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February 21, 2024

Mr. Tobin Shulman, Chair  
Zoning Board of Appeals  
Town of Stoneham  
35 Central Street  
Stoneham, MA 02180

Via: E-Mail to [tobin.shulman@gmail.com](mailto:tobin.shulman@gmail.com)  
[msagarino@stoneham-ma.gov](mailto:msagarino@stoneham-ma.gov)

Re: **Comprehensive Engineering Review  
The Residences at Spot Pond  
5 Woodland Road  
Stoneham, MA**

Dear Mr. Shulman:

McKenzie Engineering Group, Inc. (MEG) has reviewed the proposed Residences at Spot Pond Comprehensive Permit Application for conformance with the Stoneham Zoning Bylaw (ZBL), the Stormwater Management Rules and Regulations, Massachusetts Department of Housing and Community Development Comprehensive Permit Regulations (760 CMR 56.00), Massachusetts Department of Protection (MassDEP) Stormwater Management Standards, and sound engineering practices.

The following documentation was received and served as the basis for our review:

- Plans entitled "The Residences at Spot Pond, 5 Woodland Road, Map 27, Lots 3, 3CM & 6, Stoneham, MA," prepared by Allen and Major Associates, Inc., dated November 16, 2023 (Site Plans).
- The stormwater management report entitled "Drainage Report – The Residences at Spot Pond, 5 Woodland Road, Map 27, Lots 3, 3CM & 6, Stoneham, MA," prepared by Allen and Major Associates, Inc., dated September 8, 2023 (Drainage Report).
- Project Eligibility Letter from MassHousing dated November 18, 2023, and correspondence from Town Departments.
- Preliminary Waivers requested from the Stoneham Zoning Bylaw.
- Comprehensive Permit Application.

The Fellsway Development, LLC, c/o The Gutierrez Company, has submitted a Comprehensive Permit Application to the Town of Stoneham Zoning Board of Appeals dated December 14, 2023,

for "The Residences at Spot Pond". The Residences at Spot Pond is being permitted under MGL Ch. 40B Comprehensive Permit and will consist of a proposed multi-family residential development at 5 Woodland Road consisting of the demolition of the existing hospital and surrounding buildings and the construction of two (2) garden-style apartment buildings totaling 378 units with surface parking, lower level parking at Building B, stormwater management systems, utilities, landscaping, and associated infrastructure, along with a proposed paved parking lot at 11 Executive Drive.

The Project is located within the Medical/Office/Residential Zoning District. It is identified on the Town of Stoneham Assessors as Map 27, Lot 3 (5 Woodland Road). Map 27, Lot 3C138 (11 Executive Drive). 5 Woodland Road is currently occupied by the defunct Boston Regional Medical Center (BBMC) along with paved parking areas, a chapel, and a vacant power plant totaling 10.02 +/- acres and abuts Woodland Road to the west, Executive Drive to the east and south. 11 Executive Drive is currently developed with an existing grassed area proposed to be a paved parking lot with a drainage system.

We have visited the site, met with Erin Wortman, Director of Planning & Community Development and Brett Gonsalves Director of Public Works, and evaluated the proposed development for conformance with the Stoneham Zoning Bylaw (ZBL), the Stoneham Stormwater Management Rules and Regulations, Massachusetts Department of Protection (MassDEP) Stormwater Management Standards, Massachusetts Department of Housing and Community Development Comprehensive Permit Regulations (760 CMR 56.00) and sound engineering practices.

As a result of our review, we offer the following.

#### General Comments

1. The plans and drainage report submitted by the Applicant were performed consistent with sound engineering practices.
2. We request that the Applicant provide a water and sewer impact assessment identifying anticipated project demands and supporting analysis to show the development demands can be met without impacts to the sewer collection or water distribution systems and that adequate capacity is available.
3. We request that the Applicant coordinate with the Board of Health on dumpster locations.
4. We request that the Applicant provide calculations that the existing municipal drainage system provides sufficient capacity to accommodate the existing and proposed flows from the development for all connections to the municipal drainage system.

#### Town of Stoneham Town Code Chapter 15 Zoning

The following sections of the Town Code Chapter 15 Zoning apply to the Project. Our comments are noted below in ***bold italics***.

##### Section 4.15.2.4

Garden or Townhouse design dwelling units not to exceed 310 units in the Medical/Office/Residential District provided that there is a maximum of thirty (30) units per acre for Garden dwellings and a maximum of ten (10) units per acre for Townhouse style dwellings.

The Applicant is proposing two new multi-family garden apartment buildings with a total of 378 units, and a maximum density of thirty-eight (38) units per acre.

