

August 10, 2020

Landis Hershey, Conservation Agent  
Town of Walpole – Conservation Commission  
135 School Street  
Walpole, MA 02081

Re: **Proposed Multifamily Development – 55 Summer St Peer Review**

Ms. Hershey:

BETA Group, Inc. (BETA) has reviewed the Notice of Intent, plans, and other materials submitted to the Conservation Commission for the proposed Multifamily Housing Development located at 55 Summer Street in Walpole, Massachusetts (the Site). The project is being concurrently reviewed by the Walpole Zoning Board of Appeals under the Comprehensive Permit review process.

### **Basis of Review**

- *Notice of Intent*, dated May 14, 2020, prepared by Howard Stein Hudson.
- *Project Plans: "Site Plan for Proposed Multifamily Development,"* dated May 5, 2020, prepared by Howard Stein Hudson (86 Sheets).
- *Stormwater Management Report: "Proposed Multifamily Development"* dated May 2020, prepared by Howard Stein Hudson.
- *Abbreviated Notice of Resource Area Delineation*, dated November 20, 2019, prepared by Oxbow Associates, Inc.
- *Site Plan and RFA Narrative Revisions*, dated June 20, 2020, prepared by Howard Stein Hudson.
- *Comprehensive Permit (40B) Peer Review*, dated April 20, 2020, prepared by Tetra Tech.
- Massachusetts Stormwater Handbook
- Town of Walpole Wetland Protection By-Law, Chapter 561, Wetland Protection, Division 2 of the General Bylaw (as revised 5/07/201) and Regulations (the Bylaw). *This is non-scope*
- MACC Buffer Zone Guidebook, dated June 6, 2019
- Massachusetts Wetlands Protection Act (M.G.L. Chapter 131 Section 40 - *the Act*)

### **SITE AND PROJECT DESCRIPTION**

The Site consists of three lots identified by the Walpole Assessor's Office as Lots 52-78-1, 52-59, and 52-60. In total, the Site consists of 54.73± acre parcel and is located to the north of Summer Street. The existing Site is currently vacant and predominantly woodlands.

An internal wetland system is present throughout the Site. The Site is bounded to the north by Cedar Brook and Cedar Swamp, and the 200-foot Riverfront Area extends into the Site. Several vernal pools are located throughout these wetlands. Portions of the Site to the north and east are within a FEMA- mapped 100-year flood zone (Zone A and Zone AE). The north end of the Site is also within a NHESP- mapped Priority Habitat of Rare Species. The resource area boundaries on the Site were confirmed by two Order of Resource Area Delineation decisions, both of which are still valid.

The project proposes to clear and grade most of the non-wetland areas to construct multi-family housing development. The development will include several larger apartment/townhouse buildings as well as a series of single-family homes. Associated Site improvements include paved parking areas, paved roadways, wetland crossings, and utilities (domestic water, fire service, sewer, gas, electric). Stormwater management is proposed through a network of catch basins, manholes, subsurface infiltration systems, and infiltration ponds.

The project will impact wetland resource areas, riverfront areas, and flood zones that are Subject to Protection under the local Bylaw and the Massachusetts Wetlands Protection Act. The Applicant has submitted a request for a Waiver from compliance with the local Wetlands Protection Bylaw and Regulations, as the Project is seeking approval for a Comprehensive Permit pursuant to M.G.L. Chapter 40B.

## **STORMWATER MANAGEMENT**

The project is large, dense, and complex relative to stormwater management. The project proposes a closed drainage system consisting of deep-sump, hooded catch basins and drainage manholes to capture stormwater runoff from proposed paved areas. This system conveys runoff to either a subsurface infiltration system towards the northern side of the Site or one of several infiltration basins with sediment forebays. These BMPs include overflow outfalls or emergency spillways that discharge runoff into adjacent wetland buffer zones.

BETA was asked by the Conservation Commission to review the ZBA peer review consultants' letter. The scope of this review is the project's compliance with the Massachusetts Stormwater Handbook. This letter is not intended to be a comprehensive peer review of the stormwater management design.

### **PEER REVIEWER COMMENTS – STORMWATER MANAGEMENT**

The project's stormwater design has been reviewed by Tetra Tech (TT) in their peer review letter dated April 10, 2020. BETA has reviewed these findings and is in general agreement with these comments. Additional clarification, comments and recommendations are included below.

### **MASSACHUSETTS STORMWATER STANDARDS**

The following section details BETA's review of project compliance with the MassDEP Stormwater Standards and good engineering practices.

