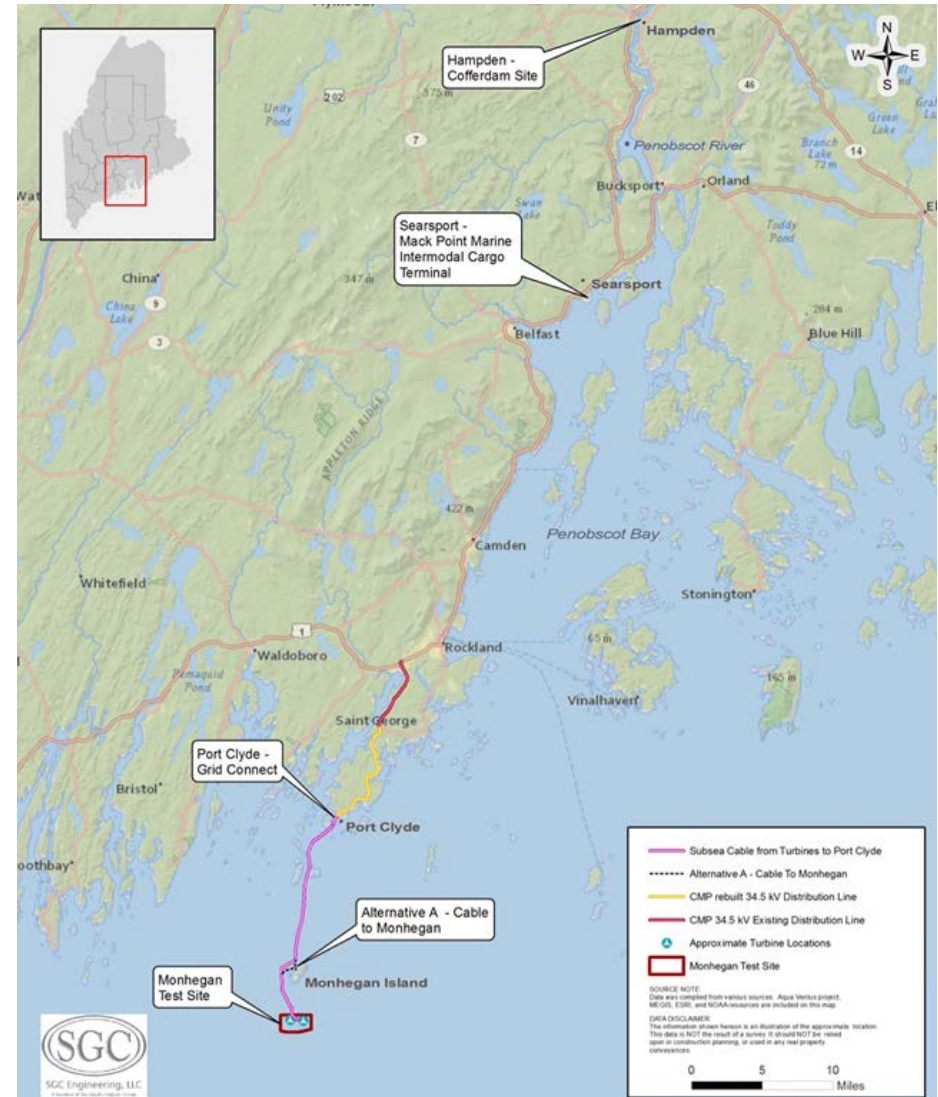


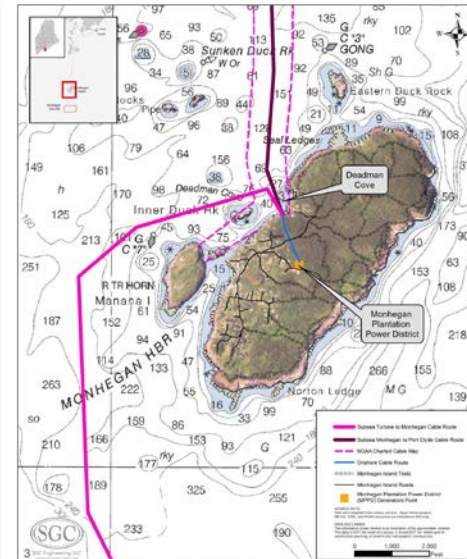
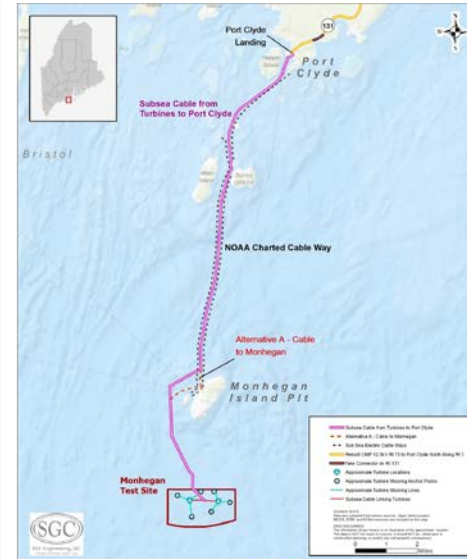
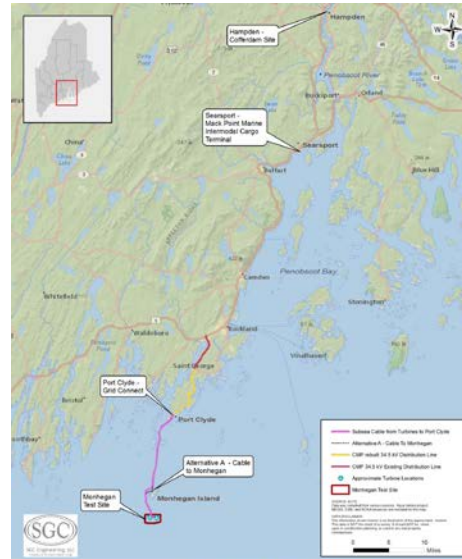
Project Description

Demonstration-scale offshore wind facility located ~2.5 miles south of Monhegan Island, Maine and ~12 miles off the mainland

- One of the first offshore wind projects in the United States.
- Two 6.0 MW wind turbines on floating concrete foundations.
- Interconnection to an existing Central Maine Power distribution line located in Port Clyde.
- Alternative A: Additional interconnection to Monhegan Plantation Power District on Monhegan Island.

