Application

17072 - 2022 Roadway Expansion

17637 - Highway 5 Lake Minnewashta and Arboretum Access and Mobility Improvement

Regional Solicitation - Roadways Including Multimodal Elements

Status:	Submitted
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Primary Contact

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*	Cologne	Minnesota	55322
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What Grant Programs are you most interested in?	Regional Solicitation - Roadways Including Multimodal Elements

Organization Information

Name:	CARVER COUNTY

Jurisdictional Agency (if different):	
Organization Type:	County Government
Organization Website:	
Address:	PUBLIC WORKS 11360 HWY 212 W #1

*			
	COLOGNE	Minnesota	55322-9133
	City	State/Province	Postal Code/Zip

County:	Carver
Phone:*	Ext.
Fax:	
PeopleSoft Vendor Number	0000026790A12

Project Information

Project Name	Highway 5 Lake Minnewashta and Arboretum Access and Mobility Improvement
Primary County where the Project is Located	Carver
Cities or Townships where the Project is Located:	Chanhassen
Jurisdictional Agency (If Different than the Applicant):	MnDOT

Brief Project Description (Include location, road name/functional class, type of improvement, etc.)

Minnesota Highway 5 (Arboretum Boulevard) is a congested, 2-lane, undivided rural A-Minor Expander highway and Tier II freight corridor in Carver County. The project segment carries approximately 27,000 vehicles per day and has a crash rate 2.5 times the statewide average. During peak periods and during Minnesota Landscape Arboretum events, traffic backs up several miles. Turning onto Highway 5 is very difficult at times due to speeds and limited gaps, resulting in motorists taking risky moves into high-speed commuter and heavy commercial traffic. This project includes strategic highway expansion (2- to 4-lane conversion) adjacent to the Arboretum. Highway 5 was constructed across Lake Minnewashta, on a land bridge. Understanding the many environmental resources around the project, including the lake, the project will elevate Highway 5 over Lake Minnewashta and reconnect the lake. This proposed project addresses the last remaining two-lane Highway 5 gap between Minnewashta Pkwy and Highway 41, reducing this severe congestion will improve air quality.

Regionally, Highway 5 connects the fast growing cities of Waconia, Victoria, Chanhassen and Chaska into the regional job centers in the Minneapolis/St. Paul and first ring suburbs. Anticipated growth in Carver County will add 10,700 more trips to Highway 5 in the project area. Completing the Highway 5 improvements will allow these cities to realize their full growth potential adding jobs and housing to the Metro Area.

In addition, the University of Minnesota Landscape Arboretum welcomes half a million visitors annually and with over $100 million in planned investments it is anticipated visitation will grow by 100,000. The full potential of this investment can only be realized if the capacity and safety issues on Highway 5 are

also improved. These investments are important for the Arboretum to maintain its strong self-sufficiency and over 230 employees.

This project is the culmination of the two-year corridor study, the Arboretum Area Transportation Plan, which included collaboration with many stakeholder groups and extensive public engagement, working closely with the Arboretum and University of Minnesota. Project partners include MnDOT, Carver County, the Cities of Chanhassen, Chaska, and Victoria, as well as the Arboretum. This project has risen to the top of priorities for the project partners based on need, support, and the impact this will have on safety and performance to the Highway 5 corridor. This project has the full support of all partners noted above, per letters of support and adoption of the Arboretum Area Transportation Plan.

(Limit 2,800 characters; approximately 400 words)

TRANSPORTATION IMPROVEMENT PROGRAM (TIP) DESCRIPTION - will be used in TIP if the project is selected for funding. See MnDOT's TIP description guidance.

TH 5 MINNEWASHTA PKWY TO 0.25 MI WEST OF TH 41 RECONSTRUCTION AND NEW BRIDGE

Include both the CSAH/MSAS/TH references and their corresponding street names in the TIP Description (see Resources link on Regional Solicitation webpage for examples).

Project Length (Miles)

1.1

to the nearest one-tenth of a mile

Project Funding

Are you applying for competitive funds from another source(s) to implement this project?

Yes

If yes, please identify the source(s)

Community Project Funding, others to be determined

Federal Amount

$10,000,000.00

Match Amount

$18,715,000.00

Minimum of 20% of project total

Project Total

$28,715,000.00

For transit projects, the total cost for the application is total cost minus fare revenues.

Match Percentage

65.17%

Minimum of 20%
Compute the match percentage by dividing the match amount by the project total

Source of Match Funds County

A minimum of 20% of the total project cost must come from non-federal sources; additional match funds over the 20% minimum can come from other federal sources

Preferred Program Year

Select one: 2026

Select 2024 or 2025 for TDM and Unique projects only. For all other applications, select 2026 or 2027.

Additional Program Years: 2025

Select all years that are feasible if funding in an earlier year becomes available.

