

*Peer Review of
Notice of Intent
The Residences at West Union
Ashland, MA*

October 14, 2014

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Engineer/Surveyor

Guerriere and Halnon, Inc.
333 West Street
Milford, MA 01757

Owner/Applicant

Capital Group Properties
259 Turnpike Road, Suite 100
Southboro, MA 01772

Zoning Districts

Residential (A)

Plans Dated

May 23, 2014,
Revised September 30, 2014

Assessors' Reference

Map 10, Lots 101, 103 and 104

Content

Notice of Intent Application;
Stormwater Management
Calculations

Location

Off Route 135 between
Edgewood Drive and Indian
Spring Road



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INTRODUCTION

The Project is based upon the Comprehensive Permit Application Submitted by Capital Group Properties to construct a residential development off West Union Street in Ashland, Massachusetts to provide one-hundred forty (140) rental apartments on a total land area of approximately 7.67 acres. The units will be housed in a multi-unit apartment complex consisting of two forty-unit buildings, two twenty-nine unit buildings and one two-unit building. A community building is proposed in the front of the side adjacent to the entrance.

The site is located on four parcels within the Residential A – RA district. The locus has been utilized for residential (multi-family) use. An interior Bordering Vegetated Wetland system transects the locus. The project occupies both remaining upland areas and is proposed to be connected via an interior wetland crossing under the limited project provisions of 310 CMR 10.53.

The project will be served by a main driveway that provides access to West Union Street, whereupon it divides into several interior driveways that serve the five apartment buildings. Approximately 2,200 LF of proposed total roadway will be constructed to serve the 140 units. The roadway construction will include vertical granite edging and a 5-foot sidewalk on one side. The project is to be served by a looped water service that connects the project to the existing 12-inch water main within West Union Street in two locations. Septic flows, calculated as 25,820 GPD from the six buildings will be collected via gravity system and will discharge to an existing manhole within West Union Street. Gas service will connect to the existing 3-inch service in West Union Street and will be brought into the site beneath the entrance drive. Telephone, electric and cable utilities will utilize two existing utility poles that extend into the site through the front wetland, then will be extended underground within the upland area and into the development.

Surface stormwater is to be collected within closed stormdrain systems and directed to four on-site stormwater subsurface basins. Two surface rain garden type areas are provided as well.

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BASIS OF REVIEW

Our evaluation is based upon review of the following:

PLANS, DOCUMENTS, AND EXHIBITS

In undertaking the engineering peer review of this project, PSC reviewed the plans, documentation and exhibits provided by the Project Development Team including the following:

- A. *“Notice of Intent for 133 West Union Street in Ashland, Massachusetts”* consisting of the WPA Form 3, the NOI Wetland Fee Transmittal Form, Abutters Notification Form and Exhibits A-C, prepared by Guerriere and Halnon, Inc., signed June 18, 2014.
- B. *“Application for Comprehensive Permit West Union Street”* correspondence addressed to Town of Ashland Zoning Board of Appeals from Catanzaro and Allen, dated October 3, 2014.
- C. *“133 West Union Street”* consisting of ten (10) drawing sheets prepared by Guerriere and Halnon, Inc., dated May 23, 2014, revised September 30, 2014.
- D. *Plan of Land, Ashland, Mass.*, prepared by GLM Engineering Consultants, Inc. dated January 21, 1997.
- E. *“Hydraulic and Hydrologic Report 133 West Union Street in Ashland, Massachusetts”* prepared by Guerriere and Halnon and dated May 26, 2014, revised September 30, 2014.
- F. *“Stormwater Report “133 West Union Street” in Ashland, Massachusetts”* prepared by Guerriere and Halnon and dated May 26, 2014.
- G. *“The Residences at West Union Comprehensive Permit Application 133 West Union Street Ashland, MA”* developed by Capital Group Properties dated June 2, 2014, including *“Attachment 1 – Evidence of Site Control, Attachment – 2 Market Analysis & Community Information, Attachment -3 Site Development Plans, and Attachment – 4 Architectural Information & Home Features.”*

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In conducting this peer review, additional information was obtained from the following:

- H. *Stormwater Management Regulations; Town of Ashland Conservation Commission.*
- I. *Ashland Wetlands Protection Bylaw*
- J. *Wetlands Protection Regulations*
- K. *Final Ashland Stormwater By-Law (Adopted by Ashland Town Meeting, May 2, 2007)*
- L. *Massachusetts Stormwater Handbook Volumes 1-3*
- M. *United States Department of Agriculture; Natural Resources Conservation Service Soil Survey of Massachusetts.*
- N. *Review of Flood Insurance Rate Map (FIRM), Middlesex County, Massachusetts (All Jurisdictions) Map Number 25017C0626F, Panel 626 of 656, effective date July 7, 2014.*
- O. *Massachusetts GIS Online Mapping – OLIVER.*

