Permit Application Review

Permit No. 2021-144
Received complete: February 22, 2022

Applicant:	Eric Hamilton: Edina Public Schools
Consultant:	Anthony Adderley; Bolton & Menk, Inc.
Project:	Creek Valley Elementary School Bus Loop Addition
Location:	6401 Gleason Road: Edina
Rule(s):	4 and 5
Reviewer(s):	BCO

General Background & Comments

The applicant is proposing to extend the existing south parking lot to incorporate a bus loop, provide additional sidewalks and make pavement repairs at Creek Valley Elementary School located at 6401 Gleason Road in Edina.

NMCWD has previously reviewed and approved two permits for other projects at Creek Valley Elementary School (#2016-21, #2017-120) under its rules adopted in 2008 that triggered NMCWD storm water-management requirements. Under paragraph 4.2.5 of the NMCWD rules, “activity subject to [the stormwater] this rule on a site or adjacent sites under common or related ownership will be considered in the aggregate, and the requirements applicable to the activity under this rule will be determined with respect to all development and redevelopment that has occurred on the site or on adjacent sites under common or related ownership since the date this rule took effect (March 2008).” The common scheme of development provision requires the changes to impervious surface and resulting runoff for the bus loop construction, additional sidewalks, and pavement repairs at Creek Valley Elementary School be considered in the aggregate with prior increase and impervious disturbance on the Creek Valley Elementary School property.

- Total Site Area: 9.7 acres
- Site Impervious Area: 6.1 acres (pre-2016 – 265,716 square feet)
- Site Impervious Area Disturbed and replaced:

  2016 – 0 square feet

  2017 – 1,263 square feet

  2021 – 10,759 square feet
- Total Site Impervious Area Disturbed and replaced: 12,022 square feet

- Aggregate % of Site Impervious Area Disturbed: 4.5%
- New Site Impervious Area:

  2016 – 68,389 square feet

  2017 – 1,176 square feet

  2021 – 31,842 square feet
- Total New Site Impervious Area – 101,407 square feet
- Aggregate % increase in Total Site Impervious Area: 38.2%

As noted, since the work will result in disturbance of an aggregate total of less than 50% of the existing site impervious area and the proposed aggregate increase in site impervious area is less than 50%, in accordance with Rule 4.2.3, Redevelopment, the storm water requirements of Rule 4.3 apply to the disturbed and reconstructed impervious area, 12,022 square feet and new impervious area, 101,407 square feet. (The applicant completed the 2016 work in accordance with Permit #2016-21, providing the required stormwater management capacity for the 68,389 square feet of added impervious surface. Stormwater management required and provided by Permit #2017-109 will be eliminated and is to be replaced by the current project (2,439 square feet). A total of 45,040 square feet of impervious area - 12,022 square feet of disturbed and reconstructed impervious area and 31,842 square feet of new impervious area is required to be provided by the current project - #2021-144).

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, volume retention, rate control and water quality management, is to be provided within an underground stormwater management facility (UGSWMF).

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 October 15, 2021.
2. Plans dated August 20, 2021, prepared by Bolton & Menk.
3. Storm Water Management narrative and calculations dated October 12, 2021, revised February 16, 2022, prepared by Bolton & Menk.
4. Erosion and Sediment Control Plan received on August 20, 2021, prepared by Bolton & Menk.
5. Geotechnical Report dated February 5, 2016, prepared by Braun Intertec.
6. E-mail correspondence dated October 18, 2021, summarizing 4 items based on our review of the October 12 and 15, 2021, submittal requiring additional information or needed to be addressed for the application to be considered complete.

The application is now considered complete based on the additional information received on February 22, 2022.

4.0 Stormwater Management

Stormwater management for compliance with Rule 4.3.1 will be provided by an underground stormwater management facility (UGSWMF).

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 applicant used a HydroCAD hydrologic model to simulate runoff rates at all collection points where stormwater discharge leaves the site. The existing and proposed 2-, 10- and 100-year frequency discharges from the site are:

Existing Conditions			
Modeled Discharge Location	2 year (c.f.s.)	10 year (c.f.s.)	100 year (c.f.s.)
To the West	21.4	37.5	73.6

Proposed Conditions			
Modeled Discharge Location	2 year (c.f.s.)	10 year (c.f.s.)	100 year (c.f.s.)
To the West	14.7	34.9	67.9

Rule 4.3.1b is met.