*SW1. Provide copy of MassDEP Stormwater Report Checklist.*

*This was included in the submission, refer to the checklist for Stormwater Report stamped and signed by Katie Enright dated 5-19-20.*

**NO UNTREATED STORMWATER (STANDARD NUMBER 1):** *No new stormwater conveyances (e.g., outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth. The proposed stormwater management system includes outfalls which discharge to wetland buffer zones. Prior to discharge, stormwater is treated by deep sump catch basins, sediment forebays, and infiltration ponds (or subsurface infiltration systems). Riprap aprons are proposed at each outfall to control erosion.*

*SW2. Provide calculations for sizing of riprap aprons to ensure that runoff will not cause erosion.*

*Standard riprap aprons lengths and quantities for flared end sections has been provided on detail sheet 1 of 18 based on standard drainage pipe sizes. See detail sheet 1 of 18 (sheet 69 of 86) from the plan set dated 5/1/20.*

**DEVELOPMENT PEAK DISCHARGE RATES (STANDARD NUMBER 2):** *Stormwater management systems must be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates. The project proposes a significant change to ground cover which will greatly increase the discharge rate of stormwater runoff from the Site. This increase will be mitigated by infiltration ponds to capture, store, and infiltrate runoff. The provided calculations indicate a decrease in peak discharge rate and runoff volume for the 2, 10, 25, and 100-year storm events.*

*SW3. The Applicant is using an infiltration rate for "A" soil based on soil test data taken throughout the site and yet is using "B, C and D" soil in the hydrology model. If soils data indicates "A" soils revise pre and post development HydroCAD models, modeling all upland soils as "A" soils.*

*The Hydrologic Soil Group is broken down into four groups based on the soil's runoff potential. Soils categorized as Group A generally have the smallest runoff potential and the highest infiltration rate, whereas Group D soils have the highest runoff potential and the lowest infiltration rate. This is specifically talking about how the land cover will react to a rainfall event, and how the water will travel over the ground surface. When designing an infiltration pond, testing needs to be performed within the soil layer which the infiltration will be occurring to determine the soil texture. For the design of each infiltration basins, test pits were performed, and the soil type and texture were obtained from the C horizon. Based on the information obtain from the test pit logs, it was determined that most of the test pits, within the C horizon, were loamy sand with some test pits yielding a texture class of sand. These correlate to infiltration rates of 2.41 in/hr and 8.27 in/hr respectively from the Massachusetts Stormwater Handbook Rawls Rate table 2.3.3. The following information was taken from the Massachusetts Stormwater Handbook to support the above design methodology: "Conduct tests at the point where recharge is proposed. The tests are a field evaluation conducted in the actual location and soil layer where stormwater infiltration is proposed (eg., if the O, A and B horizons are proposed to be removed, the tests need to be conducted in the C soil layer below the bottom elevation of the proposed recharge system). The tests shall be conducted by a Competent Soils Professional." "when the static or simple dynamic method is proposed for sizing... in-situ tests for saturated hydraulic conductivity are not required for purposes of the stormwater standards and the saturated hydraulic conductivities listed by Rawls 1982 shall be used". "When Static or simple dynamic methods are used, the Rawls Table (table 2.3.3) must be used to establish the exfiltration rate associated with the soil textures determined at the actual location on site where infiltration is proposed."*

*SW4. Revise model using a CN value of 98 (water surface) for all infiltration basins to avoid double counting infiltration.*

*HSH will change the Hydro Cad to test this extreme case. Applicant will update plans accordingly and provide in final plan revision.*

**RECHARGE TO GROUNDWATER (STANDARD NUMBER 3):** *Loss of annual recharge to groundwater should be minimized through the use of infiltration measures to maximum extent practicable. NRCS soil maps indicate the presence of various soil groups predominantly including fine sandy loam. Hydrologic Soil Group (HSG) ratings are primarily B, C, and D. Infiltration ponds are proposed to provide the required recharge volume. Drawdown calculations have been provided showing the BMPs will drain within 72 hours.*

*SW5. Due to the reliance on infiltration to provide mitigation for stormwater impacts and the fact that the design does not allow for flexibility (due to density) if infiltration rates do not match the assumed rates as well as the difference in assumed hydrologic group rating of soils from NRCS mapping, BETA recommends the Applicant provide two in-situ saturated conductivity tests for each of the*

*proposed basins to confirm design.*

*Sufficient testing has been done to comply with the stormwater handbook and regulations. According to the Massachusetts Stormwater Handbook, the Dynamic field method suggested above is the least conservative method of determining an infiltration rate. The method chosen is the most conservative method with the highest factor of safety built into the design.*

SW6. Recommend including a condition requiring observation of excavation for each infiltration basin/system by an agent of Town prior to installation of loam and seed.

