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Sustainable Environmental Solutions

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October 10, 2022

Mr. Robert Douglas
Director of Conservation
Andover Conservation Commission
36 Bartlett Street
Andover, MA 01810

Ref: Stormwater Peer Review
Notice of Intent
7 Tantallon, Andover, MA
DEP File No. 090-1382

Dear Mr. Douglas and Commission Members:

The Horsley Witten Group, Inc. (HW) is pleased to provide the Andover Conservation Commission with this peer review letter of the Notice of Intent plans and supporting documents for the multifamily redevelopment project, located at 7 Tantallon Road, Andover, Massachusetts. Howard Stein Hudson has submitted the Application on behalf of Neil Rosenberg (Applicant). We understand that the project involves the demolish of an existing structure and the construction of a 24-unit, four story residential building, with 48 parking spaces, utility improvements, and stormwater management on a 0.38-acre parcel.

The proposed redevelopment is located within the 200-foot Riverfront Area of the Shawsheen River and within the 100-year flood plain as documented by the Federal Emergency Management Agency (FEMA). MassDEP classifies the area within the 100-year flood plain as Bordering Land Subject to Flooding (BLSF). HW completed a review of this parcel in 2018 and again in 2020. The Applicant has rectified the incorrect datum and has further adjusted the site layout to increase the landscaped areas, and provide a setback of 50-foot between the parking spaces and the resource area.

The following documents and plans were reviewed by HW:

- Letter to Andover Conservation Commission, prepared by Howard Stein Hudson, dated September 29, 2022 (2 pages);
- Riverfront Area Narrative, prepared by Howard Stein Hudson, (5 pages);
- Checklist for Stormwater Report, stamped by Kati Enright, dated September 2, 2022 (8 pages);
- Stormwater Management Report, The Tantallon, prepared by Howard Stein Hudson, dated March 2019, revised August 2022 (137 pages);
- USGS Topographic Map; 7 Tantallon Road, Andover, MA, prepared by Howard Stein Hudson, (1 page);
- MassDEP WPA Form 3 - Notice of Intent, 7 Tantallon Road, Andover, MA, prepared by Howard Stein Hudson, dated September 29, 2022 (11 pages);
- Existing Conditions Plan, 7 Tantallon Road, Andover, MASS., prepared by A-Plus Construction

Services Corporation, revised through March 13, 2019 (1 Sheet);

- Architectural plan set, The Tantallon, prepared by LYF architects, dated August 31, 2022 (7 Sheets); and
- Site Plan for Multifamily Housing Redevelopment Project, 7 Tantallon Rd, Andover, MA, prepared by Howard Stein Hudson (Rev 14), revised through August 31, 2022, which includes:
 - Cover Sheet Sheet 1 of 11
 - Demolition & Erosion Control Plan Sheet 2 of 11
 - Layout and Materials Plan Sheet 3 of 11 (9/22/22)
 - Grading and Drainage Plan Sheet 4 of 11
 - Utility Plan Sheet 5 of 11
 - Landscape Plan Sheet 6 of 11
 - Lighting Plan Sheet 7 of 11
 - Detail Sheet 1 of 4 Sheet 8 of 11
 - Detail Sheet 2 of 4 Sheet 9 of 11
 - Detail Sheet 3 of 4 Sheet 10 of 11
 - Detail Sheet 4 of 4 Sheet 11 of 11

Findings calculated from Stormwater Report and Site Plans dated August 2022:

- a. Size of existing property: 1.04 acres (45,346 square feet (sf))
- b. Size of proposed property: 1.13 acres (49,097 sf)
- c. Size of watershed evaluated, existing and proposed: 1.58 acres (68,923 sf)
- d. Existing Building: ~ 9,800 sf, 2 story, mill building, built in 1900
- e. Proposed Building: 10,344 sf, four stories, 24 residential units
- f. Proposed First Floor Building Elevation: 33.9, for parking only
- g. Entire Site within 200-foot Riverfront Area of the Shawsheen River
- h. Portion of site and building within 100-foot inner riparian zone
- i. Proposed work within 25-foot no disturb zone, 100-foot buffer zone, 200-foot Riverfront Area and within Bordering Land Subject to Flooding (BLSF)
- j. Existing building is ~ 72 feet from flagged wetland resource area
- k. Proposed building is ~ 80 feet from flagged wetland resource area
- l. Proposed 24 parking spaces within first floor new building and 34 surface parking spaces for a total of 58 parking spaces
- m. 10 surfaces spaces are replicating 10 existing spaces associated with adjacent bank per deed.
- n. 10 parking spaces for adjacent bank located within 25-foot buffer (833 sf)
- o. 10 parking spaces for adjacent bank located within 50-foot buffer (864 sf in addition to 833 sf within 25 feet)
- p. Proposed parking spaces for 7 Tantallon located ~ 56 feet from flagged wetland resource area

