	
Anchoring and Grounding of Cable-Laying Vessels	Area Impacted by Each Anchor Set/Vessel Grounding (m ²)	Distance Between Repositioning	No. of Anchor Sets/Groundings	Total Area of Anchoring Disturbance			
				m ²	km ²	acres	
Anchoring for Offshore Export Cable Installation (Outside SWDA) ³	280	400	1,030	288,400	0.29	71	
Vessel Grounding for Offshore Export Cable Installation (Outside SWDA) ⁴	9,750	1 per cable	5 (1 per cable)	48,750	0.05	12	
Cable Installation and Preparatory Work ⁵	Max Length of Cable ⁶ (m)	Trench Width (m)	Total Skid/Track Width (m)	Total Area of Cable Installation Disturbance			
				m ²	km ²	acres	
Offshore Export Cable Installation (Outside SWDA)	412,000	1	3	1,648,000	1.65	407	
Dredging				Total Area of Dredging Disturbance ⁷			
				m ²	km ²	acres	
Dredging Prior to Cable Installation				481,683	0.48	119	
				Total Vessels + Cable Installation + Dredging			
				m ²	km ²	acres	
BOTTOM DISTURBANCE DUE TO VESSELS, CABLE INSTALLATION, AND DREDGING IN THE OECC					2,475,833	2.48	612
TOTAL SEAFLOOR DISTURBANCE IN THE OECC⁸					2,597,533	2.60	642

**Table 4 New England Wind (Phases 1 and 2) Maximum Area of Potential Seafloor Disturbance During Construction along the OECC
(Continued)**

Notes:

1. The percent of the offshore export cable requiring cable protection is based on the OECC route length rather than the length of cable with micro-siting.
2. The cable protection used in limited areas to cover offshore export cable joints or cable crossings may be wider, but the total cable protection area will remain the same.
3. Conservatively assumes a nine-anchor spread where each anchor impacts 30 m² (323 ft²) and two spud legs that impact 10 m² (108 ft²). The anchoring footprint excludes anchor sweep, which cannot be quantified at this early stage in the construction planning process.
4. Based on the footprint of a 150 x 50 m (492 x 164 ft) vessel, with extra contingency to account for multiple groundings at the same location.
5. Some pre-pass jetting may occur along limited sections of the offshore export cable route; however, impacts will occur within the same geographical space as cable installation.
6. Maximum total Phase 1 and Phase 2 cable lengths.
7. To avoid double-counting impacts, the total area of dredging disturbance does not include the 1 m (3.3 ft) wide cable installation trench and 3 m (10 ft) skid/track width counted above. The total dredging area including the cable installation trench is approximately 0.62 km² (153 acres).
8. To avoid double-counting impacts, the total seafloor disturbance in the OECC does not include the 1 m (3.3 ft) wide cable installation trench and 3 m (10 ft) skid/track width for the length of cable covered by cable protection.

Table 5 Phase 1 Maximum Area of Potential Seafloor Disturbance During Construction along the OECC

OFFSHORE EXPORT CABLE CORRIDOR - BOTTOM DISTURBANCE DUE TO CABLE PROTECTION							
Cable Protection	Maximum Length of Cable (m)	Percentage Requiring Cable Protection ¹	Length of Cable to be Protected (m)	Width of Cable Protection ² (m)	Total Area of Cable Protection		
					m ²	km ²	acres
Offshore Export Cables (Outside SWDA)	166,000	~6%	10,060	9	90,540	0.09	22
TOTAL BOTTOM DISTURBANCE DUE TO CABLE PROTECTION IN THE OECC					90,540	0.09	22
OFFSHORE EXPORT CABLE CORRIDOR - BOTTOM DISTURBANCE DUE TO VESSELS, CABLE INSTALLATION, AND DREDGING							
Jack-up Vessels	Area Impacted by Each Jack-up (m ²)	No. of Jack-ups per Splice	Max No. of Splices	Total Area of Jack-up Disturbance			
				m ²	km ²	acres	
Jack-up Vessels for Cable Splicing	600	1	6 (3 per cable)	3,600	0.00	1	
Anchoring and Grounding of Cable-Laying Vessels	Area Impacted by Each Anchor Set/Vessel Grounding (m ²)	Distance Between Repositioning	No. of Anchor Sets/Groundings	Total Area of Anchoring Disturbance			
				m ²	km ²	acres	
Anchoring for Offshore Export Cable Installation (Outside SWDA) ³	280	400	415	116,200	0.12	29	
Vessel Grounding for Offshore Export Cable Installation (Outside SWDA) ⁴	9,750	1 per cable	2	19,500	0.02	5	
Cable Installation and Preparatory Work ⁵	Max Length of Cable ⁶ (m)	Trench Width (m)	Total Skid/Track Width (m)	Total Area of Cable Installation Disturbance			
				m ²	km ²	acres	
Offshore Export Cable Installation (Outside SWDA)	166,000	1	3	664,000	0.66	164	
Dredging				Total Area of Dredging Disturbance ⁷			
				m ²	km ²	acres	
Dredging Prior to Cable Installation				211,064	0.21	52	
				Total Vessels + Cable Installation + Dredging			
				m ²	km ²	acres	
BOTTOM DISTURBANCE DUE TO VESSELS, CABLE INSTALLATION, AND DREDGING IN THE OECC					1,014,364	1.01	251
TOTAL SEAFLOOR DISTURBANCE IN THE OECC⁸					1,064,664	1.06	263

