General Background & Comments
The project proposes the development of a 1.8-acre vacant lot with a paved driveway through the eastern portion of the site, 9320 Lyndale Avenue South in Bloomington, MN. Though the site is vacant, there is a 12,849 square foot driveway extending across it, so the proposed project is analyzed under the NMCWD rules as a redevelopment. Proposed work includes the following:

- construction of a 24,500-square foot multi-story apartment building with underground parking
- site improvements including concrete and bituminous sidewalks, surface parking, landscaping, utilities, and retaining walls
- a stormwater management facility
- demolition and removal of the existing pavement driveway and associated base materials

The proposed work will extend onto City of Bloomington right-of-way to “tie-in” with the existing topography and for the construction of concrete sidewalks, a portion of the bituminous pavement entrance driveway, and associated site elements along the southern and eastern boundaries of the site.

The site is within the boundaries of a subsurface contamination site with associated vapor concerns, the Lyndale Avenue Corridor Site, as shown in the attached figure. Infiltration within the vapor intrusion area of concern boundary would likely mobilize contamination into and through groundwater, facilitate the release of vapors into the soil (which may enter nearby buildings), and pose health risks to the people living and working in the buildings.

Phase I and Phase II Environment Site Assessments were completed for this site. The assessments found concentrations of various volatile organic compounds (VOCs), tetrachloroethene (PCE) and trichloroethene (TCE) in the soil. The levels were found to exceed the Minnesota Pollution Control Agency risk-screening criteria in various samples. Groundwater was not encountered as part of the Phase II subsurface investigation, therefore, no groundwater characterization or sampling activities occurred as part of the investigation.
The applicant has requested that the site be considered restricted under subsection 4.3.2 of the NMCWD rules. The applicant has provided technical documentation to support the restricted site request, including the Phase I and Phase II Environmental Site Assessment reports and a geotechnical evaluation. The engineer has reviewed the findings from the environmental site assessments, and concurs that infiltration is precluded on the site and the site is restricted.

Given the extent of imperviousness planned for the property (and approved by Bloomington), other forms of volume retention practices, such as reuse, are not practicable due to the volume of stormwater generated from the 80% impermeable surface coverage and lack of green space for reuse. Retention to the standard identified in subsection 4.3.1a (1.1-inches) is not practicably feasible, and site conditions (as described above) are such that no infiltration should occur, making 0.55-inches of retention is not practicable and indeed retention to the maximum extent practicable is zero. The applicant must provide rate control and water quality treatment in accordance with Rules 4.3.1b and c, respectively.

The project site information includes the following:

- Total Site Area: 1.75 acres (76,442 square feet)
- Existing Site Impervious Area: 0.29 acres (12,849 square feet)
- Proposed Site Impervious Area: 1.41 acres (61,227 square feet)
- Total Disturbed and Reconstructed Impervious Area: 0.29 acres (12,849 square feet)

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 the site or will increase the imperviousness of the site by more than 50%, stormwater management will apply to the entire project site. Otherwise, the stormwater requirements will apply only to the disturbed, replaced and net additional impervious surface on the project site. Since the project will disturb more than 50% of the existing impervious surface on the site and will increase the imperviousness of the site by more than 50%, applicable stormwater management criteria is required for the 61,227 square feet of proposed impervious surface.

The District’s requirements for both stormwater management and erosion and sediment control apply to the project because more than 50 cubic yards of material will be disturbed and 5,000 square feet or more of surface area is altered, Rules 4.2.1a and b and 5.2.1a and b.

Stormwater management rate control and water quality management for runoff from the building and the majority of surface parking areas will be provided by an underground stormwater management facility (UGSWMF) beneath the surfacing parking west of the building. A portion of stormwater runoff from landscaping and impervious surface will drain east and south towards Lyndale Avenue South and West 94th Street, respectively.

Although the District’s floodplain management and drainage alterations rule does not apply to the project (Rule 2), a portion of the site is inundated during high water conditions as a result of the capacity of the City’s storm sewer system. The City of Bloomington’s Atlas-14 elevation is 825.3 M.S.L. for the inundation area. This high water level and resultant onsite inundation area is not regulated by NMCWD, as the area is not a natural waterbody or constructed facility. The City has approved the final development plans for the project, including underground compensatory storage pipes onsite, which will "tie-in" to the existing storm sewer
infrastructure and provide additional flood storage volume during high water conditions. The underground compensatory storage system of pipes, as described above, will not receive surface runoff from the site.

Silt fence at the construction limits and two stabilized rock construction entrances will be utilized for temporary erosion and sediment control. Storm drain inlet protection will be provided for erosion control at the surface parking areas, and along West 94th Street and Lyndale Avenue South, downgradient from land-disturbing activities. Erosion control blanket and seeding will be utilized for permanent stabilization.

Since on-site volume retention will not be provided, the relationship of groundwater to the bottom of a stormwater facility is not applicable.

