

New England Aqua Ventus I



Modification 001 – 3/06/2017

The U.S. Department of Energy (DOE) has made the following modification (001) to the public scoping meeting posters:

- On poster 11, Lobster Cove Road has been revised to Black Head Road. Note: this change is highlighted in red text.

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WELCOME!

U.S. Department of Energy PUBLIC INFORMATIONAL MEETING

DRAFT ENVIRONMENTAL ASSESSMENT FOR NEW ENGLAND AQUA VENTUS I



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Key Steps in DOE NEPA Process

Internal Scoping

- DOE identifies preliminary issues and resources to be analyzed in Environmental Assessment (EA)
- DOE identifies stakeholders and develops public participation plan
- DOE identifies Cooperating agencies

WE ARE HERE

Public Scoping Period

- Public scoping notice and project details posted for public review
- 30 day (minimum) Public Scoping Period which may include public meeting(s)
- Written comments accepted from the public on issues and resources that should be considered in the EA

Public Involvement Opportunity

Develop Draft EA

- Draft EA is developed to analyze impacts
- Required consultations initiated (i.e. Endangered Species Act, National Historic Preservation Act, etc.)

Public Comment Period

- Draft EA is posted for public review
- 30 day (minimum) Public Comment Period which may include public meeting(s)
- Written comments accepted from the public on EA content

Public Involvement Opportunity

Develop Final EA

- Complete required consultations
- Address public comments received and revise EA as appropriate

Final EA and Decision Issued

- Required consultations completed
- Final EA is developed
- Determination made to prepare a "Finding of No Significant Impact" if EA supports the finding that the action will not have a significant effect on the human environment **OR** a determination is made to prepare an Environmental Impact Statement

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Issues and Resources to be Considered in the Draft Environmental Assessment

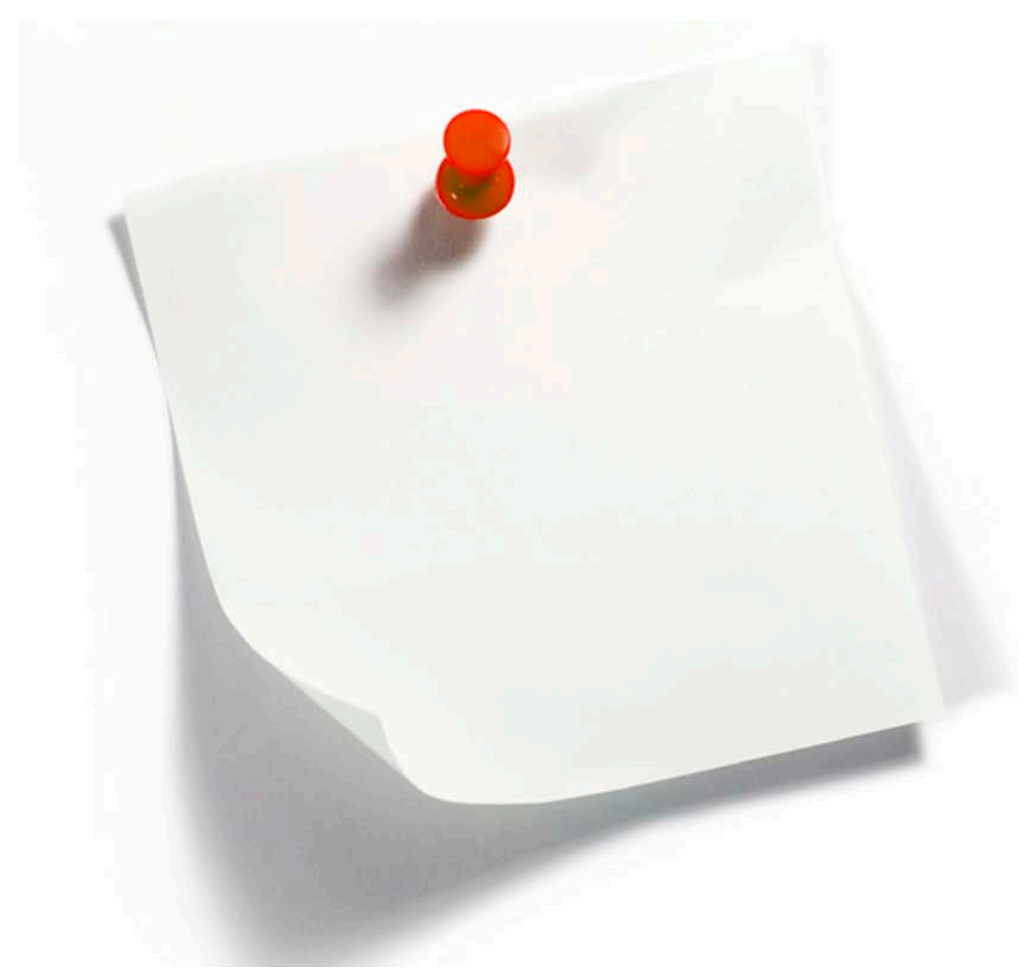
- Aesthetics and Visual Resources
- Air Quality
- Biological Resources
 - Including Benthic, Avian and Bat Species, and Protected Species
- Cultural Resources
- Floodplains and Wetlands
- Geology, Sediments, and Soils
- Noise
- Ocean and Land Use
 - Including Commercial Fishing, Recreation, Navigation, Transportation, and Traffic
- Socioeconomics
 - Including Environmental Justice
- Water Quality
 - Including Sedimentation, Spills, and Hazardous Material Management



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National Environmental Policy Act (NEPA) How Can You Be Involved?



Please ask questions.

DOE and University of Maine representatives are here to answer questions and accept your written comments on DOE's Proposed Action, alternatives, and the issues and resources that should be considered in the Draft EA.

Stay involved.

Provide **written** comments in person at this meeting, by mail or email no later than **March 22, 2017**. If you would like to be notified of upcoming meetings, provide your name and address on a comment card.

Check DOE website for updates.

Once completed, the Draft EA will be available for your review at:

www.energy.gov/node/2053718

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DOE Offshore Wind Demonstration Projects




Demonstrate offshore wind innovations at multi-megawatt scale to reduce the cost of energy and address regional challenges and opportunities, expediting development of the US offshore wind industry.

- Allow for learning and real data collection on a demonstration scale.
- Innovative technology lessons learned will help drive down the cost of offshore wind.
- Highly instrumented platforms provide insight into how to improve future deployments.