Table 5 Phase 1 Maximum Area of Potential Seafloor Disturbance During Construction along the OECC (Continued)

Notes:

1. The percent of the offshore export cable requiring cable protection is based on the OECC route length (i.e. ~78 km per cable) rather than the length of cable with micro-siting (i.e. ~83 km).
2. The cable protection used in limited areas to cover offshore export cable joints or cable crossings may be wider, but the total cable protection area will remain the same.
3. Conservatively assumes a nine-anchor spread where each anchor impacts 30 m² (323 ft²) and two spud legs that impact 10 m² (108 ft²). The anchoring footprint excludes anchor sweep, which cannot be quantified at this early stage in the construction planning process.
4. Based on the footprint of a 150 x 50 m (492 x 164 ft) vessel, with extra contingency to account for multiple groundings at the same location.
5. Some pre-pass jetting may occur along limited sections of the offshore export cable route; however, impacts will occur within the same geographical space as cable installation.
6. Maximum total Phase 1 cable lengths.
7. To avoid double-counting impacts, the total area of dredging disturbance does not include the 1 m (3.3 ft) wide cable installation trench and 3 m (10 ft) skid/track width counted above. The total dredging area including the cable installation trench is approximately 0.27 km² (67 acres).
8. To avoid double-counting impacts, the total seafloor disturbance in the OECC does not include the 1 m (3.3 ft) wide cable installation trench and 3 m (10 ft) skid/track width for the length of cable covered by cable protection.

Table 6 Phase 2 Maximum Area of Potential Seafloor Disturbance During Construction along the OECC

OFFSHORE EXPORT CABLE CORRIDOR - BOTTOM DISTURBANCE DUE TO CABLE PROTECTION							
Cable Protection	Maximum Length of Cable (m)	Percentage Requiring Cable Protection ¹	Length of Cable to be Protected (m)	Width of Cable Protection ² (m)	Total Area of Cable Protection		
					m ²	km ²	acres
Offshore Export Cables (Outside SWDA)	246,000	~6%	14,280	9	128,520	0.13	32
TOTAL BOTTOM DISTURBANCE DUE TO CABLE PROTECTION IN THE OECC					128,520	0.13	32
OFFSHORE EXPORT CABLE CORRIDOR - BOTTOM DISTURBANCE DUE TO VESSELS, CABLE INSTALLATION, AND DREDGING							
Jack-up Vessels	Area Impacted by Each Jack-up (m ²)	No. of Jack-ups per Splice	Max No. of Splices	Total Area of Jack-up Disturbance			
				m ²	km ²	acres	
Jack-up Vessels for Cable Splicing	600	1	9 (3 per cable)	5,400	0.01	1	
Anchoring and Grounding of Cable-Laying Vessels	Area Impacted by Each Anchor Set/Vessel Grounding (m ²)	Distance Between Repositioning	No. of Anchor Sets/Groundings	Total Area of Anchoring Disturbance			
				m ²	km ²	acres	
Anchoring for Offshore Export Cable Installation (Outside SWDA) ³	280	400	615	172,200	0.17	43	
Vessel Grounding for Offshore Export Cable Installation (Outside SWDA) ⁴	9,750	1 per cable	3	29,250	0.03	7	
Cable Installation and Preparatory Work ⁵	Max Length of Cable ⁶ (m)	Trench Width (m)	Total Skid/Track Width (m)	Total Area of Cable Installation Disturbance			
				m ²	km ²	acres	
Offshore Export Cable Installation (Outside SWDA)	246,000	1	3	984,000	0.98	243	
Dredging				Total Area of Dredging Disturbance ⁷			
				m ²	km ²	acres	
Dredging Prior to Cable Installation				270,619	0.27	67	
				Total Vessels + Cable Installation + Dredging			
				m ²	km ²	acres	
BOTTOM DISTURBANCE DUE TO VESSELS, CABLE INSTALLATION, AND DREDGING IN THE OECC					1,461,469	1.46	361
TOTAL SEAFLOOR DISTURBANCE IN THE OECC⁸					1,532,869	1.53	379