***The Applicant is requesting waivers to exceed 310 units and 30 units per acre.***

Section 5.15.2.10

Off-street Parking, Layout, Screening and Loading Requirements for Medical/Office/Residential District are in accordance with Section 6.3 except as follows:

(a) Minimum of 1.7 parking spaces per dwelling unit

The Applicant proposes using a portion of a grassed area at 11 Executive Drive for a paved parking lot to achieve the minimum of 1.7 parking spaces per dwelling.

***The Applicant will request a waiver if the proposed parking lot at 11 Executive Drive is not feasible.***

(e) Parking spaces shall be on the same lot as the principal use except that parking spaces may be provided on an adjacent lot provided there is a recorded parking easement for said parking.

The Applicant proposes using a portion of a grassed area at 11 Executive Drive for a paved parking lot.

***The Applicant should provide documentation of a recorded parking easement.***

Section 5.21 Table 1 Dimensional Requirements – Minimum Setbacks

Minimum Front Yard Setback = 30 feet

The Applicant proposes six (6) detached garages within the 30-foot setback, with the closest being 9.2 feet.

***The Applicant is requesting a waiver.***

Section 5.21 Table 1 Dimensional Requirements – Lot Coverage (Portion of lot devoted to structure)

Maximum Lot Coverage = 30%

The Applicant is proposing a maximum lot coverage of 31.1%

***The Applicant is requesting a waiver.***

Town of Stoneham Town Code Chapter 11A Stormwater

As submitted, the Site Plans and Drainage Report complies with the requirements except as noted herein.

## Sec. 11A.3.7 Stormwater Management Plan

## Subsection 1 Design Standards

The Stormwater Management Plan for any parcel (larger than one (1) acre) that discharges, through pipes or other manmade conveyances, to the Town's Municipal Separate Storm Sewer System (sometimes referred to herein as "MS4") or any brook, stream, river, pond, lake, resource water or wetland within the Town or subject to the Clean Water Act (33 USC 1342) shall additionally be designed to infiltrate two (2) inches of water, regardless of soil infiltration rates, per impervious square foot prior to any discharge. In addition, ninety (90) percent of the average load of Total Suspended Solids (TSS) and sixty (60) percent of the Total Phosphorus (TP) shall be removed prior to discharge.

***The Applicant did not provide recharge, TSS (90%), or TP (60%) removal rates that meet the Town's MS4 requirements. Please review and revise accordingly.***

Town of Stoneham Stormwater Management Rules and Regulations

As submitted, the Site Plans and Drainage Report complies with the requirements except as noted herein.

## Section 3.1 Permits and Procedures

A. Permit issuance is required prior to any land disturbance activity that results in:

1. Disturbance of one (1) or more areas of land and any land-disturbing activity that is part of a Common Plan of Development or Sale that will ultimately result in the disturbance of one (1) or more acres of land.

***More than one (1) acre of land will be disturbed; therefore, a Land Disturbance Permit is required.***

## Section 3.3 Stormwater Management Plan

B. Submittal of a Stormwater Management Plan

8. The locations (s) of existing and proposed easements.

***A recorded parking easement for the proposed parking lot at 11 Executive Drive should be provided.***

14. Estimated seasonal high groundwater elevation (November to April) in areas to be used for stormwater retention, detention, or infiltration.

***No soil testing has been performed in the areas proposed for subsurface infiltration. The Applicant proposes that soil testing be performed in the Spring of 2024.***

16. A drainage area map showing pre- and post-development construction watershed boundaries, drainage areas, NRCS hydrologic soil group boundaries (A, B, C, and D soil groups), flow paths for time of concentration, points of analysis and location of soil tests.

***The Applicant has provided pre- and post-development watershed plans. However, we disagree with the number of design points and the delineation of both the pre- and***

**post-development watershed areas. The Applicant should review Sub Area F-6 in the Drainage Report for Langwood Executive Center and MWRA Tank Site, Stoneham, MA, as provided. We believe that the northern portion of the site, as delineated in Sub Area F-6, flows to the existing closed drainage system within the existing parking lot and not to Design Point 1 as shown on the proposed pre- and post-development watershed plans.**

**In addition, per the MassDEP Stormwater Handbook, watershed areas should include all areas contributing drainage to the site, including off-site locations.**

**Please review and revise accordingly.**

20. Timing, schedules, and sequence of development including clearing, stripping, rough grading, construction, final grading, and vegetative stabilization.

**Please provide a construction sequence.**

22. A narrative section which includes a discussion of each measure, its purpose, its construction sequence and installation timing as they apply to the site and the Project proposed

**Please provide a narrative in the Operations and Maintenance Plan.**

C Standards.