Project Information-Roadways

County, City, or Lead Agency Carver County

Functional Class of Road A-Minor Expander

Road System TH

TH, CSAH, MSAS, CO. RD., TWP. RD., CITY STREET

Road/Route No. 5

i.e., 53 for CSAH 53

Name of Road Arboretum Boulevard

Example; 1st ST., MAIN AVE

Zip Code where Majority of Work is Being Performed 55317

(Approximate) Begin Construction Date 05/01/2025

(Approximate) End Construction Date 10/31/2026

TERMINI:(Termini listed must be within 0.3 miles of any work)

From:
(Intersection or Address) 0.25 MI EAST OF MINNEWASHTA PKWY

To:
(Intersection or Address) 0.25 MI WEST OF TH 41

DO NOT INCLUDE LEGAL DESCRIPTION

Or At

Miles of Sidewalk (nearest 0.1 miles) 0

Miles of Trail (nearest 0.1 miles) 0

Miles of Trail on the Regional Bicycle Transportation Network (nearest 0.1 miles) 0

Primary Types of Work GRADE, AGG BASE, BIT SURFACING, AND BRIDGE

Examples: GRADE, AGG BASE, BIT BASE, BIT SURF, SIDEWALK, CURB AND GUTTER,STORM SEWER, SIGNALS, LIGHTING, GUARDRAIL, BIKE PATH, PED RAMPS, BRIDGE, PARK AND RIDE, ETC.

BRIDGE/CULVERT PROJECTS (IF APPLICABLE)

Old Bridge/Culvert No.:

New Bridge/Culvert No.:

Structure is Over/Under (Bridge or culvert name):

Requirements - All Projects

All Projects

1.The project must be consistent with the goals and policies in these adopted regional plans: Thrive MSP 2040 (2014), the 2040 Transportation Policy Plan (2018), the 2040 Regional Parks Policy Plan (2018), and the 2040 Water Resources Policy Plan (2015).

Check the box to indicate that the project meets this requirement. Yes

2.The project must be consistent with the 2040 Transportation Policy Plan. Reference the 2040 Transportation Plan goals, objectives, and strategies that relate to the project.

Briefly list the goals, objectives, strategies, and associated pages:

- Goal A: Transportation System Stewardship (p. 58)

o Objective B: Operate the regional transportation system efficiently and cost-effectively.
- Strategy A1 (p. 2.17).

- Goal B: Safety and Security (p. 60)

o Objective A: Reduce fatal and serious injury crashes and improve safety and security.
- Strategies B1 (p. 2.20), B3 (p. 2.21), B4 (p. 2.22), and B6 (p. 2.23).
- Goal C: Access to Destinations (p. 62)

o Objective A: Increase availability of multimodal travel options

o Objective B: Increase reliability and predictability for travel

o Objective D: Increase number and share of trips by transit, carpools, bicycling, and walking

o Objective E: Improve availability and quality of multimodal travel options for people of all ages and abilities

- Strategies C1 (p. 2.24), C2 (p. 2.25), C3 (p. 2.27), C9 (p. 2.32), C10 (p. 2.32), C15 (p. 2.36), C16 (p. 2.36), and C17 (p. 2.37).

- Goal D: Competitive Economy (p. 64)

o Objective B: Invest in multimodal transportation system

o Objective C: Support economic competitiveness through efficient freight movement

- Strategies D1 (p.2.38) and D3 (p. 2.39).

- Goal E: Healthy Environment (p. 66)

o Objective A: Reduce transportation-related air emissions

o Objective C: Increase availability/attractiveness of transit, bicycling, and walking to encourage active transportation

o Objective D: A transportation system that promotes community cohesion and connectivity for people of all ages and abilities

- Strategies E1 (p. 2.42), E2 (p. 2.43), E3 (p. 2.44), and E6 (p. 2.44).

- Goal F: Leveraging Transportation Investments to Guide Land Use (p. 70)

o Objective A: Focus regional growth in areas that support the full range of multimodal travel
o Objective C: Encourage land use design that integrates highways, streets, transit, walking, and bicycling

- Strategies F1 (p. 2.48), F5 (p. 2.52), F6 (p. 2.52), and F7 (p. 2.53).

Limit 2,800 characters, approximately 400 words

3.The project or the transportation problem/need that the project addresses must be in a local planning or programming document. Reference the name of the appropriate comprehensive plan, regional/statewide plan, capital improvement program, corridor study document [studies on trunk highway must be approved by the Minnesota Department of Transportation and the Metropolitan Council], or other official plan or program of the applicant agency [includes Safe Routes to School Plans] that the project is included in and/or a transportation problem/need that the project addresses.

List the applicable documents and pages: Unique projects are exempt from this qualifying requirement because of their innovative nature.