A retention volume of 4,129 cubic feet is required from the 45,040 square feet of proposed new and disturbed and reconstructed site impervious area. The Braun geotechnical report identifies the underlying soil within the area of the UGSWMF as silty sand (SM). An infiltration rate of 0.45 inches/hour using the Minnesota Storm Water Manual has been assumed for the silty sand. A retention volume of 4,335 cubic feet is proposed to be provided (4,129 cubic feet required) an area of 3,538 square feet (2,294 square feet required) is provided at an inundation depth of 1.8 feet, the depth of inundation allowable for the retention volume to be drawn down within 48 hours. Rule 4.3.1a (ii) is met.

The Braun geotechnical report identifies that groundwater was not encountered to a depth of 9.5 feet, elevation 877.1 M.S.L. The bottom of the proposed UGSWMF is 880.5 M.S.L., providing a separation of 3.4 feet. Rule 4.5.4d (ii) requires three (3) feet of separation between the bottom of an infiltration area and groundwater be provided.

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 provided shows the UGSWMF will provide an annual removal efficiency of 96% for total suspended solids (422 lbs.) and an annual removal efficiency of 96% for total phosphorus (1.1 lbs.). Rule 4.3.1c is met.

Rule 4.3.3 states that a stormwater management facility must be constructed at an elevation that ensures that no habitable building will be brought into noncompliance with a standard in subsection 4.3.3 of the district rules. Rule 4.3.3 c states that at least two feet of separation is required to be provided above the 100-year high water elevation or one foot above the emergency overflow of a constructed facility and a structure. The submittal for Permit #2017-

120 identifies the finished floor elevation of the school building as 895.9 M.S.L. The HydroCAD modeling identifies a 100-year frequency high water elevation of 887.1 M.S.L. for the UGSWMF resulting in a separation of 8.8 feet provided between the high-water elevation of the UGSWMF and the elevation of the school building.

Additionally, Rule 4.3.3 states that no opening where surface water can enter a structure can be less than two feet above the 100-year high water elevation of an adjacent facility. Elevation 895.9 M.S.L., the finished first floor elevation of the structure, represents the low opening elevation. As stated, the HydroCAD modeling provided shows a calculated 100-year high water elevation of 887.1 M.S.L. for the UGSWMF. A separation of 8.8-feet will be provided between the high-water elevation of the UGSWMF and low opening elevation of the structure.

In accordance with Rule 4.3.1a (i), an isolator row will be included as part of the UGSWMF to provide the required pre-treatment of runoff prior to reaching the infiltration facility.

If not previously provided by the school district 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 silt fence at the limits of construction, inlet control, and a gravel construction entrance.

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 from the time the permitted activities commence until vegetative cover is established, in accordance with subsection 5.4.1e.

11.0 Fees

Because the property owner is a public entity, no fees are charged.

Rules 4.0 and 5.0 $0

12.0 Financial Assurances

Because the property owner is a public entity, the district's financial assurance requirements do not apply.

Sureties for the project are: $0

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:

General Provisions

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

Per Rules 4.3.5, the school district must submit for NMCWD approval, then execute an agreement providing for the maintenance of the stormwater management facility.

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

Per Rule 4.5.8, submit an as-built drawing of the on-site stormwater facility conforming to the design specifications as approved by the district.

If not previously 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 applicant is required to demonstrate that the stormwater management facilities are functioning as designed and permitted (Rule 12.4.1b). 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 1.0-inch (approximate) separate rainfall events.

NOTES:

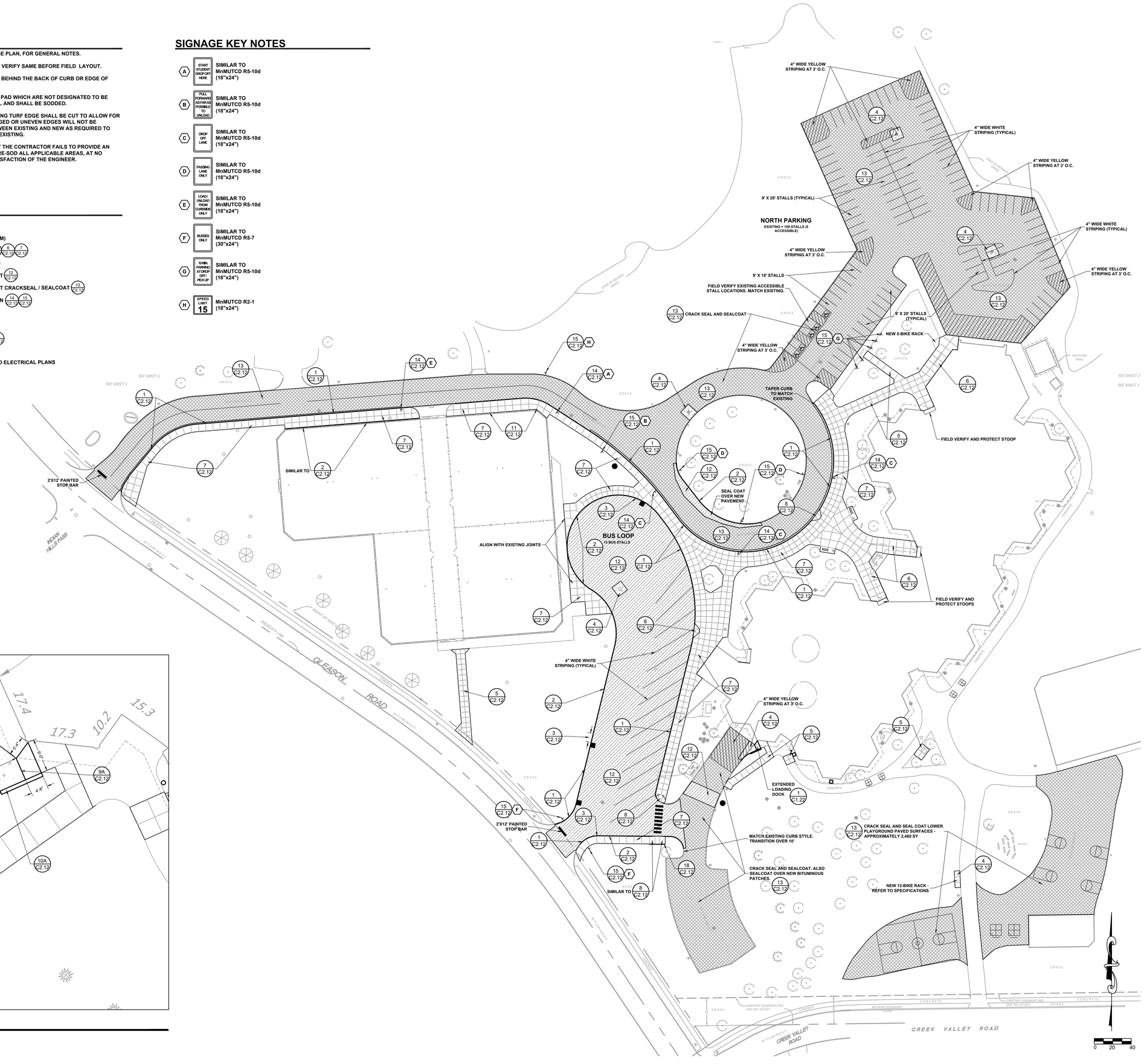
1. REFER TO SHEET C1.31, GRADING AND DRAINAGE PLAN, FOR GENERAL NOTES.
2. CHECK ALL PLAN AND DETAIL DIMENSIONS AND VERIFY SAME BEFORE FIELD LAYOUT.
3. SIGNAGE SHALL GENERALLY BE INSTALLED 18" BEHIND THE BACK OF CURB OR EDGE OF WALK.
4. ALL DISTURBED AREAS OUTSIDE THE BUILDING PAD WHICH ARE NOT DESIGNATED TO BE PAVED SHALL RECEIVE AT LEAST 6" OF TOPSOIL AND SHALL BE SODDED.
5. WHERE NEW SOD MEETS EXISTING TURF, EXISTING TURF EDGE SHALL BE CUT TO ALLOW FOR A CONSISTENT, UNIFORM STRAIGHT EDGE. JAGGED OR UNEVEN EDGES WILL NOT BE ACCEPTABLE. REMOVE TOPSOIL AT JOINT BETWEEN EXISTING AND NEW AS REQUIRED TO ALLOW NEW SOD SURFACE TO BE FLUSH WITH EXISTING.
6. FAILURE OF TURF DEVELOPMENT: IN THE EVENT THE CONTRACTOR FAILS TO PROVIDE AN ACCEPTABLE TURF, THE CONTRACTOR SHALL RE-SOD ALL APPLICABLE AREAS, AT NO ADDITIONAL COST TO THE OWNER, TO THE SATISFACTION OF THE ENGINEER.

