PL201900114
PL2019-114

DEPARTMENT OF TRANSPORTATION

Metropolitan District
1500 County Road B-2 West
Roseville, MN 55113

July 29, 2019

Michael Centinario, Planner
Planning Division, City of Bloomington
1800 West Old Shakopee Road
Bloomington, MN 55431

SUBJECT: **Drive Shack**
MnDOT Review #P19-049
NE Quad of I-494 and MN 100
Bloomington, Hennepin County
Control Section 2785

Dear Mr.Centinario:

MnDOT has reviewed the plans for the above referenced development in compliance with Minnesota Statute 505.03, subdivision 2, Plat approval; road review. Before further development, please address the following:

***Planning:***
As plans are refined further, please send them to MnDOT for review. MnDOT may have additional comments related to traffic, design, and bicycle-pedestrian traffic.

For questions related to this comment, please contact Jennifer Wiltgen (Jennifer.wiltgen@state.mn.us).

***Drainage Permit:***
A MnDOT drainage permit will be required to ensure that current drainage rates to MnDOT right-of-way will not be increased. The drainage permit application, including the information below, should be submitted online to:

https://dotapp7.dot.state.mn.us/OLPA

The following information must be submitted with the drainage permit application:

1. A grading plan showing existing and proposed contours.
2. Drainage area maps for the proposed project showing existing and proposed drainage areas. Any off-site areas that drain to the project area should also be included in the drainage area maps. The direction of flow for each drainage area must be indicated by arrows.
3. Drainage computations for pre and post construction conditions during the 2, 10, 50 and 100 year rain events.
4. Time of concentration calculations.
5. An electronic copy of any computer modeling used for the drainage computations.
6. See also the attached Drainage Permits Checklist for more information.

Once a drainage permit application is submitted, a thorough review will be completed and additional information may be requested. Please direct questions concerning drainage issues to Nick Olson (651-234-7542) or (nicholas.olson@state.mn.us) of MnDOT's Water Resources section.

***Design:***
Please ensure that the poles are high enough and the netting is adequate to keep balls from landing on I-494, and pedestrians walking near the facility.

For questions regarding this comment, please contact Jeff Rones at 651-234-7647 or jeff.rones@state.mn.us.

***Permits***
Any other use of or work within or affecting MnDOT right of way will require an appropriate permit. Permit forms are available from MnDOT's utility website at https://dotapp7.dot.state.mn.us/OLPA

Please include one to one set of plans formatted to 11x17" with each permit application. Please submit/send all permit applications and plan sets to: metropermitapps.dot@state.mn.us.

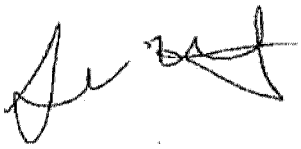
Please direct any questions regarding permit requirements to Buck Craig of MnDOT's Metro District Permits Section at 651-234-7911 or Buck.Craig@state.mn.us.

***Review Submittal Options***
MnDOT's goal is to review proposed development plans and documents within 30 days of receipt. Electronic file submittals are typically processed more rapidly. There are four submittal options:

1. Email documents and plans in PDF format to metrodevreviews.dot@state.mn.us. Attachments may not exceed 20 megabytes per email. If multiple emails are necessary, number each message.
2. Upload PDF file(s) to MnDOT's external shared internet workspace site at: https://mft.dot.state.mn.us. Contact MnDOT Planning development review staff at metrodevreviews.dot@state.mn.us for access instructions and send an email listing the file name(s) after the document(s) has/have been uploaded.
3. Mail, courier, or hand deliver documents and plans in PDF format on a CD-ROM compact disc to:
   MnDOT – Metro District Planning Section
   Development Reviews Coordinator
   1500 West County Road B-2
   Roseville, MN 55113
4. Submit printed documents via U.S. Mail, courier, or hand delivery to the address above. Include one set of full-size plans.

You are welcome to contact me at (651) 234-7788 with questions.

Sincerely,



Jennifer Wiltgen
Principal Planner

**Copy via E-Mail:**
Nick Olson, Water Resources
Buck Craig, Permits
Cameron Muhic, Bike-Ped
Doug Nelson, Right-of-way
Chad Erickson, Traffic
Andrew Lutaya, Area Engineer
Jeff Rones, Design
Bruce Wetherbee, Surveys
Russell Owen, Metropolitan Council
Hennepin County Surveyor

# MnDOT Drainage Permits Checklist

## Purpose of the MnDOT Drainage Permit

MnDOT Metro District regulates activities that impact its drainage systems and its MS4 regulated area. The purpose of the Drainage Permit is to protect State of Minnesota investment in infrastructure including but not limited to roadways, storm water treatment basins, ditches and storm sewer systems. Excess storm water and/or sediment laden storm water added to MnDOT's drainage systems leads to degradation of these assets. Negative impacts include but are not limited to: sediment deposition, loss of flood storage capacity and also loss of hydraulic conveyance capacity. These impacts may cause premature flooding of the road surface and/or erosion damage on State right-of-way.

## Technical Requirements of the MnDOT Drainage Permit

The permit applicant shall demonstrate that offsite runoff coming to MnDOT drainage system and/or right-of-way will not increase as a result of the proposed project. This is quantified as a "no increase in discharge" criteria for the 2-year, 10-year and 100-year storm events. Compliance is demonstrated by applying hydraulic/hydrologic software models. HydroCAD and XPSWMM are the approved models to compare the pre and post project discharge values. Typically, HydroCAD is sufficient to model most proposed projects. However, XPSWMM may be required if the project contains extensive storm water pipe systems connected to MnDOT storm sewer or if HydroCAD cannot in MnDOT's judgment effectively model pressure flow, complex junctions and/or backwater effects that are present. The 2-year, 10-year and 100-year storm events shall be based upon Atlas 14 runoff amounts per the NOAA website.