1. Stormwater Management Design Calculation and Standards

- a. Drainage systems shall have adequate capacity to handle all storm water runoff presently flowing through the property/site, as well as to dispose of any additional runoff generated by the proposed development up to the 100-year storm event. Rainfall data used for stormwater design shall utilize the 24-hour event from NOAA Atlas 14.

**The Applicant provided rainfall data for the 24-hour Atlas 14, Type III, NRCC\_D rain event, not NOAA Atlas 14. Please review and revise accordingly.**

- b. Test pits shall be performed in the location of all proposed retention or detention facilities to determine depth to groundwater, depth to refusal, and soil classification. If the system proposed recharge to groundwater an infiltration test shall also be performed.

**For soil testing to be performed in the Spring of 2024, confirm that infiltration testing will be performed at all locations and results will be submitted.**

- c. Low Impact Development (LID) site planning and design strategies must be used to the maximum extent feasible.

**The Applicant has not provided LID site strategies.**

- h.(i) Storm drain piping and grate inlets shall be designed for a 25-year storm event.

**Please provide grate capacity calculations.**

- i. Drainage pipe systems shall be designed to accommodate the 25-year storm event, maintain velocities between 2.5 and 10 feet per second, provide self-cleaning flow velocities.

**For CB-7 to DMH-7, the pipe slope is less than 0.50%, and the velocity is less than 2.5 feet per second. Please review and revise accordingly so that all pipe slopes have a minimum of 0.50%.**

- o. At the discretion of the Authorized Enforcement Agency, drainage system may discharge to an existing, adjacent municipal drainage system if the Owner can show that the municipal drainage system provides sufficient excess capacity to accommodate both the existing runoff and the proposed additional runoff from the Project during a 25-year frequency and a 24-hour duration storm event.

***Provide calculations that the existing municipal drainage system provides sufficient capacity to accommodate the existing and proposed flows from the development for all connections to the municipal drainage system.***

### Section 3.5 Operation and Maintenance Plan

3. Map showing location of all stormwater facilities including but not limited to catch basins, manholes, drainage piping, and stormwater devices.

***Submittal of the plan could be made as a condition of approval.***

### MassDEP Stormwater Management Regulations

The following Section describes the 10 Standards for Compliance with MassDEP Stormwater Management Regulations and the status of the submittal relative to each Standard.

#### Standard 1 – Untreated Stormwater

This Standard requires that no new stormwater outfalls may discharge untreated Stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.

***See Standard 4 as additional information is needed to demonstrate compliance.***

#### Standard 2 – Post Development Peak Discharge Rates

This Standard requires that that stormwater management systems be designed so that post-development peak rates of discharge do not exceed pre-development peaks of discharge rates.

***The following needs to be completed to demonstrate compliance:***

- ***Review and revise the pre- and post-development watershed areas to include off-site locations, per the MassDEP Stormwater Handbook.***
- ***Review and revise the pre- and post-development watershed areas to align with Sub Area F-6 of the Drainage Report for Langwood Executive Center and MWRA Tank Site, Stoneham, MA.***

#### Standard 3 – Recharge to Groundwater

This Standard requires that a minimum, the annual recharge from the post-development condition shall approximate the annual recharge from pre-development conditions based on soil type.

***The following needs to be completed to demonstrate compliance:***

- ***Perform soil testing to determine estimated seasonal high groundwater.***
- ***Subsurface infiltration systems must have a minimum vertical separation of 2 feet from the estimated seasonal high groundwater to the bottom of the infiltration system.***
- ***Provide mounding analysis for all subsurface infiltration systems if the vertical separation from the estimated seasonal high groundwater is less than four feet and***

***the systems are proposed to attenuate the 10–100-year storms or provide calculations (in addition to HydroCAD) demonstrating the subsurface systems are not attenuated systems.***

- ***Use all impervious areas on site to calculate the required recharge volume. Unconnected areas were not included in the submitted report.***

#### Standard 4 – 80% Total Suspended Solids (TSS) Removal

This Standard requires that stormwater management systems be designed to remove 80% of Total Suspended Solids (TSS).

