

MEMORANDUM

TO: City of Newton

FROM: Fuss & O'Neill

DATE: July 2, 2021

RE: 131 Rumford Ave - Marijuana Dispensary - Ref. No. 20190241.A12

Fuss & O'Neill has prepared this Stormwater Management Memorandum on behalf of PharmaCann for a proposed marijuana dispensary project located on 131 Rumford Avenue in Newton, Massachusetts. A site Location Map is included as *Figure 1*.

The site is within the Zone X, an area outside the 0.2% annual chance flood according to FEMA Flood Insurance Rate Map (FIRM) (Map Number 25017C0551E, Effective Date: June 4, 2010). A Flood Plain Map is included as *Figure 2*. A review of MassGIS Oliver shows that the site is not mapped within an area of Priority Habitat of Rare Species, Estimated Habitat of Rare Wildlife or Critical Areas of Environmental concern. A Resource Area Map is included as *Figure 3*.

Site History

Based on our discussions with the City of Newton, we understand that a previous project was designed and approved for this site in conjunction with the self-storage facility to the east of the site. The following documents were provided by the City of Newton for the previous project were provided to Fuss & O'Neill for review:

1. Construction Plan set titled "143 Rumford Avenue Newton Massachusetts", dated June 16, 2017 and revised August 28, 2017, prepared by BL Companies.
2. Stormwater Management Report titled "141 Rumford Avenue Newton Massachusetts", dated November 22, 2016 and revised June 15, 2017, prepared by BL Companies.

Based on our review of the above documents, Fuss & O'Neill has determined the following:

- The approved construction documents included the construction of two standalone buildings on the site:
 - A 3-story, 107,397 square feet self-storage facility with associated parking, and other site amenities.
 - A 1-story, 5,520 square feet retail/office building with associated parking and other amenities.
- The self-storage facility has already been constructed and the portion of the site where the office/retail building was proposed remains undeveloped.

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- PharmaCann proposed to construct a marijuana dispensary in on this undeveloped portion of the site.
- The proposed building is 4,992 square feet, which is 528 square feet less than the previously approved project.
- The proposed project includes 15,190 square feet of impervious surface, which is 839 square feet less than the previously approved project.
- The previously approved construction plans and stormwater report include a stormwater system composed of a sediment forebay, a subsurface infiltration system and two proprietary water quality units.
 - The system was designed to infiltrate the required recharge volume, provide treatment, and attenuate peak flows from the previously approved project.
 - The proposed project will connect to his stormwater system in a consistent manner to the previously approved project.

Based on the above, the existing stormwater system on site has adequate capacity to treat the previously approved project. The proposed project reduces the amount of impervious area draining to the system. Therefore, the existing stormwater system has adequate capacity to provide the required recharge and water quality volumes as well as to provide peak runoff rates reduction for the proposed project.

Hydrologic Analysis

The previously approved project and proposed conditions were evaluated to determine the effects of the proposed development to stormwater runoff. Conditions were evaluated using the rational method to determine runoff flow rates. The previously approved development and post-development watershed maps are included as *Figure 4* and *5*.

In order to determine the effect of the proposed development, the Rational Method was used to calculate runoff rates from the pre- and post-development conditions using a 10-year design storm. 24-hour rainfall intensities were obtained from the Northeast Regional Climate Center "Atlas of Precipitation Extremes for the Northeastern United States and Southeastern Canada" (NRCC Atlas). A copy of the rainfall intensities obtained from the NRCC Atlas, are included in *Attachment A*. Runoff coefficient of 0.9 and 0.2 have been assumed for impervious and pervious areas respectively.

As a result of the overall reduction in the total impervious area, the post-development runoff rates are reduced as compared the previously approved plans. The below tables show the calculations for previously approved plans and post-development runoff.

Previously Approved Conditions		
Land Cover Description	Runoff C	Area (AC)
Building	0.90	0.13
Paved & Hardscape Surfaces	0.90	0.24
Landscaped Areas	0.20	0.10
Calculations		
Overall runoff coef. (C)=	0.75	
Area total (A)=	0.47	acres
Rainfall intensity (i)=	7.06	in/hour
Design Flow (Q)=	2.49	cfs

Post-Development Conditions		
Land Cover Description	Runoff C	Area (AC)
Building	0.90	0.11
Paved & Hardscape Surfaces	0.90	0.23
Landscaped Areas	0.20	0.13
Calculations		
Overall runoff coef. (C)=	0.71	
Area total (A)=	0.47	acres
Rainfall intensity (i)=	7.06	in/hour
Design Flow (Q)=	2.36	cfs

The results indicates that the proposed improvements will not result in increases in runoff rates from the site as compared to the previously approved project.