Illustration of different offshore wind technologies.

National Offshore Wind Strategy Themes and Action Areas

 <p>Reducing Technology Costs & Risks</p>	<ol style="list-style-type: none"> 1 Offshore Wind Power Resource & Site Characterization 2 Offshore Wind Plant Technology Advancement 3 Installation, Operation & Maintenance, and Supply Chain Solutions
 <p>Supporting Effective Stewardship</p>	<ol style="list-style-type: none"> 4 Ensuring Efficiency, Consistency & Clarity in the Regulatory Process 5 Managing Key Environmental & Human Use Concerns
 <p>Improving Understanding of the Benefits of Offshore Wind</p>	<ol style="list-style-type: none"> 6 Offshore Wind Electricity Delivery & Grid Integration 7 Quantifying/Communicating the Costs & Benefits of Offshore Wind

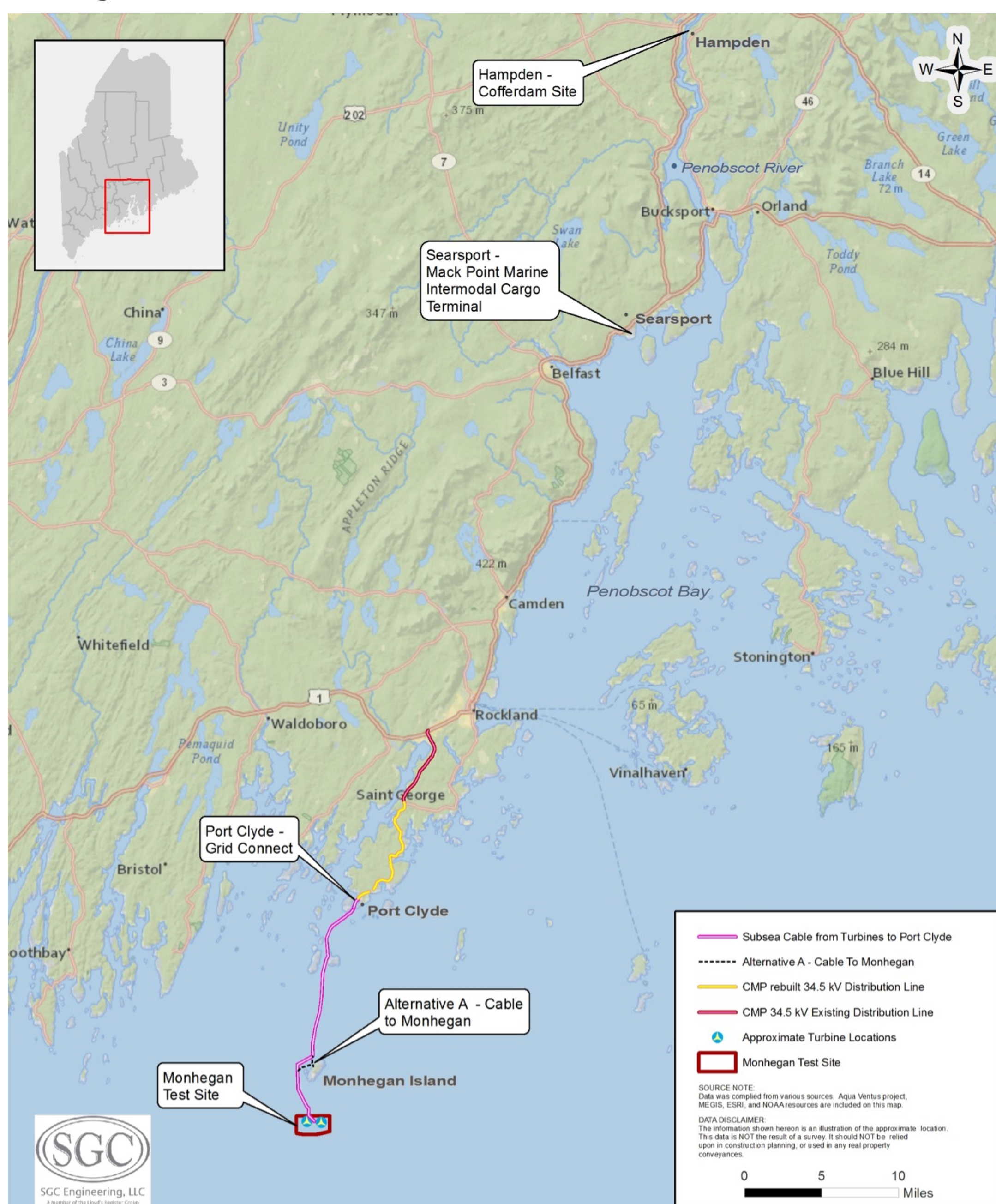
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Project Overview

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.