The permit decision is before the managers because the applicant has requested that the site be considered ‘restricted’ for purposes of analysis of NMCWD stormwater-management requirements and the proposed management plan does not provide at least 0.55 inches of volume retention. Determination of such applications exceeds the authority delegated to the administrator.

Exhibits

3. Stormwater Management Report dated August 7, 2019, revised August 28, 2019 and September 25, 2020 prepared by Civil Site Group, including the following supplemental items:
   - P8 water quality modeling output report dated September 24, 2020, prepared by Civil Site Group.
   - Existing and proposed HydroCAD model report dated September 24, 2020, prepared by Civil Site Group.
   - Drainage area maps dated September 25, 2020, prepared by Civil Site Group.
7. Stormwater Management Facility Estimate of Cost submitted October 6, 2020 prepared by Civil Site Group

The application with the submittal items described above is complete.

4.0 Stormwater Management

Stormwater management rate control and water quality management for runoff from the building and the majority of surface parking areas will be provided by an underground stormwater management facility (UGSWMF) beneath the surfacing parking west of the proposed building. A portion of stormwater runoff from landscaping and impervious surface will
drain east and south towards Lyndale Avenue South and West 94th Street, respectively. However, the onsite water quality system has been sized to handle stormwater runoff generated by the entire site.

As previously stated, the site has been impacted by contaminants at concentrations of potential concern. Due to subsurface contamination identified at the site, infiltration presents a risk of mobilizing contaminants that would further impact groundwater within the Lyndale Avenue Corridor Site. The applicant has requested that the site be considered restricted under subsection 4.3.2 of the NMCWD rules. The engineer has reviewed the findings from the environmental site assessments, and concurs that infiltration is precluded on the site, as infiltration processes could mobilize harmful subsurface contaminants. The stormwater management facility is to be constructed to minimize mobilization of subsurface contamination.

In existing conditions, the site is relatively flat, with runoff generally draining to the east and south to the City storm sewer system at West 94th Street and Lyndale Avenue South. The proposed UGSWMF consists of 84-inch solid pipe. Treated stormwater runoff will be conveyed to the City storm sewer system along West 94th Street. In order to comply with the rate control criteria, Rule 4.3.1b, the 2-, 10-, and 100-year post development peak runoff rates must be equal to or less than the existing discharge rates at all locations where stormwater leaves the site. The applicant used a HydroCAD hydrologic model to simulate runoff rates. The existing and proposed 2-, 10- and 100-year frequency discharges from the site are as follows:

<table>
<thead>
<tr>
<th>Drainage Area</th>
<th>2-year (c.f.s.)</th>
<th>10-year (c.f.s.)</th>
<th>100-year (c.f.s.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>To South and East (EX1)</td>
<td>1.4</td>
<td>3.9</td>
<td>11.6</td>
</tr>
<tr>
<td>Total</td>
<td>1.4</td>
<td>3.9</td>
<td>11.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Drainage Area</th>
<th>2-year (c.f.s.)</th>
<th>10-year (c.f.s.)</th>
<th>100-year (c.f.s.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>To South from UGSWMF (PR1A)</td>
<td>0.5</td>
<td>2</td>
<td>8.5</td>
</tr>
<tr>
<td>To East and South from Overland Flow (PR1B)</td>
<td>0.6</td>
<td>1.2</td>
<td>2.7</td>
</tr>
<tr>
<td>Total</td>
<td>1.1</td>
<td>3.2</td>
<td>11.2</td>
</tr>
</tbody>
</table>

Rule 4.3.1b is met.

The District’s water quality criteria requires 60% annual removal efficiency for total phosphorus and 90% annual removal efficiency for total suspended solids. The results from a P8 model provided shows the UGSWMF will provide an annual removal efficiency of 90% for total suspended solids (900 lbs.) and 61% for total phosphorus (12 lbs.) for water quality treatment. Rule 4.3.1c is met.
For compliance with NMCWD Rule 4.3.1a, the applicant considered a combination of onsite best management practices, as previously described. Under District Rule 4.3.2, Restricted Sites, retention to the standard identified in subsection 4.3.1a (1.1-inches) is not practicably feasible, and site conditions (as described above) are such that 0.55-inches of retention is not practicable and indeed retention to the maximum extent practicable is zero, as a result of soil contamination. The applicant provides rate control and water quality treatment in accordance with paragraphs 4.3.1b and 4.3.1c, respectively, and the project conforms to Rule 4.3.2b.

Rule 4.3.3 states that all new and reconstructed buildings must be constructed such that the low floor is at least two feet above the 100-year high water elevation or one foot above the emergency overflow of a constructed facility. The volume of runoff generated from the site impervious surface will be detained by the UGSWMF. The high water elevation (822.6 M.S.L.) will remain below the ground surface not having an impact on the 821.2 M.S.L. low floor elevation and low opening of the building at the underground parking garage entrance. There are no direct pipe connections between the low floor elevation of the structure and the UGSWMF. A surface overflow from the UGSWMF, should it occur, is located within a proposed manhole with a rim elevation at 825.6 M.S.L., 1 foot lower than the crest of the bituminous driveway leading to the low floor and low opening of the building (821.2 M.S.L.).

