September 25, 2025

Town of Tisbury
Conservation Commission
215 W Spring St,
Vineyard Haven, MA 02568

SE 074-0994: Eelgrass survey in support of Order of Conditions Special Condition #2 – Pickety Lane LLC, 53 High Hedge Lane, Tisbury, MA

To Tisbury Conservation Commission,
This letter report presents results of an eelgrass survey in response to the Commission's Order of Conditions (OOC) SE 074-0994 Special Condition #2 for Pickety Lane LLC (owner) at 53 High Hedge Lane, Tisbury, MA. The owner intends to perform pier reconstruction of a timber pier, groin, and pile supported structure along the shore of Vineyard Haven Harbor. The existing pier is in a state of degradation, and further deterioration and failure is anticipated in the future.

The proposed reconstruction will occupy the approximate footprint of the existing structure. The pier deck occupies an existing footprint of 842.9 square feet, while the proposed structure occupies 865.9 square feet. The timber groin will be reduced in length by approximately 20 linear feet. The number of timber piles will be reduced from 39 existing to 31 proposed piles.

The OOC Special Condition #2 provided the following directive to the owner:

> *Prior to any work on site, the Tisbury Shellfish Constable shall conduct an eelgrass survey during the months of June - September to confirm the seaward structures proposed for reconstruction don't lie within 25 feet of any eelgrass.*

On September 22, 2025, while performing an eelgrass survey within Vineyard Haven Harbor in support of the Town of Tisbury harbor dredging and beach nourishment project, Woods Hole Group (WHG) and the Tisbury Harbormaster leveraged the opportunity to additionally survey 53 High Hedge Lane and adjacent areas. The goal of the survey was to identify the presence or absence of eelgrass (*Zostera marina*) within 25 ft of the proposed project footprint. The following sections detail survey methods, results, and response.

Figure 1. Existing timber pier, groin, and piles at 53 High Hedge Lane – photo looking north, taken on August 9, 2022.

A. Survey Methods

WHG conducted an eelgrass survey around the existing pier at 53 High Hedge Ln in response to recommendations made by the Division of Marine Fisheries in the local Order of Conditions permitting process. This survey was done in two parts:

1. On August 29, 2025, a drone was used to take photos and identify areas of dark, vegetated areas in Vineyard Haven Harbor and 53 High Hedge Lane.
2. On September 22, 2025, a Blue Robotics BlueROV2 (Figure 2) Remotely Operated Vehicle (ROV) was mounted to the side of the Tisbury Harbormaster's vessel to investigate vegetated areas and identify and map eelgrass patches. During the ROV survey, two WHG scientists were onboard the vessel. One scientist was a visual observer to identify eelgrass from the vessel and the other was reviewing continuous live video footage from the underwater camera. A Real Time Kinematic (RTK) GPS was mounted to the ROV which logged the position of the vessel with centimeter accuracy as it searched and mapped the edges of eelgrass patches. This fixed mount allows the video stream from the camera to show exactly what is directly under the vessel wherever it goes. The GPS and underwater camera were fed into a field laptop with an external monitor. Because the initial drone survey allowed for the targeting of known subaquatic vegetation (SAV), track lines target these areas, running along boundaries and providing transects up and across areas. The track line from the vessel and positions of eelgrass presence was recorded and used to make maps of the eelgrass beds adjacent to the pier.