- q. Mean highwater level and wetland flags and top of stone wall: elevation 27-28 feet NAVD88
- r. Existing parking lot and drive aisle grades: elevation 33-34
- s. Proposed parking lot and drive aisle grades: elevation 32-34
- t. Entire Site within 100-year floodplain, elev. 38 per FIRM Map, revised May 1, 2020
- u. Entire Site within 10-year floodplain, elev. 34.5 per Flood Profile, revised May 1, 2020
- v. Portion of site within FEMA Floodway per FIRM Map, revised May 1, 2020
- w. Existing building encroaching in Floodway by ~ 9 feet (264 sf)
- x. Proposed building located outside of FEMA Floodway by ~ 1 foot, per Site Plans dated 8/31/22
- y. Site Plans dated 8/31/2022 indicate 3,432 sf decrease of impervious cover
- z. In accordance with the Massachusetts Stormwater Standards (MSH), Volume 1, Chapter 2, page 20, redevelopment projects are defined to include: Development, rehabilitation, expansion and phased projects on previously developed sites, provided the redevelopment results in no net increase in impervious area.

Stormwater Standards:

HW has reviewed the documents listed above and has the following comments concerning the stormwater management design in accordance with the Massachusetts Department of Environmental Protection (MassDEP) standards as defined in the Massachusetts Stormwater Handbook (MSH) dated February 2008, the Town of Andover Stormwater Management and Erosion Control Bylaw and Regulations amended May 11, 2021 (Stormwater Bylaw) and standard engineering practice.

The proposed development includes a reduction of 3,432 sf of impervious area. Therefore, the project is considered a redevelopment. In accordance with MassDEP, a redevelopment project is required to meet the following Stormwater Management Standards only to the maximum extent practicable: Standard 2, Standard 3, and the pretreatment and structural best management practice requirements of Standards 4, 5, and 6. Existing stormwater discharges shall comply with Standard 1 only to the maximum extent practicable. Below are comments relating to the standards as presented in the MSH.

- 1. Standard 1 states that no new stormwater conveyances (e.g. outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.
 - a. The Applicant proposes to replace the 15-inch existing outfall pipe near the entrance at Haverhill Street with an 18-inch RCP in the same location. The existing invert will be maintained at elevation 24.54 within the stone wall. The outfall replacement work has been designed to minimize disturbance to the riverbank and includes erosion and sediment control measures. The Applicant complies with Standard 1.
- 2. Standard 2 requires that stormwater management systems shall be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates.
 - a. It appears that the Applicant has included a larger area for woods (7,046 sf) under proposed conditions compared to existing conditions (5,624 sf). HW recommends that the Applicant adjust the increased surface area modeled as woods in the HydroCAD model to be open space/grass.

- b. Per Section IX.E.6. of the Andover Stormwater Bylaws, the calculation of runoff volumes and peak rates shall be based on precipitation data provided in NOAA Atlas 14. HW recommends that the Applicant revise the precipitation depths used under existing and proposed conditions accordingly.
 - c. HW reviewed the HydroCAD modelling provided by the Applicant, including the watershed maps, drainage areas, and times of concentration (Tc). The comments above should not significantly alter the final flows or volumes. Once the above comments are addressed it appears that the Applicant has adequately designed the proposed stormwater management system to comply with Standard 2.
3. Standard 3 requires that the annual recharge from post-development shall approximate annual recharge from pre-development conditions.
 - a. The Applicant has noted that the site does not currently provide groundwater recharge and that infiltration practices are not feasible due to utility infrastructure. HW concurs with the Applicant that it has met Standard 3 to the maximum extent practicable by increasing the pervious areas. No further action required.
4. Standard 4 requires that the stormwater system be designed to remove 80% Total Suspended Solids (TSS) and to treat 0.5-inch of volume from the impervious area for water quality.
 - a. The Applicant has proposed three catch basins which are connected via a closed pipe system to a water quality unit labeled DMH-5. The water quality unit (type CDS 2015-4) discharges to DMH-6 which then discharges to the existing outfall. HW recommends that the Applicant provide the water quality unit sizing calculations to verify that the applied 87.3% TSS removal credit is reasonable.
 - b. The O&M Plan notes that DMH-4 will have a deep sump. The plans do not appear to reflect this. HW recommends that the Applicant review the plans and the O&M Plan and adjust as needed.
 - c. The Applicant has taken 10% TSS removal credit for sweeping of the parking lot. HW recommends that the Applicant confirm that the method to sweep the parking lot is consistent with Volume 2, Chapter 1, Page 9 of the MSH.
5. Standard 5 is related to projects with a Land Use of Higher Potential Pollutant Loads (LUHPPL).
 - a. The proposed development is not considered a LUHPPL therefore, Standard 5 is not applicable.
6. Standard 6 is related to projects with stormwater discharging into a critical area, a Zone II or an Interim Wellhead Protection Area of a public water supply.
 - a. The proposed development is not within a critical area, Zone II or an IWPA area, therefore, Standard 6 is not applicable.
7. Standard 7 is related to projects considered Redevelopment. A redevelopment project is required to meet the following Stormwater Management Standards only to the maximum extent practicable: Standard 2, Standard 3, and the pretreatment and structural best management practice requirements of Standards 4, 5, and 6. Existing stormwater discharges shall comply with Standard 1 only to the maximum extent practicable. A redevelopment project shall also comply with all other requirements of the Stormwater Management Standards and improve existing conditions