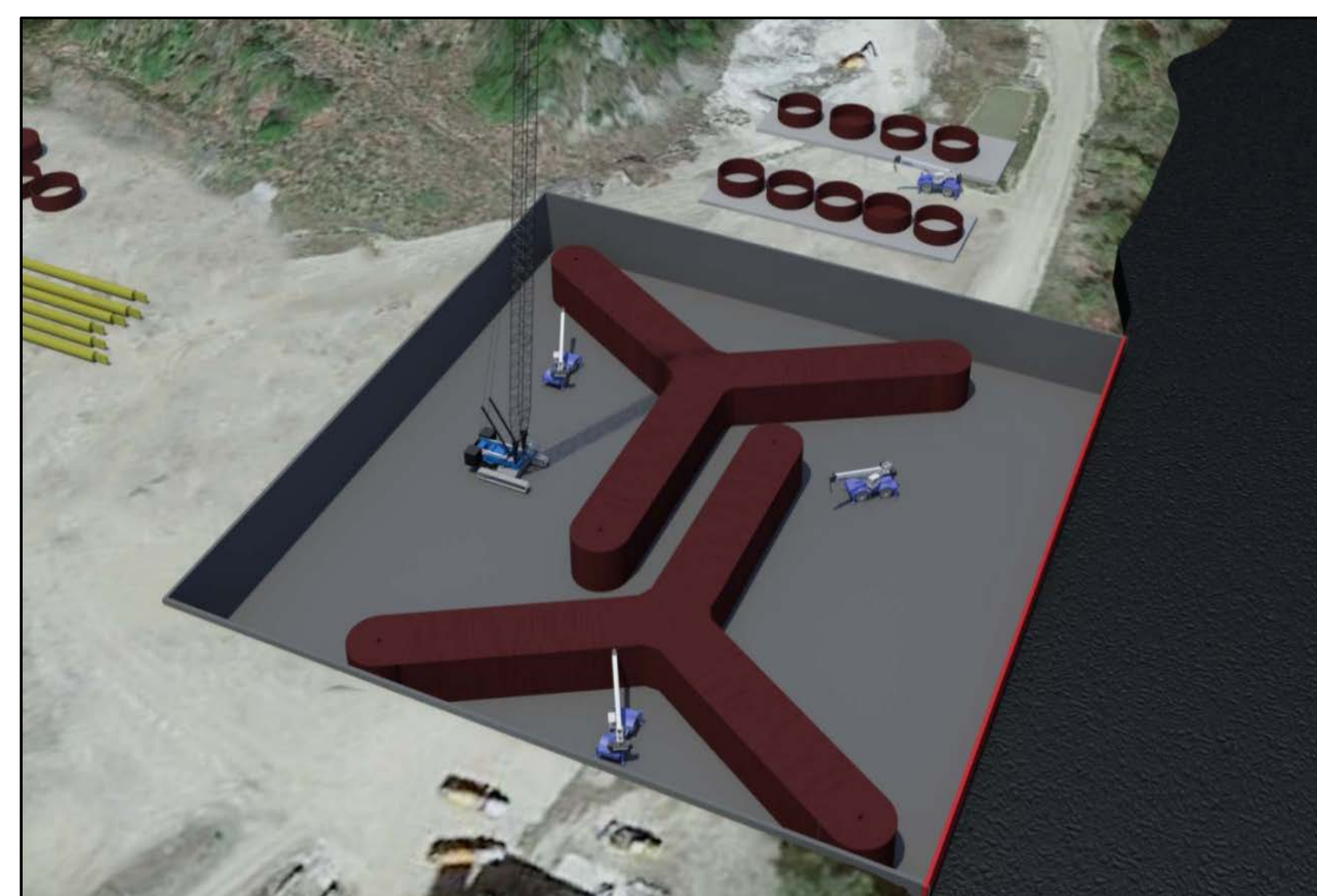
*Due to rapid advances in turbine technology that could result in energy production benefits, the University of Maine design team is also evaluating the possibility of an 8 MW turbine .

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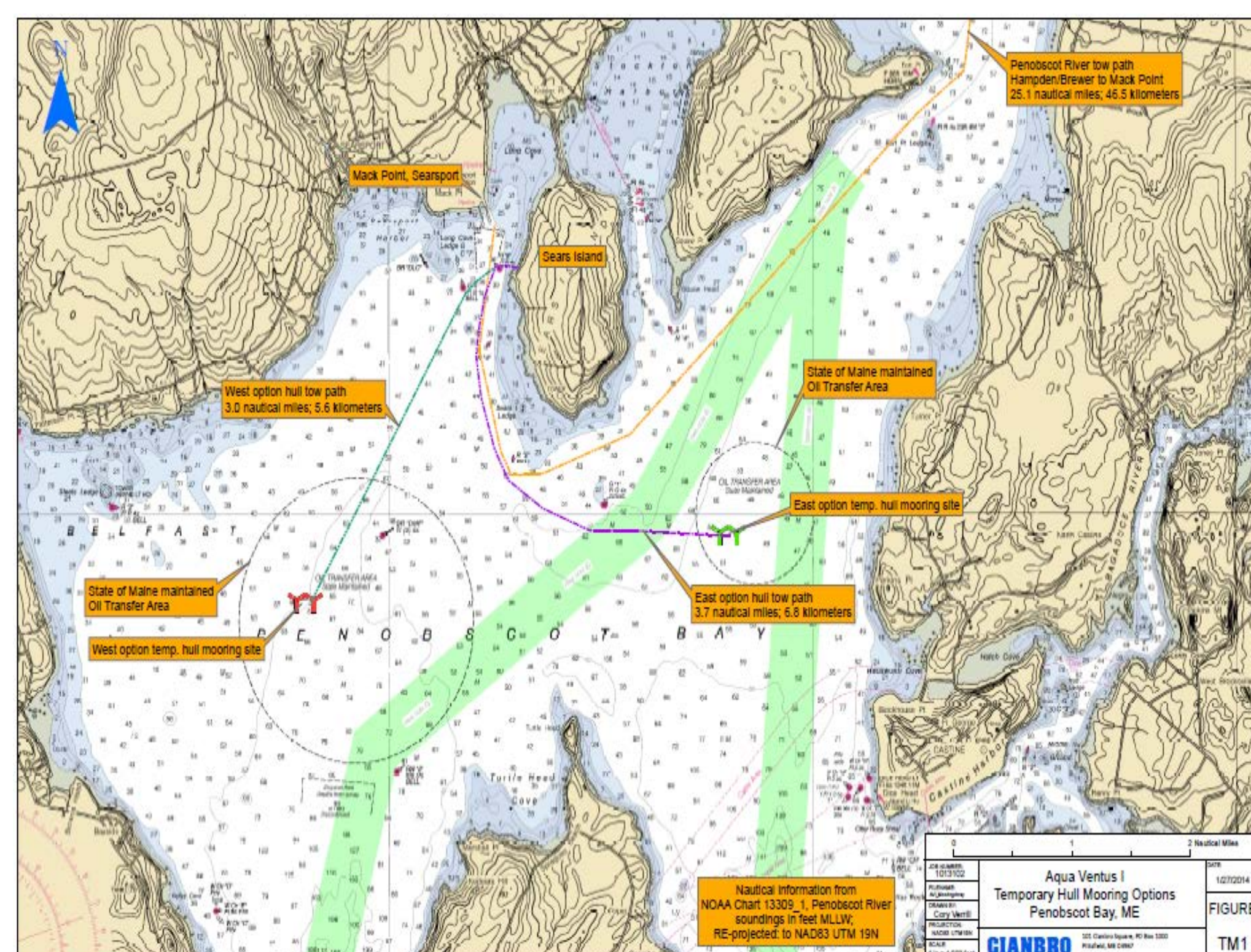


Turbine Assembly and Installation

- 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 towed to Mack Point Intermodal Cargo Terminal in Searsport for turbine assembly and installation.
- Complete structure 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.



