Project Purpose: The proposed project will include repair, replacement, or lining of existing drainage infrastructure and guardrail replacement and upgrades along Highway 8. The project will not create any new impervious areas.

Project Location: Trunk Highway 8 from Highway 61 in the City of Forest Lake to 273rd Street in Chisago City. Site drains to Comfort Lake and Little Comfort Lake.

Applicable District Rules: 3.0 & 6.0

Recommendation: Approval with the following conditions:

Prior to permit issuance, the following are required:

1. Re-measurement of existing invert elevations for the Comfort Lake – Little Comfort Lake culvert crossing for comparison to as-built survey (see discussion under Rule 6.0).

2. Copy of permit application to Department of Natural Resources, Army Corps of Engineers, and Wetland Conservation Act LGU, if required by the proposed activities.

Stipulations of Permit:

3. Submittal of as-built survey of pipe crossings.

4. MnDOT will maintain all conveyances altered or installed under this permit in accordance with the “Cooperative Agreement for Maintenance of Stormwater Management Facilities and Watercourse and Basin Crossings” executed by MnDOT and the District on March 2, 2011.
Rule 2.0: Stormwater Management

The proposed project does not trigger this rule; the road is not being improved or reconstructed at this time. Hard surface removal and replacement associated with pipes replaced at the same hydraulic capacity is not considered reconstructed impervious.

Rule 3.0: Erosion Control

A detailed erosion control plan (plan sheets 93 through 111) including silt fences, sediment control logs, erosion control blankets, and revegetation specifications has been submitted. A detailed Stormwater Pollution Prevention Plan (SWPPP on plan sheets 130-133) has also been submitted.

Additional details are provided for protection at the Comfort Lake – Little Comfort Lake Crossing (plan sheet 124) and this area has been called out as an area of environmental sensitivity. Temporary sheet piling, dewatering equipment, and pump bypass will be used to isolate the culvert area and allow for culvert replacement. The plans also include double silt fence and floatation silt curtains on both the Comfort Lake and Little Comfort Lake sides of the work.

Rule 4.0: Lake, Stream, and Wetland Buffer Requirements

The proposed project does not trigger this rule; a subdivision was not proposed and no municipal rezoning or variance was required for this project.

Rule 5.0: Shoreline and Streambank Alterations

The proposed project does not trigger this rule; a DNR general permit excusing property owners who hold a District permit is not in effect.

Rule 6.0: Watercourse and Basin Crossings

The proposed work includes repair, replacement, lining or cleaning of existing drainage infrastructure along Highway 8. The project includes over 30 stormwater pipes located within CLFLWD. All of the pipes are proposed to be replaced or repaired with inverts similar to existing and with pipes of the same size. Hydrologic and hydraulic modeling was submitted demonstrating no impact on flows and water levels. These crossings will have a similar hydraulic capacity as the existing pipes and not adversely affect water quality, fish and wildlife passage, or promote scour/instability and therefore satisfy District watercourse crossing requirements.

There are two major crossing located on DNR public waters and are discussed below in more detail:

The first public water crossing is on the portion of the Sunrise River that connects the outlet of Forest Lake to the Sunrise River. This crossing consists of a 60” x 60” Box Culvert under the highway connected to 60” CMPs at both ends under the shoulders. All culverts will be left in place. There is a crack in the box culvert that will be repaired and the CMPs will be lined with concrete with a process called Concrete Centrifugally Casting. This process will result in minimal internal diameter reductions in order to maintain the capacity of the pipe. This crossing will have a similar hydraulic capacity as the existing pipe and not adversely affect water quality or fish and wildlife passage.

The second public water crossing is the connection between Comfort Lake and Little Comfort Lake. This crossing is a 73” RCP Span Arch and is proposed to be replaced with the same size and type of pipe. MnDOT has provided both existing and proposed inverts for the culvert. MnDOT has indicated that the existing upstream invert is 892.93 and the downstream invert is 892.81. An old structure
inventory completed by SRF in 2005 indicates invert elevations of approximately 883.6. This could be explained by use of different datum or possibly the old survey did not reach fully down to the invert due to sediment or debris. MnDOT should double check/confirm that the existing inverts are indeed correct and there is no evidence of settlement. Upon confirmation that the inverts are accurate, the crossing will have the same the same hydraulic capacity as the existing pipe and not adversely affect water quality or fish and wildlife passage. The proposed crossing will meet District watercourse crossing requirements. The pipe will continue to operate as a partially submerged pipe and will not promote scour/instability.

Permit submittal requirements for watercourse crossings require a copy of any permit application to Department of Natural Resources, Army Corps of Engineers, and Wetland Conservation Act LGU, if required by the proposed activities. Copies these applications should be submitted to the District.

MnDOT will be required to maintain all conveyances altered or installed under this permit in accordance with the “Cooperative Agreement for Maintenance of Stormwater Management Facilities and Watercourse and Basin Crossings” executed by MnDOT and the District on March 2, 2011.

Rule 7.0: Floodplain and Drainage Alterations

The proposed project does not trigger this rule; the City of Forest Lake and the City of Wyoming both have state-approved floodplain ordinances.

Rule 8.0: Wetland Management

The proposed project does not trigger this rule; the District is not the LGU for wetland impacts.

Rule 9.0: Fees

The proposed project does not trigger this rule, government agencies are exempt.

Rule 10.0: Financial Assurances

The Board does not required financial assurances from government agencies

Rule 11.0: Variances

The proposed project does not require a variance.

Submittals Received

The following submittals were received and reviewed as the basis for this permit application review:

1. Application, received April 10, 2018, prepared April 9, 2018, prepared by MnDOT.
2. Project Summary Letter, received April 10, 2018, dated April 10, 2018, prepared by MnDOT.
3. Hydrologic & Hydraulic Modeling, received April 10, 2018, multiple dates, prepared by MnDOT.
4. SWPPP, received November 28, 2016, dated April 4, 2018, prepared by MnDOT.
5. Plan Set (157 pages), April 10, 2018, dated April 5, 2018, prepared by MnDOT.
GENERAL NOTE:
THIS DENATURING AND FLOOD ROUTING DETAIL IS INTENDED AS A REFERENCE EXAMPLE. THE CONTRACTOR IS REQUIRED TO FOLLOW THE PROCEDURES FOR SITE PLAN REQUIREMENTS AS REFERENCED AT LOCATIONS SHOWN IN THE PLAN SET. THIS INCLUDES PROVIDING TO THE ENGINEER, A SITE PLAN DETAILING CONSTRUCTION ACTIVITIES PLANNED FOR FLOOD ROUTING AND DENATURING, PUMPING AND TREATMENT, EROSION CONTROL, SANDBAGGING OR SHEET PILING, FLOOD LEVEL MONITORING, ETC. STAGING OF ALL RELEVANT CONSTRUCTION ACTIVITIES AT EACH SPECIFIC WORK LOCATION SHALL BE INCLUDED. SEE ALSO SWPPP FOR ADDITIONAL INFORMATION INCLUDING ESTIMATED FLOOD FLOW EVENTS AND CRITICAL FLOODPLAIN ELEVATIONS.