

Applicant: Brad Hansen; TopLine Financial Credit Union

Consultant: Mike Kettler; Sunde Engineering, PPLC.

Project: Topline Federal Credit Union

Location: 900 American Boulevard West: Bloomington

Applicable Rule(s): 4, 5, 11 and 12

Reviewer(s): Gabby Campagnola and Louise Heffernan; Barr Engineering Co.

General Background & Comments

The applicant proposes the redevelopment of the commercial site located at 900 American Boulevard West in Bloomington. Currently, the 0.95-acre site is primarily vacant with grass, and sidewalk area along American Boulevard West.

The project proposes the following:

- site clearing and grading, including removal of the exiting concrete pavement
- construction of a 3,100-square foot commercial building, TopLine Federal Credit Union, with associated surface parking
- construction of a building access driveway
- site improvements including concrete sidewalks, landscaping, and utilities
- construction of an infiltration basin

The project site information is:

- Total Site Area: 0.95 acres (41,474 square feet)
- Disturbed Area: 0.95 acres (41,474 square feet)
- Existing Site Impervious Area: 0.04 acres (1,836 square feet)
- Proposed Site Impervious Area: 0.59 acres (25,795 square feet)
- Disturbed Impervious Area: 1,836 square feet (100% of the existing impervious surface is to be disturbed)
- Increase in Impervious Area: 23,959 square feet (Over 100% increase in the site impervious area)

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 Reviewed:

1. Permit Application dated August 19, 2022, with owner authorization dated September 20, 2022, indicating that the applicant's representative may act on the owner's behalf.
2. Plans dated June 7, 2022, with the most recent revision dated September 30, 2022, prepared by Sunde Engineering, PLLC.
3. Stormwater Management Report dated June 2022, revised July 2022, August 2022, and September, 2022, prepared by Sunde Engineering, PLLC.
4. Electronic P8 model files received August 26, 2022 and September 21, 2022, prepared by Sunde Engineering, PLLC.
5. Electronic HydroCAD model files received August 19, 2022 and September 21, 2022, prepared by Sunde Engineering, PLLC.
6. Geotechnical Evaluation Report dated June 30, 2022, prepared by Terracon Consultants, Inc.
7. Existing and Proposed Drainage Maps received September 21, 2022, prepared by Sunde Engineering, PLLC.
8. Email correspondence dated September 9, 2022, outlining nine 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.

The NMCWD'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 site imperviousness 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 the entire site (100% of the existing impervious surface is proposed to be disturbed), the district's stormwater management criteria are required for the entire site, including the 0.59 acres (25,795 square feet) of proposed impervious surface.

Stormwater management for compliance with Rules 4.3.1a, b and c will be provided by an infiltration basin (Basin).

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 for all collection points where stormwater leaves the site. The applicant used a HydroCAD hydrologic model to simulate runoff rates at the three

collection points where stormwater discharge leaves the site. The existing and proposed 2-, 10- and 100-year frequency discharges from the site are summarized in the tables below.

Existing Conditions			
Modeled Discharge Location	2-year (c.f.s.)	10- year (c.f.s.)	100- year (c.f.s.)
To Adjacent Private Property (North)	<1.0	<1.0	<1.0
To Adjacent Property Access Drive (East)	<1.0	<1.0	<1.0
To American Boulevard West (South)	<1.0	1.6	5.3
Total	<1.0	1.7	5.8

Proposed Conditions			
Modeled Discharge Location	2-year (c.f.s.)	10- year (c.f.s.)	100- year (c.f.s.)
To Adjacent Private Property (North)	<1.0	<1.0	<1.0
To Adjacent Property Access Drive (East)	<1.0	<1.0	<1.0
To American Boulevard West (South)	<1.0	1.4	2.2
Total	<1.0	1.4	2.3

The proposed stormwater management plan provides rate control in compliance with the NMCWD requirements for the 2-, 10-, and 100-year events. Rule 4.3.1b is met.

The Terracon Consultants Inc. geotechnical report identifies the underlying soil within the area of the basin as silty-sand (SM) underlain by poorly graded sand with silt (SP-SM). A design infiltration rate of 0.45 inches per hour has been used, conforming with infiltration rates identified in the Minnesota Storm Water Manual.

A retention volume of 2,365 cubic feet is required from the 25,795 square feet of proposed site impervious area. A retention volume of 3,302 cubic feet is proposed to be provided (2,365 cubic feet required) with an infiltration footprint area of 1,835 square feet (1,314 square feet required). With an area of 1,835 square feet, the volume retention is drawn down within 35-hours, complying with Rule 4.3.1a (ii).

