

Stormwater Management Report

For

Liv Devco, LLC

Proposed 3-Story Apartment Building

**2 Hawthorne Drive
Block 194, Lots 127 & 128
Franklin Township
Somerset County, New Jersey**

**Prepared By:
Ronald J. Sadowski, P.E.
10 Edward Avenue
Edison, NJ 08820
732-744-6392
ronsadowski@verizon.net**

March 30, 2021

The following stormwater management report is submitted for property located in Block 194, Lots 127 & 128, in the Township of Franklin, Somerset County. The property is located at the intersection of Hamilton Street (A.K.A. Somerset County Route 514) and Hawthorne Drive and has the address of 2 Hawthorne Drive.

Existing Conditions

The existing property contains an area of 18,499 square feet. A (2)-story masonry Commercial Office building exists on the property with access from Hawthorne Drive

Total impervious cover on the site is 11,597 sq.ft. or 62.7% of the property. The remaining surface of the property is grass in fair to poor condition.

The site slopes generally in a south to north direction towards Hawthorne Drive. Runoff flows over the site onto Hawthorne Drive and then continues along Hamilton Street ultimately draining to an underground storm sewer system approximately 100 feet north of the of the Hamilton Street and Hawthorne Drive intersection.

Proposed Conditions

As part of the proposed development of the property, all existing structures on the site including pavement will be removed.

A new 3-story Apartment building with a footprint at grade of 4,000 square feet and an overhang above for a total area of 6,200 square feet is proposed on the property with zero setback along Hamilton Street. A total of 15 Apartments are proposed within the building.

A paved parking lot for 28 vehicles is proposed in the rear portion of the site with curb and concrete sidewalk between the new building and parking lot. Access to the parking lot will be from Hawthorne Drive.

A dumpster enclosure is proposed to collect refuse from the Apartment building.

The property will be graded to drain directly to Hawthorne Drive in a similar manner that currently exists. A retaining wall along the southern property line is proposed to eliminate the steep drop-off from the adjacent properties.

The proposed development will increase the total impervious cover to 15,287 sq.ft. or 82.6% of the property. This translates into a net impervious increase of 3,690 sq.ft.

As a result of the increase in impervious cover, detention of the increase in runoff will be required.

Since the development will not disturb more than one acre of land and there is a net increase of impervious cover less than ¼ acre (10,890 sq.ft.), the stormwater detention system does not meet the Township's Major Development criteria.

There are no existing stormwater facilities fronting the property. The closest stormwater inlet is located roughly 100 feet north of the Hawthorne Drive and Hamilton Street intersection. Therefore, a drywell is proposed to detain the increase in runoff associated with the increase in impervious cover. The stored runoff will then discharge into existing soil below.

A soil test was conducted on the site. The location and results of the test are contained on the Grading and Utility plan prepared for the project. The soil test was excavated to an elevation of 92.0 with no groundwater being observed. A percolation test was conducted at an elevation of 94.5 resulting in a soil percolation rate of 1.8 inches per hour. Based on this information, the underground storage system was designed with a bottom of stone set at elevation of 94.5.

Roof leaders will control runoff from the building conveying runoff via an underground roof leader system to an underground drywell consisting of a series of StormTech SC-160LP chambers within a stone envelope.

The drywell has been designed to contain three (3) inches of runoff for every one square foot of building area. The building footprint of 6,200 square feet will require a storage volume of 1,550 cubic feet.

The underground storage system will measure 34.75'x45.75' and provide a storage volume of 1,557 cubic feet. The bottom of the storage system is set at elevation 94.5.

The capacity of the proposed storage system is 1,557 cubic feet exceeding the required storage of 1,550 cubic feet.

The depth of the storage system is 24 inches. Results of the soil tests conducted on the property determined the percolation rate of 1.8 inches per hour. The underground storage system will therefore empty in 13.33 hours.

Since the area of the roof leaders, 6,200 square feet, exceeds the net impervious increase on the property, 3,690 square feet, no additional stormwater management improvements are required.

Conclusion

The proposed redevelopment of the subject property will increase impervious cover on-site by 3,690 square feet.

In an effort to restrict runoff from the site to existing levels, stormwater detention improvements are proposed.

The construction of the proposed underground storage system will adequately control the increase in impervious cover so that runoff from the site is below that of existing conditions.

The underground system has been designed based on results of soil tests taken on the property.

The property will be graded so that drainage patterns are not altered when compared to existing conditions.

No adverse drainage conditions to the surrounding properties will result from the proposed development.