*Agree as condition of approval*

SW7. Provide provision to protect the infiltration basins during construction to ensure they operate as designed after construction is complete.

*Agree as condition of approval*

**TOTAL SUSPENDED SOLIDS (STANDARD NUMBER 4):** For new development, stormwater management systems must be designed to remove 80% of the annual load of Total Suspended Solids. The proposed design includes treatment trains consisting of deep sump catch basins, sediment forebays, and infiltration basins to provide both 44% pretreatment and 80% total treatment. One treatment train includes an isolator row and subsurface system to achieve a similar result. The infiltration BMPs have been designed to treat the 1" water quality volume. BETA defers to the peer review by Tetra Tech regarding the accuracy of water quality volume calculations.

**HIGHER POTENTIAL POLLUTANT LOADS (STANDARD NUMBER 5):** Stormwater discharges from Land Uses with Higher Potential Pollutant Loads (LUHPPLs) require the use of specific stormwater management BMPs. The project is not considered a LUHPPL – not applicable.

**CRITICAL AREAS (STANDARD NUMBER 6):** Stormwater discharges to critical areas must utilize certain stormwater management BMPs approved for critical areas. The project proposes discharges from Infiltration Pond #1 to several vernal pools which are defined as Class B Outstanding Resource Waters under 314 CMR 4.00 Section 4.06(2). Infiltration basins and sediment forebays are recommended BMPs for discharges to this critical area.

SW8. Correct project narrative to indicate the presence of a critical area.

*HSH will correct narrative to recognize the critical area that is protected by stormwater design*

SW9. Provide source control and pollution prevention plan.

*Agree to provide as part of SWPPP prior to construction as a condition of approval.*

SW10. Setback stormwater BMPs at least 100' from vernal pool.

*Not applicable under the Wetlands Protection Act 10.57 regulation. "Vernal Pool Habitat" is only protected 100 feet from the pool if WITHIN AN AREA REGULATED UNDER THE ACT – Buffer Zone is not a resource area under the Act. Work near the other 2 pools (1, 2) is in Buffer Zone, but not resource area therefor this comment is not applicable.*

SW11. Perform required habitat evaluation.

*Not applicable under the Wetlands Protection Act 10.57 regulation. "Vernal Pool Habitat" is only protected 100 feet from the pool if WITHIN AN AREA REGULATED UNDER THE ACT – Buffer Zone is not a resource area under the Act. Work near the other 2 pools (1, 2) is in Buffer Zone, but not resource area therefor this comment is not applicable.*

**REDEVELOPMENT (STANDARD NUMBER 7):** *Redevelopment of previously developed sites must meet the Stormwater Management Standards to the maximum extent practicable. The project is not a redevelopment – Not Applicable.*

**EROSION AND SEDIMENT CONTROLS (STANDARD NUMBER 8):** *Erosion and sediment controls must be implemented to prevent impacts during construction or land disturbance activities. As the project proposes to disturb greater than one acre of land, it will be required to file a Notice of Intent with EPA and develop a Stormwater Pollution Prevention Plan (SWPPP). The Applicant has provided limited erosion control notes and no SWPPP was included in the submittal. Plans indicate perimeter erosion controls and stabilized construction entrance. Given the size of the Site and significant impact to resource areas, additional information is required to show compliance with this standard.*

SW12. *Provide a draft SWPPP.*

*Agree to provide prior to construction as condition of approval*

SW13. *Provide phasing plan that controls the area of the Site to be disturbed at any one time, recommended to be no greater than 5 acres.*

*Project will comply with the existing regulations.*

SW14. *Provide anticipated locations of proposed staging and stockpile areas.*

*Agree to provide as part of SWPPP prior to construction as a condition of approval.*

SW15. *Provide typical inspection and maintenance requirements for all erosion control BMPs.*

*Agree to provide as part of SWPPP prior to construction as a condition of approval.*

SW16. *Expand construction sequencing plan to include time of storm water system installation. Provide means of protecting stormwater BMPs during construction and restoring any damaged areas prior to the BMP coming online.*

