

Staff Report

Date: November 20, 2020

To: Conservation Commission

From: Whitney McClees, Conservation Agent

Subject: **32 Fort Street – Request for Certificate of Compliance – DEP# 023-1222, Fairhaven CON 023-193**

DOCUMENTS REVIEWED

- Request for Certificate of Compliance and associated documents
- 310 CMR 10.00
- Fairhaven Wetlands Bylaw (Chapter 192)

RESOURCE AREAS ON/NEAR SITE

- Coastal Beach
- Coastal Bank
- Buffer Zone
- Land Subject to Coastal Storm Flowage (LSCSF) Zone AE

PERFORMANCE STANDARDS

- **Coastal Beach:** 10.27
(3) Any project on a coastal beach...shall not have an adverse effect by increasing erosion, decreasing the volume or changing the form of any such coastal beach or an adjacent or downdrift coastal beach.
(5) Beach nourishment with clean sediment of a grain size compatible with that on the existing beach may be permitted.
- **Coastal Bank:** 10.30
(4) Any project on a coastal bank or within 100 feet landward of the top of a coastal bank...shall not have an adverse effect due to wave action on the movement of sediment from the coastal bank to coastal beaches or land subject to tidal action.
(6) Any project on...a coastal bank [that is determined to be significant to storm damage prevention or flood control because it is a vertical buffer to storm waters] or within 100 feet landward of the top of such coastal bank shall have no adverse effects on the stability of the coastal bank.
- **Buffer Zone General Provisions:** 10.53(1) “For work in the Buffer Zone subject to review under 310 CMR 10.02(2)(b)3., the Issuing Authority shall impose conditions to protect the interests of the Act identified for the adjacent Resource Area. ... where prior development is extensive, may consider measures such as the restoration of natural vegetation adjacent to a Resource Area to protect the interest of [the Act]. ... The purpose of preconstruction review of work in the Buffer

Zone is to ensure that adjacent Resource Areas are not adversely affected during or after completion of the work.”

- **LSCSF General Provisions:** 10.24(1) “If the issuing authority determines that a resource area is significant to an interest identified in [the Act]...,the issuing authority shall impose such conditions as are necessary to contribute to the protection of such interests.”

PROJECT SUMMARY

- The Order of Conditions issued in 2015 permitted seawall repairs and renovations to an outbuilding.
- The certificate of compliance is requested for the seawall repairs.

COMMENTS

- The engineer’s letter noted that the only deviations from the project were that proposed repairs were not made to the outbuilding and additional drainage outlets were installed in the seawall.
- During the site visit, the engineer pointed out the areas where the drainage had been added.
- The renovations to the outbuilding were nothing that would have increased the footprint of the structure, such as a new roof, siding, etc. They were included on the filing anyway.

RECOMMENDATION

- I recommend issuing a Certificate of Compliance for Partial Certification for the seawall repairs for SE 023-1222.

Staff Report

Date: November 20, 2020

To: Conservation Commission

From: Whitney McClees, Conservation Agent

Subject: **32 Fort Street – Notice of Intent – DEP# 023-1338, Fairhaven CON 023-191**

DOCUMENTS REVIEWED

- Notice of Intent and associated documents
- 310 CMR 10.00
- Fairhaven Wetlands Bylaw (Chapter 192)

RESOURCE AREAS ON/NEAR SITE

- Coastal Beach
- Coastal Bank
- Buffer Zone
- Land Subject to Coastal Storm Flowage (LSCSF) Zone AE

PERFORMANCE STANDARDS

- **Coastal Beach:** 10.27
(3) Any project on a coastal beach...shall not have an adverse effect by increasing erosion, decreasing the volume or changing the form of any such coastal beach or an adjacent or downdrift coastal beach.
(5) Beach nourishment with clean sediment of a grain size compatible with that on the existing beach may be permitted.
- **Coastal Bank:** 10.30
(4) Any project on a coastal bank or within 100 feet landward of the top of a coastal bank...shall not have an adverse effect due to wave action on the movement of sediment from the coastal bank to coastal beaches or land subject to tidal action.
(6) Any project on...a coastal bank [that is determined to be significant to storm damage prevention or flood control because it is a vertical buffer to storm waters] or within 100 feet landward of the top of such coastal bank shall have no adverse effects on the stability of the coastal bank.
- **Buffer Zone General Provisions:** 10.53(1) "For work in the Buffer Zone subject to review under 310 CMR 10.02(2)(b)3., the Issuing Authority shall impose conditions to protect the interests of the Act identified for the adjacent Resource Area. ... where prior development is extensive, may consider measures such as the restoration of natural vegetation adjacent to a Resource Area to protect the interest of [the Act]. ... The purpose of preconstruction review of work in the Buffer Zone is to ensure that adjacent Resource Areas are not adversely affected during or after completion of the work."