***The following needs to be completed to demonstrate compliance:***

- ***Perform soil testing to determine estimated seasonal high groundwater.***
- ***Subsurface infiltration systems must have a minimum vertical separation of 2 feet from the estimated seasonal high groundwater to the bottom of the infiltration system.***
- ***Use all impervious areas on site to calculate the required water quality volume. Unconnected areas were not included in the submitted report.***

#### Standard 5 – Higher Potential Pollutant Loads

***This Project is not considered a source of higher pollutant loads. This Standard is not applicable.***

#### Standard 6 – Protection of Critical Areas

***The Project is not located in a Critical Area based on DEP requirements. This Standard is not applicable.***

#### Standard 7 – Redevelopment Projects

***This Project is not considered a redevelopment project. This Standard is not applicable.***

#### Standard 8 – Erosion/Sediment Control

This Standard requires a plan to control construction-related erosion, sedimentation, and other pollutants during construction.

***Change all references from hay to straw in the Demolition & Construction Maintenance Plan.***

***Please provide a construction sequence.***

***More than one (1) acre of land will be disturbed; therefore, an EPA Notice of Intent and Stormwater Pollution Prevention Plan (SWPPP) is required.***

***See General Plan Comments for additional comments.***

#### Standard 9 – Operation and Maintenance Plan

This Standard requires long term maintenance of non-structural and structural BMP's and required a specific inspection schedule, etc.

***A Long-Term Pollution Prevention Plan has been submitted, and we recommend that the O&M Plan be a standalone document that identifies BMP locations, snow storage areas, etc.***

Standard 10 – Illicit Discharges

***A signed "Illicit Discharge Compliance Statement" meeting the requirements specified in the Stormwater Management Regulations needs to be submitted.***

General Plan CommentsCover Sheet

1. Check the Assessor Map and Lot designations.
2. Suggest adding the Assessor Map and Lot designations to the plan view.

V-101 Existing Conditions

1. Label benchmark.
2. Label existing chapel.
3. Show the entire area for the proposed parking lot at 11 Executive Drive.
4. Show the existing conditions (if available) for 3 Woodland Road.
5. Incomplete existing conditions at the northeast corner of the site (missing walls, pavement, building, etc.)

C-001 Abbreviations and Notes

1. Erosion & Sedimentation Control Notes (1.) EPA 2020, not 2017.
2. Duplicate notes 15-20.
3. Provide SWPPP for review.

C-101 Erosion Control Plan

1. Show temporary sedimentation basin locations and calculations.
2. Some items in the legend are not shown on the plan. If not applicable, items should be removed from the legend.
3. Show concrete washout areas.

C-102 Site Preparation & Demolition Plan

1. Are construction easements required?

C-103 Layout & Materials Plan

1. Label all curb radii not 3 feet.
2. Label the type of proposed vertical curbing—i.e., granite, precast concrete.
3. Dimension and label the entrances to the garage parking for Building B.
4. Label the fence around the pool to be 6 feet high and provide details.
5. Dimension the proposed detached garages.
6. Clarify the material of the proposed sidewalks: bituminous concrete or cement concrete.
7. Clarify the location of the proposed crosswalk and stop line at the northeast corner site entrance. Add a stop sign.

8. Clarify the number of proposed parking spaces at the northeast parking lot.

#### C-104 Grading & Spot Grades Plan

1. Check the proposed grading at the garage entrance. It appears that a 220 contour is missing.
2. The 222 contour at the proposed parking lot at 11 Executive Drive is incorrect. It should be labeled 226.
3. Provide details of the 1:1 rip rap slope. Provide fencing at the top of the slope.
4. Label the slope at the northeast corner of the site.
5. Confirm if construction and/or permanent easements are required for the proposed retaining walls along Executive Drive and the property line with 3 Woodland Road.
6. Confirm the constructability of the proposed retaining wall at the site's northeast corner. A proposed 9-foot-high wall appears to be located along the property line, with an existing wall located 4 feet away.
7. Confirm the constructability of the proposed 16-foot and 13-foot-high retaining walls adjacent to the existing building to remain at 3 Woodland Road.
8. Check the proposed grading along the existing concrete walk between proposed Building A and the existing building to remain at 3 Woodland Road. The existing grade appears to be at elevation 198, not 200.

#### C-105A Drainage Plan

1. Confirm that existing drain manholes EX-1 and EX-2 can accommodate the proposed connections.
2. The outfall pipe at the proposed drain manhole DMH 28 is an 18-inch HDPE, and the connection from the proposed development is a 30-inch HDPE. Provide calculations that the existing municipal drainage system provides sufficient capacity to accommodate the existing and proposed flows from the development for all connections to the municipal drainage system.
3. Recommend a minimum slope of 0.50% for all drainpipes. Roof leaders are proposed to be at 0.25%.
4. Recommend showing proposed inverts for all roof leaders.
5. Check cover for subsurface infiltration systems #1 and #2. Per the manufacturer's details, pavement depth should not be included in the 2 feet of cover.
6. Check cover for CB-6 and CB-7. Distance from rim to invert is less than a minimum of 2.5 feet, and the pipe slopes are less than 0.50%. In addition, the minimum cover over HDPE pipe is 12-inches.
7. The drainage outlet from the existing drainage system within the parking lot to remain appears to be undersized. Please provide calculations that the existing system provides sufficient capacity and what improvements are proposed if it does not. At a minimum, upgrade existing catch basins with hoods if not provided.
8. Outlet Control Structure orifice elevations are not provided.
9. Revise HydroCAD analysis for Pond 3P. No Exfiltration is provided.