- a. The proposed development is considered redevelopment. The Applicant has reduced impervious cover, will improve the water quality of the proposed stormwater runoff, and will shift the proposed building out of the floodway. Once the Applicant has adequately addressed all comments in this letter it is HW's opinion that the project will improve existing conditions and comply with Standard 7.
8. Standard 8 requires a plan to control construction related impacts including erosion, sedimentation, or other pollutant sources.
 - a. The Applicant has provided a detail for a proposed construction entrance. However, the Demolition and Erosion Control Plan does not demonstrate where the construction entrance should be installed. HW recommend that the Applicant add the construction entrance to Sheet 2 of 11.
 - b. HW recommends that the Applicant add silt sacks to catch basins in Haverhill Street that are within 100 feet of the construction entrance.
9. Standard 9 requires a long-term operation and maintenance (O&M) plan shall be developed and implemented to ensure that stormwater management systems function as designed.
 - a. As noted above the method to sweep the parking lot to obtain 10% TSS removal should be consistent with Volume 2, Chapter 1, Page 9 of the MSH. The O&M Plan notes that the parking lots will be swept quarterly using a mechanical sweeper. This method receives 0% credit.
 - b. The Applicant has included language in the O&M Plan regarding the garage floor drains. HW understands that the Applicant has received permission from the Board of State Examiners of Plumbers and Gas Fitters to tie the garage floor drains into the stormwater system to be treated with Stormceptors (HW notes that the proposed CDS unit is similar to a stormceptor). The floor drain connection is not obvious on the plan set. HW recommends that the Applicant add the connection pipe.
 - c. HW recommends that the Conservation Commission require receipt of the long-term stormwater maintenance on an annual basis as a condition of approval.
 - d. HW recommends that the Conservation Commission include a condition of approval prohibiting vehicle washing on the property.
 - e. HW recommends that the Applicant include a statement indicating how future property owners will be notified of the presence of the stormwater management system and the requirement for proper operation and maintenance.
10. Standard 10 requires that an Illicit Discharge Compliance Statement be provided.
 - a. The Applicant has indicated they have not provided an illicit discharge. HW recommends that the Town of Andover requires that receipt of a signed Illicit Discharge Compliance Statement be obtained prior to land disturbance.
11. Compensatory Storage within Floodplain:
 - a. The Applicant has provided Pre and Post compensatory flood storage calculations up to the 100-year floodplain elevation (elevation 38). HW is satisfied that the Applicant has provided compensatory flood storage for the proposed development at slightly more than a 1:1 ratio.

12. Miscellaneous:

- a. HW recommends that the Applicant turn on the existing contour lines and elevation numbers on Sheet 2, 4, and 5.
- b. Cover Sheet dated 8/31/22 lists Proposed Lot Area as 49,097 sf. Page 5 of narrative in Stormwater Report dated August 2022 lists Lot Area as 49,432 sf. HW recommends that the Applicant confirm and verify that the correct value is on the plans.
- c. HW notes that the narrative provided by the Architect for the Planning Board is not consistent with the Civil narrative and site plans.

Conclusions

HW recommends that the Conservation Commission require the Applicant to address the comments noted above. Please contact Janet Bernardo at 857-263-8193 or at jbernardo@horsleywitten.com if you have any questions regarding these comments.

Sincerely,

HORSLEY WITTEN GROUP, INC.



Janet Carter Bernardo, P.E.
Associate Principal

CC: Jacki Byerley, Andover Planning Board