Soil Erosion and Sedimentation Control

Soil erosion and sedimentation control details and narratives for construction periods are provided on the site plans. Soil erosion and sedimentation control details and procedures are consistent with the "Massachusetts Erosion and Sediment Control Guideline for Urban and Suburban Areas."

Construction period erosion and sedimentation controls will include a construction entrance, compost filter socks, erosion control blankets, catch basin inlet protection, and water for dust control. Additional erosion and sediment controls will be utilized as required. Perimeter sediment controls will be placed down-gradient of disturbed areas. Water will be applied to exposed soils to provide dust control as needed.

Soil disturbance, stabilization measures, stockpile locations, construction waste management procedures, and hazardous materials storage procedures shall be recorded.

Waste materials generated from construction activities will include excavated soil, pavement, building debris, and utilities. All excavation debris and other waste will be transported to an approved disposal facility. If required, materials may be temporarily stockpiled within designated staging areas. Details and procedures are provided in the construction site plans.

Construction materials, including site and building materials, will be present on-site during various stages of construction. All materials will be temporarily stored within designated staging or lay-down areas and will be transported to the site as needed. Construction vehicle fueling will take place at area designated

for staging. Staging areas will be located within the limit of work, and outside wetland resource areas and drip lines of existing trees on site that will remain.

Construction Sequence

A detailed construction sequence is included on the site plans *Attachment B*. This construction sequence is subject to change based on construction methods, weather, or due to other unforeseen circumstances.

Massachusetts Stormwater Handbook Standards

The following is a description of how the proposed project conforms with the stormwater management standards (Standards) outlined in the Massachusetts Stormwater Handbook.

Standard 1: No Untreated Discharge or Erosion to Wetlands

Perimeter erosion controls will protect the potential for offsite impacts. The project is not adjacent to any wetland resource areas. No concentrated flows are proposed into wetlands and/or waterways of the Commonwealth.

Standard 2: Peak Rate Attenuation

Post-development runoff rate will not increase as a result of the development compared to the previously approved development. This will be achieved by the reduction in impervious area. The previously approved development included a subsurface infiltration system to help mitigate the peaks runoffs. The new proposed project will discharge to the existing subsurface system.

Standard 3: Stormwater Recharge

The reduction in impervious area for the proposed development when compared with the previously approved development will result in an improvement in groundwater recharge. The previously approved development included a subsurface infiltration system which provided stormwater recharge for the site. The new proposed project will discharge to the existing subsurface system.

Standard 4: Water Quality

The reduction in impervious area for the proposed development when compared with the previously approved development will improve the quality of stormwater leaving the site. The previously approved development included a subsurface infiltration system which provided the required water quality volume for the site. The new proposed project will discharge to the existing subsurface system.

Standard 5: Land Uses with Higher Potential Pollutant Loads

The project does not contain any area of higher pollutant loads as defined by the Massachusetts Stormwater Handbook.

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Standard 6: Critical Areas

The site is not located within Zone II or Interim Wellhead Protection Areas, or other Critical Areas, which include Shellfish Growing Areas, Bathing Beaches, Outstanding Resource Waters, Special Resource Waters, and Cold-Water Fisheries, as shown on *Figure 3* Resource Area Map.

Standard 7: Redevelopment

The proposed project is not considered a redevelopment project per the Massachusetts Stormwater Handbook. However a previously proposed development was already approved for the site. The new proposed development shows a decrease in total impervious area when compared with the previously approved development. Therefore standard 2, 3 and 4 will be met by the existing stormwater system constructed as part of the previously approved development.

Standard 8: Construction Pollution Prevention and Erosion and Sediment Controls

General erosion and sedimentation controls will be implemented and maintained in accordance with local, state, and federal requirements until construction is complete and disturbed areas have been stabilized.

Standard 9: Long-Term Operation and Maintenance Plan

A Long Term Operation and Maintenance Plan has been prepared and is included in *Attachment C*.

Standard 10: Illicit Discharges to Drainage System

This project does not contain illicit discharges to Stormwater Management Systems as defined in the Massachusetts Stormwater Handbook

Figures

1. Site Location
2. FEMA Flood Map
3. Resource Map
4. Previously Approved Development Watershed Map
5. Post-Development Watershed Map

Attachments

- A. NRCC Atlas Rainfall Data
- B. Civil Site Plans (Under Separate Cover)
- C. Long Term Operation & Maintenance Plan