

Applicant: Jay Scott; Edina Apartments, LLC  
Consultant: Brian Gammon; Kimley-Horn  
Project: Pentagon Apartments Development  
Location: 4911 West 77<sup>th</sup> Street: Edina  
Applicable Rule(s): 4 and 5  
Reviewer(s): LLH/BCO

### **General Background & Comments**

The applicant has submitted plans and a Nine Mile Creek Watershed District permit application for the development of a 2.1-acre parcel within Pentagon Village (a five-parcel, 12.1-acre commercial site under common or related ownership) located in the southwest quadrant of West 77<sup>th</sup> St and Computer Ave in Edina. The Pentagon Village redevelopment project, consisting of seven buildings, two 5-story office building with ramps, two multi-story hotels, two one-story retail/restaurant buildings and one two-story retail office building, was approved in 2018, Permit #2018-097. The current permit application, Permit #2021-150, proposes the construction of Pentagon Apartments, a 54,400-square foot, 404-unit, apartment building with an access drive and site amenities at 4911 W 77th St in Edina. A modification to the impervious surface approved for Lot 3, Block 1 of Pentagon Village under Permit #2018-097 is proposed. Review of the project in conformance with the plans and stormwater management plan approved and permitted under Permit #2018-097 is provided below.

The 12.1-acre Pentagon Village project site information as approved (Permit #2018-097) is:

- Total Site Area: 527,510 square feet
- Existing Total Site Impervious Area: 391,643 square feet
- New Total Site Impervious Area : 394,221 square feet (an increase of 2,578 square feet of impervious area)
- 0.65% increase in the site impervious area
- 100% of the existing impervious area has or will be disturbed.

A modification in the area of Lot 3, Block 1 (4911 West 77<sup>th</sup> St) is proposed. The approved Pentagon Village master plan proposed two apartment buildings on Lot 3. The Permit #2021-150 submittal proposes one multi-family housing building with an access drive and site amenities. The project site information is:

- Total Site Area (Lot 3): 91,424 square feet
- Disturbed Area (Lot 3): 91,424 square feet
- Approved Site Impervious Area (Permit #2018-097) on Lot 3: 85,147 square feet

- Proposed New Site Impervious Area on Lot 3: 80,707 square feet
- 5.2% decrease in impervious surface from the Permit #2018-097 Lot 3 plan

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.

#### Exhibits

1. Permit Application dated October 25, 2021.
2. Stormwater Management Report dated October 20, 2021, revised November 19, 2021, January 3, 2021 and January 7, 2021, prepared by Kimley-Horn.
3. Plans dated June 16, 2021, with the most recent revision dated January 7, 2021, prepared by Kimley-Horn.
4. Pentagon Village Stormwater Management Plan (Master Plan), with the most recent revision dated September 26, 2018, prepared by Westwood Professional Services.
5. Floodplain Earthwork Exhibit dated June 16, 2021, prepared by Kimley-Horn.
6. Geotechnical Report dated August 24, 2018 prepared by Braun Intertec.
7. Email correspondence dated January 12, 2021 indicating a cost of \$7,000 provided by Kimley-Horn for the proposed retrofit of the outlet control structure weir from UGSWMF-4P to elevation 818.8 M.S.L.
8. Email correspondence dated November 18, 2021 outlining five items required for the application to be considered complete. Email correspondence dated December 28, 2021 outlining three items required for the application to be considered complete. Email correspondence dated January 5, 2021 outlining three items required for the application to be considered complete.

The application with the submittal items above is complete.

#### **4.0 Stormwater Management**

The district's requirements for stormwater management 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.

As previously stated, the district reviewed and permitted work associated with the overall Pentagon Village development. 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%, stormwater 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 site. Permit #2018-097 required stormwater management for the entire 12.1-acre Pentagon Village site, including the Lot 3, 2.1-acre parcel.

An underground stormwater management facility (UGSWMF) was constructed in 2018 to provide volume retention, water quality management and rate control for the development of

Lot 3. The table below compares the Lot 3 site area proposed (Permit #2018-097) with the current development proposal.

	<b>Permit #2018-097 Lot 3, Block 1</b>	<b>Permit #2021-150 Lot 3, Block 1</b>
Proposed Impervious Surface (square feet)	85,147	80,707
Proposed Pervious Surface (square feet)	6,277	10,717
Total Area (square feet)	91,424	91,424

Rule 4.3.1b requires the 2-, 10-, and 100-year post development peak runoff rates be equal to or less than the existing discharge rates where stormwater leaves the site. The approved 2018 HydroCAD hydrologic model and the proposed 2021 modifications model to simulate runoff rates from the site have been submitted. Three discharge points from the Pentagon Village site are proposed. The existing and proposed 2-, 10- and 100-year frequency discharges are:

<b>Frequency</b>	<b>Existing Discharge to the East c.f.s.</b>	<b>Permit #2018-097 Proposed Discharge to the East c.f.s.</b>	<b>Permit #2021-150 Proposed Discharge to the East c.f.s.</b>
2 year	17.0	1.6	1.6
10 year	27.4	3.1	3.1
100 year	50.6	41.8	44.0

<b>Frequency</b>	<b>Existing Discharge to the West c.f.s.</b>	<b>Permit #2018-097 Proposed Discharge to the West c.f.s.</b>	<b>Permit #2021-150 Proposed Discharge to the West c.f.s.</b>
2 year	6.0	<1.0	<1.0
10 year	9.85	<1.0	<1.0
100 year	18.5	<1.0	<1.0

<b>Frequency</b>	<b>Existing Discharge to The South c.f.s.</b>	<b>Permit #2018-097 Proposed Discharge to the South c.f.s.</b>	<b>Permit #2021-150 Proposed Discharge to the South c.f.s.</b>
2 year	14.6	14.6	12.7
10 year	22.7	18.1	17.6
100 year	40.7	31.7	32.7

The engineer agrees that the proposed rates of runoff at the three discharge points leaving the site are less than pre-2018 rates of runoff therefore, Rule 4.3.1b is met.

Permit #2018-097 required a total volume retention of 36,137 cubic feet from the 394,221 square feet of regulated impervious area (entire site) for compliance with the district's rules. An infiltration rate of 0.45 inches/hour was used as the design infiltration rate. The existing four UGSWMF's provide a volume retention of 49,383 cubic feet (36,137 cubic feet required) and an area of 51,052 square feet (20,076 feet required) to comply with the volume retention requirement with a 48-hour drawdown period.

UGSWMF	Volume Retention Provided (cubic feet)
1P	10,715 <sup>2</sup>
2P	8,045 <sup>3</sup>
3P	24,321 <sup>4</sup>
4P	6,302 <sup>1</sup>
<b>Total</b>	<b>49,383</b>

<sup>1</sup>UGSWMF 4P was constructed in 2018 to provide volume retention, water quality management and rate control for Lot 3. As-built plans indicate a surveyed UGSWMF outlet control structure weir orifice elevation of 818.3 M.S.L. (818.8 M.S.L. approved). The Grading and Drainage Plan prepared by Kimley-Horn indicate the existing weir will be removed and replaced with a new weir wall with an orifice elevation of 818.8 M.S.L., complying with Rule 4.3.1a criteria and the Pentagon Village master plan.

<sup>2</sup>Based on as-built plan surveyed UGSWMF outlet control structure weir orifice elevation of 818.98 M.S.L.

<sup>3</sup>Based on as-built plan surveyed UGSWMF outlet control structure weir orifice elevation of 820.33 M.S.L.

<sup>4</sup>Based on as-built plan surveyed UGSWMF outlet control structure weir orifice elevation of 819.67 M.S.L.

The District's water quality criterion requires a 60% annual removal efficiency for phosphorus and 90% annual removal efficiency for total suspended solids. The results of a P8 model show that the four UGSWMF's provide an annual removal efficiency of 98.2% for total suspended solids (63,378 lbs.) and an annual removal efficiency of 93% for total phosphorus (190 lbs.) to comply with Rule 4.3.1c. We agree with the P8 modelling results.

The soil boring logs indicates that groundwater was encountered between elevations 814.5 +/- M.S.L. and 816 +/- M.S.L. The following table provides a comparison of the bottom elevation of the four UGSWMF's in relationship to groundwater. Rule 4.5.4d requires three feet of separation between the bottom of an infiltration facility and groundwater.

UGSWMF	Bottom elevation of the UGSWMF M.S.L.	Groundwater Elevation M.S.L.	Separation (feet)
1P	817.5	814.5	3.0
2P	819	816	3.0
3P	818	815	3.0
4P	817.5	814.5	3.0

The required three (3) feet of separation is provided between the bottom of an infiltration area and groundwater.

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. Additionally, Rule 4.3.3 states that all new and reconstructed buildings must be constructed such that no opening where surface flow can enter the structure is less than two feet above the 100-year high-water elevation of an adjacent facility. The low floor and low opening elevation of the proposed structure in relation to the constructed UGSWMF 100-year high water elevation at Lot 3 is summarized below.

Constructed Stormwater Management Facility	100-year Frequency Flood Elevation of Existing Facility (M.S.L.)	Low Floor and Low Opening Elevation of Proposed Lot 3 Building (M.S.L.)	Low Floor and Low Opening Elevation Separation (feet)
UGSWMF 4P	822.8 <sup>1</sup>	824.8	2.0

<sup>1</sup>The proposed HydroCAD model with the modeled 100-year frequency flood elevation of the existing facility includes as-built information for the UGSWMF and the proposed weir elevation (818.8 M.S.L., outlet control structure retrofit).