Rendering of cofferdam.



Proposed tow path.



Rendering of turbine assembly.

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Turbines and Foundations

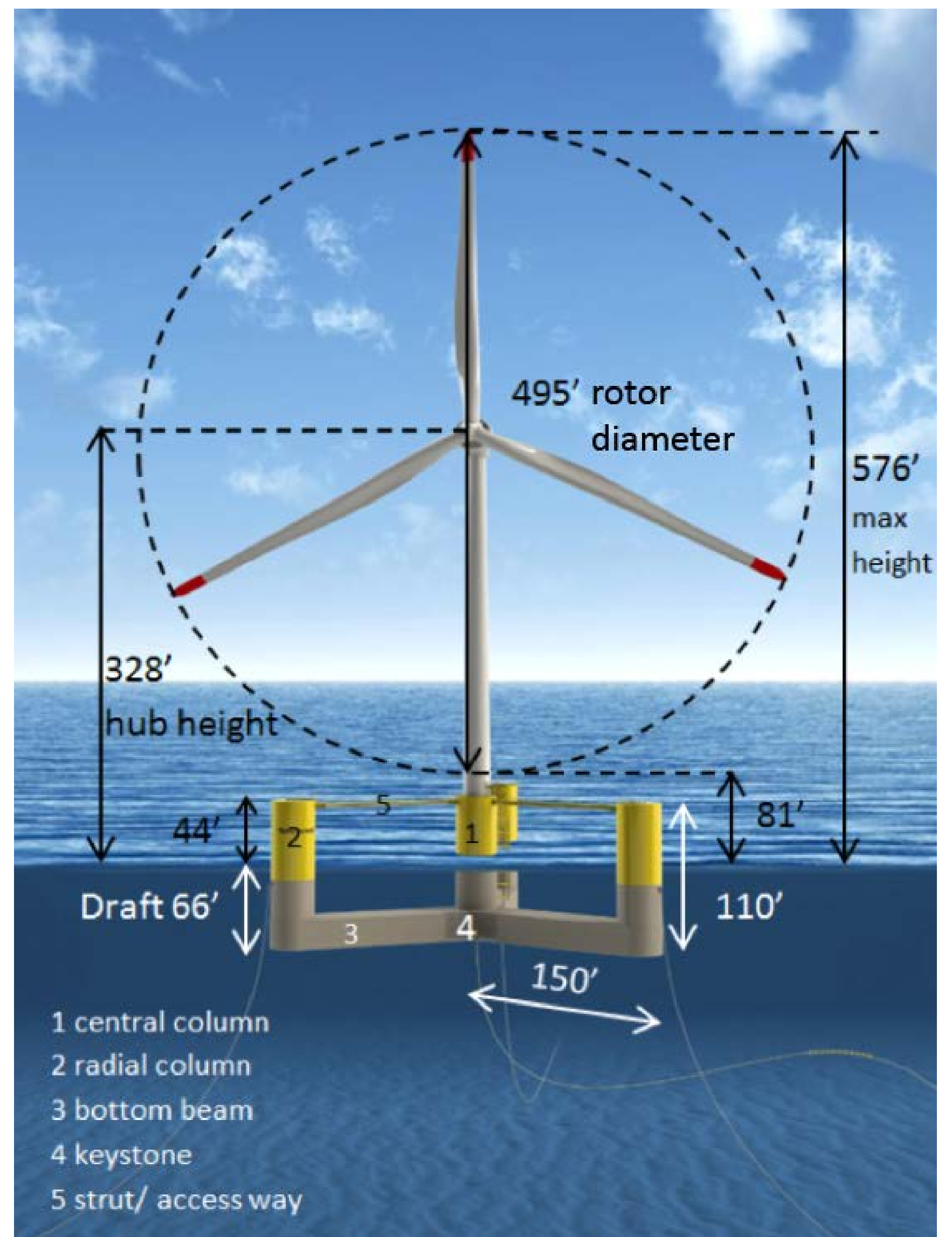
Turbines:

- 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
- An 8 MW turbine would be ~5%-10% larger

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
- Foundations would be ~10%-20% larger for an 8 MW turbine

Note: All design details are preliminary.



Anticipated Dimensions of the Proposed Floating Offshore Wind Turbines and Platforms (± 5 feet).

