

Design Element Variance Justification Checklist

This checklist should be completed and submitted with required attachments to the State Aid for Local Transportation Division when a local agency has determined that a variance from [Minnesota Rules 8820](#) for State Aid Operations Rules is justified.

The following documents and information are needed when one or more variance requests is identified on a project. Note additional information may be requested by the Variance Advisory Committee after submittal of the checklist and attachments for their investigation.

Ensure to check the box for items attached to this checklist and to respond to all questions. Where the question does not apply to the variance request, note it in the field provided and give a brief explanation on how that was determined.

1. ☐ A variance request cover letter addressed to the State Aid Division Director
2. ☐ A formal written request in the form of a **certified resolution** from the responsible city council or county board that includes the following items. [MN Rules, part 8820.3300, subpart 1, item A](#)
 - a. ☐ Identification of the project by location and termini. [MN Rules, part 8820.3300, subpart 1, item B](#)

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 - b. ☐ Cite the specific part or standard for which the variance is requested and describe the modification proposed. [MN Rules, part 8820.3300, subpart 1, item C](#)

Rule(s)	Request
Minnesota Rules 8820 – Shared-Use Path Horizontal Alignment Requirement for 20 mph design speed.	Request to allow a 38-foot horizontal radius where 74 feet is required.
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Click or tap here to enter text.	Click or tap here to enter text.

A typical resolution format is available on the [State Aid Variance website](#).

3. Define the critical design element involved (i.e. not “Design Speed”): horizontal alignment (radius or degree of curvature), vertical alignment, grades, lane width, shoulder width, bridge

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width, structural capacity, stopping sight distance (horizontal and vertical), cross slope, super-elevation, clearance (horizontal and vertical).

Horizontal alignment – horizontal curve radius for shared-use trail.

4. For Complete Street consideration, are design elements from *A Policy on Geometric Design of Highway Streets* from the American Association of State Highway and Transportation Officials being proposed for this variance request? [MN Statutes, section 174.75, subdivision 5](#), [MN Statutes, section 162.02, subdivision 3a](#), [MN Statutes, section 162.09, subdivision 3a](#)

☐ No ☐ Yes Reference Page(s)/Table(s): Click or tap here to enter text.

5. For Complete Street consideration, are design elements from *Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities* from the Institute of Transportation Engineers being proposed for this variance request? [MN Statutes, section 174.75, subdivision 5](#) [MN Statutes, section 162.02, subdivision 3a](#), [MN Statutes, section 162.09, subdivision 3a](#)

☐ No ☐ Yes Reference Page(s)/Table(s): Click or tap here to enter text.

6. ☐ Attach an index map of the project. [MN Rules, part 8820.3300, subpart 1a, item A](#)
7. ☐ Attach typical sections for the in-place section(s) and proposed section(s). [MN Rules, part 8820.3300, subpart 1a, item B](#)
8. Provide the **reasons for the request**. [MN Rules, part 8820.3300, subpart 1a, item C](#)

The existing adjacent residential properties and limited right-of-way along the east side of CSAH 9 prevent achieving the minimum 74-foot horizontal curve radius. Expanding the trail alignment further east would require residential impacts, grading encroachments, and retaining wall construction. The requested 38-foot radius aligns the trail safely into the proposed underpass while avoiding property acquisition and excessive structural work.

9. Include existing and projected traffic counts.

Existing ADT: This is a shared-use trail. No roadway ADT applies. Trail user volumes expected to increase with completion of the County regional greenway system. Projected ADT:
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10. a. Include legal and posted speed limits of abutting roadway sections.

CSAH 9 posted speed: 45 MPH. Trail design speed: 20 mph (cannot be met at this location).

- b. Include the legal and posted speed limit on the roadway section.

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11. Provide information on the economic impacts which may result from the requested variance. For example compare the difference in cost to construct to standard versus the preferred alternative. [MN Rules, part 8820.3300, subpart 1a, item D](#), [MN Rules, part 8820.3400, subpart 3, item A](#)

Maintaining a 74-foot radius would require residential property acquisition and retaining structures, substantially increasing project cost. The 38-foot radius avoids these costs and prevents structural wall installation at the tunnel entrance.

12. Provide information on the social impacts which may result from the requested variance. [MN Rules, part 8820.3300, subpart 1a, item D](#), [MN Rules, part 8820.3400, subpart 3, item A](#)

Avoids property impacts to adjacent residences. Maintains neighborhood stability and avoids loss of private land.