- **LSCSF General Provisions:** 10.24(1) “If the issuing authority determines that a resource area is significant to an interest identified in [the Act]...,the issuing authority shall impose such conditions as are necessary to contribute to the protection of such interests.”

PROJECT SUMMARY

- The applicant is proposing to upgrade the existing stone seawall by installing a 10-foot return and raising the height of the seawall 36 inches to increase shoreline protection of the property.

COMMENTS

- No work is proposed on the beachside of the wall. All work is proposed on the landward side.
- The property is existing lawn to the edge of the seawall.
- The existing seawall is functioning as the coastal bank.
- The width of the wall is not expanding.
- Renovations to the outbuilding do not involve a change in footprint.
- MA Division of Marine Fisheries provided the following comments:
 - Minimize seaward encroachment of the stone seawall to the maximum extent practicable.
 - Appropriate erosion control measures should be employed to minimize runoff from the property into the harbor during construction.
 - All work should be conducted from the upland side of the project site to minimize impacts to shellfish habitat.
 - No construction materials or debris should be stored in the intertidal area.
 - Fuel spills from the refueling of construction equipment may adversely impact sensitive resource areas. If equipment is to be refueled on-site, adequate containment and clean up material should be required.

RECOMMENDATION

- I recommend closing the public hearing for 32 Fort Street and issuing an Order of Conditions for SE 023-1338, CON 023-191, plans dated October 19, 2020, with the following recommended conditions:

Approve plan dated October 19, 2020

A. General Conditions

1. ACC-1
2. With respect to all conditions except_____, the Conservation Commission designates the Conservation Agent as its agent with full powers to act on its behalf in administering and enforcing this Order.
3. REC-1
4. REC-2
5. ADD-1
6. ADD-2
7. ADD-4b
8. ADD-4c
9. ADD-5

10. STO-4
 11. STO-5
 12. Fuel spills from the refueling of construction equipment may adversely impact sensitive resource areas. If equipment is to be refueled on-site, adequate containment and clean-up material are required and refueling shall be done outside of the 100-foot buffer zone to resource areas.
 13. The limit of work shall be the labeled dotted line as shown on the approved plans and no work shall be permitted beyond this limit line.
 14. Seaward encroachment of the stone seawall shall be minimized to the maximum extent practicable.
 15. WET-1
- B. Prior to Construction
16. CAP-3
 17. REC-3
 18. DER-1
 19. PCC-3
 20. EMC-1
 21. PCC-1
 22. SIL-5
 23. SIL-9
 24. SIL-10
- C. During Construction
25. Appropriate erosion control measures shall be employed to minimize runoff from the property into the harbor during construction.
 26. All work shall be conducted from the upland site of the project site to minimize impacts to shellfish habitat.
 27. No construction materials or debris shall be stored in the intertidal area.
 28. STO-3
 29. MAC-3
 30. MAC-7
 31. All equipment shall be inspected regularly for leaks. Any leaking hydraulic lines, cylinders, or any other components shall be fixed immediately.
 32. DEB-1
 33. DEB-5
 34. EMC-2
 35. SIL-3
 36. SIL-4
 37. LOW-3
 38. WAS-2
- D. After Construction/In Perpetuity
39. REV-1
 40. RES-4
 41. COC-1
 42. COC-2
- Perpetual Conditions
The below conditions do not expire upon completion of the project.
43. CHM-3
 44. DER-4

Staff Report

Date: November 20, 2020

To: Conservation Commission

From: Whitney McClees, Conservation Agent

Subject: **18 Bonney Street – Request for Certificate of Compliance – DEP# 023-1281, Fairhaven CON 19-021**

DOCUMENTS REVIEWED

- Request for Certificate of Compliance and associated documents
- Order of Conditions dated December 17, 2018
- 310 CMR 10.00
- Fairhaven Wetlands Bylaw (Chapter 192)

RESOURCE AREAS ON/NEAR SITE

- Land Subject to Coastal Storm Flowage (LSCSF) Zones VE and AE

PERFORMANCE STANDARDS

- **LSCSF General Provisions:** 10.24(1) “If the issuing authority determines that a resource area is significant to an interest identified in [the Act]...,the issuing authority shall impose such conditions as are necessary to contribute to the protection of such interests.”