Arboretum Area Transportation Plan. Adopted in 2021 by Carver County, City of Victoria, City of Chaska, City of Chanhassen. Project #H5E-2. www.co.carver.mn.us/departments/public-works/projects-studies/arboretum-area-transportation-plan

Carver County 2040 Comprehensive Plan. Figure 4.2 & 4.8.
City of Victoria Comprehensive Plan (2019)

- Survey identified widening of TH 5 between TH 41 and CSAH 13 as the highest priority major roadway improvement in the city (P. 98). TH 5 upgrades and bike/ped access identified as the top priority for Victoria's implementation program (P. 144).

o TH 5 is noted as having a current capacity deficiency in the proposed project area (P. 116) as well as forecasted future deficiencies (P. 122).

o TH 5/CSAH 13 identified as the top crash location in Victoria; TH 5/Minnewashta Pkwy ranked 8th (P. 124).

o Identifies TH 5 corridor as a key concern; acute congestion will get worse. Notes Victoria's role in the TH 5 Corridor Study (P. 143).

o Identifies Policy T-2.1 to cooperate with others on improvements to TH 5. This policy falls under Goal T-2 (An Efficient Roadway System) (P. 100). Goal T-8 (Facilitate Bike and Ped Travel) also includes Policy T-8.5 which mentions the encouragement of safe crossings for off-road bicycles and pedestrians on highways such as TH 5 (P. 103).

City of Chanhassen Comprehensive Plan (2020)

- Identifies TH 5 as important roadway that functions as the foundation of the city's transportation

system, a major link to the metro area, and important for regional commercial access (Pp. 125-126).

- Identifies capacity issues on TH 5 and expectation for additional capacity issues with continued growth in the region (P. 115, 117). Notes need for Chanhassen to partner with other agencies to plan improvements and identify funding (P. 117), and that Carver County Transportation Plan shows a need for a 4-lane highway W of TH 41 (P. 129).

- Notes completed improvements at Minnewashta Pkwy and a ped underpass of TH 5 in 2012. Describes that a traffic signal and turn lanes are needed in the future. Recommends elimination of left turns at TH 5/Crimson Bay Rd (Arboretum entrance, P. 116).

City of Chaska Comprehensive Plan (2020)

- Notes TH 5 as one of the most heavily traveled routes for commercial vehicles in Carver County (P. 6-50).

Limit 2,800 characters, approximately 400 words

4.The project must exclude costs for studies, preliminary engineering, design, or construction engineering. Right-of-way costs are only eligible as part of transit stations/stops, transit terminals, park-and-ride facilities, or pool-and-ride lots. Noise barriers, drainage projects, fences, landscaping, etc., are not eligible for funding as a standalone project, but can be included as part of the larger submitted project, which is otherwise eligible. Unique project costs are limited to those that are federally eligible.

Check the box to indicate that the project meets this requirement. Yes

5.Applicant is a public agency (e.g., county, city, tribal government, transit provider, etc.) or non-profit organization (TDM and Unique Projects applicants only). Applicants that are not State Aid cities or counties in the seven-county metro area with populations over 5,000 must contact the MnDOT Metro State Aid Office prior to submitting their application to determine if a public agency sponsor is required.

Check the box to indicate that the project meets this requirement. Yes

6.Applicants must not submit an application for the same project elements in more than one funding application category.

Check the box to indicate that the project meets this requirement. Yes

7.The requested funding amount must be more than or equal to the minimum award and less than or equal to the maximum award. The cost of preparing a project for funding authorization can be substantial. For that reason, minimum federal amounts apply. Other federal funds may be combined with the requested funds for projects exceeding the maximum award, but the source(s) must be identified in the application. Funding amounts by application category are listed below in Table 1. For unique projects, the minimum award is $500,000 and the maximum award is the total amount available each funding cycle (approximately $4,000,000 for the 2022 funding cycle).
Strategic Capacity (Roadway Expansion): *$1,000,000 to $10,000,000*
Roadway Reconstruction/Modernization: *$1,000,000 to $7,000,000*
Traffic Management Technologies (Roadway System Management): *$500,000 to $3,500,000*
Spot Mobility and Safety: *$1,000,000 to $3,500,000*
Bridges Rehabilitation/Replacement: *$1,000,000 to $7,000,000*

Check the box to indicate that the project meets this requirement. Yes

8.The project must comply with the Americans with Disabilities Act (ADA).

Check the box to indicate that the project meets this requirement. Yes

9.In order for a selected project to be included in the Transportation Improvement Program (TIP) and approved by USDOT, the public agency sponsor must either have a current Americans with Disabilities Act (ADA) self-evaluation or transition plan that covers the public right of way/transportation, as required under Title II of the ADA. The plan must be completed by the local agency before the Regional Solicitation application deadline. For the 2022 Regional Solicitation funding cycle, this requirement may include that the plan is updated within the past five years.

The applicant is a public agency that employs 50 or more people and has a completed ADA transition plan that covers the public right of way/transportation. Yes

(TDM and Unique Project Applicants Only) The applicant is not a public agency subject to the self-evaluation requirements in Title II of the ADA.

Date plan completed: 02/18/2014

Link to plan: https://www.co.carver.mn.us/home/showdocument?id=1164

The applicant is a public agency that employs fewer than 50 people and has a completed ADA self-evaluation that covers the public right of way/transportation.

Date self-evaluation completed:

Link to plan:

Upload plan or self-evaluation if there is no link

Upload as PDF

10.The project must be accessible and open to the general public.

