

Permit Application Review

Permit No. 2018-05
Received complete: June 1, 2018

Applicant: Ted Carlson; Orion Investments Edina, LLC
Consultant: Charlie Butterworth; Alliant Engineering
Project: Caribou Coffee and Einstein Bagels
Location: 5000 Vernon Avenue: Edina
Rule(s): 4,5,11,12
Reviewer: BCO

General Background & Comments

The project proposes the redevelopment of the site at 5000 Vernon Avenue for a Caribou Coffee and Einstein Bagels store. Currently, a Jiffy Lube, P J Tailors and Cleaners and Fitness Together building, that is to be razed, is located on the site.

The project site information is:

- Total Site Area: 0.68 acres (29,795 square feet)
- Existing Total Site Impervious Area: 24,873 square feet
- New Total Site Impervious Area : 20,430 square feet (a 4,443 square foot reduction in impervious area)
- 17.9% decrease in the site impervious area
- 100% of existing impervious area will be disturbed

American Engineering Testing (AET) has completed a Phase 1 and Phase II environmental site assessment (ESA) and a geotechnical exploration of the site. The results of the ESA did not indicate any significant soil contamination but a soil vapors analysis indicated the detection of perchloroethene (PCE) vapors. PCE is a common solvent used by dry cleaners. The presence of the vapors indicate there may have been a potential release of PCE to the subsurface. For assessing the feasibility for infiltration stormwater on the site, the Minnesota Stormwater Manual's procedure is to assume the area below the dry cleaner portion of the building is contaminated down to groundwater. Groundwater was not encountered in any of the on-site borings however it is estimated to be at a depth of 90 feet below the current ground surface according to hydrogeologic data presented in the Geologic Atlas of Hennepin County, 1989 published by the Minnesota Geological Survey.

The procedures for groundwater mounding assessment listed in the Minnesota Stormwater Manual, "Screening assessment for contamination at potential stormwater infiltration sites" was used. The results of the analysis indicates the separation distance required for stormwater infiltration is 62 feet based on the groundwater mounding calculator. The calculator results indicate the maximum extent of the groundwater mound (at 0.25 feet) beyond the infiltration area is approximately 31 feet. This value is multiplied by a safety factor of 2 resulting in a design separation of 62 feet. The distance from the edge of the infiltration area and the dry cleaner building, which is assumed in light of the data on subsurface conditions obtained to coincide with the potential contamination at the water table, is 70 feet.

Based on the documentation submitted on behalf of the applicant, we find no basis to require additional assessment of the suitability of the property for infiltration. Relying on the findings, analysis and conclusions of its consultant, the applicant has requested that NMCWD allow the applicant to meet the NMCWD stormwater-retention requirement through infiltration. We do not represent that infiltration will not cause or exacerbate contamination condition at or near the site but we are in agreement with the methodology AET used to reach its conclusions in the assessment that infiltration on the site will not cause or exacerbate migration of pollutants through the subsurface. However, because of the remaining uncertainty as to the precise location and extent of any contamination, approval of the permit should be conditioned on the applicant's affirmative acknowledgement and assumption of any risk that infiltration at the site will cause or exacerbate migration of contamination.

The site meets the definition of a Restricted Site (Rule 4.3.2) as defined in the District's Revised Rules, approved April 10, 2018. Rule 4.3.2 requires retention of at least 0.55 inches of runoff from the regulated impervious surface, with rate control, and water quality management complying with the requirements of section 4.3.1b and c of the revised rules.

The Nine Mile Creek Watershed District's Rule for Redevelopment, Rule 4.2.3, states, if a proposed activity will disturb more than 50% of the existing impervious surface on a parcel or will increase the imperviousness of the parcel by more than 50%, storm water management will apply to the entire project parcel. Otherwise, the storm water requirements will apply only to the disturbed areas and additional impervious area on the parcel. Since the entire site impervious area will be disturbed, storm water management is required for the entire project area of 29,795 square feet including the 20,430 square feet of impervious area.

The District's requirements for both storm water management and erosion and sediment control apply to the project because more than 50 cubic yards of material will be disturbed and 5000 square feet or more surface area disturbed, Rules 4.2.1a and b and 5.2.1a and b.

Storm water management is to be provided within a proposed underground storm water management facility (UGSWMF) that will provide volume retention, rate control and water quality management.

Silt fence is to be constructed at the limits of construction, inlet protection and a rock construction entrance will be provided for erosion control.

Exhibits

1. Permit Application dated January 13, 2018.

2. Plans dated January 15, 2018 with a last revision date of May 31, 2018 prepared by Alliant Engineering.
3. Storm Water Management calculations dated January 15, 2018, revised May 25 and 31, 2018, prepared by Alliant Engineering.
4. Report of Geotechnical Exploration and Review dated February 14, 2018 prepared by American Engineering Testing.
5. Stormwater Infiltration Mounding Assessment dated May 25, 2018 prepared by American Engineering Testing.
6. Phase 1 Environmental Site Assessment dated October 6, 2017 prepared by American Engineering Testing.
7. Phase II Environmental Site Assessment dated November 20, 2017 prepared by American Engineering Testing
8. E-mails dated January 24, May 1 and May 25, 2018 summarizing review comments of the project information submitted including a statement that the application was considered incomplete until the information requested had been provided.

While the application was submitted prior to the May 21, 2018, effective date of the amendments to the rules, it was not completed until after the effective date. Therefore the project is subject to the rules as amended April 10, 2018.