PROJECT SUMMARY

- The Order of Conditions approved the demolition of the existing dwelling and the construction of a single-family house in compliance with flood zone construction standards.

COMMENTS

- The engineer noted two minor deviations from the approved plan:
 - The proposed timber staircase was constructed from the porch down to grade in lieu of placing additional fill and a longer masonry retaining wall along the westerly side of the driveway.
 - A second means of egress has been provided with the construction of a second timber staircase from the balcony down to grade – located along the southeasterly corner of the house.
- The site has been stabilized and there are no continuing conditions noted in the order of conditions.

RECOMMENDATION

- I recommend issuing a Certificate of Compliance for Complete Certification for 18 Bonney Street, SE 023-1281, CON 19-021.

Staff Report

Date: November 20, 2020

To: Conservation Commission

From: Whitney McClees, Conservation Agent

Subject: **18 Point Street – Notice of Intent – DEP# 023-1333, Fairhaven CON 023-181**

DOCUMENTS REVIEWED

- Notice of Intent and associated documents
- 310 CMR 10.00
- Fairhaven Wetlands Bylaw (Chapter 192)
- Revised site plan dated October 13, 2020
- Letter from the engineer dated November 2, 2020 addressing FEMA building code in relation to coastal dunes
- Letter from engineer dated November 13, 2020

RESOURCE AREAS ON/NEAR SITE

- Coastal Beach
- Coastal Dune
- Buffer Zone
- Land Subject to Coastal Storm Flowage

PERFORMANCE STANDARDS

- **Coastal Beach:** 10.27
(3) Any project on a coastal beach...shall not have an adverse effect by increasing erosion, decreasing the volume or changing the form of any such coastal beach or an adjacent or downdrift coastal beach.
(5) Beach nourishment with clean sediment of a grain size compatible with that on the existing beach may be permitted.
- **Coastal Dune:** 10.28
(3) Any alteration of, or structure on, a coastal dune or **within 100 feet of a coastal dune** shall not have an adverse effect on the coastal dune by:
 - (a) affecting the ability of waves to remove sand from the dune;
 - (b) disturbing the vegetative cover so as to destabilize the dune;
 - (c) causing any modification of the dune form that would increase the potential for storm of flood damage;
 - (d) interfering with the landward or lateral movement of the dune;
 - (e) causing removal of sand from the dune artificially; or
 - (f) interfering with mapped or otherwise identified bird nesting habitat.

- **Buffer Zone General Provisions:** 10.53(1) “For work in the Buffer Zone subject to review under 310 CMR 10.02(2)(b)3., the Issuing Authority shall impose conditions to protect the interests of the Act identified for the adjacent Resource Area. ... where prior development is extensive, may consider measures such as the restoration of natural vegetation adjacent to a Resource Area to protect the interest of [the Act]. ... The purpose of preconstruction review of work in the Buffer Zone is to ensure that adjacent Resource Areas are not adversely affected during or after completion of the work.”
- **LSCSF General Provisions:** 10.24(1) “If the issuing authority determines that a resource area is significant to an interest identified in [the Act]...,the issuing authority shall impose such conditions as are necessary to contribute to the protection of such interests.”

PROJECT SUMMARY

- The applicant is proposing to demolish the existing house and construct a new single-family house on a flood-compliant foundation with associated site work.

COMMENTS

- Currently the project proposes a paved driveway and a frost wall foundation with horizontal members below grade and a slab. The project also proposes some fill.
- Minimal fill is allowed if it is not for structural purposes. However, it is likely to be washed out in the event of a significant storm or flooding event.
- The letter from the engineer states that there is an exception in the building code related to soil type in terms of using something other than an open pile foundation in a coastal dune.
 - The exception states that “where surface or sub-surface conditions consist of non-erodible soil that prevents the use of pile foundations, spread footings...may be permitted.”
 - The on-site evaluation of the soils submitted in the letter by the engineer states that there are compact soils on site.
- FEMA has found significant scour associated with horizontal structures in and near coastal dunes.
- Additionally, FEMA regulations state that concrete slabs need to be structurally independent of the primary foundation system of the building. If it is structurally connected, the main structure needs to be capable of resisting any added flood loads and effects of scour due to the presence of a slab.
- Currently the project proposes three separate horizontal structures within 100 feet of the coastal dune: frost wall foundation below grade, concrete slab at grade, concrete driveway.
- The engineer’s letter regarding building code for construction within a flood zone references the following information:
 - “within a V-zone and not a coastal dune: Entire structure elevated on open pilings or columns”
 - “within a V-zone and a coastal dune: Entire structure elevated on open pilings without footings”
 - There are exceptions to this allowing footings to be used if sub-surface conditions warrant it.
- The engineer is of the opinion that a continuous reinforced slab that sits on the foundation wall doesn’t permit waves to get under it to lift it, break it, and move it.

