Permit Application Review Permit No. 2020-13
Received complete: February 11, 2020

Applicant:	Christopher Bohlman; U-Haul of Southern Minnesota
Consultant:	Emily Riihl; ISG Inc.
Project:	U-Haul Storage Rental Redevelopment
Location:	8901 Lyndale Avenue South: Bloomington
Rule(s):	4, 5
Reviewer:	BCO/LLH

General Background & Comments

The project proposes the construction of a 4-story U-Haul storage facility located at 8901 Lyndale Avenue South in Bloomington, MN. Proposed site improvements include sidewalks, utilities, a stormwater management system, parking areas and landscaping. The existing building and bituminous parking lot is to be removed.

The site is 1.86 acres in area. The site drainage area is 2.02 acres in area and includes the property boundary as well as land to the south and northeast that drain onto the property. The project site information includes the following:

- Total Site Area: 1.86 acres (81,022 square feet)
- Existing Total Site Impervious Area: 50,094 square feet
- New Total Site Impervious Area: 66,647 square feet (an increase of 16,553 square feet in impervious area)
- 33% increase in the site impervious area
- 100% of existing impervious area will be disturbed

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 stormwater requirements will apply only to the disturbed areas and additional impervious area on the parcel. Since the entire site impervious area will be disturbed, stormwater management is required for the entire project area of 81,022 square feet including the 66,647 square feet of total new site impervious area.

The District's requirements for both stormwater management and erosion and sediment control apply to the project because more than 5,000 square feet or more surface area will be disturbed, Rules 4.2.1b and 5.2.1b.

Stormwater management is to be provided by an underground stormwater management facility (UGSWMF) that will provide volume retention, rate control and water quality management. The underground infiltration system will receive the majority of runoff from the new building, parking areas and other site improvements. A portion of stormwater runoff from landscaping and impervious surface will drain to the west towards Lyndale Avenue South. The system, however, has been sized to handle the design runoff generated from the entire site.

Braun Intertec conducted a geotechnical evaluation and performed seven standard penetration test (SPT) borings on-site. As identified by the geotechnical report, at the time of observation, the highest groundwater elevation was encountered at approximately 808 M.S.L. No District rule requires a specific distance separation between the low floor elevation of a structure and groundwater; however, the applicant is advised that seasonal fluctuations of the groundwater elevation can occur.

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

The City of Bloomington identifies a 100-year high water elevation at 823.8 M.S.L. for an inundation area adjacent to the project site area. Sheet C4-10 of the plans includes removal and replacement of bituminous pavement below 823.8 feet in the northwest corner of the project site boundary. The proposed work includes matching of existing elevations (no fill) at this location. Therefore, Rule 2 Floodplain Management and Drainage Alternations is not triggered (Rule 2.2).

The site is located in close proximity to an MPCA Superfund site, where groundwater and soil contamination exist. The site is located outside of the area of restricted infiltration for the Lyndale Avenue Corridor Superfund. Soil borings completed by Braun Intertec showed no contamination. The Minnesota Pollution Control Agency (MPCA) Contamination Checklist for Infiltration was completed and it was determined that infiltration is allowable for the project site.

Exhibits

1. Permit Application dated February 11, 2020.
2. Plans date February 11, 2020 prepared by ISG.
3. Stormwater Management Report dated February 5, 2020 prepared by ISG.
4. MPCA Contamination Checklist for Infiltration dated February 5, 2020 completed by ISG.
5. E-mail correspondence dated January 16, 2020 from the MPCA stating if the site is outside of the MPCA mapped area for the Superfund Site and the contamination screening check list and sampling indicates no contamination, infiltration is allowed.
6. Geotechnical Evaluation Report dated January 8, 2020 prepared by Braun Intertec.

4.0 Stormwater Management

The proposed work includes an underground infiltration system north of the proposed building. The underground infiltration system will provide volume retention, rate control and water quality management.

The majority of runoff from the proposed site is conveyed to the proposed underground infiltration system, which outlets to an existing City of Bloomington catch basin at Halsey Lane along the northern project site boundary. A portion of the runoff from pervious and impervious surfaces will drain to the west towards Lyndale Avenue South. As stated earlier, the UGSWMF has been designed assuming that all of the site runoff is directed to the system.