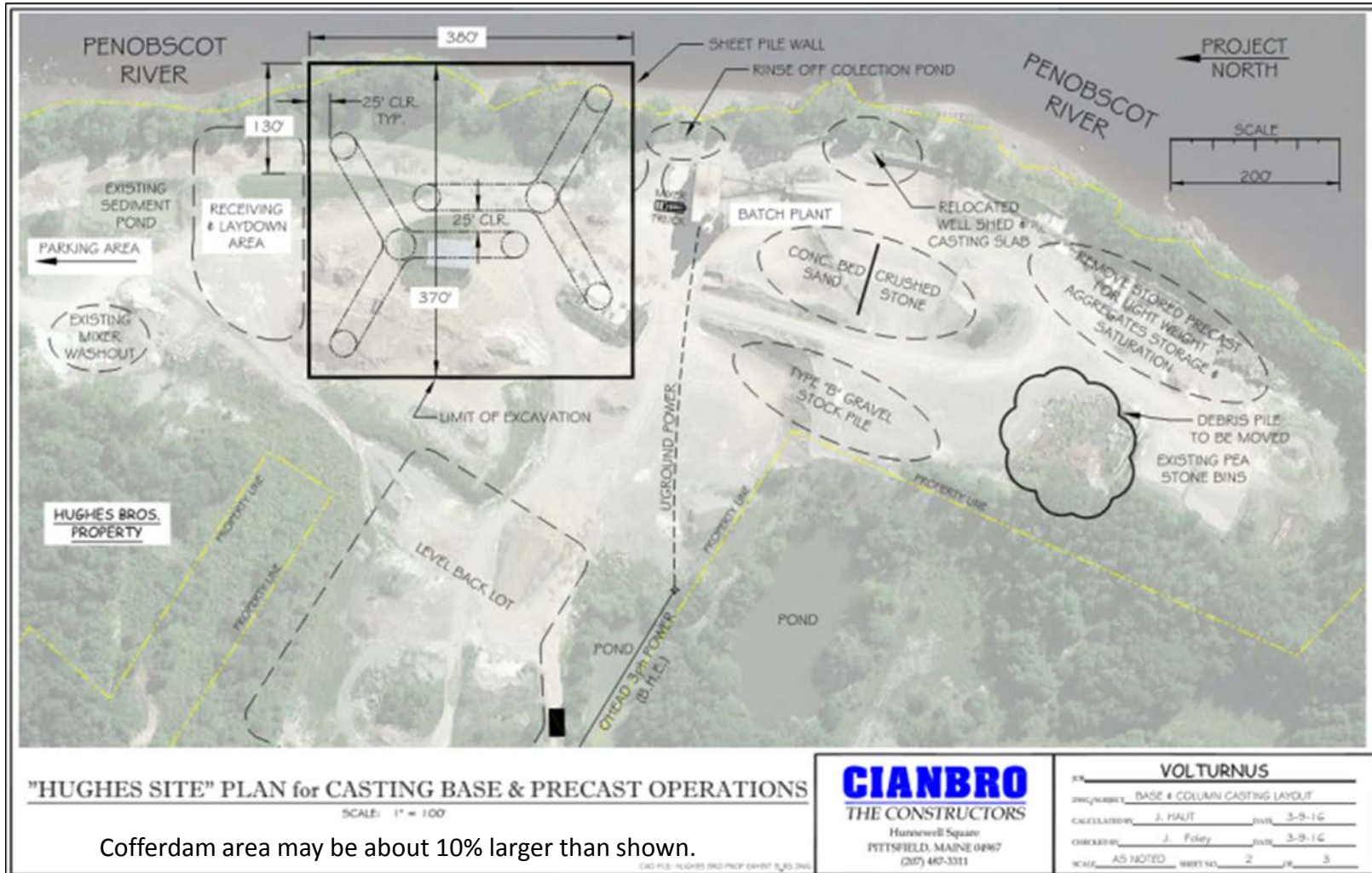


Project Description



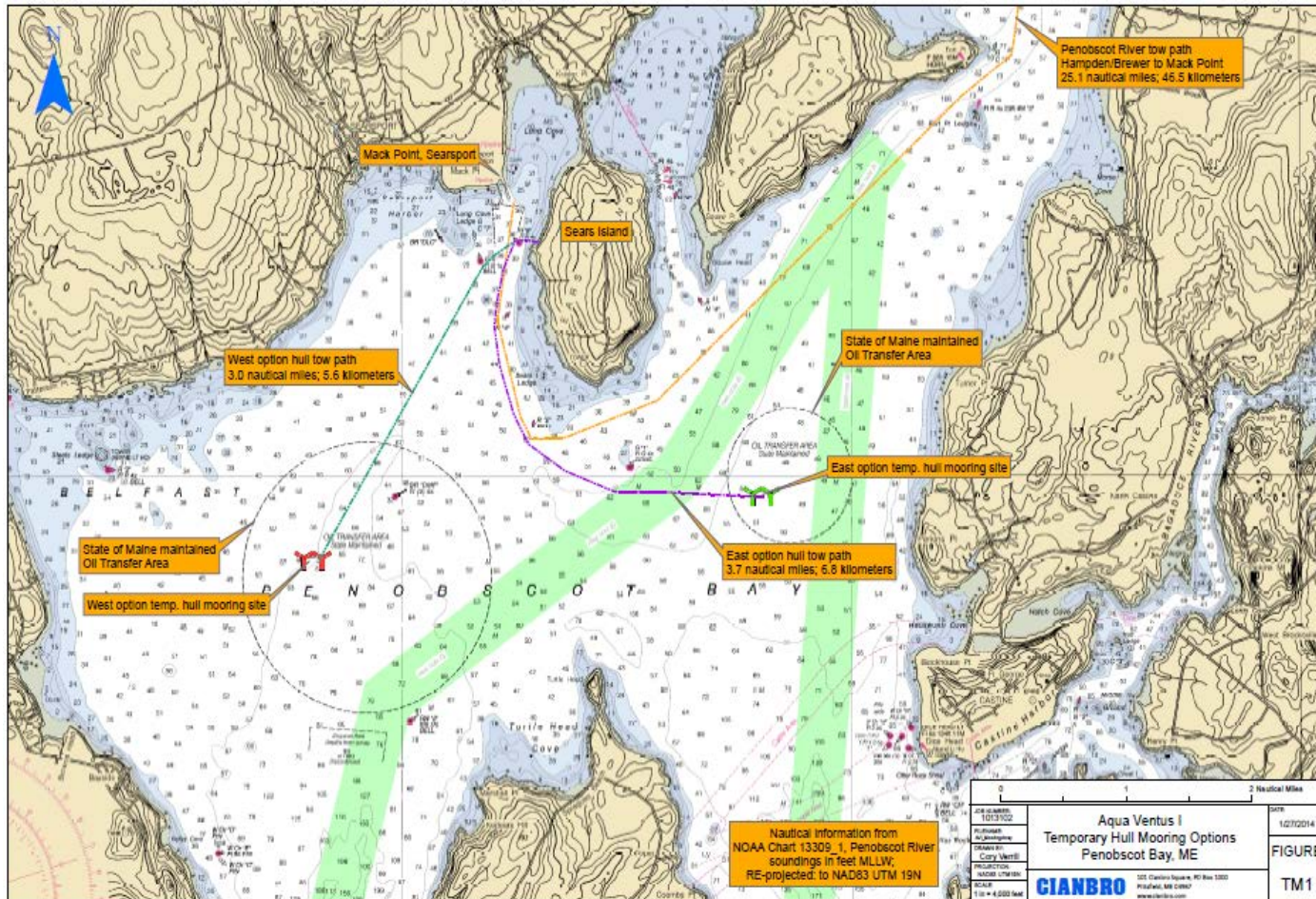
Turbine Assembly and Installation

Project Description



Cofferdam area may be about 10% larger than shown.

Project Description



This map shows the Penobscot River tow path from Hampden, ME, to Mack Point in Searsport, ME, as well as two options identified as temporary hull mooring locations while construction is completed.

Turbine Assembly and Installation

Project Description

Floating foundations would be constructed in a cofferdam along Penobscot River in Hampden, Maine.

- Cofferdam excavation and construction ~5 months.
- Foundations would take ~1 year to complete.

Foundations would be towed to Mack Point Intermodal Cargo Terminal in Searsport for turbine assembly and installation.