*Agree to provide as part of SWPPP prior to construction as a condition of approval.*

SW17. *Provide specifications for temporary and final seeding.*

*Agree to provide as part of SWPPP prior to construction as a condition of approval.*

SW18. *Clarify if the “proposed erosion control” label on the plans is meant to indicate silt fence, compost filter tube, or both.*

*Sheet 9 of 86 from plan set dated 5/1/20 shows the type of erosion control as 10-12-inch compost sock with silt fence backing.*

SW19. *Revise erosion control plan to include perimeter controls at all limits of wetlands. Several areas do not depict erosion control measures.*

*Agreed. Change will be shown on next plan revision.*

SW20. *Recommend including a condition requiring submission of a copy of the final, signed SWPPP.*

*Agreed*

**OPERATIONS/MAINTENANCE PLAN (STANDARD NUMBER 9):** *A Long-Term Operation and Maintenance Plan shall be developed and implemented to ensure that stormwater management systems function as designed. A Stormwater Operation and Maintenance (O&M) Plan has been included in the submittal.*

SW21. *Update O&M to provide minimum required information, including:*

- a. Stormwater System Owner (contact information) *TBD*
- b. Party(ies) responsible for operation and maintenance, including how future property owners will be notified of the need for maintenance. *TBD*
- c. Plan depicting the location of all stormwater BMPs including discharge points include vehicle access paths for stormwater basin/system maintenance.  
*Standalone plan will be included in SWPPP*
- d. Estimated operations and maintenance budget.  
*See attached budget.*

SW22. Attach manufacturer maintenance recommendations for Stormtech system and isolator row.

*O&M Plan will be updated accordingly and provided in future plan revision.*

SW23. Provide inspection and maintenance tasks for proposed outfalls and culverts.

*O&M Plan will be updated accordingly and provided in future plan revision.*

**ILLCIT DISCHARGES (STANDARD NUMBER 10):** All illicit discharges to the stormwater management system are prohibited. The report narrative indicates that an illicit discharge compliance statement will be provided under separate cover.

SW24. Recommend a condition to require providing a signed illicit discharge compliance statement.

*Applicant will provide signed form.*

SW25. Provide measures in the pollution prevention plan to prevent illicit discharges to the stormwater management system.

*Agree to provide as part of SWPPP prior to construction as a condition of approval.*

### **Massachusetts Stormwater Handbook – BMP Design**

The Massachusetts Stormwater Handbook provides guidance for design of stormwater BMPs. The following section details the project's conformance with these design standards. BETA defers to peer review by Tetra Tech regarding suitability of soil conditions.

SW26. Provide alternative catch basin top detail for structures that are not adjacent to curbs.

*The catch basin detail depicted in detail sheet 3 of 18 (71 of 86) from plan set dated 5/1/20 is adequate to be used for scenarios with and without a curb present. When a curb is not present, the right-hand side of the frame and grate detail would be used around the full perimeter of the structure.*

SW27. Revise infiltration basin detail to include outfall pipe and emergency spillway.

*Detail sheets 9, 10 and 11 of 18 (77, 78 & 79 of 86) from plan set dated 5/1/20 have been revised to depict the inflow pipe(s) to the infiltration ponds and outlet pipe exiting the infiltration ponds where applicable. The outlet pipes which are located within a Multi-Stage Discharge Outlet Structures have remained depicted within the corresponding outlet detail associated with each infiltration pond. The emergency spillway is labeled within the plan view for each detail and within the section view as "weir outlet" with a corresponding elevation. Please refer to detail sheets 9, 10, and 11 of 18 dated 9/14/20 attached to this response.*

SW28. Verify that infiltration basins/system meet setback to foundations (10 ft down gradient) and

*Verified.*

## WETLAND AND ENVIRONMENTAL RESOURCE AREAS

BETA reviewed the Notice of Intent (NOI) submitted by the Applicant on May 14, 2020 and found it provided few construction details, limited wetland restoration procedures and design, and no information regarding construction activities within buffer zones (e.g. staging, dewatering, etc.). Temporary and permanent activities proposed within areas subject to jurisdiction under the Bylaw and the Act will need to be reviewed. This review focuses on the information provided in the May 14, 2020 NOI that is subject to the interests of the Bylaw (*This NOI is not subject to the interests of the Bylaw*) and the Wetlands Protection Act. As part of the review, BETA conducted a site visit to observe existing conditions and areas of proposed impacts within and adjacent to resource areas on the site. The site is primarily wooded undeveloped land with numerous wetland resource areas separated by hilly topography with steep elevation changes. Puddingstone cobbles and boulders are scattered throughout the site and a unique cluster of large puddingstone erratic boulders were observed in the northeastern corner. The site provides significant wetland, vernal pools, and upland habitats for a number of wildlife species including terrestrial amphibians that spend the majority of their lives in the uplands and utilize the site's vernal pools during the breeding season. Dense shrub thickets throughout the site provide nesting habitat for bird species. During the visit BETA observed wood frogs within the northern forested uplands and a young red tail hawk in the tree canopy of the inner portion of the site.