The existing and proposed 2, 10 and 100 year frequency discharges from the site are as follows:

Frequency	Existing Discharge c.f.s.	Proposed Discharge c.f.s.
2 year	6.29	0.73
10 year	10.44	3.21
100 year	19.96	7.14

Rule 4.3.1b is met.

An infiltration volume of 6,109 cubic feet is required for 1.1-inches of runoff from the 66,647 square feet of site impervious area. The abstraction volume requirement calculation is based off the post-construction total impervious area, 66,647 square feet, as identified by the site plan Stormwater Pollution Prevention Plan notes and the proposed HydroCAD model. (The stormwater management report identifies a required volume of 6,448 cubic feet based on an impervious area of 70,345 square feet.)

Soil borings indicate the underlying soil as poorly graded sands (SP) or silty sands (SM). Infiltration tests were not conducted at the bottom of the proposed underground infiltration system, and an infiltration rate of 0.45 inches/hour has been assumed using the Minnesota Stormwater Manual.

The proposed bottom of the underground infiltration system is at an elevation of 818.75 M.S.L. with an outlet invert at an elevation of 820.50 M.S.L., resulting in an infiltration system depth of approximately 1.75 feet. An area of 3,491 square feet is required for volume retention using a design infiltration rate of 0.45 inches/hour and a proposed infiltration system depth of 1.75 feet.

Based on the stage-area storage for the underground infiltration system, the stormwater management facility will provide a volume of approximately 6,795 cubic feet at a depth of 1.75 feet. The identified stage-area storage footprint area for the underground infiltration system is 6,011 square feet.

The maximum inundation depth allowable for the volume retention of 6,109 cubic feet to be drawn down within 48 hours using an infiltration rate of 0.45 inches/hour is 1.8 feet. Therefore, the infiltration facility drawdown requirement identified in Rule 4.3.1.a (ii) is met.

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 MIDS calculator indicate the underground infiltration system will provide an annual removal efficiency of 95% (504.6 lbs.) for Total Suspended Solids and 95% (2.78 lbs.) for Total Phosphorus.

Rule 4.3.1c is met.

The soil boring logs indicate that the highest groundwater elevation was encountered at 808 M.S.L. The proposed bottom of the underground infiltration system is shown to be 818.75 M.S.L., resulting in a separation of 10.75 feet. A minimum 3-foot separation is required between the bottom of an infiltration facility and groundwater. Rule 4.5.4.d (i) is met.

Rule 4.3.3.a 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 natural overflow of a waterbody. The City of Bloomington 100-year high water elevation for the inundation area adjacent to the project area is 823.8 M.S.L. The proposed low floor elevation for the building is 828 feet, providing 4.2 feet of separation. The 100-year high water elevation for the UGSWMF is 824.2 M.S.L., a separation of 3.8 feet between the proposed finished floor elevation of the building and the HW elevation of the BMP.

Rule 4.3.3.b states that all new and reconstructed buildings must be constructed such that the low opening is at least two feet above the 100-year high water elevation of a constructed facility. With the low opening and low floor elevation both being 828 M.S.L., the proposed underground infiltration system 100-year high water level is 824.2, providing 3.8 feet of separation between the proposed low floor elevation and the inundation area 4.2 feet.

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 the outer rows of the infiltration chambers are isolator rows that accept water from stormwater inlets which serve as the pretreatment for the underground infiltration system.

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.

5.0 Erosion and Sediment Control

The submitted erosion and sediment control plan includes perimeter control at the limits of construction, inlet protection and a rock construction entrance. The project contact is Emily Riihl, ISG Inc.

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: Volume Retention: 3,491 sq. ft. x $12/sq. ft. = $41,892	$41,892
Chloride Management:	$5,000
Rule 5: Perimeter control: 1,785 L.F. x $2.50/L.F.= $4,462	
Inlet Control: 13 x $100/each = $1,300	
Site restoration: 1.86 acres x $2500/acre = $4,650	$10,412
Contingency and Administration	$22,496

Findings

The proposed project includes the information necessary, plan sheets and erosion control plan for review. Rules 4 and 5 are met.