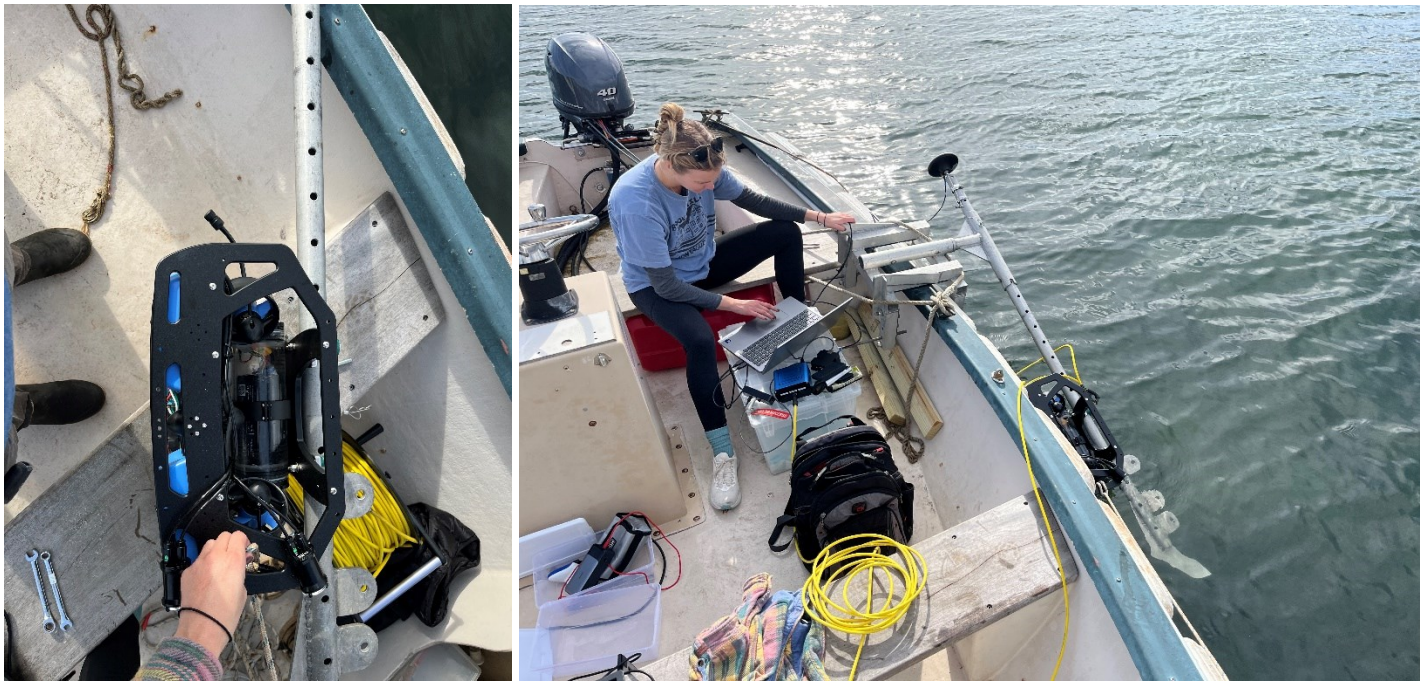

Figure 2. Left: Blue Robotics BlueROV2 camera unit. Right: ROV and RTK mounted atop Harbormaster vessel.

B. Eelgrass Survey Results

The drone survey indicated SAV in the nearshore and adjacent the existing pier (Figure 3). While SAV is pictured both seaward of the pier and alongshore/beneath the pier, land-based survey revealed the alongshore/under-pier SAV to be marina algae (Figure 4). Potential eelgrass was observed in the nearshore seaward of the existing pier, prompting boat-based survey.