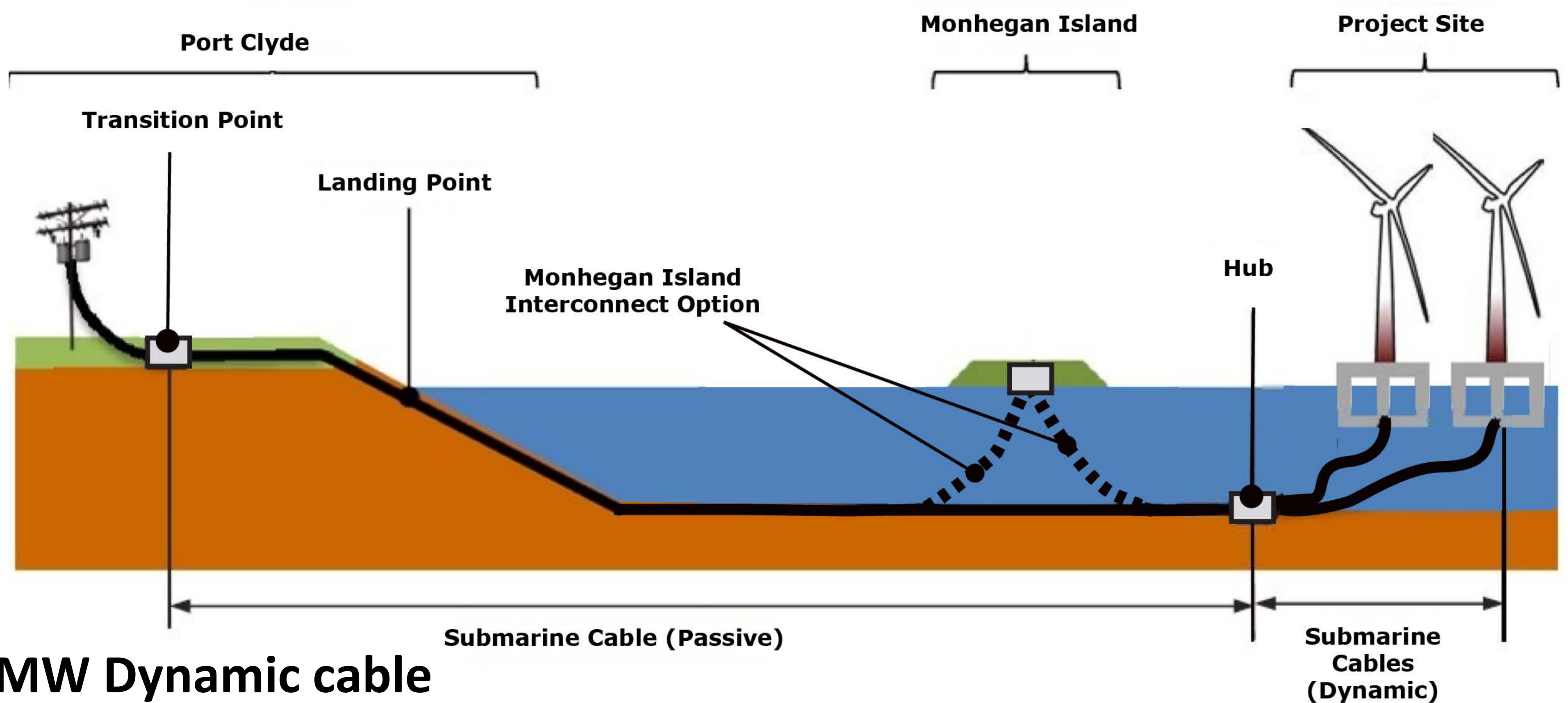
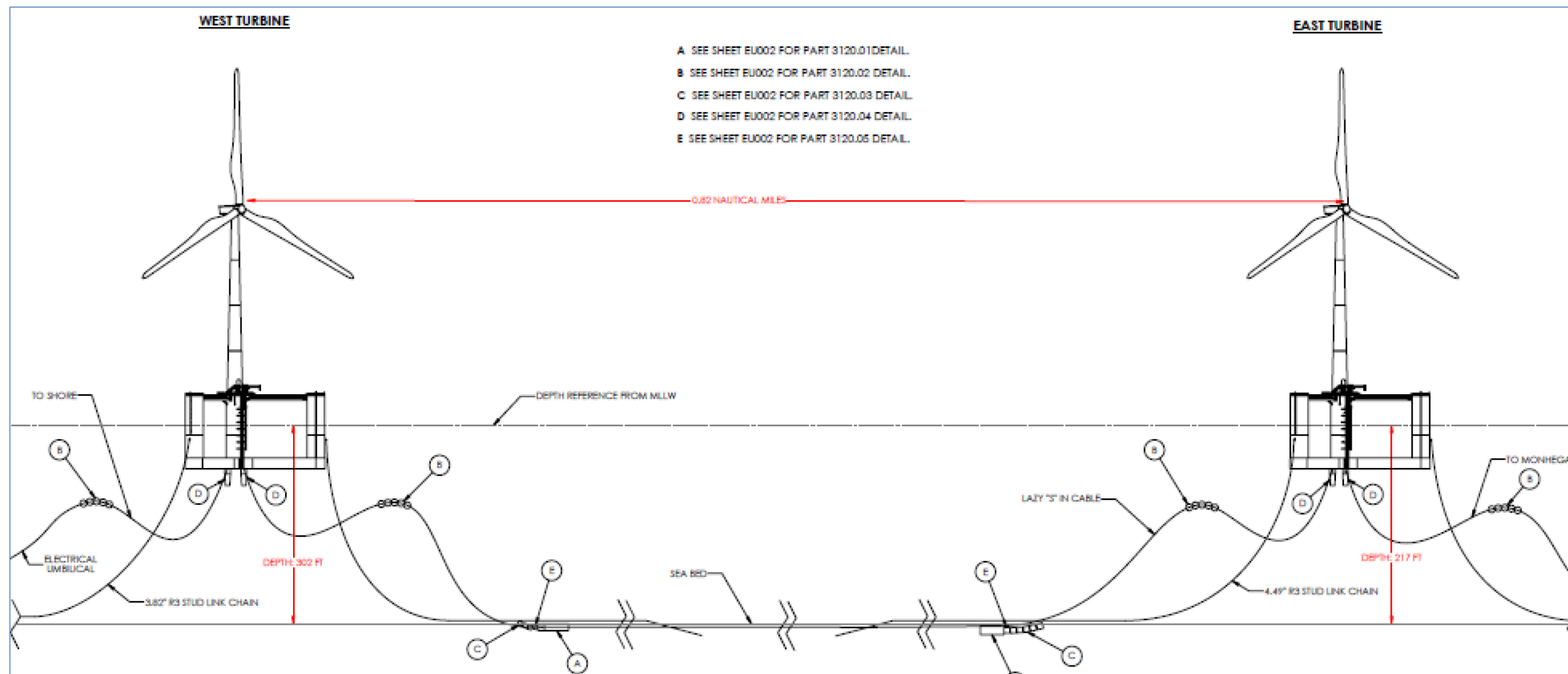


Example of a Drag Embedment Anchor.

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Subsea Cable Construction and Layout