Check the box to indicate that the project meets this requirement. Yes

11.The owner/operator of the facility must operate and maintain the project year-round for the useful life of the improvement, per FHWA direction established 8/27/2008 and updated 6/27/2017. Unique projects are exempt from this qualifying requirement.

Check the box to indicate that the project meets this requirement. Yes

12.The project must represent a permanent improvement with independent utility. The term independent utility means the project provides benefits described in the application by itself and does not depend on any construction elements of the project being funded from other sources outside the regional solicitation, excluding the required non-federal match. Projects that include traffic management or transit operating funds as part of a construction project are exempt from this policy.

Check the box to indicate that the project meets this requirement. Yes

13.The project must not be a temporary construction project. A temporary construction project is defined as work that must be replaced within five years and is ineligible for funding. The project must also not be staged construction where the project will be replaced as part of future stages. Staged construction is eligible for funding as long as future stages build on, rather than replace, previous work.

Check the box to indicate that the project meets this requirement. Yes

14.The project applicant must send written notification regarding the proposed project to all affected state and local units of government prior to submitting the application.

Check the box to indicate that the project meets this requirement. Yes

Roadways Including Multimodal Elements

1.All roadway and bridge projects must be identified as a principal arterial (non-freeway facilities only) or A-minor arterial as shown on the latest TAB approved roadway functional classification map.

Check the box to indicate that the project meets this requirement. Yes

Roadway Strategic Capacity and Reconstruction/Modernization and Spot Mobility projects only:

2.The project must be designed to meet 10-ton load limit standards.

Check the box to indicate that the project meets this requirement. Yes

Bridge Rehabilitation/Replacement and Strategic Capacity projects only:

3.Projects requiring a grade-separated crossing of a principal arterial freeway must be limited to the federal share of those project costs identified as local (non-MnDOT) cost responsibility using MnDOTs Cost Participation for Cooperative Construction Projects and Maintenance Responsibilities manual. In the case of a federally funded trunk highway project, the policy guidelines should be read as if the funded trunk highway route is under local jurisdiction.

Check the box to indicate that the project meets this requirement. Yes

4.The bridge must carry vehicular traffic. Bridges can carry traffic from multiple modes. However, bridges that are exclusively for bicycle or pedestrian traffic must apply under one of the Bicycle and Pedestrian Facilities application categories. Rail-only bridges are ineligible for funding.

Check the box to indicate that the project meets this requirement.

Bridge Rehabilitation/Replacement projects only:

5.The length of the bridge clear span must exceed 20 feet.

Check the box to indicate that the project meets this requirement.

6. The bridge must have a National Bridge Inventory Rating of 6 or less for rehabilitation projects and 4 or less for replacement projects.

Check the box to indicate that the project meets this requirement.

Roadway Expansion, Reconstruction/Modernization, and Bridge Rehabilitation/Replacement projects only:

7. All roadway projects that involve the construction of a new/expanded interchange or new interchange ramps must have approval by the Metropolitan Council/MnDOT Interchange Planning Review Committee prior to application submittal. Please contact Michael Corbett at MnDOT (Michael.J.Corbett@state.mn.us or 651-234-7793) to determine whether your project needs to go through this process as described in Appendix F of the 2040 Transportation Policy Plan.

Check the box to indicate that the project meets this requirement. Yes

Requirements - Roadways Including Multimodal Elements

Specific Roadway Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Mobilization (approx. 5% of total cost)	$1,000,000.00
Removals (approx. 5% of total cost)	$518,000.00
Roadway (grading, borrow, etc.)	$550,000.00
Roadway (aggregates and paving)	$2,284,000.00
Subgrade Correction (muck)	$0.00
Storm Sewer	$500,000.00
Ponds	$200,000.00
Concrete Items (curb & gutter, sidewalks, median barriers)	$400,000.00
Traffic Control	$1,000,000.00
Striping	$100,000.00
Signing	$100,000.00
Lighting	$0.00
Turf - Erosion & Landscaping	$650,000.00
Bridge	$13,600,000.00
Retaining Walls	$250,000.00
Noise Wall (not calculated in cost effectiveness measure)	$1,848,000.00
Traffic Signals	$0.00
Wetland Mitigation	$1,000,000.00
Other Natural and Cultural Resource Protection	$0.00
RR Crossing	$0.00
Roadway Contingencies	$4,315,000.00
Other Roadway Elements	$0.00
Totals	**$28,315,000.00**

Specific Bicycle and Pedestrian Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Path/Trail Construction	$0.00
Sidewalk Construction	$0.00
On-Street Bicycle Facility Construction	$0.00
Right-of-Way	$0.00

Pedestrian Curb Ramps (ADA)	$0.00
Crossing Aids (e.g., Audible Pedestrian Signals, HAWK)	$0.00
Pedestrian-scale Lighting	$0.00
Streetscaping	$400,000.00
Wayfinding	$0.00
Bicycle and Pedestrian Contingencies	$0.00
Other Bicycle and Pedestrian Elements	$0.00
Totals	**$400,000.00**