*No comment required as not applicable to the WPA*

It should be noted here that it is BETA's opinion that Applicant has not overcome the burden of proof that there is not practical alternative to siting the structural stormwater management measures within the outer Riverfront Area (RA). The Applicant needs to analyze the impacts of reducing the development footprint to avoid impacts to the RA altogether. Alternative # 3 described in *Site Plan and RFA Narrative Revisions*, dated June 29, 2020, prepared by Howard Stein Hudson reduced the foot print of the project however it would be significantly more expensive and therefore is not a "*Practicable and Substantially equivalent Economic Alternative*". In addition, alternative 2 would diminish the purpose of the project.

*See revised plan. The use of the RFA for detention has fallen from 14% to approximately 8.8%. The reduction was accomplished by 1) reducing the number of multifamily buildings from four to three, two of which are connected in an L configuration and adding a 5 floor to each multifamily building and by creating approximately 30 additional underground parking spaces and 2) reducing by 4 the number of single family homes on the western portion of the site to move more of the detention out of the RFA. (Four additional rental town homes were added to the eastern portion of the site).*

*Pursuant to the Wetlands Protection Act, the standard for the alternatives analysis is whether there is a "practicable **and substantially equivalent economic** alternative." An alternative is defined by the Act as practicable and substantially economically equivalent if it is "available and capable of being done after taking into consideration: costs, and whether such costs are reasonable or prohibitive to the owner; existing technology; the proposed use; and logistics in light of overall project purposes."*

*As described in the June 30<sup>th</sup> alternatives analysis submission, 5 floor buildings cost roughly \$10,000 more per unit than 4 story buildings. However, by reducing the number of building from 4 to 3, one roof, one foundation and one fire stair will be eliminated from the project which will partially offset the additional per unit cost of adding a 5<sup>th</sup> floor in order to reduce the development footprint. Reducing the*

*development footprint created more area for detention outside the RFA and will reduce the amount of water that needs to be detained. The detention areas shown of the revised plan are estimates and will be finalized after the 9-23 hearing*

*Any further reduction in the development footprint would require a diminution of the purpose of project as the number of units would need to be reduced. A reduction in the number of affordable and market housing units would clearly not be a **substantially equivalent economic alternative**.*

Additionally, the RA boundary needs to be better depicted on the Grading and Drainage Plans to be able to determine what RA impacts are associated with the stormwater management measures and what is associated with site development activities.

*There is no development activity in the RFA.*

BETA reviewed vernal pool boundaries and found the extent of Vernal Pool #3, in the southern portion of the site, larger than the area delineated in the field and shown on the site plans. Vernal pools size and shape vary from year to year based on environmental conditions and boundaries should be delineated to encompass all suitable areas within a wetland. Vernal Pool #3 is situated within contour 212', a large area with no defined slope change, which amphibians could utilize for breeding in any number of locations. Evidence of mean annual highwater was observable that indicated suitable breeding habitat beyond that shown on the site plans.

*WE1. Vernal Pool#3 boundary and associated 100' buffer is larger than that currently shown on the site plans and should be enlarged based on detailed elevation or numerous breeding season surveys.*

*The Wetlands Protection Act Regulations define Vernal Pool Habitat at 310 CMR 10.04 (bold added):*

*"Vernal Pool Habitat means **confined basin depressions** which, at least in most years, hold water for a minimum of two continuous months during the spring and/or summer, and which are free of adult fish populations, as well as the **area within 100 feet of the mean annual boundaries of such depressions, to the extent that such habitat is within an Area Subject to Protection under M.G.L. c. 131, § 40** as specified in 310 CMR 10.02(1). These areas are essential breeding habitat, and provide other extremely important wildlife habitat functions during nonbreeding season as well, for a variety of amphibian species such as wood frog (*Rana sylvatica*) and the spotted salamander (*Ambystoma maculatum*), and are important habitat for other wildlife species."*