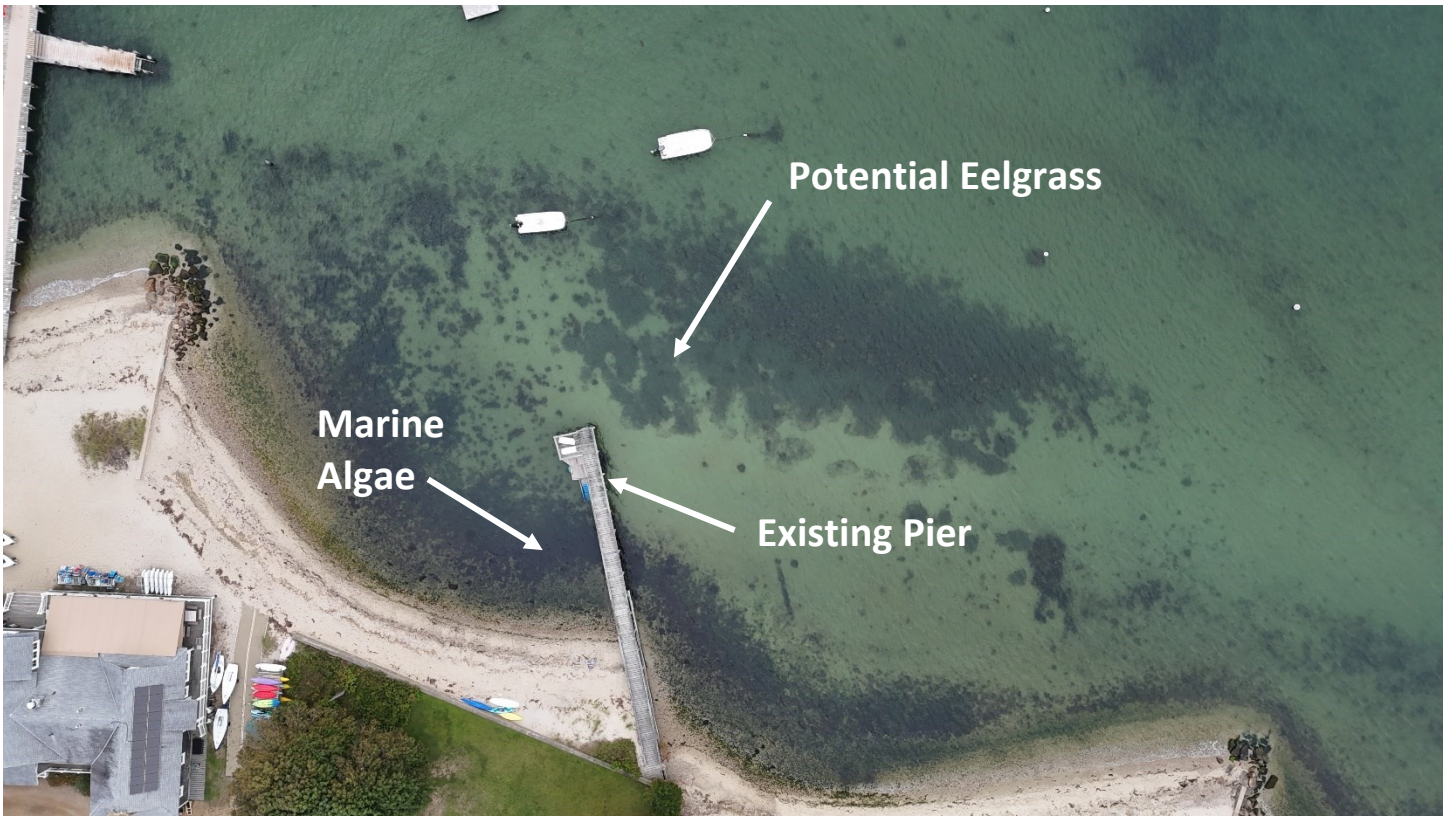

Figure 3. Woods Hole Group drone-based photograph of the pier at 53 High Hedge Lane – August 29, 2025.

Figure 4. Photograph of marine algae in the intertidal zone alongshore and beneath the existing pier – August 9, 2022.

Boat-based survey of eelgrass beds observed two patches of eelgrass, both of which were typically dense. Unvegetated areas were primarily sand. The boundary between eelgrass bed and unvegetated sandy areas was clear. Overall, the landward edge of eelgrass was observed southeast of the existing and proposed pier, in the subtidal zone (Figure 5). The nearest point of observed eelgrass (inset of Figure 5) occurred 10-feet from the proposed pier footprint. From this point, eelgrass beds turn away from the existing structure and come no nearer. Eelgrass beds are not present beneath the pier.