Specific Transit and TDM Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Fixed Guideway Elements	$0.00
Stations, Stops, and Terminals	$0.00
Support Facilities	$0.00
Transit Systems (e.g. communications, signals, controls, fare collection, etc.)	$0.00
Vehicles	$0.00
Contingencies	$0.00
Right-of-Way	$0.00
Other Transit and TDM Elements	$0.00
Totals	**$0.00**

Transit Operating Costs

Number of Platform hours	0
Cost Per Platform hour (full loaded Cost)	$0.00
Subtotal	$0.00
Other Costs - Administration, Overhead,etc.	$0.00

Totals

Total Cost	$28,715,000.00
Construction Cost Total	$28,715,000.00
Transit Operating Cost Total	$0.00

Congestion within Project Area:

The measure will analyze the level of congestion within the project area. Council staff will provide travel speed data on the "Level of Congestion" map. The analysis will compare the peak hour travel speed within the project area to fee-flow conditions.

Free-Flow Travel Speed:	50
Peak Hour Travel Speed:	32
Percentage Decrease in Travel Speed in Peak Hour compared to Free-Flow:	36.0%
Upload Level of Congestion map:	1649898051154_009_Level of Congestion Map_ONLINE APP UPLOAD.pdf

Congestion on adjacent Parallel Routes:

Adjacent Parallel Corridor	TH 7

Adjacent Parallel Corridor Start and End Points:

Start Point:	TH 41
End Point:	East of TH 41 eastbound
Free-Flow Travel Speed:	53

The Free-Flow Travel Speed is black number.

Peak Hour Travel Speed:	35

The Peak Hour Travel Speed is red number.

Percentage Decrease in Travel Speed in Peak Hour Compared to Free-Flow:	33.96%
Upload Level of Congestion Map:	

Principal Arterial Intersection Conversion Study:

Proposed interchange or at-grade project that reduces delay at a High Priority Intersection:

(80 Points)

Proposed at-grade project that reduces delay at a Medium Priority Intersection:

(60 Points)

Proposed at-grade project that reduces delay at a Low Priority Intersection:

(50 Points)

Proposed interchange project that reduces delay at a Medium Priority Intersection:

(40 Points)

Proposed interchange project that reduces delay at a Low Priority Intersection:

(0 Points)

Not listed as a priority in the study: Yes

(0 Points)

Measure B: Project Location Relative to Jobs, Manufacturing, and Education

Existing Employment within 1 Mile: 2590

Existing Manufacturing/Distribution-Related Employment within 1 Mile: 930

Existing Post-Secondary Students within 1 Mile: 0

Upload Map 1649898145097_0091Regional Economy Map_ONLINE APP UPLOAD.pdf

Please upload attachment in PDF form.

Measure C: Current Heavy Commercial Traffic

RESPONSE: Select one for your project, based on the updated 2021 Regional Truck Corridor Study:

Along Tier 1:

Miles: 0

(to the nearest 0.1 miles)

Along Tier 2: Yes

Miles: 1.1

(to the nearest 0.1 miles)

Along Tier 3:

Miles: 0

(to the nearest 0.1 miles)

The project provides a direct and immediate connection (i.e., intersects) with either a Tier 1, Tier 2, or Tier 3 corridor:

None of the tiers:

Measure A: Current Daily Person Throughput

Location TH 5 West of TH 41

Current AADT Volume 27000

Existing Transit Routes on the Project N/A

For New Roadways only, list transit routes that will likely be diverted to the new proposed roadway (if applicable).

Upload Transit Connections Map 1649898427355_0093_Transit Connections Map_ONLINE APP UPLOAD.pdf

Please upload attachment in PDF form.

Response: Current Daily Person Throughput

Average Annual Daily Transit Ridership	0
Current Daily Person Throughput	35100.0

Measure B: 2040 Forecast ADT

Use Metropolitan Council model to determine forecast (2040) ADT volume	No
If checked, METC Staff will provide Forecast (2040) ADT volume	
OR	
Identify the approved county or city travel demand model to determine forecast (2040) ADT volume	Carver County 2040 Comprehensive Plan Model - Figure 4.8. Includes sensitivity analysis from Arboretum Area Transportation Plan without 82nd St upgraded from existing gravel road to County highway, as this is currently an unfunded project.
Forecast (2040) ADT volume	35100

Measure A: Engagement

i.Describe any Black, Indigenous, and People of Color populations, low-income populations, disabled populations, youth, or older adults within a ½ mile of the proposed project. Describe how these populations relate to regional context. Location of affordable housing will be addressed in Measure C.

ii.Describe how Black, Indigenous, and People of Color populations, low-income populations, persons with disabilities, youth, older adults, and residents in affordable housing were engaged, whether through community planning efforts, project needs identification, or during the project development process.

iii.Describe the progression of engagement activities in this project. A full response should answer these questions:

Response:

The project serves low-income, disabled, youth, and elderly populations through targeted programs at the Arboretum and everyday use of TH 5. Most of the land adjacent to the project is owned by the University of MN for the MN Landscape Arboretum. Arboretum programming includes extensive youth programming to a diverse array of students and free membership for households eligible for social assistance. The Arboretum welcomes more than 36,000 students arriving via TH 5 and uses the highway when it takes its materials to schools unable to travel (10,000 additional students). The free membership program is currently in use by 200 Carver County families and with approximately 2,500 complementary memberships for eligible households in Scott, Dakota, Ramsey and Hennepin Counties.