*Vernal Pool #3 was scrutinized in May 2019 and subsequently in March, April, and May of 2020. The boundary of the feature, which is not a "confined basin depression", but rather an area impounded by a farm road with the borrow used to construct a cart road at its current northward limit. A culvert beneath the cart road provides an outlet for part of the drainage from the palustrine forest to the south.*

*The boundary of the pool flagged in the field and indicated on the record plans was based on credible biological evidence of functional amphibian breeding within the depression that was historically excavated. The basin, as delineated provides adequate water depth to provide a relatively reliable hydroperiod to support metamorphosis by wood frogs and spotted salamanders in most years. Southward of the anthropogenically excavated basin feature is an expanse of maple forest with pit and mound topography and clear indicators of the annual high-water elevation in the form of mossy*



*tussocks and tree mounds with consistent water marks (Photo 1). Beyond the flagged pool limit water depths are inconsistent and typically less than six inches in depth. In that regard these backwaters provide unreliable localities for egg deposition by amphibians; localized biological selection has resulted in the deposition of eggs by progeny of previously successful amphibian adults, to the nearly fully insolated basin where larvae can undergo their entire development cycle in an environment providing structural habitat and cover, thermal diversity and a relatively persistent hydroperiod in most years.*

*Regardless of the true, biological functionality of “Vernal Pool #3”, we “chased” the limits of contiguous flooding and mapped same using a Trimble GEO XH GPS device. The criteria applied were far in excess of any tenable functional aquatic habitat for vernal pool vertebrates. Rather we chased all areas of even tenuously confluent seasonally high surface water, ignoring elevated peninsulas and other features separating seasonally flooded areas, and connected the outlying points of potentially confluent seasonal high-water areas.*

*The above should not be construed as a vernal pool; to define a vernal pool as such would undermine the legitimacy of the MDFW Certification process. However, we undertook this excessively conservative delineation in order to demonstrate that regardless of any intermediate boundary (between currently flagged and excessively exaggerated configuration as shown) **there is no regulatory effect upon the proposed build-out scenario (see site plan set)**. The vernal pool definition provided above clearly states the limits of regulatory jurisdiction as limited to 100 horizontal feet from the pool boundary – **only within a jurisdictional area regulated under the Act**.*

*To demonstrate that the dimensions of “Vernal Pool #” in even the most exaggerated configuration are inconsequential to review and permitting under MGL Ch. 131 §40, our delineated pool boundary is about 4,800 square feet. The exaggerated polygon flagged in the field is over 1000 percent greater (108,000 sq. ft.) than the actual, biologically functional basin previously observed, documented and defined in the field.*



Photo 1. View from near the ground surface approximately 25 horizontal feet north of the delineated limits of “Vernal Pool #3”. Note moss

tussocks (right and center-rear) showing the annual elevation of water at less than six inches depth on average. This area is shaded by overhanging trees and shrubs and subject to repeated drying events in the spring and for the entirety of the summer. Vertebrate breeding attempts in such habitat present a reproductive “sink”, explaining the reliable presence of egg masses in the basin, but not in the outlying ephemerally flooded forest.

The definition, or physical limits of the boundary of the potential vernal pool, with the exception of the north, self-evident, road-impounded limit (Flags 1-3 through 1-7) indicated on the submittal plans is of no regulatory consequence to the regulatory review of the project.

The project will develop approximately 75% of the site’s uplands as well as grade and clear large areas adjacent to vernal pools. Terrestrial amphibians that use vernal pools for breeding depend on adjacent upland habitat most of their life. Although the project maintains a 100’ buffer around each vernal pool, most of this buffer area is covered by wetlands and provide little upland habitat.

*WE2. The project should provide more undisturbed upland areas contiguous to vernal pools to protect Vernal Pools 1, 2 and 3. Development of the upland buffers between the vernal pool complex will eliminate safe migration of vernal pool species between pools.*

*This is not a requirement of the WPA and the project, as proposed complies with all applicable standards for vernal pools provided by the WPA. There is no alteration of resource area within 100 horizontal feet, and within regulated resource area within the entire development. Vernal Pool #2 and Vernal Pool# 3 we will have an intact corridor between them by way of an over-sized, bottomless culvert exceeding the “Openness” standards and the revised plan has eliminated development activity between VP # 1 and VP# 2.*