The project conforms to NMCWD Rule 4.3.3.

In accordance with Rule 4.3.4, a post-project chloride management plan must be provided that will, 1) designate an individual authorized to implement the chloride-use plan and 2) designate a MPCA certified salt applicator engaged in the implementation of the chloride-use plan for the site.

Rules 4.5.4d and 4.3.1a (i) and (ii) do not apply to the project, since the onsite treatment system relies entirely on detention of stormwater, not filtration or infiltration.

5.0 Erosion and Sediment Control

The requirements of Rule 5.0 - Erosion and Sediment Control are applicable to the project since land-disturbing activities will involve excavation of more than 50 cubic yards of material and will disturb 5,000 square feet of more of surface area or vegetation, Rules 5.2.1a and b. Erosion control measures include silt fence at the construction limits, two stabilized rock construction entrances and storm drain inlet protection. Permanent stabilization methods include installation of erosion control blanket and seeding.

The project contact is Dave Knaeble, Civil Site Group.

11.0 Fees

Fees for the project are:

Rules 4.0 and 5.0 $1,500
**12.0 Financial Assurances**

Financial Assurances for the project are:

- **Rule 4: Stormwater Management Facility:** $196,250
  - Chloride Management: $5,000

- **Rule 5: Perimeter control:** 1,120 L.F. x $2.50/L.F. = $2,800
  - Inlet Control: 12 x $100/each = $1,200
  - Site restoration: 1.8 acres x $2,500/acre = $4,500

Contingency and Administration $88,050

**Findings**

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

2. Rules 4 and 5 are met.

3. The site has been identified within the boundaries of a groundwater contamination area with associated vapor concerns, the Lyndale Avenue Corridor Site. The applicant has requested that the site be considered restricted under subsection 4.3.2 of the NMCWD rules. The applicant has provided technical documentation to support the restricted site request, including the Phase I and Phase II Environmental Site Assessments and the geotechnical evaluation. The engineer has reviewed findings from the technical documentation, and concurs that infiltration is precluded on the site and the site is restricted. Volume retention is not feasible for the site as a result of soil contamination, and retention to the maximum extent practicable is zero, as infiltration is likely to cause or exacerbate migration of subsurface contaminants.

4. The proposed stormwater management facility will provide rate control and water quality management in accordance with Rules 4.3.1b and 4.3.1c, respectively. In accordance with NMCWD Rule 4.3.5, the applicant must provide a maintenance and inspection plan that identifies and protects the design, capacity and functionality of the stormwater management facility.

5. Although the District’s floodplain management and drainage alterations rule does not apply to the project (Rule 2), a portion of the site is inundated during high water conditions in relation to the City of Bloomington’s Atlas-14 inundation resulting from the capacity of the City storm sewer system. The City storm sewer 100-year high water inundation area onsite is not regulated by NMCWD since the inundation area is not a natural waterbody or constructed facility. The City has approved the final development plans for the project, including the underground compensatory storage at the northwestern boundary of the site.

**Recommendation**

Approval, contingent upon:

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1 A cost of $157,000 was provided by Civil Site Group for the stormwater management facility. In accordance with Schedule B-Financial Assurance Rates, a cost of $196,250, 125% of the construction and maintenance costs, is shown.
1. General Conditions

2. Financial Assurance in the amount of $297,800, $292,800 for stormwater management, erosion control and site restoration, and $5,000 for compliance with the chloride management requirements.

3. Submission of written documentation that a drainage easement over hydrologic features has been submitted to the City of Bloomington (Rule 4.5.4i), if such easement is required by the City.

4. Per Rule 4.3.5, a receipt showing recordation of a maintenance declaration for the onsite stormwater management facility. A draft of the declaration must be approved by the District prior to recordation.

5. Submittal of written documentation demonstrating that the necessary approval and permissions have been obtained from the City of Bloomington for land disturbing activities within City right-of-way along the eastern and southern boundaries of the site.

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

1. Per Rule 4.5.8, an as-built drawing of the stormwater management facility conforming to the design specifications.

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

3. For the release of the $292,800 financial assurance required, Rule 12.4.1b requires demonstration and confirmation that the stormwater management facility has been constructed or installed and is functioning as designed and permitted.

Board Action

It was moved by Manager ____________, seconded by Manager ___________ to approve permit application No. 2020-109 with the conditions recommended by staff.
Mitigation Decisions: Lyndale Avenue Corridor - Bloomington - SR1402/SA243

Primary chemicals of concern: tetrachloroethylene (PCE) and trichloroethylene (TCE)