The Minnesota Landscape Arboretum is a research center, extension of the University of MN and an international attraction. The University of MN student population with access to this resource is 60.2% White, 9.07% Asian, 4.57% Black, and 4.28% Hispanic. Approximately 24.2% of the population adjacent to the proposed project area is 55 years old or older and 6.8% reported having a disability, although this has grown since the 2020 census with recent development of a senior housing community one mile west of the project area.

A corridor study led by Carver County and MnDOT, the Arboretum Area Transportation Plan, was adopted in 2021 and included a multifaceted engagement plan. Efforts to reach equity populations focused on neighborhood-specific meetings, which were held at the Arboretum. Participants received free Arboretum access for attending ($15 value per adult). This incentive helped generate wide participation in corridor issue identification and concept development/evaluation.

Over 500 people attended these interactive in-person events (dates: 6/19/19, 6/25/19, 6/27/19, 7/16/19, 11/6/19, 11/20/19, 12/4/19, 12/17/19, 3/11/20) plus several virtual events in 2020. The project team also held a community pop-up event at the Victoria Classic Car Night on September 4, 2019. Seniors and children provided many comments about the need for the project.

The project included online surveys and a web-based mapping interface. These allowed all persons to provide feedback at any time of day, making the planning process more accessible to families with children and seniors. More than 800 online surveys and interactive map comments were received. Concept development was directly influenced by feedback regarding access and delay issues, particularly safe access onto and off of TH 5 and mitigation of Arboretum-related traffic congestion. Environmental sensitive solutions were another area of concern, with the public supporting reconnecting Lake Minnewashta by implementing a bridge of TH 5.

(Limit 2,800 characters; approximately 400 words):

Measure B: Equity Population Benefits and Impacts

Describe the projects benefits to Black, Indigenous, and People of Color populations, low-income populations, children, people with disabilities, youth, and older adults. Benefits could relate to:
This is not an exhaustive list. A full response will support the benefits claimed, identify benefits specific to Equity populations residing or engaged in activities near the project area, identify benefits addressing a transportation issue affecting Equity populations specifically identified through engagement, and substantiate benefits with data.
Acknowledge and describe any negative project impacts to Black, Indigenous, and People of Color populations, low-income populations, children, people with disabilities, youth, and older adults. Describe measures to mitigate these impacts. Unidentified or unmitigated negative impacts may result in a reduction in points.
Below is a list of potential negative impacts. This is not an exhaustive list.

Response:

The project will create a safer, more reliable, and environmentally appropriate highway corridor. Decades ago, Highway 5 was constructed across Lake Minnewashta, on a land bridge. This project will elevate Highway 5 over Lake Minnewashta and reconnect the lake, restoring the watershed. In combination, this project will enhance surrounding environmental resources and air quality with reduced congestion.

The project will also address the final two-lane undivided highway gap by constructing a connecting four-lane divided highway to improve safety and job access. Highway 5 is an arterial corridor connecting rapidly growing neighborhoods to regional job centers and destinations. Within the project area, there have been 21 crashes (2014-2018) with a crash rate above the state average. By 2040, increased congestion will result in 180,000 hours of annual delay during peak periods. The project will reduce 2040 delay by over 70% and provide reliable access to the Chanhassen Transit Station 3 miles east and East Creel Transit 3.5 miles south.

The Minnesota Landscape Arboretum is a significant cultural resource to the Twin Cities and Minnesota. This section of Highway 5 serves as sole access to the Arboretum's main entrance. The Arboretum offers youth education field trips (~36,000 students/year) and the Plant Mobile program bringing programming to schools unable to travel to the Arboretum (~10,000 students/year). Many students served are from Minneapolis, St. Paul and inner ring suburbs with diverse student bodies. Roughly 1/3 of students receive assistance to visit (bus and tuition scholarships), which improves access for many lower income students. The Arboretum offers a complementary membership program for approximately 2,500

economically disadvantaged households throughout the Metro counties. The project will improve access to this regional institution and destination.

The project is not expected to have impacts to low-income populations, people of color, children, people with disabilities, or the elderly. The increased capacity of Highway 5 will benefit local mobility and safety and the removal of the Highway land bridge through Lake Minnewashta will restore the environment.

Noise will be analyzed during preliminary design and mitigation determined at that time. The project cost estimate includes a contingency for noise walls.