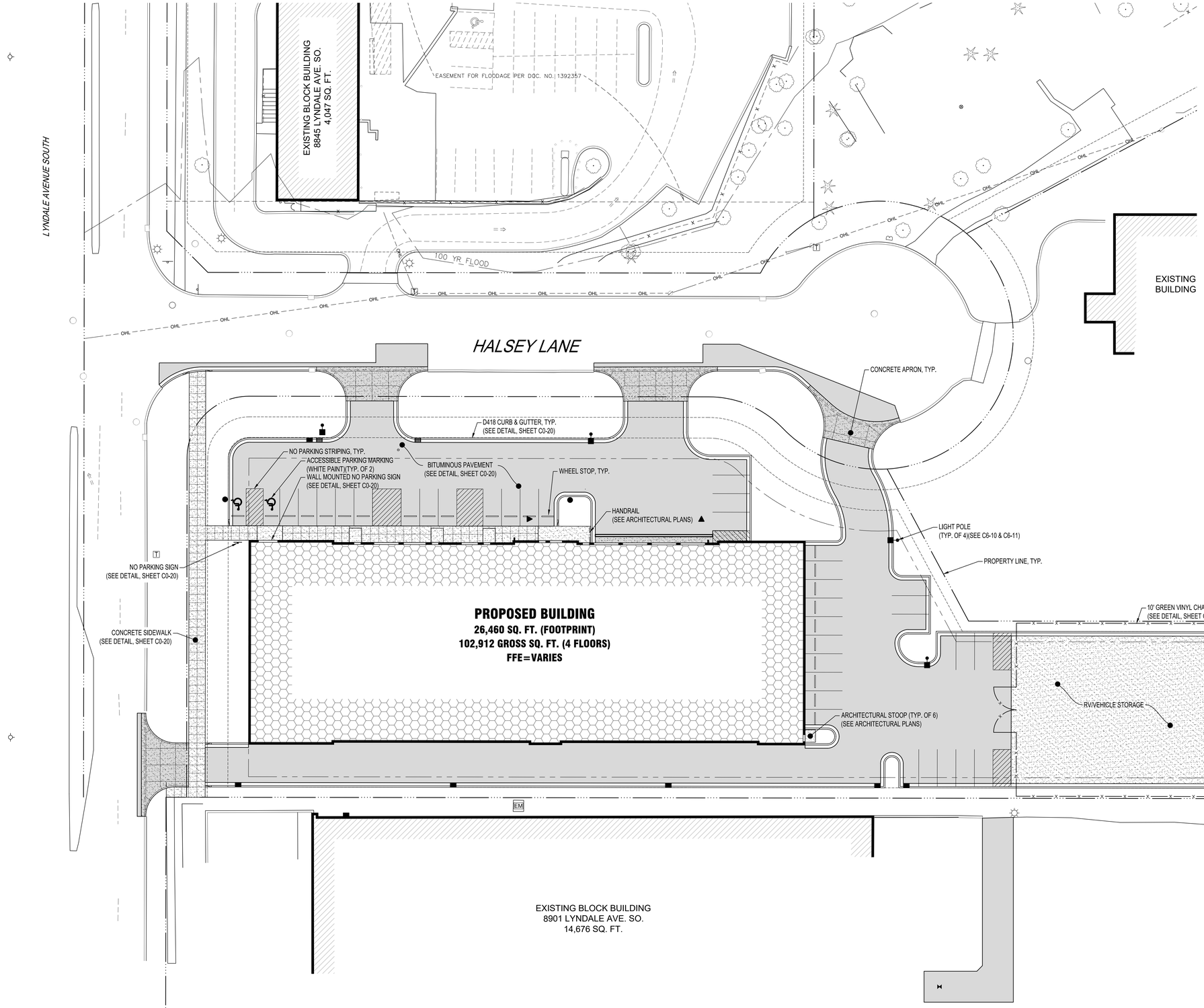
Recommendation

Approval, contingent upon:

1. General Conditions
2. Financial Assurance in the amount of $79,800, $74,800 for stormwater management, erosion control, and site restoration, and $5,000 for compliance with the chloride management requirements.
3. Submittal of written documentation demonstrating that the necessary approval and permissions have been obtained from the City of Bloomington to perform proposed work for land disturbing activities that will occur within City of Bloomington property.
4. Submittal of 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.
5. A receipt showing recordation of a maintenance declaration for the on-site stormwater management facility. A draft of the declaration must be approved by the District prior to recordation.
6. Submittal of a plan with the design detail for the underground infiltration system outlet control structure on the plans. A detail of the outlet control structure is required prior to issuance of the permit.
7. Submittal of a revised plan showing identification of the following on the plans:
    a. The 100-year high water elevation for the proposed infiltration system (Rule 4.5.3.c).
    b. The proposed building low floor elevation (identified at an elevation of 828 feet in the Stormwater Management Report).
    c. The 100-year floodplain, elevation 823.8 M.S.L., located near the northern and northwestern boundary of the site. The plans show matching of existing contours below the floodplain elevation of 823.8 feet M.S.L., where bituminous pavement will be removed and replaced. Therefore, criteria from Rule 2 does not apply.

