



Attachment B

Snelling Avenue N Improvements



City Council Work Session
September 20, 2021
Presentation by Brad Fisher, PE, Bolton & Menk



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Presentation Agenda


1. Project Background
2. State Aid Design Standards
3. Rice Creek Watershed District Requirements
4. Design Options & Preliminary Estimated Costs



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Project Background

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Project Area – Hwy 51 to Co Rd E

BOLTON & MENK
Real People. Real Solutions.

ARDEN HILLS

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Design Analysis

- **Evaluation of alternative designs for the corridor**
 - Develop options w/ improved pedestrian safety

- **Conducted 3 meetings with Metro State Aid (MSA) office**

- **Discussed possibility of a variance from Variance Advisory Committee**
 - SA staff showed a lack of confidence for variance approval until corridor had been vetted thoroughly against SA rules
 - Design options that meet SA Standards exist w/ desired facilities
 - Project Costs are not a sufficient reason for a variance



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Applicable State Aid Design Standards – Chapter 8820

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SA Office Guidance on Additional Features

- ½ Rural & ½ Urban typical section is allowed
- ½ Reconditioning & ½ Reconstruction typical section is NOT allowed
- Definition of Reconditioning vs. Reconstruction – reconditioning may include curb replacement along no more than 20% of the project length



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SA Office Guidance on Additional Features

- **Pedestrian facility classification: What is a walk? What is a trail?**
 - Anticipated User Types
 - Adjacent Facilities: Wide shoulders or Bicycle lanes
 - Material
 - Width



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State Aid Design Standards

- Design Criteria for Snelling - 40 mph roadway w/ ADT ~1,600
- Min. Design Standards for Rural Reconstruction Projects (8820.9920):
 - Lane Width = 11-12'
 - Shoulder Width = 6'
 - Max. in-slope within clear zone = 4:1
 - Clear Zone = 10' (4' beyond the 6' shoulder)
 - Minimum Design Speed = 40 mph



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State Aid Design Standards

- Design Criteria for Snelling - 40 mph roadway w/ ADT ~1,600
- Min. Design Standards for Urban Reconstruction Projects (8820.9936 & 8820.9941):
 - Lane Width = 10-11'
 - Curb Reaction = 1-2'
 - Clear Zone = 1.5'
 - On Road Bicycle Facilities = 14-16' Wide Outside Lane or 5-6' Bicycle Lane



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State Aid Design Standards

- **Shared Use Path (Trail) Standards (8820.9995):**
 - Minimum Surface Width = 8'
 - Shoulder/Clear Zone = 2' on each side
 - Maximum in-slope = 2:1



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Rice Creek Watershed District (RCWD) Requirements

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RCWD Requirements

- Held meeting w/ RCWD Staff to confirm watershed requirements
- Project is not considered a reconstruction by RCWD definitions
 - Reclaimed aggregate material will remain in place
 - Will not exceed stormwater management thresholds for exposure of underlying soils
 - Stormwater management not required
- Permitting required for erosion/sediment control and wetland impacts



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Design Options & Preliminary Construction Costs

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Three Design Options

- **Refined Three Typical Section Design Options**
 - Metro State Aid Office staff have confirmed these meet applicable SA standards
 - No variance required for these three options
- **Considerations & Objectives:**
 - Total proposed paved footprint needs to remain within existing 40' footprint
 - Desire for alternatives with walk/trail facilities
 - Minimized cost while achieving other objectives and meeting requirements
 - Motorist speed a commonly mentioned concern



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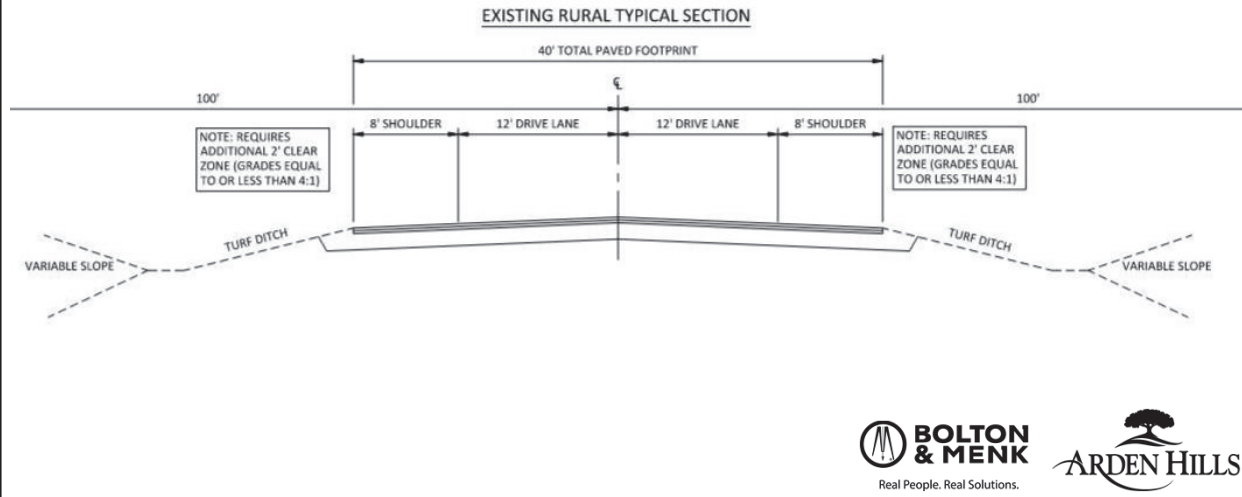
Design Options