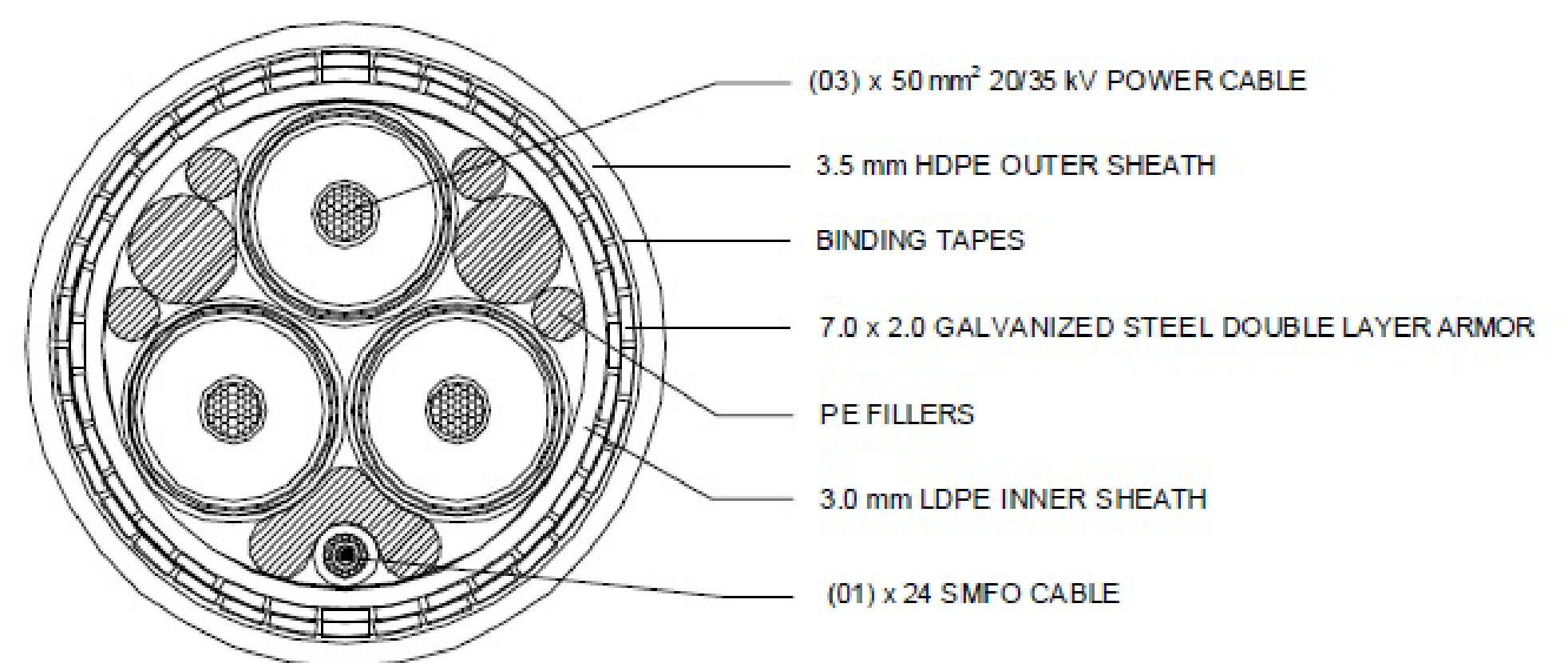


6 MW Dynamic cable

- Suspended in the water column
- One per turbine
- Connect to seabed hub

12 MW Static Cable