10. Revise HydroCAD analysis for Ponds 2P and 3P. Primary discharge pipe sizes should match pipe sizes in rational calculations.
  - a. DMH-14 (OCS) 15-inch (rational) vs. 18-inch (HydroCAD).
  - b. DMH-16 (OCS) 24-inch (rational) vs. 18-inch (HydroCAD).

#### C-105B Drainage Plan

1. Provide the following in the rational calculations provided in the Drainage Report.
  - a. DMH-1 (WQU) to IUS2
  - b. DMH 25 to IUS3
  - c. IUS2 to DMH 14 (OCS)
  - d. DMHs 27, 28, 29, 20 and 31
2. Inconsistencies between rational calculations in the Drainage Report and the plan. Please review and revise accordingly.

#### C-106 Utility Plan

1. Coordinate note of the existing hydrant at Building A with the Demolition Plan. Is it to be removed or relocated?
2. Confirm the number of hydrants and fire department connections with the Stoneham Fire Department.
3. Look at providing one sewer connection from Building A.

#### C-108 Fire Truck Turning Plan

1. Confirm the following is acceptable by the Stoneham Fire Department:
  - a. Per 527 CMR 1.00, Chapter 18 Fire Department Access and Water Supply: 18.2.3.5.6.1. The gradient for a fire department access road shall not exceed 10%. The proposed grade of the emergency access drive is 14.9%.
  - b. Per 527 CMR 1.00, Chapter 18 Fire Department Access and Water Supply: 18.2.3.5.8 Travel in the Opposing Lane. The use of the opposite lane is prohibited in the design of all new fire apparatus access roads. There is encroachment into the opposite lane at all entrances and exits from the development.
  - c. No direct access to the proposed garages.

#### C-109 Refuse Truck Turning Plan

1. Coordinate with the Board of Health on dumpster locations.

#### All Detail Sheets

1. Confirm that all details are consistent with the Town of Stoneham DPW construction details.

#### C-501 Details

##### Silt Fence and Straw Bale Detail

- a. Remove reference to hay.

**Building Sewer Detail:**

- a. The Utility Plan calls for an 8-inch PVC pipe.

**C-502 Details****Precast Concrete Sewer Detail**

- a. Show Section A
- b. The Utility Plan calls for an 8-inch PVC pipe.

**C-503 Details****Typical Segmental Block Retaining Wall**

- a. Add note that the design of precast concrete modular block retaining walls shall be by a professional structural engineer registered in the Commonwealth of Massachusetts.

**Typical Outlet Control Structure Detail**

- a. Suggest providing separate details for each outlet control structure showing elevations of proposed orifices, weirs, rims, and pipe inverts.

**General and Heavy-Duty Bituminous Pavement**

- a. Please label the location of the heavy-duty bituminous pavement on the Layout and Materials Plan.

**Heavy-Duty Cement Concrete Pavement**

- a. Please label the location on the Layout and Materials Plan.

**C-504 Details****Typical Outlet Control Structure Detail**

- a. Recommend providing separate details for each outlet control structure showing elevations of proposed orifices, weirs, rims, and pipe inverts.

**ADS MC-4500 Infiltration System Chamber System**

- a. Recommend providing separate details for each chamber system in the plan view, showing the number and size of the inspection ports, isolator row, headers, and inverts.
- b. Recommend providing separate details for each chamber system showing the elevation of the estimated seasonal high groundwater and the proposed top and bottom of the stone and chambers.

**L-101 Landscape Plan**

1. Provide screening around the proposed parking lot at 11 Executive Drive.

We thank you for the opportunity to assist the Stoneham Zoning Board of Appeals with the engineering review of this Project. Should you have any questions, please do not hesitate to contact me.

Very truly yours,

MCKENZIE ENGINEERING GROUP, INC.



Susan B. Spratt, P.E.  
Project Manager



Bradley C. McKenzie, P.E.  
President

Cc: Robert W. Galvin, Esq.  
Emily Wortman, Director of Planning & Community Development  
Brett Gonsalves, Director of Public Works