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 facility conforming to the design specifications, including a stage volume relationship in tabular form for the underground infiltration system.
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 $74,800 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. Verification, through daily observation logs and photographs, must be provided showing the stormwater facilities used for volume retention have drawn down within 48 hours from the completion of two 1-inch (approximate) separate rainfall events.



PROPOSED SITE SUMMARY

MUNICIPALITY:	CITY OF BLOOMINGTON		
PROJECT ADDRESS:	8901 LYNDALE AVE S		
LOT SIZE:	LOT #	PARCEL #	AREA
	LOT 2	PARCEL 1	48,729 SF/1.12 AC
	LOT 2	PARCEL 2	32,432 SF/0.74 AC
		TOTAL AREA:	**81,161 SF/1.86 AC**
IMPERVIOUS AREA:	66,636 SQ. FT / 1.53 AC. (82%)		
GREENSPACE PROVIDED:	14,525 SQ. FT / 0.33 AC. (18%)		
ZONE:	I-3 (GENERAL INDUSTRY)		
ADJACENT ZONING:	I-3 (NORTH) I-3 (EAST) I-3 (SOUTH) B-2/RM-24 (WEST)		
PROPOSED USES:	SELF-STORAGE (CUP) RETAIL (PERMITTED) *RV/VEHICLE STORAGE: MUST BE A REQUIRED COMPONENT OF SELF-STORAGE FACILITIES IN THE AMOUNT EQUAL TO AT LEAST 10% OF LAND AREA AVAILABLE FOR DEVELOPMENT (AREA IS PARKING SPACES ONLY, NOT DRIVE AISLES) 81,161 x 0.10 = 8,116 SF MIN. REQUIRED FOR RV/VEHICLE STG 8,160 SF RV/STORAGE PROPOSED		
SETBACKS:		REQUIRED	PROVIDED
	FRONT YARD	30'-0"	30'-0"
	SIDE YARD	10'-0"	10'-0"
	REAR YARD	25'-0"	25'-0"
FAR:	MIN. REQUIRED= 1.25 OR 101,451 SF MAX. ALLOWED= 2.00 OR 162,322 SF PROPOSED FAR= 1.27 OR 102,912 SF		
HEIGHT LIMIT:	4 STORIES / 60 FT		
PARKING:	SELF-STORAGE = 3 SP / 100 STORAGE UNITS 868/100 STORAGE UNITS = 26 UNITS REQUIRED 26 SPACES PROPOSED (4 ARE INSIDE BUILDING) RETAIL = 1 SP / 180 S.F. GFA 2,763 S.F. / 180 = 16 16 SPACES PROPOSED		
LANDSCAPING:	20 FT BUFFER ON STREET AND 5 FT BUFFER ON ALL OTHER PROPERTY SIDES		

N

0 20 40

SCALE IN FEET

PAVEMENT LEGEND

SYMBOL	DESCRIPTION
	BITUMINOUS PAVEMENT
	CONCRETE PAVEMENT
	CONCRETE APRON
	CONCRETE SIDEWALK

ISG

BAUER DESIGN BUILD

U-HAUL

B.M. ELEVATION=829.63
T.N.F.H. ON WEST SIDE OF LYNDALE AVE.
1ST HYDRANT NORTH OF 90TH STREET

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
RYAN ANDERSON
DATE XX/XX/XXXX LIC. NO. 55938

PROJECT

U-HAUL

SELF STORAGE

BLOOMINGTON MINNESOTA

ISSUED SCHEDULE

DATE	DESCRIPTION	BY
02/11/20	CITY SUBMITTAL	PJJ

REVISION SCHEDULE

DATE	DESCRIPTION	BY

PROJECT NO.	19-22540
FILE NAME	22540 C3 SITE
DRAWN BY	PJJ
DESIGNED BY	PJJ
REVIEWED BY	RJA
ORIGINAL ISSUE DATE	--/--/--
CLIENT PROJECT NO.	-

TITLE

SITE PLAN

SHEET

C3-10