- Buried or on the seafloor
- Export of power to shore
- ~5.5" diameter

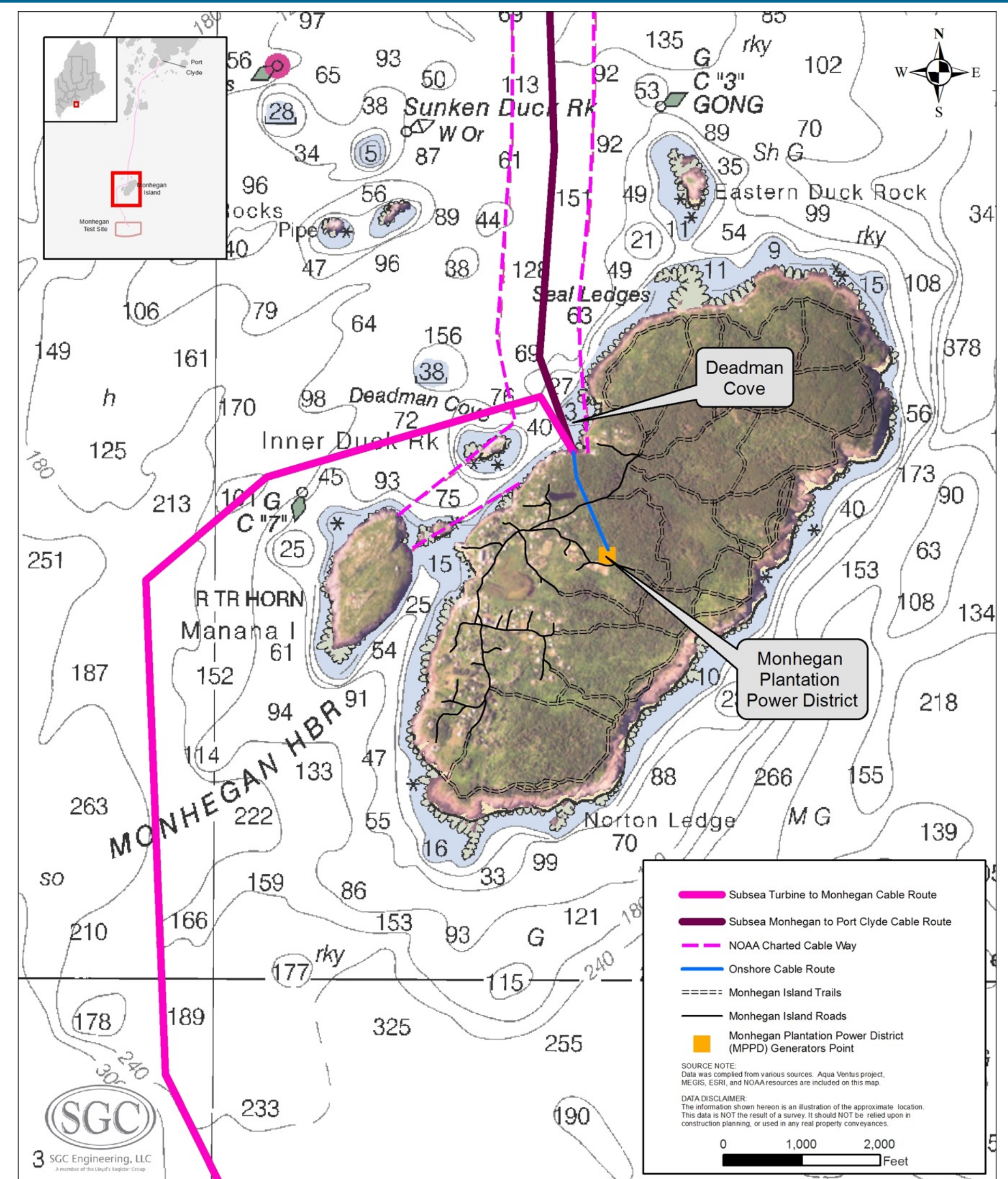
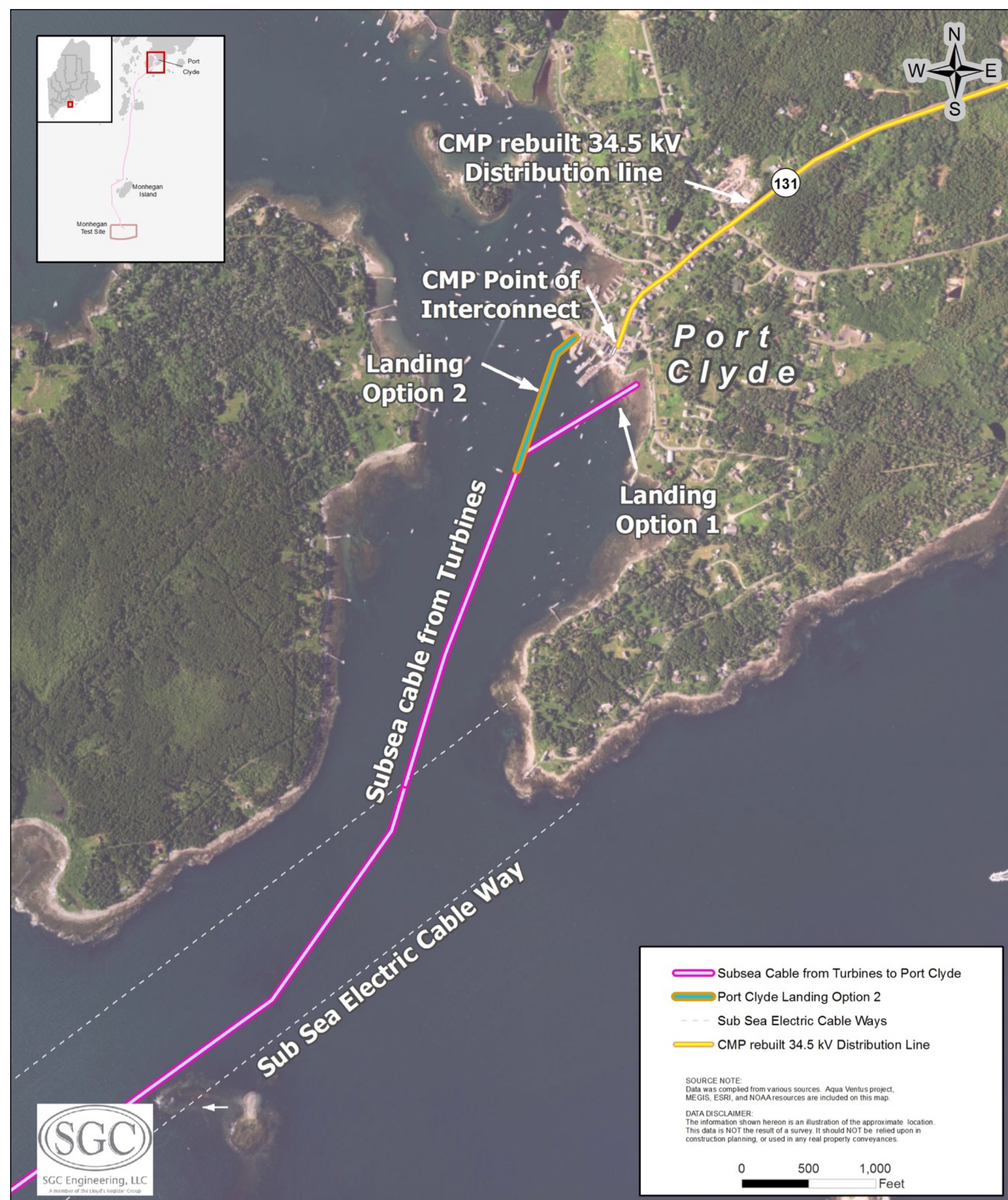