- **Option 1 – Existing Rural Typical Section**
 - Matched the existing corridor design
- **Option 2 – Rural/Urban Typical Section**
 - Provides on-road space for bicycles & off-road 6' concrete walk for pedestrians
- **Option 3 – Urban Typical Section**
 - Provides off-road shared-use 10' trail (8' effective use) for bicycle and pedestrian users



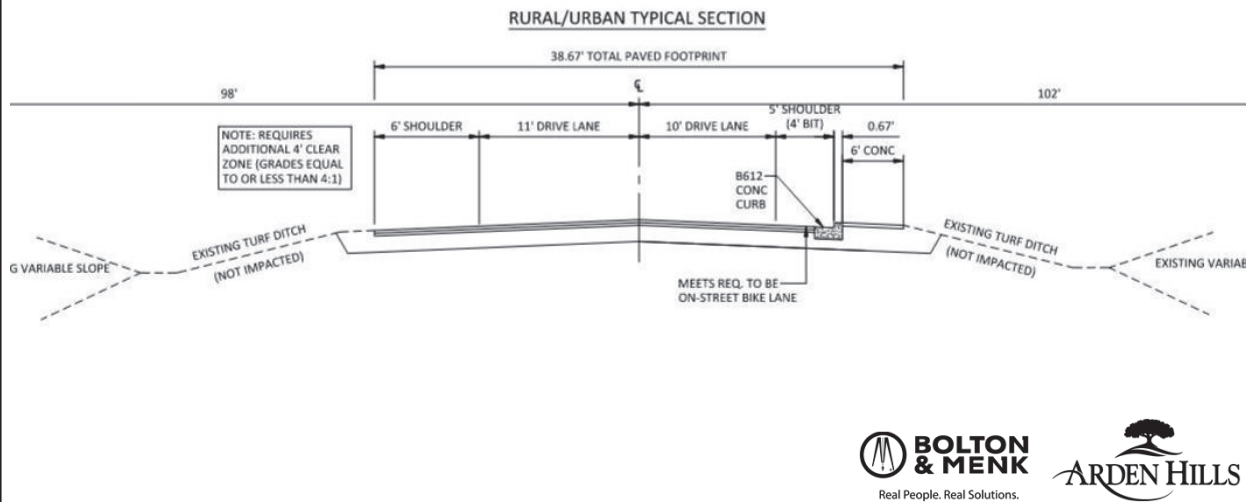
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Option 1



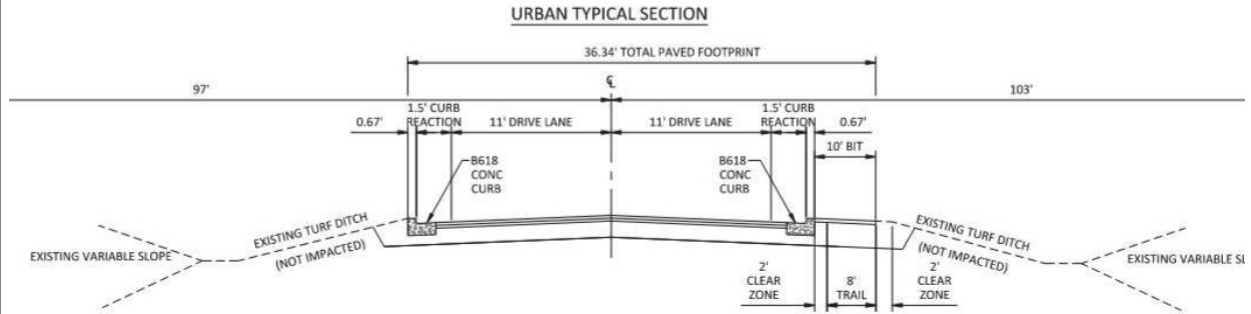
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Option 2



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Option 3



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Preliminary Estimated Costs

Design Option	Estimated Construction Cost (with contingency)	Estimated Total Project Cost (with Eng. Design, Admin, Overhead)
Option 1 – Existing Rural Typical Section	\$1,071,000	\$1,307,000
Option 2 – Rural/Urban Typical Section	\$1,244,000	\$1,480,000
Option 3 – Urban Typical Section	\$1,261,000	\$1,497,000



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Council Direction

- Seeking Direction from Council on preferred design option
- If walk/trail included, which side of street?
 - East – 5 side street crossings & 4 driveway crossings
 - West – 4 side street crossings & 13 driveway crossings
 - Estimates developed w/ facilities on East side assuming northern curb near Co. Rd. E can remain in place
 - Southerly project limit - Future connection on the west side of roadway
 - Northerly project limit - Future connections facilitated on both sides by controlled intersection