- The engineer confirmed that the property owner is amenable to a seashell driveway with a small asphalt apron in lieu of a concrete driveway and will be sending a revised site plan for Monday's meeting.
- While the slab under the house may not be able to be undermined, it still causes potential for scour damage to the coastal dune.

RECOMMENDATION

- If the Commission feels the frost-wall foundation and slab underneath the house will have an adverse effect on the coastal dune in any of the ways listed in 10.28(3), I recommend asking the applicant to revise the plans to an open piling foundation.
- If the Commission feels the horizontal structures within 100 feet of the dune will not have an adverse effect on the coastal dune, I recommend closing the public hearing and issuing an Order of Conditions for SE 023-1333, CON 023-181, with the following recommended conditions:

Approve plan dated _____

A. General Conditions

1. ACC-1
2. With respect to all conditions except _____, the Conservation Commission designates the Conservation Agent as its agent with full powers to act on its behalf in administering and enforcing this Order.
3. REC-1
4. REC-2
5. ADD-1
6. ADD-2
7. ADD-4b
8. ADD-4c
9. ADD-5
10. STO-4
11. STO-5
12. LOW-2
13. WET-1
14. All construction shall comply with local, state, and federal building regulations for construction within a flood zone. This includes no fill for structural purposes and compliance with ASCE 24-14.

B. Prior to Construction

15. CAP-3
16. REC-3
17. DER-1
18. PCC-3
19. EMC-1
20. PCC-1
21. SIL-5
22. SIL-7
23. SIL-9
24. SIL-10

C. During Construction

- 25. STO-1
- 26. STO-3
- 27. MAC-3
- 28. MAC-7
- 29. All equipment shall be inspected regularly for leaks. Any leaking hydraulic lines, cylinders, or any other components shall be fixed immediately.
- 30. DEB-1
- 31. DEB-5
- 32. BLD-3
- 33. BLD-4
- 34. EMC-2
- 35. SIL-3
- 36. SIL-4
- 37. SIL-8
- 38. LOW-3
- 39. WAS-2
- 40. WAT-3

D. After Construction/In Perpetuity

- 41. REV-1
- 42. RES-4
- 43. COC-1
- 44. COC-2

Perpetual Conditions

The below conditions do not expire upon completion of the project.

- 45. CHM-2 This condition shall survive the expiration of this Order, and shall be included as a continuing condition in perpetuity on the Certificate of Compliance.
- 46. DER-4
- 47. The recharge system shall be maintained in good working order.
- 48. No additional impervious surfaces shall be added to the property beyond what is permitted by this Order.
- 49. Should the coastal dune be impacted by scour from the horizontal structures on the property, the dune shall be restored.
- 50. Mowing, cutting, or removal of coastal dune vegetation shall not be allowed at any point.

Staff Report

Date: November 20, 2020

To: Conservation Commission

From: Whitney McClees, Conservation Agent

Subject: **8 Bayside Street – Notice of Intent – DEP# 023-1339, Fairhaven CON 023-192**

DOCUMENTS REVIEWED

- Notice of Intent and associated documents
- 310 CMR 10.00
- Fairhaven Wetlands Bylaw (Chapter 192)
- Comments from MassDEP
- Comments from DMF

RESOURCE AREAS ON/NEAR SITE

- Rocky Intertidal Shore
- Coastal Beach
- Coastal Bank
- Buffer Zone
- Land Subject to Coastal Storm Flowage (LSCSF) Zone VE