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Cable Landing Locations



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.

Note: All design details are preliminary.

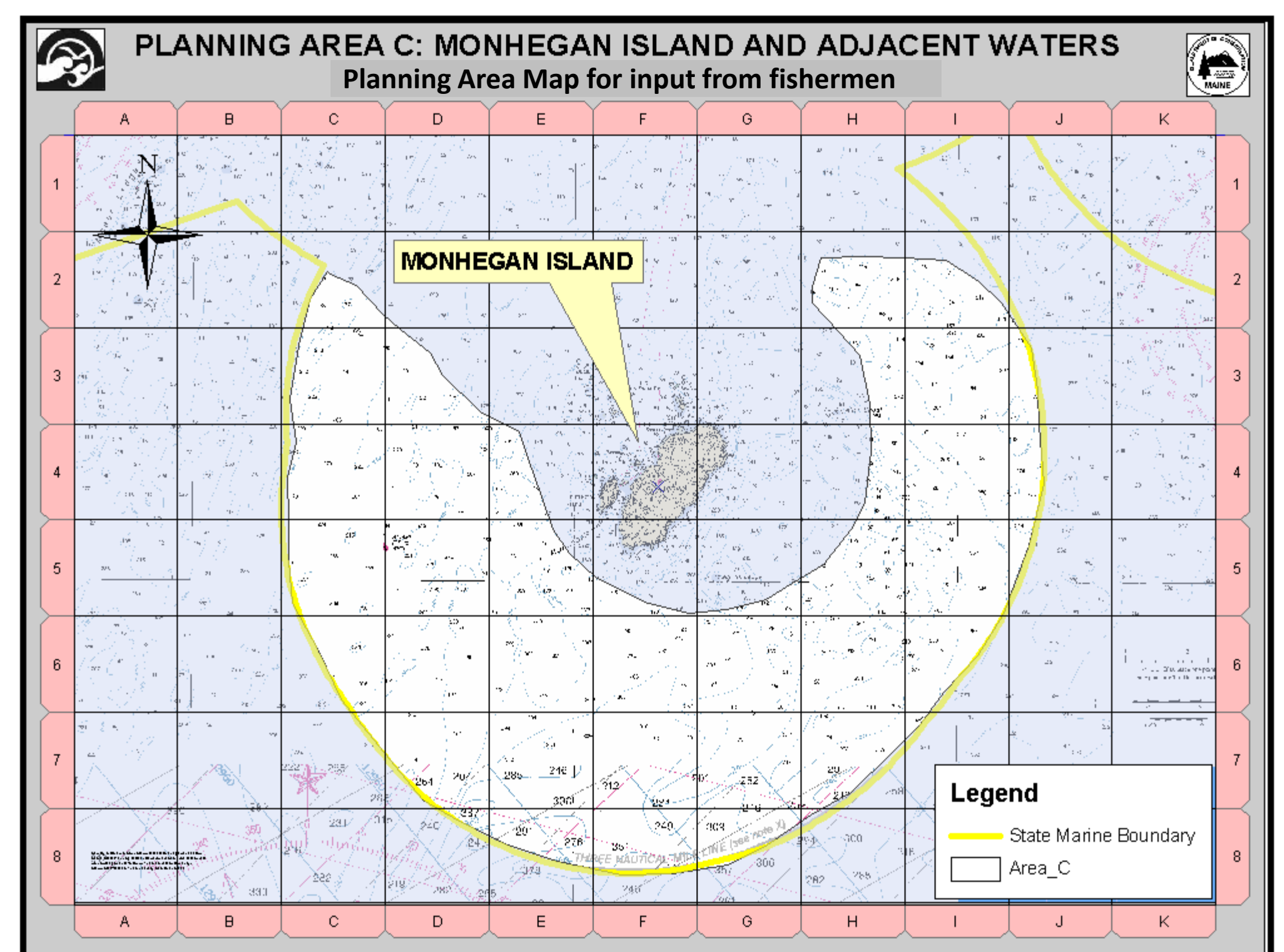
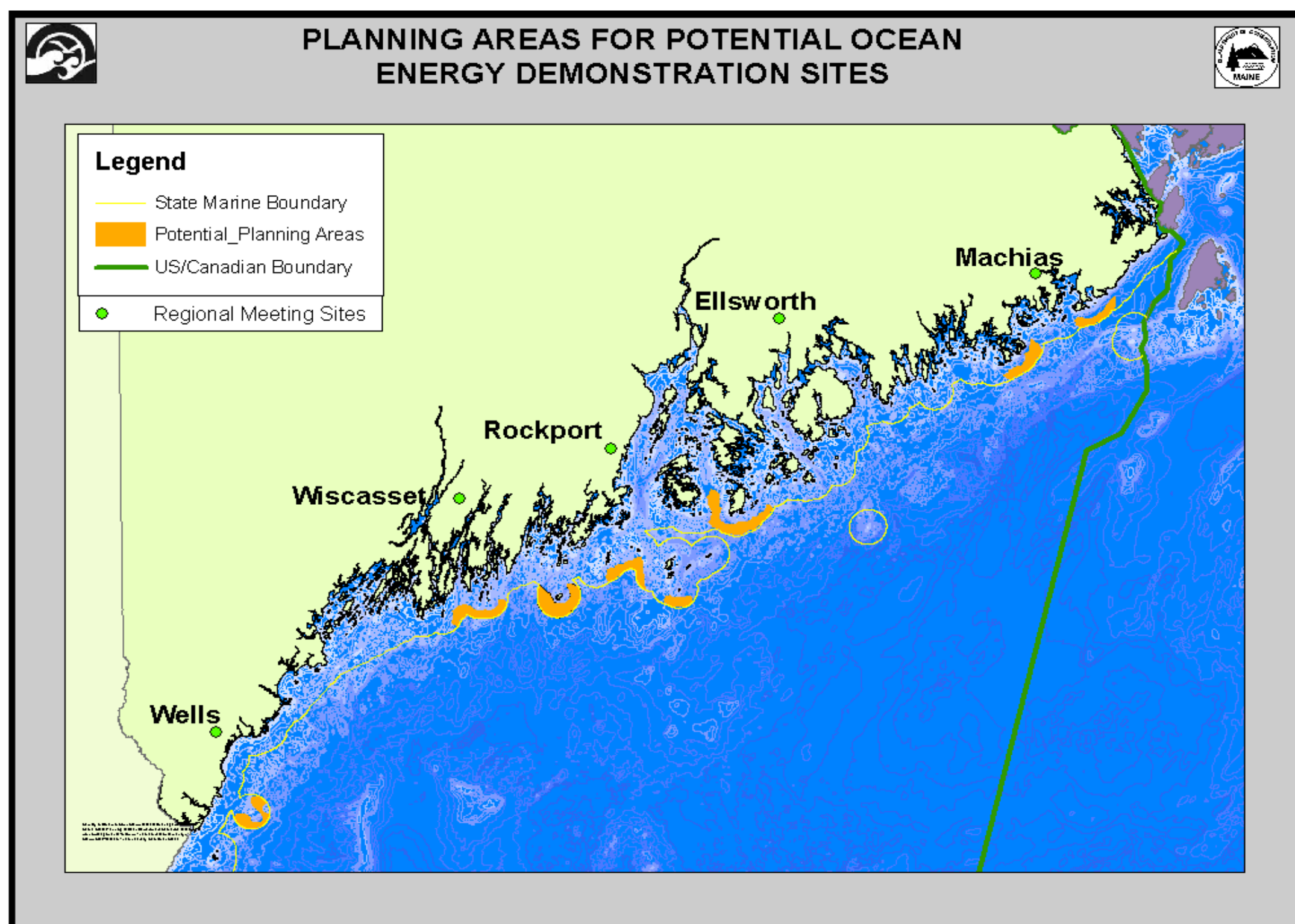
Site Selection Criteria and Process

Legislation

- Passed unanimously in June 2009
- Established Siting Requirements
- Directed Dept Conservation and State Planning Office: Conduct Collaborative Process
- Scoping Meetings, Public Meetings
- December 15, 2009 Deadline

Selection Criteria

- Within State marine waters (to 3 miles offshore)
- Deep water (≥ 200 feet)
- High average annual wind speeds (≥ 17 mph)
- Proximity to deepwater ports and infrastructure
- Avoidance of navigation channels; obstructions
- Consider existing information on natural resources – E&T species, avian species, bats, marine mammals, geology
- Minimize interference with fisheries, recreation
- Community support



Outreach Process

- Identified “Planning Areas” using only basic criteria, then sought feedback
- 25 Scoping Meetings across region:
 - Monhegan Island fishermen 8/26/2009
 - Monhegan Island community 10/8/2009
- 5 Regional Public Meetings across region
- Feedback from meetings used to identify smaller “demonstration” sites
- Draft demonstration sites released 10/27/09
- 30-day public comment period
- Additional comments further refined sites
- Final sites selected 12/15/09