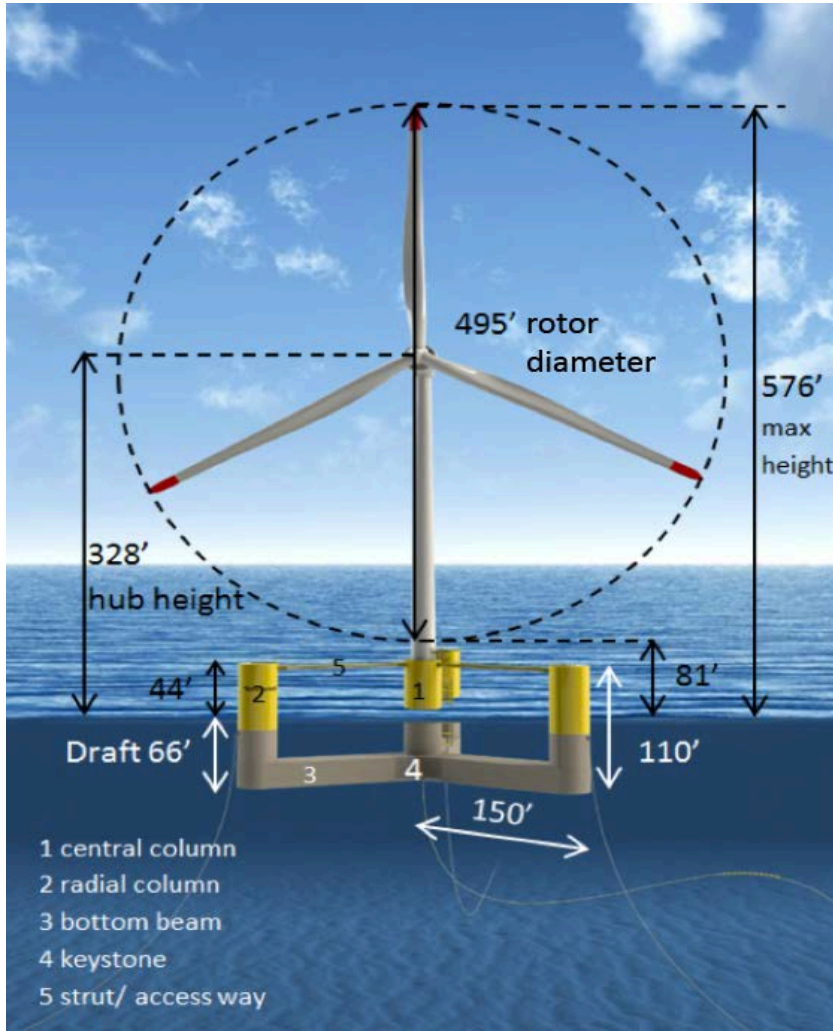
Complete structure would be towed to the Monhegan Test Site for commissioning.

Duration of Project:

- Turbine and foundation performance data would be collected for up to five years.
- Operate for ~20 years



Turbines and Foundations



Jeff Thaler, thaler@maine.edu

Project Description

Turbines:

- Turbine Hub Height: ~328 feet above waterline
- Maximum Blade Height: ~576 feet above waterline
- Rotor diameter: ~495 feet
- Turbine would be painted white
- 3–4 chain mooring lines and 3-4 anchors per structure

Floating Foundation:

- Reinforced concrete with three columns forming a tri-float configuration (semi-submersible)
- Extend ~66 feet below waterline
- Extend ~44 feet above waterline
- Diameter of foundation: ~301 feet
- Flashing lights in accordance with U.S. Coast Guard navigation requirements

