



Marine Renewable Energy Collaborative

Bourne Tidal Test Site *Ocean Environment with Laboratory Control*

Testing tidal turbines in relevant environments presents challenges to both mounting the test device and data acquisition systems. Further, mounts that can hold a turbine in fast flowing waters often make it difficult to access the turbine if there are maintenance issues or required modifications. The Bourne Tidal Test Site (BTTS) was purpose built to provide a cost effective solution to meet these needs:

- **Value** – At as little as \$1000 per day, the site is the best value for testing current/tidal generators.
- **Stability** – With three piles set deeply into the bottom, the BTTS platform provides the ability to mount both the turbine and sensors securely regardless of weather conditions.
- **Accessibility, Test** – The BTTS is close to shore and outfitted with a lifting arm to allow the test turbine to be raised or lowered quickly and easily.
- **Location** - The site is located in the Cape Cod Canal, close to modern transportation and manufacturing, and not subject to icing except on rare occasions.
- **Security** – Located in water under the direct control of the US Army Corps of Engineers, the BTTS is a secure site for expensive equipment.
- **Variable Water Speed** - The tidal flow provides a constantly changing water velocity for development of power curves with over 2 m/s maximum.
- **Minimized Blocking** – The 7 meter depth and width of the test aperture, provide minimal blocking for 3 meter turbines. There are no bridge footings or bulkheads to corrupt results.

In addition to the purpose built design, the BTTS has staff with broad experience in ocean testing and offers access to a wide range of industry expertise. This total test package provides assurance that a rigorous test to international standards can be performed in the most cost and time effective possible.



The BTTS is also available for testing sensor systems and STEM educational programs.