In accordance with Rule 4.3.1a (i), where infiltration or filtration facilities, practices or systems are proposed, pre-treatment of runoff must be provided. Sump manholes will provide the required pretreatment of runoff prior to discharging to UGSWMF 4P, complying with Rule 4.3.1a (i).

District records indicate that an approved chloride management plan, complying with Rule 4.3.4 criteria, has previously been provided as a condition of Permit #2018-097.

**5.0 Erosion and Sediment Control**

The District’s requirements for 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 5.2.1a and b.

The erosion control plan prepared by Kimley-Horn includes installation of silt fence, a stabilized rock construction entrance and storm sewer inlet protection.

The contractor for the project will need to designate a contact who will remain liable to the District for performance under the District’s Erosion and Sediment Control Rule 5.0, in accordance with subsection 5.4.1e. NMCWD must be notified if the responsible individual changes during the permit term.

**11.0 Fees**

Fees for the project are:

Rules 4.0-5.0 \$1,500

**12.0 Financial Assurances**

Financial Assurances for the project are:

Rules 5: Perimeter Control: 1,104 L.F. x \$2.50/L.F. = ..... \$2,760  
 Inlet Protection: 10 x \$100 = ..... \$1,000  
 Site Restoration: 2.1 acres x \$2,500/acre = ..... \$5,250

Rule 4: Stormwater Management Facilities=.....	\$8,750 <sup>1</sup>
Contingency and Administration .....	\$7,640

**Findings**

1. The proposed project includes the information necessary, plan sheets and erosion control plan for review.
2. Rules 4 and 5 will be met with the fulfillment of the conditions identified below.
3. The project site is not within the floodplain of Nine Mile Creek or any other waterbody, therefore, the requirements of the District’s Floodplain Management and Drainage Alterations Rule 2.0 do not apply. The Pentagon Park/Border Basin Regional Stormwater Management Plan, April 2018, has identified a 100-year frequency flood elevation of 822.6 M.S.L. on this site, i.e., parking lots and other incidental flood-storage area on the property are inundated to elevation 822.6 M.S.L. during the 100-year storm event. The finished floor elevation of the proposed building on Lot 3 is shown to be 824.8 M.S.L. or above.
4. An underground stormwater management facility (UGSWMF-4P) was constructed in 2018 to provide volume retention, water quality management and rate control for the development of Lot 3. A 5.2% decrease in impervious surface (4,440 square feet) from the Permit #2018-097 Lot 3 plan is proposed with the project. Information submitted indicates an additional 10,774 square foot decrease in impervious area tributary to UGSWMF 4P (within drainage area 13\_2b outside of Lot 3). Until a development plan is received for the remaining lots within drainage area 13\_2b, it is assumed the 10,774 square feet of impervious surface remains tributary to UGSWMF-4P.

**Recommendation**

*Approval, contingent upon:*

Continued compliance with the General Provisions (attached).

Financial Assurance in the amount of \$25,400 for erosion control, site restoration and stormwater management.

The applicant providing a name and contact information for the individual responsible for the erosion and sediment control at the site. NMCWD must be notified if the responsible individual changes during the permit term.

A 5.2% decrease in impervious surface (4,440 square feet) from the Permit #2018-097 Lot 3 plan is proposed with the project. Information submitted indicates an additional 10,774 square foot decrease in impervious area tributary to UGSWMF 4P (within drainage area 13\_2b outside of Lot 3). Until a development plan is received for the remaining lots within drainage area 13\_2b, it is assumed the 10,774 square feet of impervious surface remains tributary to UGSWMF-4P. The proposed HydroCAD file must be revised to incorporate the 10,774 square feet of impervious surface assumed to be tributary to UGSWMF 4P.

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<sup>1</sup> A cost of \$7,000 was provided by Kimley-Horn for the proposed retrofit of the outlet control structure weir from UGSWMF-4P to elevation 818.8 M.S.L. In accordance with Schedule B-Financial Assurance Rates, a cost of \$8,750, 125% of the construction and maintenance costs, is shown.

*By accepting the permit, when issued, the applicant agrees to the following stipulations for closeout of the permit and release of the financial assurance after the project:*

Per Rule 4.5.8, an as-built drawing of the constructed Lot 3, Block 1 stormwater management facility conforming to the design specifications (including the proposed outlet control structure weir retrofit) is required to be provided.

An as-built plan for the work on Lot 3 and associated with the Pentagon Apartments must be provided showing the site impervious surface area and configuration materially consistent with the approved plans. Design that differs materially from the approved plans (e.g., in terms of the total lot impervious area or proposed stormwater management facility retrofit) will need to be the subject of a request for a permit modification or new permit, which will be subject to review for compliance with all applicable regulatory requirements.



