

Attachment

Project to Demolish and Rebuild a Single Family Home at 2 Beach Lane, Hingham, MA.

Background

There is currently a single family home at 2 Beach Lane. The home was built in 1925. The house is situated on a lot that sits near the coastal bank on Hingham Bay facing approximately NNW on the end of Wompatuck Road at the corner of Beach Lane. Between the home and yard and the coastal bank is a stone 'revetment'. The revetment is approximately 3 feet high and has natural vegetation growing on/among it. Inside the revetment on the south side of the lot is the house taking up approximately half of the lot. The other half of the lot on the east side is lawn/garden and is completely disturbed.

The current home is 3 stories, with the bottom floor being a garage and unfinished workshop space. The second and third floors are finished living space. Along the beach side of the home there is an attached raised deck facing the bay. There is another deck off the east side of the house.

The west side of the property is bordered by the very end of Wompatuck Road that extends past Beach Lane. The end of the road serves mainly as the parking area for a small municipal park on the water. The park appears to be unimproved except for a bench placed at the end of Wompatuck Road.

The house currently has an enclosed foundation and an asphalt driveway. The owners appear to have built up a berm at the start of the driveway in order to keep water from coming down the driveway into the garage. The neighbors tell us that water comes down Wompatuck Road and Beach Lane during extreme storms and overwhelms the storm drains, which causes a buildup of stormwater along Beach Lane.

Proposed Project

We propose to demolish the existing home, including the foundation and decks, and build a new home. The current driveway and walkways will also be removed. Much of the current landscaping is overgrown or has been removed and will be replaced with advice and in coordination with the Conservation Officer and as may be set forth in an Order of Conditions.

The new home will expand the current enclosed living space to the north, east and south. On the west side of the property, the current position will remain the same, about 7.5 feet from the property line (in accordance with the Hatfield Amendment). On the east side, the footprint will be expanded by approximately 20 feet toward the east lot line, but still 30' from the lot line. On the north side, the house will be expanded by approximately 6 feet beyond the house on the north side of home. A deck will extend off the house on the water side by approximately 10 feet. The edge of the deck will be approximately 3 feet closer to the revetment than the current deck. The south side of the house will be in approximately the same place except that there will be a covered porch facing Beach Lane.

The current asphalt driveway will be removed and the new driveway will be pervious pavers. Working with the Conservation Department staff, we will determine whether it is advisable to put a drainpipe under the driveway to move water to the sides of the lot.

The expansion of the home to the north and east will create approximately 700 sq ft of additional coverage within 50 feet of the resource area but within areas that are already disturbed. Including the deck increases this area to approximately 1,191 sq ft additional structure in the 50' buffer.

The remaining additional enclosed living space is between the 50' and 100' buffer zone lines. The total increased structure in the area between the 50' and 100' buffer lines is approximately 962 sq ft. This includes house, deck, stairs porch and driveway.

As a result, mitigation in the 50' buffer at 2:1 would be 2,382 sq ft. In the 100' buffer at 1:1, mitigation would be 962 sq ft. Within the 50' buffer there is only 2,045 sq ft of area available for mitigation which is less than what the 2:1 ratio would require. Within the 100' buffer, there is 2,633 sq ft available for mitigation. This exceeds the required 1:1 mitigation within the 100' buffer. In total, the increase in structure would require 3,344 sq ft of mitigation. There is a total of 4,565 sq ft available for mitigation between the two buffer zones, but not apportioned to cover the 50' buffer at 2:1.

For mitigation purposes, we propose to utilize much of the area within the 50' buffer not used for structure for mitigation of the additional structure being proposed in the 50' buffer. Further we proposed to use much of the area within the 100' buffer as additional mitigation. The configuration is illustrated in the proposed site plan. Essentially, we propose to utilize native plantings in a 15' wide strip along the entire eastern lot line from the southern lot line to the base of the revetment. Further, we propose to utilize all the area between the structure and the revetment to the north as native plantings as well as the entire area along the western lot line. This will leave a 15' wide strip of lawn along the side of the house to use as a yard which will be lawn.

This proposal, increases the amount of native plantings in the 50' and 100' buffers from the existing condition and prior approved plans. In the 50' buffer, the proposed mitigation is an increase of 976 sq ft from the prior approved plan (although we understand that we also increase the structure coverage). It is unclear whether the prior plan proposed specific amounts of mitigation for additional structure in the 100' buffer, but we propose 1487 sq ft of native plantings. Our proposal also decreases the amount of lawn from the existing condition and the prior approved plan.

The table below is based on the proposed site plan.