Project Description

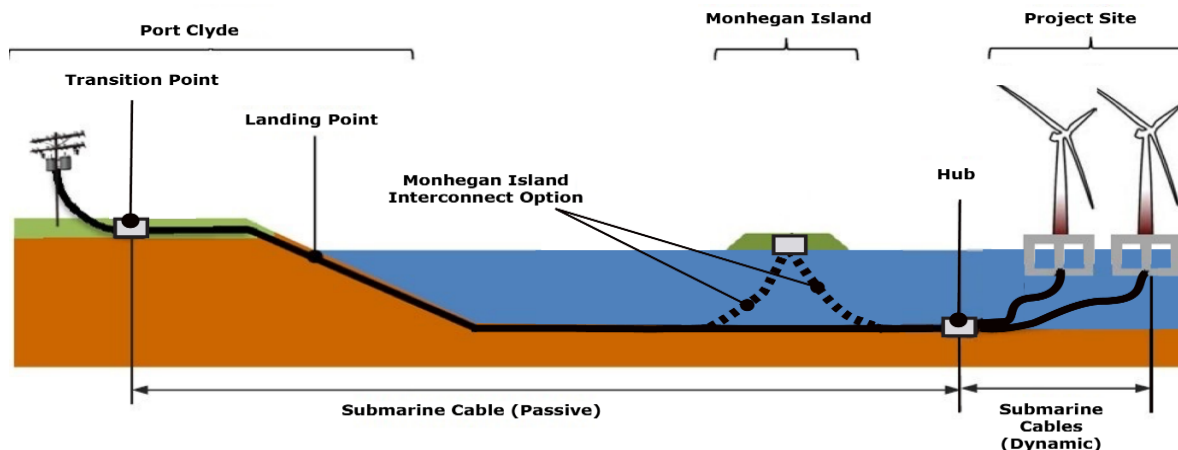
Cable Landing Locations

Port Clyde, Maine

- Export cable would interconnect with existing Central Maine Power (CMP) distribution line.
- Landfall Point - Several locations under consideration (~1,200 feet apart).
- CMP plans to rebuild ~8.8 miles of distribution line between Port Clyde and Rockland substation.

Monhegan Island, Maine (Alternative A)

- Landfall Point - Deadman's Cove or nearby location to connect to a transformer.
- Cable would run from transformer underground or overhead on a rebuilt pole line for ~680 feet to Black Head Road.
- From Black Head Road cable would run underground for ~650 feet and terminate at the Monhegan Plantation Power District generator/switchgear.



Action(s)	Level	Agency	Permit/Approval
Location: Entire Project			
Entire project	Federal	U.S. Dept. of Energy	NEPA process
		U.S. Army Corps of Engineers	River and Harbors Act, Section 10 Permit; Clean Water Act Section 404 Permit
		National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (USFWS)	Endangered Species Act, Section 7 consultation
		NMFS and USFWS	Fish and Wildlife Coordination Act consultation
		NMFS	Magnuson-Stevens Fishery Conservation and Management Act, Essential Fish Habitat consultation
		NMFS	Marine Mammal Protection Act consultation
		Federal Aviation Administration	Circular I-864 permit
	U.S. Coast Guard	Ports and Waterways Safety Act consultation; Private Aids to Navigation	
	State	Maine Historic Preservation Commission	Section 106 consultation Natural Historic Preservation Act
Location: Offshore Project to Grid Connect			
Offshore project to grid connect	State	Maine Department of Environmental Protection (DEP)	General Perimt (38 M.R.S.A. §480-HH)
		Maine Department of Agriculture, Conservation, and Forestry – Maine Coastal Program	Coastal Zone Management Act, Section 307(c)(3) consultation (part of DEP permit process)
Location: Hampden Cofferdam			
Construction of cofferdam; dredging of Penobscot River adjacent to cofferdam	State	DEP	Natural Resources Protection Act permit (38 M.R.S.A §480)
		DEP	Site Location of Development Act (SLODA) permit (38 M.R.S.A, §§ 481-490)
		DEP	Stormwater Permit by Rule (38 M.R.S.A. §420-D) permit
		Maine Submerged Lands Program (Maine Department of Agriculture, Conservation and Forestry - Division of Parks and Public Lands)	Submerged lands lease (12 M.R.S.A. §1862) - Dredging of Penobscot River adjacent to cofferdam
	Local	Town of Hampden	Municipal shoreland zoning ordinance review
		Town of Hampden	Municipal land development permits

Action(s)	Level	Agency	Permit/Approval
Location: Searsport			
Complete construction of turbines; platforms moored to existing cargo terminal; no permanent pier modifications needed; temporary mooring at one or two state owned oil transfer areas	Local	NA	None required
Following assembly, temporary mooring at one of the two designated state maintained oil transport areas south of Sears Island	Local	Town of Searsport	Harbormaster permit - for temporary construction mooring
Location: Port Clyde/St. George			
Connection to CMP distribution line	State	Maine Department of Transportation	Utility Location Permit
Transmission line landfall		DEP	Natural Resources Protection Act permit (38 M.R.S.A §480)
Landfall; connection to CMP distribution line	Local	Town of St. George	Municipal shoreland zoning ordinance review
Landfall; connection to CMP distribution line		Town of St. George	Municipal land development permits