4.0 Stormwater Management

A UGSWMF to be constructed will provide volume retention and water quality management. The 17.9% reduction in the on-site impervious area results in less runoff being generated therefore compliance with Rule 4.3.1b. There is one discharge point from the site. The existing and proposed 2, 10 and 100 year frequency discharges are:

Frequency	Existing Discharge c.f.s.	Proposed Discharge c.f.s.
2 year	2.23	<1.0
10 year	3.6	3.3
100 year	6.6	6.4

Rule 4.3.1b is met.

An infiltration volume of 936 cubic feet is required from 0.55-inches of runoff from the 20,430 square feet of site impervious area. Soil borings indicate the underlying soil as sand (SP) and silty sand (SM). An infiltration rate of 0.6 inches/hour has been assumed using the Minnesota Storm Water Manual. An area of 390 square feet is required for the drawdown of water levels within the UGSWMF within 48 hours using this infiltration rate, Rule 4.3.1a (ii). The UGSWMF will provide a volume of 1,710 cubic feet (936 cubic feet required) and area of 984 square feet (390 square feet required).

The District’s water quality criterion requires a 60% annual removal efficiency for phosphorus and 90% annual removal efficiency for total suspended solids. A “dead-storage” volume of

2,160 cubic feet is required to meet the requirements of section 4.3.1c of the District rule. A volume of 2,640 cubic feet will be provided that will remove 158 lbs. of total suspended solids (96% annual removal) and 0.87 lbs. of total phosphorous (96% annual removal). Rule 4.3.1c is met.

The soil boring logs indicates that groundwater was not encountered to a depth of 21 feet in the on-site borings, elevation 938.8 +/- M.S.L. The bottom of the UGSWMF is shown to be 949.5 M.S.L., a separation of 9.7 feet. A 3 foot of separation is required between the bottom of an infiltration facility and groundwater, Rule 4.5.4d (i).

Rule 4.3.3 a states, all structures riparian to inundation areas or constructed or natural storm water management facilities must be located and elevations must be set according to Appendix 4a, "Low-Floor Elevation Assessment ." Referring to Plot 1, Appendix 4A of the District Rules with the building a distance of 70 feet from the UGSWMF, the minimum permissible depth to groundwater is 5 feet. With groundwater not being encountered to a minimum depth of 939.8 M.S.L., a separation of 19.6 feet between the low floor elevation of the structure (959.1 M.S.L) and the bottom of the on-site boring (939.8 M.S.L.). Rule 4.3.3 is met.

In accordance with Rule 4.3.1a (i), where below-ground infiltration facilities, practices or systems are proposed, pretreatment of runoff must be provided. The plans show that pretreatment of storm water (sump manhole) will be provided upstream of the UGSWMF.

5.0 Erosion and Sediment Control

The submitted erosion and sediment control plan includes silt fence at the limits of construction, inlet protection and a gravel construction entrance. The project contact is Charlie Butterworth, Alliant Engineering.

11.0 Fees

Fees for the project are:

Rules 2.0-6.0	\$750
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12.0 Financial Assurances

Financial Assurances for the project are:

Rule 4.0 Volume Retention: 390 sq. ft. x \$12/sq. ft. = \$4,680	\$4,680
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Chloride Management: \$5000

Rule 5: Silt fence: 300 L.F. x \$2.50/L.F.= \$750	
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Inlet Protection: 7 x \$100/each = \$700

Site restoration: 0.7 acres x \$2500/acre = \$1,750	\$3,200
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Contingency and Administration	\$3,420
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Findings

The proposed project includes the information necessary, plan sheets and erosion control plan, for review.

1. Rules 4 and 5 are met.

Recommendation

Approval, contingent upon:

1. General Conditions
2. Financial Assurance in the amount of \$16,300 - \$11,300 for stormwater management, erosion control and site restoration and \$5,000 for compliance with the chloride management requirements.
3. Submission of documentation that a drainage easement over the stormwater-management facility has been submitted to Edina (4.5.4i), if such easement is required by the city and a receipt showing recordation of a maintenance declaration for the on-site storm water management facility. A draft of the declaration must be approved by the District prior to recordation.
4. Submission of a plan for post-project management of chloride use on the site. The plan must include 1) the designation of an individual authorized to implement the chloride-use plan and 2) the designation of a Minnesota Pollution Control Agency certified salt applicator engaged in the implementation of the chloride-use plan for the site.
5. Submission of a letter from the applicant to NMCWD, acknowledging the remaining uncertainty as to the contamination conditions on the property and accepting sole responsibility for infiltration at the site causing or exacerbating migration of contaminants through the subsurface and/or groundwater.

By accepting the permit, when issued, the applicant agrees to the following stipulations:

1. Per Rule 4.5.6, an as-built drawing of the storm water facilities conforming to the design specifications as approved by the District must be submitted.
2. For the release of the \$11,300 financial assurance required in Recommendation #2, Rule 12.4.1b requires demonstration and confirmation that the storm water management facilities have been constructed or installed and are functioning as designed and permitted. Verification, through daily observation logs and photographs, must be provided showing the storm water facilities used for volume retention have drawn down within 48 hours from the completion of two 1-inch (approximate) separate rainfall events.

The release of the \$5,000 financial assurance required for the chloride management plan requires that the documentation required in Rule 4.3.3 has been provided and approved by the District's Administrator.

Board Action

It was moved by Manager _____, seconded by Manager _____ to approve permit application No. 2018-05 with the conditions recommended by staff.