Table 6 Phase 2 Maximum Area of Potential Seafloor Disturbance During Construction along the OECC (Continued)

Notes:

1. The percent of the offshore export cable requiring cable protection is based on the OECC route length (i.e. ~77 km per cable) rather than the length of cable with micro-siting (i.e. ~82 km).
2. The cable protection used in limited areas to cover offshore export cable joints or cable crossings may be wider, but the total cable protection area will remain the same.
3. Conservatively assumes a nine-anchor spread where each anchor impacts 30 m² (323 ft²) and two spud legs that impact 10 m² (108 ft²). The anchoring footprint excludes anchor sweep, which cannot be quantified at this early stage in the construction planning process.
4. Based on the footprint of a 150 x 50 m (492 x 164 ft) vessel, with extra contingency to account for multiple groundings at the same location.
5. Some pre-pass jetting may occur along limited sections of the offshore export cable route; however, impacts will occur within the same geographical space as cable installation.
6. Maximum total Phase 2 cable lengths.
7. To avoid double-counting impacts, the total area of dredging disturbance does not include the 1 m (3.3 ft) wide cable installation trench and 3 m (10 ft) skid/track width counted above. The total dredging area including the cable installation trench is approximately 0.35 km² (86 acres).
8. To avoid double-counting impacts, the total seafloor disturbance in the OECC does not include the 1 m (3.3 ft) wide cable installation trench and 3 m (10 ft) skid/track width for the length of cable covered by cable protection.

Table 7 Comparison of the Maximum Area of Potential Seafloor Disturbance During Construction within the OECC for Both Phases With and Without the Phase 2 OECC Western Muskeget Variant

	5 Cables in OECC Through Eastern Muskeget (Scenario 1 of Table 4.1-2)	4 Cables in OECC Through Eastern Muskeget + 1 Cable in Phase 2 OECC Western Muskeget Variant (Scenario 2 of Table 4.1-2)	3 Cables in OECC Through Eastern Muskeget + 2 Cables in Phase 2 OECC Western Muskeget Variant (Scenario 5 of Table 4.1-2)⁶
Maximum Total Length of Phase 1 and Phase 2 Offshore Export Cables (Outside SWDA) ¹	412 km (222 NM)	409 km (221 NM)	406 km (219 NM)
BOTTOM DISTURBANCE DUE TO CABLE PROTECTION			
Percentage Requiring Cable Protection ²	~6%	~7%	~7%
Total Area of Cable Protection in OECC	0.22 km² (54 acres)	0.23 km² (57 acres)	0.24 km² (60 acres)
BOTTOM DISTURBANCE DUE TO VESSELS, CABLE INSTALLATION, AND DREDGING			
Area of Disturbance from Cable Installation, Preparatory Work, and Vessels ³	1.99 km ² (493 acres)	1.98 km ² (489 acres)	1.97 km ² (486 acres)
Area of Dredging Prior to Cable Installation ⁴	0.48 km ² (119 acres)	0.51 km ² (125 acres)	0.51 km ² (125 acres)
Volume of Dredging	314,800 m ³ (411,700 cubic yards)	340,300 m ³ (445,100 cubic yards)	344,900 m ³ (451,100 cubic yards)
Total Disturbance Due To Vessels, Cable Installation, And Dredging in OECC	2.48 km² (612 acres)	2.49 km² (614 acres)	2.47 km² (611 acres)
TOTAL SEAFLOOR DISTURBANCE IN OECC⁵	2.60 km² (642 acres)	2.61 km² (646 acres)	2.61 km² (645 acres)

Notes:

1. The total cable length for five Phase 1 and Phase 2 offshore export cables from the SWDA boundary to the landfall site(s).
2. The percent of the offshore export cables requiring cable protection is based on the OECC route length rather than the length of cable with micro-siting.
3. Includes potential impacts from a 1 m (3.3 ft) wide cable installation trench, a 3 m (10 ft) wide total skid/track width from the cable installation tool, vessel anchors that reposition every 400 m (1,312 ft) during offshore export cable installation, jack-up vessel legs during cable splicing (assumed three splices per cable), and vessel grounding (once per cable).
4. To avoid double-counting impacts, the total area of dredging disturbance does not include the 1 m (3.3 ft) wide cable installation trench and 3 m (10 ft) skid/track width.
5. To avoid double-counting impacts, the total seafloor disturbance in the OECC does not include the 1 m (3.3 ft) wide cable installation trench and 3 m (10 ft) skid/track width for the length of cable covered by cable protection.
6. It is highly unlikely that more than one cable could be installed within the Western Muskeget Variant due to multiple technical reasons related to challenging site conditions."

Table 8 Comparison of the Maximum Area of Potential Seafloor Disturbance During Construction within the OECC for Phase 2 Only With and Without the Western Muskeget Variant

	3 Cables in OECC Through Eastern Muskeget (Scenario 1 of Table 4.1-2)	2 Cables in OECC Through Eastern Muskeget + 1 Cable in Phase 2 OECC Western Muskeget Variant (Scenario 2 of Table 4.1-2)	1 Cable in OECC Through Eastern Muskeget + 2 Cables in Phase 2 OECC Western Muskeget Variant⁶ (Scenario 5 of Table 4.1-2)
Maximum Total Length of Phase 2 Offshore Export Cables (Outside SWDA) ¹	246 km (133 NM)	243 km (131 NM)	240 km (130 NM)
BOTTOM DISTURBANCE DUE TO CABLE PROTECTION			
Percentage Requiring Cable Protection ²	~6%	~7%	~8%
Total Area of Cable Protection in OECC	0.13 km² (32 acres)	0.14 km² (35 acres)	0.15 km² (38 acres)
BOTTOM DISTURBANCE DUE TO VESSELS, CABLE INSTALLATION, AND DREDGING			
Area of Disturbance from Cable Installation, Preparatory Work, and Vessels ³	1.19 km ² (294 acres)	1.18 km ² (291 acres)	1.16 km ² (287 acres)
Area of Dredging Prior to Cable Installation ⁴	0.27 km ² (67 acres)	0.29 km ² (73 acres)	0.30 km ² (73 acres)
Volume of Dredging	180,000 m ³ (235,400 cubic yards)	205,500 m ³ (268,800 cubic yards)	210,100 m ³ (274,800 cubic yards)
Total Disturbance Due To Vessels, Cable Installation, And Dredging in OECC	1.46 km² (361 acres)	1.47 km² (364 acres)	1.46 km² (360 acres)
TOTAL SEAFLOOR DISTURBANCE IN OECC⁵	1.53 km² (379 acres)	1.55 km² (383 acres)	1.54 km² (381 acres)

Notes:

1. The total cable length for all three Phase 2 offshore export cables from the SWDA boundary to the Phase 2 landfall site(s).
2. The percent of the offshore export cables requiring cable protection is based on the OECC route length (i.e. ~77 km per cable using the OECC through the eastern side of Muskeget Channel and ~74 km per cable using the Western Muskeget Variant) rather than the length of cable with micro-siting.
3. Includes potential impacts from a 1 m (3.3 ft) wide cable installation trench, a 3 m (10 ft) wide total skid/track width from the cable installation tool, vessel anchors that reposition every 400 m (1,312 ft) during offshore export cable installation, jack-up vessel legs during cable splicing (assumed three splices per cable), and vessel grounding (once per cable).
4. To avoid double-counting impacts, the total area of dredging disturbance does not include the 1 m (3.3 ft) wide cable installation trench and 3 m (10 ft) skid/track width.
5. To avoid double-counting impacts, the total seafloor disturbance in the OECC does not include the 1 m (3.3 ft) wide cable installation trench and 3 m (10 ft) skid/track width for the length of cable covered by cable protection.

6. It is highly unlikely that more than one cable could be installed within the Western Muskeget Variant due to multiple technical reasons related to challenging site conditions."