PERFORMANCE STANDARDS

- **Rocky Intertidal Shore:** 10.31
(3) ...Significant to Storm Damage Prevention, Flood Control, or Protection of Wildlife Habitat, any proposed project shall be designed and constructed...so as to minimize adverse effects on the form and volume of exposed intertidal bedrock and boulders.
(4) ...Significant to the Protection of Marine Fisheries or Wildlife Habitat, any proposed project [that is water-dependent shall be] designed and constructed...so as to minimize adverse effects...on water circulation and water quality [and any proposed project that is not water-dependent shall have no adverse effects on water circulation and water quality.]
- **Coastal Beach:** 10.27
(3) Any project on a coastal beach...shall not have an adverse effect by increasing erosion, decreasing the volume or changing the form of any such coastal beach or an adjacent or downdrift coastal beach.
(5) Beach nourishment with clean sediment of a grain size compatible with that on the existing beach may be permitted.
- **Coastal Bank:** 10.30
(4) Any project on a coastal bank or within 100 feet landward of the top of a coastal bank...shall not have an adverse effect due to wave action on the movement of sediment from the coastal bank to coastal beaches or land subject to tidal action.

(6) Any project on...a coastal bank [that is determined to be significant to storm damage prevention or flood control because it is a vertical buffer to storm waters] or within 100 feet landward of the top of such coastal bank shall have no adverse effects on the stability of the coastal bank.

- **Buffer Zone General Provisions:** 10.53(1) “For work in the Buffer Zone subject to review under 310 CMR 10.02(2)(b)3., the Issuing Authority shall impose conditions to protect the interests of the Act identified for the adjacent Resource Area. ... where prior development is extensive, may consider measures such as the restoration of natural vegetation adjacent to a Resource Area to protect the interest of [the Act]. ... The purpose of preconstruction review of work in the Buffer Zone is to ensure that adjacent Resource Areas are not adversely affected during or after completion of the work.”
- **LSCSF General Provisions:** 10.24(1) “If the issuing authority determines that a resource area is significant to an interest identified in [the Act]...,the issuing authority shall impose such conditions as are necessary to contribute to the protection of such interests.”

PROJECT SUMMARY

- The applicant is proposing to reconstruct the existing seawall and repair the concrete block wall.

COMMENTS

- The applicant noted during the site visit they also intent to repair/reconstruct the existing concrete block wall along the top of the seawall as it is falling apart. The engineer requested that a condition be included allowing the concrete wall to be repaired/replaced but not expanded.
- Division of Marine Fisheries submitted the following comments:
 - Equipment in the intertidal area shall be minimized as much as practicable.
 - Appropriate containment techniques should be used to prevent construction debris, stormwater runoff, and loose sediments from entering the marine environment during construction.
 - Reconstruction of the marine bulkhead should be limited to the footprint of the existing structure.
 - Minimize seaward encroachment of the seawall to the maximum extent possible.
- MassDEP submitted the following comment:
 - Smooth surfaces, such as that proposed in the redevelopment of the structure tend to reflect wave energy outward onto the beach and upward (toward the house) rather than dissipating the energy. Has a more traditional sloped stone structure been considered?
- The engineer noted that the seawall was not modified from the originally licensed structure due to cost as well as space and that they are proposing to place excess boulders in front of the wall to assist with the dissipation of wave energy. The engineer noted that because the site is so small, there is virtually no place for storage on site to construct a traditional riprap seawall structure.
- It looks like the design is slightly different from the 1998 license plan based on the cross-sections submitted with the site plan.
- *Question for Applicant:* Will this project need a new Chapter 91 license or does it fall under the current license?

- *Question for Applicant:* Will the proposed boulders to be placed in front of the wall be similar in size to rocks and cobble already present on site so as not to be constituted a habitat conversion?
- While the repair of the wall will improve storm damage prevention for the circa 1950 existing residential dwelling, the smooth surface proposed could exacerbate storm damage to the dwelling as well as the rocky intertidal coastal beach.
- *Question for Applicant:* Is there a possibility to modify the structure somewhat to protect both the house and the resource area so it better addresses MassDEP's concern regarding smooth surfaces reflecting wave energy?

RECOMMENDATION

- I recommend asking the applicant if they would like to request a continuance to address the comments above. If the applicant does not want to request a continuance, I recommend closing the public hearing.