The district's water quality criterion requires a 60% annual removal efficiency for total phosphorus (TP) and 90% annual removal efficiency for total suspended solids (TSS). The results from the P8 model provided show that the Basin will provide an annual removal efficiency of 91.2% for TSS (313.8 lbs.) and an annual removal efficiency of 88.1% for TP (1.0 lb.). The NMCWD engineer agrees with the modeling results and the project is in conformance with Rule 4.3.1c is met.

Rule 4.5.4d (i) requires at least three feet of separation between the bottom of an infiltration facility and groundwater. The Terracon Consultants, Inc. geotechnical evaluation indicates that groundwater was not encountered in any of the soil borings. Soil boring B-7 taken near the proposed Basin did not encounter groundwater to the bottom of the boring, elevation 824.5 +/- M.S.L. The following table provides a comparison of the bottom elevation of the Basin in relation to the elevation groundwater was not encountered.

Proposed Stormwater Management Facility	Bottom Elevation of Basin M.S.L.	Groundwater Elevation (B-7) M.S.L.	Separation Provided (feet)
Basin	833.0	824.5 ¹	8.5

1. Lowest elevation in B-7 where no groundwater was detected

The required three (3) feet of separation is provided between the bottom of the 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. Rule 4.3.3 also states that a stormwater management facility must be constructed at an elevation ensure no adjacent habitable building will be brought into noncompliance with a standard in subsection 4.3.3. The low floor and low opening elevations of the proposed building and existing building on adjacent property in relation to the Basin's 100-year high-water elevation is summarized in the table below.

Building	100-year Event Flood Elevation of Proposed Basin (M.S.L.)	Low Floor and Low Opening Elevation of Building (M.S.L.)	Low Floor Separation Provided (feet)
Proposed Commercial building	836.2	841.0	4.8
Adjacent Existing Commercial building	836.2	838.8	2.6

The project is in conformance with Rule 4.3.3 criteria.

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. A hydrodynamic separator with a sump will provide the required pretreatment of runoff entering the Basin, complying with Rule 4.3.1a (i).

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.

Subsection 4.3.5 requires the submission of a maintenance plan. All stormwater management structures and facilities must be designed for maintenance access and properly maintained in perpetuity to assure that they continue to function as designed. The applicant must provide a receipt showing recordation of a maintenance declaration for the operation and maintenance of the stormwater management facilities.

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 Sunde Engineering, PLLC. includes installation of silt fence, sediment control logs, a stabilized rock construction entrance and storm drain 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
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12.0 Financial Assurances

Financial Assurances for the project are:

Rule 5: Perimeter Control: 382 L.F. x \$2.50/L.F. =.....	\$955
Inlet Protection: 9 x \$100 =.....	\$900
Site Restoration: 0.95 acres x \$2,500/acre =.....	\$2,375
Rule 4: Stormwater Management Facility: 1,835 S.F. x \$12/S.F.=	\$22,020
Chloride Management	\$5,000
Contingency and Administration	\$11,350

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 fulfilment of the conditions identified below.
3. The proposed stormwater management facility will provide volume retention, rate control and water quality management in accordance with subsections 4.3.1a-c criteria.
4. 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 facilities.

Recommendation

Approval, contingent upon:

Compliance with the General Provisions (attached).

Financial Assurance in the amount of \$42,600, \$37,600 for stormwater management, erosion control, and site restoration, and \$5,000 for compliance with the chloride management requirements.

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.

Per Rule 4.3.5, a receipt showing recordation of a maintenance declaration for the operation and maintenance of the stormwater management facility is required. A draft of the declaration must be approved by the district prior to recordation.

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:

The work for the Topline Federal Credit Union under the terms of Permit 2022-121 must have an impervious surface area and configuration materially consistent with the approved plans. Design that differs materially from the approved plans 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.

