

RESIDENTIAL BULKHEAD AND FOUNDATION REPLACEMENT

Provincetown, MA

The owners of this residential Commercial Street property, which fronts on scenic Provincetown Harbor, needed to replace an existing wooden bulkhead and house foundation that were no longer serviceable. Because the property is located within a flood zone, the new foundation and replacement bulkhead had to be designed in accordance with both state building code and FEMA coastal construction standards for flood-resistant construction.

The new bulkhead was designed to include two 20-foot return walls with helical anchors as a tieback system. The new house foundation was designed utilizing helical “pull down” micro piles to support a reinforced concrete grade-beam footing. On top of the grade beam, there is a 10-inch thick stem wall containing a flood vent system – allowing high water to wash in and out, and preventing the wall from collapsing during a storm surge.

SERVICES

- Marine engineering for bulkhead replacement design and plan preparation
- Structural engineering design of flood-resistant house replacement foundations
- Structural load analysis and design of helical pile pier foundation system
- Preparation of house foundation and framing plans
- Preparation of as-built survey plan for amended Chapter 91 License application
- Environmental and regulatory permitting services at local and state level
- Construction contract administration