(Limit 2,800 characters; approximately 400 words):

Measure C: Affordable Housing Access

Describe any affordable housing developmentsexisting, under construction, or plannedwithin ½ mile of the proposed project. The applicant should note the number of existing subsidized units, which will be provided on the Socio-Economic Conditions map. Applicants can also describe other types of affordable housing (e.g., naturally-occurring affordable housing, manufactured housing) and under construction or planned affordable housing that is within a half mile of the project. If applicable, the applicant can provide self-generated PDF maps to support these additions. Applicants are encouraged to provide a self-generated PDF map describing how a project connects affordable housing residents to destinations (e.g., childcare, grocery stores, schools, places of worship).
Describe the projects benefits to current and future affordable housing residents within ½ mile of the project. Benefits must relate to affordable housing residents. Examples may include:
This is not an exhaustive list. Since residents of affordable housing are more likely not to own a private vehicle, higher points will be provided to roadway projects that include other multimodal access improvements. A full response will support the benefits claimed, identify benefits specific to residents of affordable housing, identify benefits addressing a transportation issue affecting residents of affordable housing specifically identified through engagement, and substantiate benefits with data.

The half-mile area surrounding the project is almost entirely owned by the University of Minnesota for research and the MN Landscape Arboretum as well as encompassing Lake Minnewashta. As such, this area is undevelopable and does not contain housing or employment, rather the project is a primary east-west connection between housing and a regional job center just east of the project in Chaska and Chanhassen. To further illustrate, there are no paved east-west connecting roadways in this area approximately 2 miles north and south of the project area. Due to the project context, location in lakes region, lack of other paved road options, and regional nature, affordable housing within two miles of the project was provided (see attached documentation).

Response:

There are 258 publicly subsidized rental housing units within 0.5 miles of the project area and Housing Choice vouchers are known to be accepted by private landlords throughout the area, although the total number is unknown.
Victoria has 457 naturally occurring affordable housing units. A new senior housing development was recently constructed one mile west of the project; 11 of 52 units are affordable at or below 50% of AMI. This site provides independent living for adults with developmental disabilities. The Carver County CDA has been purchasing the single housing properties on Arboretum Blvd and rents the units at 60% of AMI. There are three scattered site public housing units where residents pay 30% of their income-one each on Marigold Cir, Fieldcreek Cir, and Victoria Dr. There are also Housing Choice Vouchers accepted by private landlords throughout the project area.

Per Met Council data, the half-mile project area has 258 publicly subsidized rental units. Chanhassen

has 2,366 affordable housing units overall, which are mostly served by Highway 5. This project's reduced congestion, existing regional trail link (separated from the highway), and enhanced environmental and natural setting will improve access, safety, and livability along Highway 5 for all modes. Affordable housing residents will also have more reliable travel times to nearby park and rides (Chanhassen Transit Station 3 miles east and East Creek Transit 3.5 miles south in Chaska).

(Limit 2,800 characters; approximately 400 words):

Measure D: BONUS POINTS

Project is located in an Area of Concentrated Poverty:	
Projects census tracts are above the regional average for population in poverty or population of color (Regional Environmental Justice Area):	
Project located in a census tract that is below the regional average for population in poverty or populations of color (Regional Environmental Justice Area):	Yes
Upload the Socio-Economic Conditions map used for this measure.	1649914238430_0092_Socio-Economic Map_Affordable Housing Combined.pdf

Measure A: Infrastructure Age

Year of Original Roadway Construction or Most Recent Reconstruction	Segment Length	Calculation	Calculation 2
1970.0	1.1	2167.0	1970.0
	1	**2167**	**1970**

Average Construction Year

Weighted Year	1970.0

Total Segment Length (Miles)

Total Segment Length	1.1

Measure A: Congestion Reduction/Air Quality

Total Peak Hour Delay Per Vehicle Without The Project (Seconds/ Vehicle)	Total Peak Hour Delay Per Vehicle With The Project (Seconds/ Vehicle)	Total Peak Hour Delay Per Vehicle Reduced by Project (Seconds/ Vehicle)	Volume without the Project (Vehicles per hour)	Volume with the Project (Vehicles Per Hour):	Total Peak Hour Delay Reduced by the Project:	Total Peak Hour Delay Reduced by the Project:	EXPLANATION of methodology used to calculate railroad crossing delay, if applicable.	Synchro or HCM Reports
212.7	192.4	20.3	8767	8767	177970.1	177970.1	NA	1649899628990_TH 5 Gap_Operations_packaged.pdf
						177970		

Vehicle Delay Reduced

Total Peak Hour Delay Reduced	177970.1
Total Peak Hour Delay Reduced	177970.1

Measure B:Roadway projects that do not include new roadway segments or railroad grade-separation elements

Total (CO, NOX, and VOC) Peak Hour Emissions without the Project (Kilograms):	Total (CO, NOX, and VOC) Peak Hour Emissions with the Project (Kilograms):	Total (CO, NOX, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms):
30.7	30.7	0
31	**31**	**0**

Total

Total Emissions Reduced:	0
Upload Synchro Report	1649900180120_TH 5 Gap_Operations_packaged.pdf

Please upload attachment in PDF form. (Save Form, then click 'Edit' in top right to upload file.)