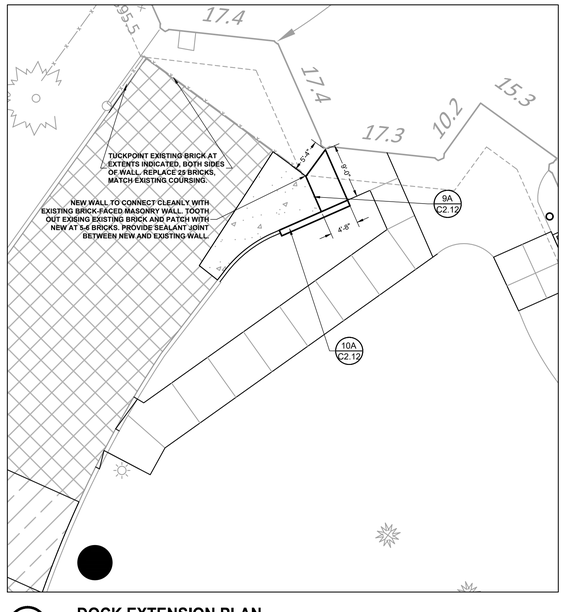
LEGEND

- REFERENCE KEY TO SITE DETAILS (DETAIL I.D NUMBER (TOP), DETAIL SHEET NUMBER (BOTTOM))
- PROPOSED CONCRETE WALK (5 C2.12, 6 C2.12, 7 C2.12)
- PROPOSED CONCRETE SLAB (4 C2.12)
- PROPOSED BITUMINOUS PAVEMENT (12 C2.12)
- PROPOSED BITUMINOUS PAVEMENT CRACKSEAL / SEALCOAT (13 C2.12)
- PROPOSED TRAFFIC CONTROL SIGN (14 C2.12, 15 C2.12)
- PAINTED ACCESSIBLE SYMBOL
- PROPOSED MANHOLE (MH) (8 C2.12)
- PROPOSED CATCH BASIN (CB) (7 C2.12)
- SIGNAGE KEY NOTE (A)
- PROPOSED LIGHT POLE - REFER TO ELECTRICAL PLANS
- PROPERTY LINE

SIGNAGE KEY NOTES

- A — START STUDENT DROP-OFF HERE — SIMILAR TO MnMUTCD R5-10d (18"x24")
- B — PULL FORWARD ASFAR AS POSSIBLE TO UNLOAD — SIMILAR TO MnMUTCD R5-10d (18"x24")
- C — DROP OFF LANE — SIMILAR TO MnMUTCD R5-10d (18"x24")
- D — PASSING LANE ONLY — SIMILAR TO MnMUTCD R5-10d (18"x24")
- E — LOAD/ UNLOAD FROM CURBSIDE ONLY — SIMILAR TO MnMUTCD R5-10d (18"x24")
- F — BUSSES ONLY — SIMILAR TO MnMUTCD R5-7 (30"x24")
- G — 10 MIN. PARKING AT DROP OFF / PICK UP — SIMILAR TO MnMUTCD R5-10d (18"x24")
- H — SPEED LIMIT 15 — MnMUTCD R2-1 (18"x24")





1 C1.22 **DOCK EXTENSION PLAN**
SCALE: 1" = 10'

2022 CREEK VALLEY SITE IMPROVEMENTS

6401 GLEASON ROAD,
EDINA, MN 55439

INDEPENDENT SCHOOL DISTRICT #273
5701 NORMANDALE ROAD
EDINA, MN 55424

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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**

DAVID A. REY
Registration Number **40180** Date **11/02/2021**

Revisions		
Description	Date	Num

Comm: 212136
Date: 11-02-2021
Drawn: LJD
Check: DAR

North

FINISHING PLAN

Scale: 1"=40'

C1.22