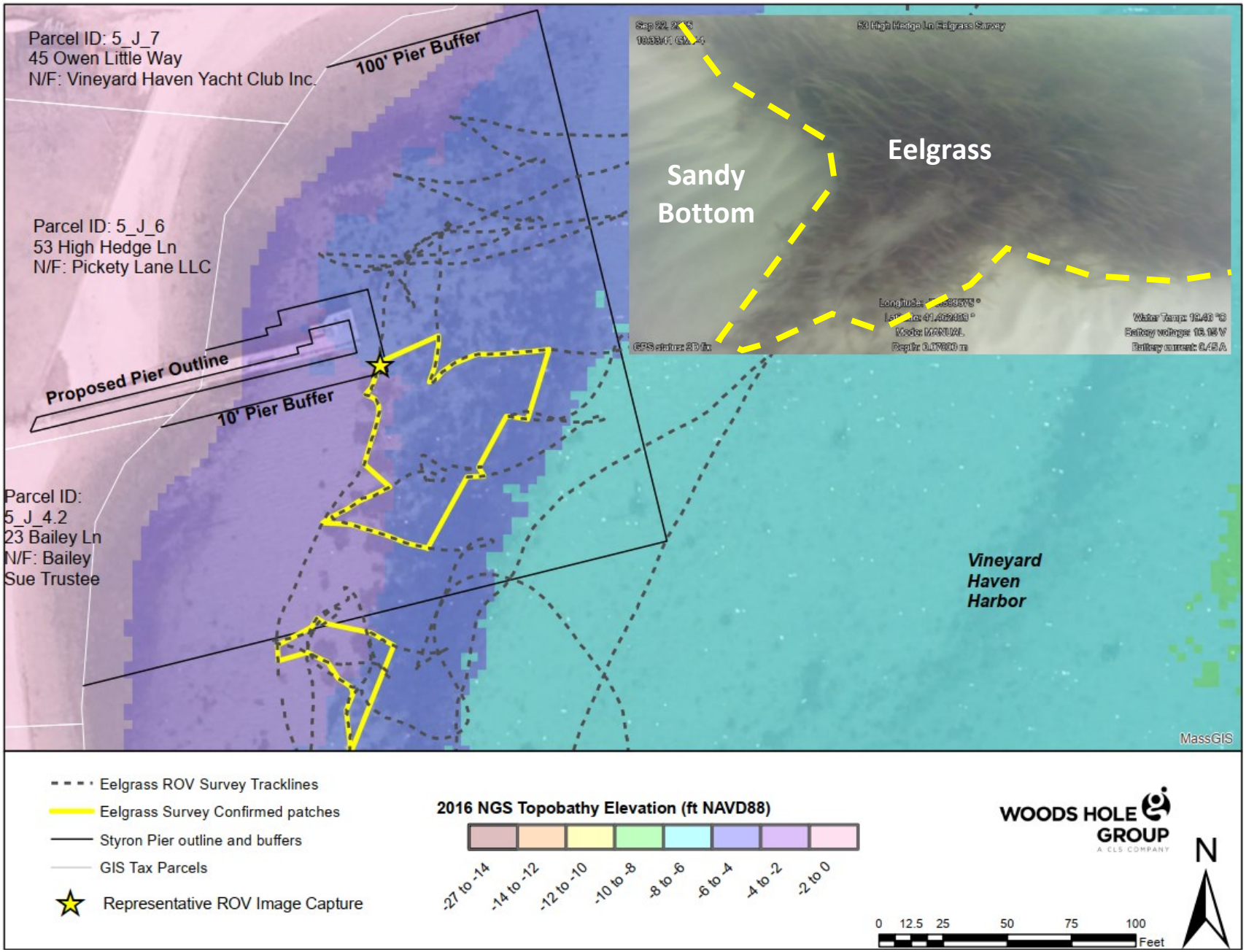

Figure 5. Subtidal eelgrass area interpreted from continuous video footage along transect lines at and adjacent to the existing pier at 53 High Hedge Lane on September 22, 2025. The proposed project area, as well as a 10-ft and 100-ft buffer line are depicted to show relative position. Inset photo represents nearest location to pier.

Impact Avoidance and Minimization

The proposed project is deemed necessary, as the aging structure is dilapidated and at risk of failure. Failure of the pier may result in the creation of marine debris and impact to existing coastal resources, including eelgrass beds to the southeast. Controlled demolition of the existing pier, and reconstruction of a new pier with new materials will protect the existing resources from potential permanent impact. Furthermore, the reduction in timber groin length, and number of piles will reduce the footprint of the structure where driven into the seabed.

Construction is anticipated to take place in the winter of 2026, spanning a period of 1-2 weeks. Pile replacement will be performed from a barge anchored just off the pier. Scheduling of barge work will be coordinated with appropriate tides, weather, and applicable time of year restrictions. Water-based vessels will access the site via the northeast, avoiding observed eelgrass to the southeast, as well as avoid grounding during low tide. Avoidance and minimization measures for the reconstruction/replacement of the timber pier, groin, and piles include:

1. The replacement of wooden pier timbers and metal connectors will be performed using conventional hand tools and power tools.
2. Existing timber piles will be removed by pulling, and if deemed infeasible, will be cut at the mudline.
3. The replacement piles will be driven using a barge-mounted crane and hammer.
4. Siltation curtains will be employed when driving the piles.
5. Construction activity, including staging of construction material and equipment as well as equipment transit to and from the construction site, should avoid intertidal habitat to the greatest extent practicable. As much work as possible should be conducted from the upland portion of the project site or from the barge to minimize impacts and avoid compaction of sediment in mapped shellfish habitat.
6. Any land-based work in the intertidal zone will be limited to low tide such that work is conducted in the “dry”.
7. The barge will not rest on the bottom and/or operate in shallow water (less than two feet between the motor skeg and the substrate). The barge will not ground out at low tides.
8. A time-of-year (TOY) restriction will be observed where no beach construction activity will take place from May 1 – July 31 of any year.
9. Land-based equipment will avoid refueling on-site, to the maximum extent practicable. If equipment is refueled on-site, adequate containment and clean up material will be utilized to minimize impacts.
10. Erosion and sedimentation control Best Management Practices (BMPs) will be undertaken during the entire construction phase of the project.
11. The Contractor shall always minimize impacts to adjacent coastal and inland resource areas during the proposed work.
12. Areas utilized for construction access will be restored to pre-existing conditions after project completion.

If you have any questions or require any further information, please do not hesitate to contact me directly at (508) 495-6257 or via email at cofsthun@woodsholegroup.com.

Sincerely,

Conor Ofsthun
Woods Hole Group