NOTICE OF INTENT REVIEW

1. The project encroaches in several locations both into the 25-foot No Disturb Zone and the 100-foot buffer of the Bordering Vegetated Wetlands. Approximately thirteen (13) parking spaces associated with Building C encroach into the 25-foot No Disturb Zone (NDZ). Portions of the emergency access drives associated with Buildings A and B encroach into the NDZ. It is our opinion that the applicant has not met the required responsibility of addressing to the Board that waiving the local Regulations will include sufficient and reliable information which demonstrates
 - a. That sufficient wetland resource area function and value and adjacent upland habitat will remain such that the interests of the Act and bylaw are protected,
 - b. That likely use and maintenance of the altered area will have no detrimental effect on water quality of the adjacent resource area or quality of the remaining habitat area, and

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- c. That the work to be performed sufficiently protects or enhances wetland interests.
2. The Notice of Intent application should better clarify the scope and extent of construction within the jurisdictional buffers, including construction details and horizontal limits for retaining wall foundations.
3. The roadway crossing between the upland areas will be constructed fully within the NDZ; however may be exempt under the limited project provisions of the Stormwater Management Act.
4. Dewatering will likely be required during construction of the project, including construction of the crossing and of the retaining walls. The plan should address dewatering techniques and should address protection of adjacent resource areas from silt deposition from dewatering activities.
5. The NOI Wetland Fee Transmittal Form was evaluated. Category 3b in the fee schedule requires an individual activity fee of \$1,050 for each building and site development. The fee was paid for two buildings but should be the sum for each of the six buildings for the project. The footprints of all six buildings fall either partially or completely within the jurisdictional 100-foot buffer to the BVW.
6. The project is solely reliant upon subsurface recharge systems to accommodate flows from pavement areas. Each system should be provided with a dedicated oil-water separation unit to protect groundwater from gas or oil spills on the pavement that are conveyed to the closed system with runoff. The Stormceptor unit at the front of the project is generally recognized as an acceptable system. Additional Stormceptor units should be provided just upgradient of each large recharge system.
7. Although referenced in the narrative, the pre- and post-development stormwater runoff plans were not included in the electronic copies of Hydrologic & Hydraulic Report, or in Stormwater Report. The existing project had been modeled as a single 6.5-acre watershed that is tributary to the wetland. The proposed property has been divided into seven areas totaling 5.85 acres. The narrative description of the Drainage Areas P-1 through P-7 should be augmented with the plan. Also the pre- and post-developed areas should be equivalent in each model.

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8. The project eligibility letter notes that the Town requested that Low Impact Development Best Management Practices be incorporated into the stormwater management system, including roof rainwater harvesting for use in irrigation. The plan is primarily reliant upon conventional closed-conveyance stormwater management design and does not include LID stormwater design features.
9. The FIRM mapping for the locus has been updated by FEMA subsequent to submission of the NOI. Nonetheless, inspection of the Flood Insurance Rate Map (FIRM), Map Number 25017C0626F, Middlesex County Massachusetts, Panel 626 of 656, effective date July 7th, 2014 indicates that the entirety of the site falls outside the 100-year jurisdictional floodplain.
10. Although proposed treelines are provided on the drawings, the extents of all adjacent treelines and any interior clearings should be shown on the existing conditions plan. Existing specimen trees over 8-inch caliper along the limits of construction should be added to an Existing Site Conditions Plan to facilitate preservation.
11. Several dumpsters are sited on the plans to serve each building. All dumpsters should have permanent, attractive enclosures that should be detailed on the drawings. Also, the dumpster pads should include slightly raised edges on the sides and rear to contain liquid waste that might otherwise seep from the enclosure and into the drain system.
12. Given the density of this project, snow storage is a significant concern. The single snow storage area that has been provided in the northerly corner of the project is likely insufficient for the entirety of the project. Additional Snow storage areas should be designated outside paved or on adjacent grassed areas that maximize recharge. The interior wetlands should be prohibited from snow storage. Signage should be added on the wetland side of each of the parking areas, prohibiting snow storage in wetland areas.
13. To protect the wetland, snow removal operations should emphasize low salt application, with a higher reliance on alternate means of road treatment, such as sanding.
14. The surface basin in front of Building C has not been modeled in the HydroCAD calculations.
15. The discharge pipe from the large subsurface system between Buildings B and C (Basin #1) outfalls into a riprap apron that extends approximately 25 feet to the edge of one of the proposed wetland replication areas. Under the 10-year storm, this 12-inch pipe will discharge 1.17 cfs of