Staff Report

Date: November 20, 2020

To: Conservation Commission

From: Whitney McClees, Conservation Agent

Subject: **Hiller Avenue and Timothy Street, Assessors Map 28C, Lots 71 & 71A – Notice of Intent – DEP#023-1297, Fairhaven CON-19-051**

DOCUMENTS REVIEWED

- Notice of Intent and associated attachments submitted
- 310 CMR 10.00
- Fairhaven Wetlands Bylaw (Chapter 192)
- Peer review by GCG Associates dated December 30, 2019
- Revised plans dated January 13, 2020
- Revised stormwater report dated January 10, 2020
- Exhibit plan dated September 25, 2020
- Exhibit plan dated October 13, 2020
- Supplemental information letter dated November 16, 2020
- Exhibit plan dated November 16, 2020
- Benjamin Forestry Services, Inc. Report

RESOURCE AREAS ON/NEAR SITE

- Bordering Vegetated Wetland
- Buffer Zone

PERFORMANCE STANDARDS

- **Bordering Vegetated Wetland:** 10.55(4)
 - (a) work in a Bordering Vegetated Wetland shall not destroy or otherwise impair any portion of the BVW
 - (b) The ConCom may permit the loss of up to 5000 square feet of BVW when said area is replaced IF:
 1. The area is equal;
 2. The ground water and surface elevation are approximately equal;
 3. The overall horizontal configuration and location are similar;
 4. There is an unrestricted hydraulic connection to the same water body or waterway;
 5. It is in the same general area of the water body;
 6. At least 75% of the surface of the replacement area shall be reestablished with indigenous wetland plant species within two growing seasons; and
 7. The replacement area is provided in a manner which is consistent with all other regs in 310 CMR 10.00.

- (c) The ConCom may permit the loss of a portion of BVW when;
 1. Said portion has a surface area less than 500 square feet;
 2. Said portion extends in a distinct linear configuration ("finger-like") into adjacent uplands; and
 3. In the judgment of the issuing authority it is not reasonable to scale down, redesign or otherwise change the proposal.
- (d) No project may be permitted which will have any adverse effect on specified habitat sites of rare species
- (e) No work shall destroy or otherwise impair any Area of Critical Environmental Concern
- **Buffer Zone General Provisions:** 10.53(1) "For work in the Buffer Zone subject to review under 310 CMR 10.02(2)(b)3., the Issuing Authority shall impose conditions to protect the interests of the Act identified for the adjacent Resource Area. ... where prior development is extensive, may consider measures such as the restoration of natural vegetation adjacent to a Resource Area to protect the interest of [the Act]. ... The purpose of preconstruction review of work in the Buffer Zone is to ensure that adjacent Resource Areas are not adversely affected during or after completion of the work."

PROJECT SUMMARY

- The Notice of Intent was filed for the construction of paved roadways and stormwater management systems and the installation of utilities, including the placement of fill for the aforementioned work, for a proposed 16-lot subdivision.

COMMENTS

- From 310 CMR 10.00 Preface to the Wetlands Regulations, 2005 Revisions:
 - "Research on the functions of buffer zones and their role in wetlands protection has clearly established that buffer zones play an important role in preservation of the physical, chemical, and biological characteristics of the adjacent resource area. The potential for adverse impacts to resource areas from work in the buffer zone increases with the extent of the work and the proximity to the resource area."
 - "Extensive work in the inner portion of the buffer zone, particularly clearing of natural vegetation and soil disturbance is likely to alter the physical characteristics of resource areas by changing their soil composition, topography, hydrology, temperature, and the amount of light received. Soil and water chemistry within resource areas may be adversely affected by work in the buffer zone. Alterations to biological conditions in adjacent resource areas may include changes in plant community composition and structure, invertebrate and vertebrate biomass and species composition, and nutrient cycling. These alterations from work in the buffer zone can occur through the disruption and erosion of soil, loss of shading, reduction in nutrient inputs, and changes in litter and soil composition that filters runoff, serving to attenuate pollutants and sustain wildlife habitat within resource areas."
- From 310 CMR 10.00 Preface to the 1983 Regulations:
 - "Any project undertaken in close proximity to a wetlands resource area has a high likelihood of resulting in some alteration of that area, either immediately or as a consequence of daily operation of the completed project. The problem becomes particularly severe when Bordering Vegetated Wetlands are involved; inadvertent damage to these sensitive areas can easily occur and in many instances is irreparable."
- From the MACC Wetlands Buffer Zone Guidebook:

- Most studies find that buffers dominated by trees or a mix of vegetative cover types, structure, and age classes are most effective in removing nutrients and sediment pollution.
- Vegetated buffers between 30 and 100+ feet appear to be effective in reducing sediments, phosphorus, and nitrogen with 75% removal rate.
- Additional benefits of vegetated buffers:
 - phosphorus and sediment removal capacity is most effective within 50 feet of the resource area.
 - nitrogen removal capacity is most effective within at least 100 feet of the resource area.
 - vegetated buffer width of minimum 50 feet is most effective to maintenance of water temperature.
 - buffers of less than 50 feet are more susceptible to degradation by human disturbance. Buffers of 25 feet or less do not function in a meaningful way to reduce disturbance to the adjacent wetland.
 - During flood events, buffer zones become backup flood storage areas and minimize water quality and storm damage impacts from floods and severe storm events.
- When reviewing a project in the buffer zone, it is important to consider:
 - Will the project substantially reduce the capacity of the buffer zone to slow, detain, filter, store, and infiltration runoff prior to reaching the resource area?
 - Will the project substantially reduce the capacity of the buffer zone to protect wildlife habitat functions of the wetland resource area?
 - Will the project substantially reduce existing buffer zone vegetation that provides protection to resource area vegetation, thus potentially reducing the functional capacity of the adjacent resource area?
 - Is the existing or proposed undisturbed buffer zone suitable to maintain sediment, pollutant, pathogen, and nutrient removal capacity of the adjacent resource area?
 - Can the project be reasonably shifted or modified to allow work and also the necessary buffer zone protection of resource area sediment, pollutant, pathogen, and nutrient removal, flood control, storm damage prevention, and protection of wildlife habitat functions?
- Both proposed detention ponds are located directly next to the wetlands on the property and portions of all three roadways fall within the 100-foot buffer zone to the wetlands. 10 of the 16 proposed house lots fall within the jurisdiction of the Conservation Commission.
- Several of the lots are comprised of predominantly wetland (e.g. Lots 8, 9, and 12), which may cause encroachment into the wetlands and potential for violations in the future. Many of these lots will likely need permits through the Conservation Commission for any proposed future work, whether that is the construction of homes or any additions to homes already constructed, such as decks, pools, or patios.
- The amount of work proposed currently and work that will be proposed in the future comprises a significant portion of the inner buffer zone. Significantly reducing the amount of vegetation, especially mature trees, in the buffer zone can have negative impacts on the wetland, such as increased temperatures and a reduction in pollutant filtration. Significantly increasing the number of homes in the area has the potential to increase the amount of fertilizers, herbicides, and pesticides that runoff into the wetland.

- Several of the proposed driveways and portions of the roadways are within 25 to 50 feet of the wetland, which increases the potential for the alteration of hydrology in the wetland.
- Undisturbed buffer zones are important to protect the wetland's ability to perform its ecosystem functions: public or private water supply, groundwater supply, flood control, storm damage prevention, prevention of pollution, and wildlife habitat.
- Currently, the project proposes to clear a significant portion of the 100-foot buffer zone to the BVW, right up to the wetland line in some cases.
- There is also a significant amount of fill proposed, some of which is proposed directly adjacent to the wetlands.
- The revised exhibit plan shows the following:
 - Highlights areas to be cleared within 15 feet of the wetland line
 - Total square footage for entire project: 6,222 square feet of buffer zone between 0 and 15 feet of the wetland line
 - Proposes 7,614 square feet of additional wetland to be added while preserving mature trees
 - Added a note regarding lots 5-7 and a 100-foot setback line from the property line on the southern portion of the plan.
- It is the applicant's responsibility to show that a proposed project is designed to protect the wetlands' ability to provide the above ecosystem functions. The applicant has not shown thus far that the project will protect the values and interests of the wetlands on the property.
- The applicant provided a forestry report and the majority of calculations requested, as included in the meeting packet.
 - The forestry report notes that in the opinion of the forester, "the removal of the trees from the 100-foot buffer zone will not have an adverse effect on the wetland areas. The added sunlight that will begin to reach the trees and shrubs within the flagged wetlands areas will enable the vegetation to grow more lushly and productively and as a result, the wetland areas will continue to provide the crucial services of protecting water quality, providing invaluable wildlife food and habitat, and maintaining their aesthetic appeal as the upland portions of the property are slowly developed as proposed."
- If the Commission is open to the changes proposed by the applicant, a full plan set that includes a detailed replication plan will need to be submitted for review. If the Commission would like to see further changes, such as a reduction in scope of the project, another exhibit plan should be submitted for review.

RECOMMENDATION

- I recommend asking the applicant if they would like to request a continuance to a future meeting to allow time to address the Commission's comments.