*WE3. The Applicant should provide additional assessments on how the proposed impacts to habitat meet applicable performance criteria and adequately protect vernal pool upland habitats as well as the capacity of the RA to provide important wildlife habitat functions in the locations of the proposed alterations.*

***BVW/Bank:** The project meets the performance standards (regulation 10.58) in the riverfront area. A 100-foot (inner riparian zone) intact corridor is provided and only obligatory stormwater components are proposed within the outer riparian zone. The facilities proposed in the outer riparian zone will be without fences or other barriers to wildlife and so compliant with 310 CMR 10.58 (4) 3. (d) a. and b.*

***Riverfront Area:** Two, Habitat Assessments were provided examining wildlife habitat values and features of the two proposed crossings which in aggregate belie 5,000 square feet of impact to regulated areas. Please consult these Appendixes B for regulatory compliance.*

*WE4. The Wildlife Habitat Evaluation provided with the NOI should provide more assessment of the overall connectivity of the wetland and vernal pools systems to the Cedar Swamp Brook. Upon site development, the wetland systems will be the only migration pathway from Vernal Pool #1 to the RA and river system. Vernal Pool #2 will be completely cut off.*

*No Appendix B Habitat Assessment is required pursuant to 310 CMR 10.60 because no regulatory threshold for Riverfront Area is exceeded. Similarly, there is no impact proposed within 100 horizontal feet of actual or potential vernal pool(s) and within the limits of a resource area regulated under the Act.*

The proposed project includes two stream and wetland crossings that will result in impacts to banks of intermittent streams, vegetated wetlands, the 25’ No Disturbance Zone<sup>1</sup>, and the 100’ buffer zone. The

impacts are necessary to gain access to the site and mitigation has been provided at a 1:1.5 ratio as shown in the plan details at each crossing.

*WE5. A Wetland Restoration Plan developed in accordance with the Massachusetts Inland Wetland Replication Guidelines and Checklist should be provided (Section 1.5.2 of the Bylaw). Restoration area details, such as existing and proposed contours and cross-sections, should be provided with the Site Plans.*

*The Applicant has attached plan detailing the restoration areas as well as cross sectional plans dated 9/14/20.*

*WE6. Given the amount of impacts and loss of upland habitat resulting from the project the Applicant should provide wetland restoration at a 2:1 ratio or provide greater buffer zone protection.*

*The Applicant has exceeded the replication requirements for BVW by 50%. A replication ratio of unity is required (310 CMR 10.55 (4) (b) 1.) and has provided a replication ratio of 1.5:1 to assure a greater-than-required replication is provided. Additionally, the replication areas, as provided in the accompanying site plans, do or will upon completion, meet the additional criteria for BVW replication at, 310 CMR 10.55 (4) (b) 2., through 7.).*

*WE7. The Wetland Restoration Plan should include a designated minimum 25' No Disturbed Zone of native vegetation and the area should be indicated on the plans.*

*This is not a requirement of the WPA or Regulations for replication of BVW.*

The project proposes a 25' No Disturbed Zone around all resource areas except for three unavoidable impact areas.

*WE8. The 25' No Disturbed Zone should be maintained as a native vegetated and natural buffer between site wetlands and the development. This Zone should not be mowed, fertilized, or maintained as lawn. The Development's Operation and Maintenance Plan should include specific language on the proper maintenance of the No Disturbed Zone as a natural buffer.*

*Areas designated as "No Disturb" and are outside of the limit of work will not be mowed or maintained.*

*WE9. An Invasive Species Control Plan should be included in the NOI application to ensure areas within 100 feet of resources will not be affected by invasive species that typically spread to disturbed areas as a result of construction activities.*

*The site, an historic piggery is infested with varying degrees of invasive vegetation, much of it within jurisdictional wetlands. The Applicant is not required to manage, eliminate, or mitigate exotic vegetation that is pre-existing on the site and widely distributed in the local vicinity.*

Clearing and grading associated with the Project will significantly permanently alter 100-Foot buffer zone Bylaw resource area. The 100-foot buffer zone (or Bordering Land) on the Site is presumed to protect the important functions and values of the wetland resource areas. According to the Bylaw Regulations, scientific research and the Commission's own experience in reviewing a wide variety of projects, clearly demonstrates that alteration and construction activities within Bordering Lands (i.e. 100 foot buffer zone) consistently results in destructive and cumulative impacts on wetland resource areas. Bordering Land plays a significant role in wildlife habitat protection. Many studies document that amphibians, reptiles, birds and mammals regularly use upland buffer zones for nesting, feeding, over- wintering and

reproducing.<sup>2</sup> Removing the natural features of the 100-foot buffer zone, as currently proposed, will remove wildlife cover resulting in a permanent adverse impact to wildlife escape and migration pathways, nesting, and forage. The Bylaw Regulations protect the wildlife habitat interest of the Buffer Zone, presuming that a 25-foot vegetated buffer is the minimum buffer necessary to protect the important functions and values of the resource areas.