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flow at 1.7 feet/second. Under the 100-year storm, this 12-inch pipe will discharge 4.68 cfs of flow at 3.4 feet/sec. Although the riprap should help dissipate the flows from the 12-inch pipe (Invert #2 on the drawings), it is recommended that this replication area be re-sited to a more viable location, less subject to inundation from flows containing road salt.

16. A level spreader should be designed at Basin #1 outfall to disperse flows.
17. Each row of subsurface galleys should be provided with an observation port to facilitate maintenance. All five systems should be designed with additional ports.
18. According to the calculations, the small recharge system behind Building A discharges minimally through an outlet pipe under the 100-year event. Riprap should be provided at this pipe end.
19. Pipe capacity calculations should be provided for the on-site drainage system.
20. The applicant has indicated that a first level Environmental Assessment in accordance with MGL Ch. 21E will be undertaken for the site. It is unclear whether the results will be available prior to a determination by the Commission.
21. Certain of the wetland flags were noted by the Commission to have been disturbed and appear to have been placed some time ago. The date of the wetland delineations indicated should be specified on the drawings. The date, station by station field notes for each flag should be submitted. The Ashland Conservation Commission may not accept wetland delineations older than 3 years.
22. A note should be incorporated in the plans directing daily street sweeping of West Union Street throughout construction. The SWPPP under Standard 8 specifies bi-weekly street sweeping which is insufficient for the project.
23. Additional Construction Methods should be addressed including methods for protecting stripped and cleared areas of the site during extended shutdown (due to weather, economic conditions, or any other cause).

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24. The proponent intends to utilize an onsite irrigation well. A proposed irrigation well is indicated in the vicinity of the clubhouse. Detail should be provided for the expected on-site demand for supplemental irrigation. Drought tolerant, indigenous species should be included in the design.
25. The applicant should be encouraged to limit turf areas due to water demand and requirements for lawn chemicals and fertilizer. Due to the intensive development of the site that includes large grassed areas, PSC recommends that a Turf Management plan should be provided that adequately protects the adjacent wetland areas from nitrate and phosphate loadings. This was requested during the Comprehensive review for the Board of Appeals, and should be provided, even if included as a condition of approval.
26. The Notice of Intent should include a Conservation-approved, dedicated location on the site for equipment fueling operations that is sited outside the wetland and buffers and minimizes the potential for contamination from spills.
27. Direction of flow of groundwater across the site should be indicated to the extent possible from available information.
28. Other than inclusion of the Responsible party for Operation and Maintenance, the Long-Term Operation and Maintenance Plan under Standard 9 has not been tailored for this project. For example, the subsurface recharge systems are not addressed under BMP Maintenance. Maintenance of the subsurface systems should include inspection frequency and debris removal. DEP recommends that mosquito controls be included in the O&M Plan in the event that a system has failed (refer to *Vol 2, Chap 2: Structural BMP Specifications for The Massachusetts Stormwater Handbook*).
29. The SWPPP should specify that the subsurface retention systems remain fully off-line until the site is fully stabilized by paved surfaces and established vegetation throughout all contribution areas. Construction-stage sediment would impact the full function of the system as designed and would be difficult to remove.
30. The O&M plan indicates the roadway and parking areas will be either mechanically swept or hand swept semi-annually at a minimum. DEP recommends that TSS removal is limited to 5% if

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paved surfaces are mechanically swept on a monthly basis. In order to maintain the proper function of the large subsurface recharge systems, it is recommended that the reference to hand sweeping be removed and that the frequency of Mechanical Sweeping be increased to a monthly average, with sweeping scheduled primarily in spring and fall.

31. All references to Infiltration basins in the O&M plan should be replaced. The BMPs for this project would be Subsurface Structure. The O&M text and calculations including TSS removal calculations, inspections and maintenance should be revised.
32. The SWPPP of the Stormwater Report should specify that there will be no storage of soil, gravel or construction debris within the 100-foot buffer zone to wetland resource areas. The construction staging areas should be identified on the Erosion and Sediment Control Plan outside the 100-foot buffer to the BVW.
33. The Illicit Discharge Compliance Statement should be signed.

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