13. Provide information on the safety impacts which may result from the requested variance. For example provide the summary data on the number of crashes, type of crashes, severity of crashes, and contributing factors and crash modification factors with or without meeting the design element in the variance request. [MN Rules, part 8820.3300, subpart 1a, item D](#), [MN Rules, part 8820.3400, subpart 3, item A](#)

Mitigation measures:• Widened pavement approaching tunnel portal• Centerline marking through curve• Advisory signage for horizontal alignment change• Increased sight distance at tunnel portalThese mitigation elements reduce conflict potential and help maintain safe operating conditions.

14. Provide information on the environmental impacts which may result from the requested variance. [MN Rules, part 8820.3300, subpart 1a, item D](#), [MN Rules, part 8820.3400, subpart 3, item A](#)

Minimal. Avoids additional grading and excavation that would be necessary to achieve a 74-foot radius.

15. Provide information on the effectiveness of the project in eliminating an existing and projected deficiency in the transportation system. [MN Rules, part 8820.3300, subpart 1a, item E](#), [MN Rules, part 8820.3400, subpart 3, item B](#)

Provides grade-separated crossing at CSAH 9 and essential connection for the Lake Marion Greenway. The variance enables continuation of the regional trail system while avoiding property impacts.

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16. Provide information on the effects on adjacent lands. [MN Rules, part 8820.3300, subpart 1a, item F](#), [MN Rules, part 8820.3400, subpart 3, item C](#)

Avoids intrusion into private residential property. Maintains existing separation.

17. Provide information on the number of persons affected. [MN Rules, part 8820.3300, subpart 1a, item G](#), [MN Rules, part 8820.3400, subpart 3, item D](#)

Approximately the residents of the adjacent homes plus future trail users. Avoiding property acquisition reduces impact on homeowners.

18. Provide information on the safety considerations and mitigations as they apply to pedestrians. [MN Rules, part 8820.3300, subpart 1a, item H \(1\)](#), [MN Rules, part 8820.3400, subpart 3, item F](#)

Horizontal curve located near tunnel entrance with widened pavement and marked centerline improves safety for pedestrians and bicyclists.

19. Provide information on the safety considerations and mitigations as they apply to bicyclists. [MN Rules, part 8820.3300, subpart 1a, item H \(2\)](#), [MN Rules, part 8820.3400, subpart 3, item F](#)

Advisory signage, visibility enhancement, and wider pavement mitigate reduced design radius.

20. Provide information on the safety considerations and mitigations as they apply to the motoring public. [MN Rules, part 8820.3300, subpart 1a, item H \(3\)](#), [MN Rules, part 8820.3400, subpart 3, item F](#)

No adverse effect. Improvements separate trail users from CSAH 9 via an underpass.

21. Provide information on the safety considerations and mitigations as they apply to fire, police, and emergency units. [MN Rules, part 8820.3300, subpart 1a, item H \(4\)](#), [MN Rules, part 8820.3400, subpart 3, item F](#)

Trail geometry does not affect emergency service access. Underpass remains accessible.

22. ☐ Include available accident data in detail that indicates the resulting damage (property damage/injury/death), contributing causes, and location.

The Minnesota Crash Mapping Analysis Tool (MnCMAT2) is available thru the SALT Traffic Safety website at <https://www.dot.state.mn.us/stateaid/mncmat2.html>. Note that access to the MnCMAT application requires approval of the city or county engineer. Questions on gaining access or use of the application can be directed to mcmat.dot@state.mn.us.

23. Provide information on the effect on future maintenance. [MN Rules, part 8820.3400, subpart 3, item E](#)

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No additional long-term maintenance beyond normal greenway operation. Avoids maintenance burden of retaining walls.

24. Provide information on the effect that the rule and standards may have in imposing an undue burden on a city or county. [MN Rules, part 8820.3400, subpart 3, item G](#)

Meeting full radius would impose undue financial and geometric burden on the City and County due to residential ROW impacts.

25. Any other pertinent factors.

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Variance Submittal

When you are ready to submit this variance request, save the checklist with the project number and Variance Request in the name of the document, e.g., 088-888-008VarianceRequest.doc.

This completed checklist and required attachments should be submitted electronically to your [District State Aid Engineer](#) by the [variance submittal date](#).