***This NOI is not subject to the interests of the Bylaw and the Bylaw Regulations are non-scope. The Project, as designed and throughout its extent complies with applicable provisions at 310 CMR 10.53 (1). The Project further complies with the Department's Stormwater Management Standards within and beyond the extent of the buffer zone and is therefore compliant with applicable performance standards conferred to the various applicable resource areas extant on the site.***

Buffer zone width is one of the most important variables for water quality protection, especially when a Project will result in intense use of the adjacent land<sup>3</sup>. Since the current Project will result in a high-density residential neighborhood, migration of nutrients and sediment are likely, therefore a minimum of a 50-foot undisturbed buffer is recommended.

***This NOI is not subject to the interests of the Bylaw and the Bylaw Regulations are non-scope. There is no such standard provided for, nor recommended in the Wetlands Protection Act or corresponding Regulations.***

In addition to providing wildlife habitat, upland buffer zones help control the rate at which water enters and leaves a wetland system and regulates stream base flows during dry times. The Site's steep topography and varied subsurface soil conditions are features that provide and maintain the hydrology required to support the wetland system and the potential vernal pool habitat. The Project will result in significant changes to the current watershed to the BVW, vernal pools and stream system. Therefore, a reduction in local recharge upgradient and cross-gradient of the wetland system may have a significant adverse effect on water budgets.

*WE10. The Applicant should provide the Commission with a specific graphic that illustrates both current and proposed watersheds to the on-site resource areas and describe the changes in groundwater recharge within 100 feet of the boundaries to the resource areas.*

***Project meets or exceeds all applicable stormwater performance standards; so doing also assures compliance with the standards of the Wetlands Protection Act and corresponding Regulations.***

At this time the Applicant has not provided sufficient information to describe the site, the work, or the effects of the work on the interests protected by the Site's resource areas and vernal pools. The Applicant has not overcome the burden of proof that they have no practical alternatives to the significant impacts resulting from construction of stormwater management structures and site development activities in the RA. Therefore, the Commission should not issue an Order of Conditions approving the project.

***See revised plan. The use of the RFA for detention has fallen from 14% to approximately 8.8%. The reduction was accomplished by 1) reducing the number of multi family buildings from four to three, two of which are connected in an L configuration and adding a 5 floor to each multifamily building and by creating approximately 30 additional underground parking spaces and 2) reducing by 4 the number of single family homes on the western portion of the site to move more of the detention out of the RFA. (Four additional rental town homes were added to the eastern portion of the site).***

***Pursuant to the Wetlands Protection Act, the standard for the alternatives analysis is whether there is***

*a “practicable **and substantially equivalent economic** alternative.” An alternative is defined by the Act as practicable and substantially economically equivalent if it is “available and capable of being done after taking into consideration: costs, and whether such costs are reasonable or prohibitive to the owner; existing technology; the proposed use; and logistics in light of overall project purposes.”*

*As described in the June 30<sup>th</sup> alternatives analysis submission, 5 floor buildings cost roughly \$10,000 more per unit than 4 story buildings. However, by reducing the number of buildings from 4 to 3, one roof, one foundation and one fire stair will be eliminated from the project which will partially offset the additional per unit cost of adding a 5<sup>th</sup> floor in order to reduce the development footprint. Reducing the development footprint created more area for detention outside the RFA and will reduce the amount of water that needs to be detained. The detention areas shown on the revised plan are estimates and will be finalized after the 9-23 hearing*

*Any further reduction in the development footprint would require a diminution of the purpose of the project as the number of units would need to be reduced. A reduction in the number of affordable and market housing units would clearly not be a **substantially equivalent economic alternative**.*

---

<sup>1</sup> According to the Walpole Bylaw Regulations Section 1.4.1 The Commission shall require the Applicant to maintain a twenty-five (25) foot wide contiguous, undisturbed vegetative buffer measured from, and parallel to, the wetland resource boundary, as a minimum.

<sup>2</sup> MACC Buffer Zone Guidebook, dated June 6, 2019

