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MEMORANDUM

TO: Paul Finger, Paul Finger Associates

FROM: Matthew Brassard, PE, ENV SP, Nitsch Engineering

DATE: May 14, 2020

RE: 91 Hartwell Place – Stormwater Compliance Summary

The following is a summary of compliance with the Massachusetts Department of Environmental Protection Stormwater Standards and the Lexington Wetland Code Rules, Chapter 130 Section 5 pertaining to stormwater management. The information is based on the results of the stormwater analysis as described in detail in the Stormwater Report that has been completed for the above-referenced project. As indicated below, it is our opinion that the project meets the DEP Standards consistent with its status as a redevelopment project. As noted in the last section of this memorandum, due to inherent limitations of the site, we believe that the applicant should request a waiver from strict compliance with Chapter 130, Section 5, (2) of the Lexington stormwater rules that relates to management of the 1-year runoff volume. The project is managing the 1-year storm runoff volume in the detention areas under the structures, due to the soil limitations and regional hydrology, complete retention and infiltration of this runoff volume is not possible.

Chapter 130, Section 5, (1), State Standards

Standard 1: No New Untreated Discharges
The stormwater management system for the project has been designed to collect and treat stormwater in accordance with the MassDEP Stormwater Management Standards and stormwater outfalls will be stabilized to prevent erosion.

Standard 2: Peak Rate Attenuation
The proposed stormwater management practices will mitigate peak runoff rates for the 2-, 10-, 25- and 100-year, 24-hour rainfall events.

Standard 3: Groundwater Recharge
The Site was designed using environmentally sensitive site design, low impact development techniques, and stormwater BMP treatment trains to minimize the loss of annual recharge to groundwater.

The porous asphalt BMP is the primary means of provision for groundwater recharge and is sized to exceed the recharge volume required under the MassDEP Stormwater Management Standards. The Applicant acknowledges that due to the seasonal fluctuations of groundwater conditions on the site, the recharge capability of the porous asphalt BMP may be limited during periods of high groundwater levels.

Standard 4: Water Quality Treatment
The proposed stormwater management system is designed to remove at least 80% of the average annual post-construction load of Total Suspended Solids (TSS). The applicant acknowledges that the stormwater management system may be inundated during flooding events.

Standard 5: Land Uses with Higher Potential Pollutant Loads
The proposed project is estimated to generate over 1,000 vehicle trips per day and is therefore considered a LUHPPL. The water quality volumes calculated for BMP sizing are based on a rainfall depth of 1” in accordance with this requirement.

Standard 6: Critical Areas
Not applicable.

Standard 7: Redevelopments
The Project is located on a previously developed site and results in a net decrease in impervious area. Therefore, the project is considered a redevelopment under the DEP Stormwater Management Standards.

The project fully complies with all the DEP Standards, with the exception that during periods when the system may be inundated with flood water. Because the proximity of the project to the flood plain is an inherent constraint of the site, it is our opinion that the project complies with the DEP Standards to the maximum extent practicable in accordance with Standard 7.

Standard 8: Construction Period Pollution Prevention and Sedimentation Control
A Stormwater Pollution Prevention Plan for the project has been included with the permitting submission as a draft that will be finalized by the selected site contractor for the project.

Standard 9: Operation and Maintenance Plan
A post-construction operation and maintenance plan has been prepared and will be implemented to ensure that stormwater management systems function as designed.

Standard 10: Prohibition of Illicit Discharges
Illicit Discharge Compliance Statement is provided with the Stormwater Report.

Chapter 130, Section 5, (2), Increases in Runoff

As noted above, the project will not result in an increase in stormwater runoff for the 2, 10, 25, and 100-year design storms as required under this section of the Lexington stormwater rules.

This section of the Lexington stormwater rules also requires that the post-development runoff volume generated by the 1-year design storm match pre-development conditions. Note that the project would meet and exceed this standard if using DEP standards for evaluation of pre-development versus post-development site conditions. However, in accordance with the bylaw, the pre-development conditions as modeled includes the pre-development site conditions as unimproved, i.e., as existed prior to the construction of the parking lots in the 1980's. Due to the low permeability of the project site soils, and limitations on volume storage caused by relatively high groundwater conditions, strict compliance with this requirement is not possible. As described in the Stormwater Report, a bermed containment area has been designed below the elevated building structure that will receive and attenuate runoff with the goal of mimicking runoff volume management by providing an extended detention period for retained runoff. The berm has been designed to release the retained runoff over a period of 72 hours (consistent with the DEP design standards related to groundwater infiltration systems). Although the runoff volume for the 1-year storm event is technically not retained and recharged on-site, the intent of this BMP is to effectively reduce its impact on runoff volume conditions by its long attenuation period. Nevertheless, the applicant will need to request a waiver from strict compliance with the corresponding portion of Chapter 130, Section 5, (2).