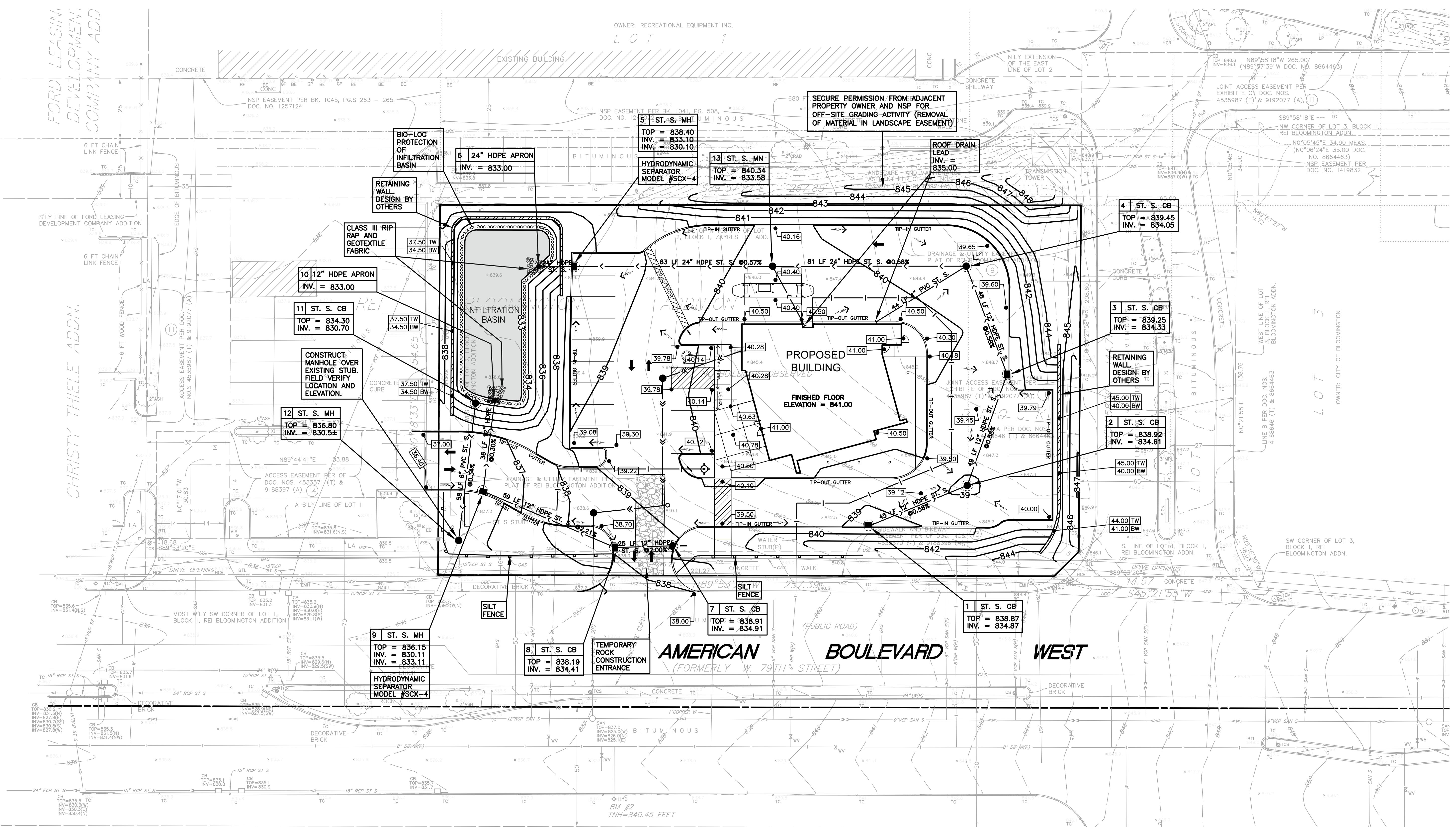
Per Rule 4.5.6, an as-built drawing of the stormwater management facility conforming to the design specifications, including a stage volume relationship in tabular form for the infiltration basin, as approved by the district, must be provided.

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.

Per Rule 12.4.1b, demonstration and confirmation that the stormwater management facility has been constructed or installed and are functioning as designed and permitted. Verification, through daily observation logs and photographs, must be provided showing the stormwater management facility used for volume retention have drawn down within 48 hours from the completion of two 1-inch (approximate) separate rainfall events.

TOPLINE FEDERAL
CREDIT UNION

BLOOMINGTON, MN



DATE	REVISION
6/7/22	ORIGINAL PLAN DATE
6/20/22	SITE LAYOUT UPDATES
6/27/22	EAST PARKING AREA
8/24/22	CITY SUBMITTAL

I HEREBY CERTIFY THAT THIS PLAN,
SPECIFICATION, OR REPORT WAS PREPARED
BY ME OR UNDER MY DIRECT SUPERVISION
AND THAT I AM A LICENSED
PROFESSIONAL ENGINEER UNDER THE LAWS
OF THE STATE OF MINNESOTA.

Mike R. Kettler
DATE: 6/7/22 REG. NO.: 40425

INFORMATION:
PROJECT NO.: 22-520
DRAWN BY: MK
CHECKED BY: MK
APPROVED BY: MK
SCALE: GRAPHIC
DATE: 6/7/22

DESCRIPTION:
GRADING,
DRAINAGE AND
EROSION
CONTROL PLAN

SHEET NO:

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