In addition, Drainage Permit Applicants shall meet all applicable water quality treatment requirements established by the local Watershed District(s) and the MPCA.

Permit applicants should anticipate that specific projects that seek to divert runoff to another sub-watershed or watershed will be denied. It is MnDOT practice to avoid such watershed diversions whenever practicable.

**Submittal Requirements:**

- Readable/legible watershed maps that show pre and post project drainage conditions. These two separate contour maps shall be large enough in scale so that approximate flow paths can be determined for verifying the Time of Concentrations used in the models. The drainage/watershed maps shall include enough detail so that Curve Numbers used in the hydraulic models may be verified by MnDOT.

- Surface water flow direction and storm water pipe water flow direction shall be indicated on the pre and post project watershed maps.

- Minimum recommended watershed map scale is 1" =100'. Project applications submitted with smaller scales (e.g., 1"=500') may be rejected and returned to the applicant. The same would apply for project watershed maps that do not include topographic contours or basic land use information such as the location of buildings, pavement and "green space". Watershed maps submitted as pdf files or CAD files shall be readily printable at scales that allow for good readability.

- Pre and post project watershed maps shall be clearly linked to the drainage models such that the names of the sub-watersheds, ponds and drainage structures are the same in the models as shown on the watershed maps. In addition, watershed and sub-watershed boundaries shall be clearly shown.

- Submission of the actual pre and post project HydroCAD or XPSWMM models is required: pdf copies of the drainage model simulations are unacceptable. In the event that the models cannot be transferred readily by electronic mail or electronic repository site, a hardcopy CD shall be provided.

- Curve numbers shall be determined per NRCS methodology and should be modified as needed based upon detailed knowledge of soil type and specific conditions on site. HydroCAD modeling software includes NRCS guidance for determining curve numbers based upon land use and condition.

- Time of concentration (Tc) computations and assumptions that in MnDOT's assessment clearly overestimate or underestimate this critical runoff parameter will be rejected. Two common assumptions that lead to overestimating Tc include: using the "Lag/CN" method to determine peak runoff from watersheds that have a relatively long and/or diverse flow path, and assuming that sheet flow occurs for a distance exceeding100 feet. Conversely, pre-project Tc shall not be underestimated to offset post project increases in peak discharge.

- Available freeboard for existing and proposed treatment ponds shall be shown on the watershed maps as well as the normal and 100-year high water levels. All proposed pond treatment systems along MnDOT right-of-way shall have a minimum freeboard of 2.0 feet between the road surface and the proposed 100-year HWL.

- Infiltration basins, filtration basins and ponds adjacent to MnDOT right-of-way shall be designed to provide at least 2 feet of elevation difference between the 100-year HWL and the crest of the basin berm. The berm crest shall be at least 5 feet wide. The emergency overflow shall be lined from crest to toe of slope with Turf Reinforcement mat or Category 6 or 7 Erosion Control Blanket.

- Best management practices (BMP's) including infiltration/filtration sites, storm water ponds, etc. shall be clearly labeled on the pre and post project watershed maps.

- Plan sheets submitted as watershed maps shall be evaluated as such. They shall be readable and legible and meet all the same requirements including clear delineation of watershed boundaries, readable map scale, and land use shown by an aerial photo background map, or that is clearly depicted based on details on the plan sheet or sheets submitted.

- Project plan sheets relevant to the Drainage Permit are required and include: existing site conditions, the proposed grading plan as well as proposed site drainage system plans and profiles. The plans shall include applicable wetland impact/mitigation features and temporary sediment and erosion control measures for the project. In addition, erosion control blanket will be used to stabilize disturbed area on MnDOT right-of-way unless other methods such as rip-rap treatment are called for in the plans and approved by MnDOT.

- Pond and basin special structures including weirs and orifices shall be consistent with what is used in the HydroCAD or XPSWMM models submitted and include relevant calculations/details.

- A table summary of existing versus proposed site discharge to MnDOT drainage system/right-of-way is required for the 2-year, 10-year and 100-year Atlas 14 rainfall events.

- Post project storm water discharge to MnDOT ditches or other open channel shall be limited to flow velocities of 6 fps or less for a 50-year Atlas 14 rainfall event.

- Project discharge points that will connect to MnDOT ditch or channel shall be located such that they do not cause erosion or conflict with the grade of the existing ditch or channel.

- Proposed access road culverts on MnDOT right-of-way shall be designed for the 10-year Atlas 14 rainfall event unless they are part of a significant drainage ditch along the roadway in which case a 100-year or 50-year design will apply.

- Direct connections to MnDOT storm system shall be avoided. Connection to open ditch, or channel is preferred. If direct storm sewer connections cannot be avoided, it is the applicant's responsibility to provide a good connection typically via a new structure. Furthermore, MnDOT offers no warranty that there will not be a hydraulic backwater effects on the new storm line upstream that is connected to MnDOT's existing storm sewer.

- For all disturbed areas that sheet flow to MnDOT right-of-way and any disturbed areas within MnDOT right-of-way, either Erosion Control Mat or Bonded Fiber Matrix shall be used for temporary/permanent erosion control.

- Silt fence shall not be used for erosion control at the proposed project site perimeter. Rather, continuous Wood Chip or compost Sediment Control Logs shall be implemented.

Permit applicants are encouraged to contact MnDOT Metro Water Resource Engineering with questions/concerns. Questions posed early in the permit application process help to avoid project delays. This is particularly true for large project Drainage Permits with significant complexity.