	Proposed Additional Structure	2:1 Mitigation	1:1 Mitigation	Total Mitigation
50' Buffer	1191	2382		
100' Buffer	962	0	962	
Total	2153	2382	962	3344

Proposed Mitigation Areas	50' Buffer	100' Buffer	Prior Approved	Total Proposed Mitigation
#1	819		475	
#2	632		*	
#3		758		
#4		168		
#5		561		
Total	1451	1487	475	2938

* Unknown whether the Commission required mitigation at 1:1 in the 100' buffer

Mitigation shortfall from typical construct:**	406
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** Overall mitigation in 50' and 100' at 2:1 and 1:1, respectively

The proposal increases the impervious areas on the lot from the existing condition and we have tried to mitigate those in several ways. We have tried to mitigate the additional impervious coverage by putting the house in piers instead of an enclosed foundation so that water may flow under the house during extreme storms. This also allows rain water to have more infiltration area during storms. The only foundation walls will be for the garage slab with walls on the west, north and east with flood vents installed in each foundation wall. The number of flood vents will be specified by the structural engineer to satisfy building codes (proposed vents shown on the site plan). The north side, which faces Hingham Bay, will be open and consist of concrete piers. Similarly, there will be piers on the east side of the garage under the living space as the foundation. This design will allow water from the bay to pass underneath the house during storms and rainwater coming down Beach Lane and Wompatuck Road to pass underneath also.

The additional roof area will create additional runoff from the roof which would have infiltrated directly into the currently disturbed grassy areas. We propose to install gutters as shown on the elevations and direct the runoff under the house. The foundation plan calls for 10 inches of crushed stone, which will allow for infiltration of the runoff back into the ground and mitigate the creation of mud or swampy areas on the property or under the house. This area is shown on the proposed site plans.

We propose to install an outdoor shower. The shower area floor will be pervious pavers over a small drywell in order to accommodate shower water. We propose to use a pre-made drywell such as 40-Gallon Flo Well Storm Drainage Dry Well or similar and installed per the specifications for the product.

There is also a proposed hot tub to be installed on the northeast corner of the 1st floor deck. We propose to include in the order of conditions that the water, when changed, be emptied under the house, similar to the gutters. Prior to being emptied, the chlorine content will be tested to be sure there is no free chlorine in the water. As a result, the water being directed under the house will be chemical free.

Finally, we are not proposing to disturb any area not already disturbed. However, we ask that we are able to prune vegetation currently on the revetment, but not add or take anything away.

Prior Approved Project

We note that the Commission recently approved a proposed project for Thompson Builders. When we purchased the property, we abandoned that approved site plan and asked the Commission to close the order of conditions with no work performed. The Commission issued the certificate of compliance with no work performed. Our current proposal improves upon the prior approved "Thompson project" in several ways.

First, our proposal decreases the impervious house coverage by approximately 145 sq ft from the Thompson project. In addition, we decrease the overall impervious coverage by approximately 1,100 sq ft by installing a pervious paver driveway instead of asphalt. This results in a total decrease in impervious coverage from the Thompson project by approximately 1,300 sq ft.

Next, the Thompson project had an enclosed foundation that would impede water flow from Hingham Bay and the street. The approved Thompson project included significant excavation and installation of

multiple subsurface chambers to hold stormwater. These chambers would have required regular inspections monitoring. Our proposal, instead, puts the house on piers so that water can move freely.

The approved Thompson project also had other significant excavation and installation of retaining walls at the front of the house and the west and east sides of the driveway. We will install no retaining walls.

The approved Thompson project's house was approximately 75' wide from west to east with an enclosed foundation. This blocked the vast majority of the lot for water to pass through from the Bay during a storm. We have narrowed the house by approximately one-third with about 50' of house facing the bay from west to east. In addition to putting the house on piers, this will allow significantly more area for water to pass from Hingham Bay to Beach Lane during extreme storms.

Appendix:

Summary of the existing, prior approved and proposed site plans is as follows:

PRIOR APPROVED PLAN - GRADY CONSULTING		
	Existing	Thompson Approved
Structure - 50' Buffer Zone	Sq Ft	Sq Ft
Foundation	504	566
Deck	289	
Wooden Steps	29	44
Covered Porch		437
Total	822	1047
Impervious Coverage		
Building/Roof	1185	2933
Driveway/Walkway	707	1167
Total	1892	4100

PROPOSED PLAN - PERKINS ENGINEERING			
	Existing*	Sharp Proposed	
Structure - 50' Buffer Zone	Sq Ft	Sq Ft	Notes
Foundation / House	502	1238	
Deck	288	749	
Wooden Steps / Stairs	30	24	-Proposed = stairs + step -Existing and proposed does not include block wall
Covered Porch			
Total	820	2011	
Impervious Coverage - Total			
Building Roof	1191	2858	-Proposed = house + porch + block walls + step/stairs -Add deck and stairs (749+23+14+14) = 3,658
Driveway/Walkway	765	0	-Proposed driveway and walkways are pervious pavers -Existing = driveway + walk 1 + walk 2 + step + block wall
Total	1956	2858	

* Some slight differences from Grady to Perkins calculations