Measure B: Roadway projects that are constructing new roadway segments, but do not include railroad grade-separation elements (for Roadway Expansion applications only):

Total (CO, NOX, and VOC) Peak Hour Emissions without the Project (Kilograms):	Total (CO, NOX, and VOC) Peak Hour Emissions with the Project (Kilograms):	Total (CO, NOX, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms):
0	0	0

Total Parallel Roadway

Emissions Reduced on Parallel Roadways	0

Upload Synchro Report

Please upload attachment in PDF form. (Save Form, then click 'Edit' in top right to upload file.)

New Roadway Portion:

Cruise speed in miles per hour with the project:	0
Vehicle miles traveled with the project:	0
Total delay in hours with the project:	0
Total stops in vehicles per hour with the project:	0
Fuel consumption in gallons:	0
Total (CO, NOX, and VOC) Peak Hour Emissions Reduced or Produced on New Roadway (Kilograms):	0
EXPLANATION of methodology and assumptions used:(Limit 1,400 characters; approximately 200 words)	
Total (CO, NOX, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms):	0.0

Measure B:Roadway projects that include railroad grade-separation elements

Cruise speed in miles per hour without the project:	0
Vehicle miles traveled without the project:	0
Total delay in hours without the project:	0
Total stops in vehicles per hour without the project:	0
Cruise speed in miles per hour with the project:	0
Vehicle miles traveled with the project:	0
Total delay in hours with the project:	0
Total stops in vehicles per hour with the project:	0
Fuel consumption in gallons (F1)	0
Fuel consumption in gallons (F2)	0
Fuel consumption in gallons (F3)	0

Total (CO, NOX, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms):	0
EXPLANATION of methodology and assumptions used:(Limit 1,400 characters; approximately 200 words)	

Measure A: Benefit of Crash Reduction

Crash Modification Factor Used: *(Limit 700 Characters; approximately 100 words)*	CMF's used in the crash reduction associated with improvements include upgrading the typical section within the project from a two-lane undivided section to a four-lane divided section.
Rationale for Crash Modification Selected: *(Limit 1400 Characters; approximately 200 words)*	The existing section of Highway 5 is a two-lane undivided rural section, often with shoulder and centerline rumble strips. Upgrading the section to a four-lane divided section not only increases the capacity of the section but creates a physical barrier between opposing directions of traffic, reducing the opportunity for dangerous head on collisions. The urban section also helps prevent run off road incidents. While the raised median alone is not enough to prevent head on collisions, the added buffer distance between opposing traffic decreases the likelihood of such an event taking place.
Project Benefit ($) from B/C Ratio:	$3,747,569.00
Total Fatal (K) Crashes:	0
Total Serious Injury (A) Crashes:	0
Total Non-Motorized Fatal and Serious Injury Crashes:	0
Total Crashes:	16
Total Fatal (K) Crashes Reduced by Project:	0
Total Serious Injury (A) Crashes Reduced by Project:	0
Total Non-Motorized Fatal and Serious Injury Crashes Reduced by Project:	0
Total Crashes Reduced by Project:	5
Worksheet Attachment *Please upload attachment in PDF form.*	1649947609849_TH 5 Gap_safety_packaged.pdf

Roadway projects that include railroad grade-separation elements:

Current AADT volume:	0
Average daily trains:	0
Crash Risk Exposure eliminated:	0

Measure A: Pedestrian Safety

Determine if these measures do not apply to your project. *Does the project match either of the following descriptions?*
If either of the items are checked yes, then ***score for entire pedestrian safety measure is zero****. Applicant does not need to respond to the sub-measures and can proceed to the next section.*

Project is primarily a freeway (or transitioning to a freeway) and does not provide safe and comfortable pedestrian facilities and crossings.	No
Existing location lacks any pedestrian facilities (e.g., sidewalks, marked crossings, wide shoulders in rural contexts) and project does not add pedestrian elements (e.g., reconstruction of a roadway without sidewalks, that doesnt also add pedestrian crossings and sidewalk or sidepath on one or both sides).	No

SUB-MEASURE 1: Project-Based Pedestrian Safety Enhancements and Risk Elements
To receive maximum points in this category, pedestrian safety countermeasures selected for implementation in projects should be, to the greatest extent feasible, consistent with the countermeasure recommendations in the Regional Pedestrian Safety Action Plan and state and national best practices. Links to resources are provided on the Regional Solicitation Resources web page.
Please answer the following two questions with as much detail as possible based on the known attributes of the proposed design. If any aspect referenced in this section is not yet determined, describe the range of options being considered, to the greatest extent available. If there are project elements that may increase pedestrian risk, describe how these risks are being mitigated.
1. Describe how this project will address the safety needs of people crossing the street at signalized intersections, unsignalized intersections, midblock locations, and roundabouts.
Treatments and countermeasures should be well-matched to the roadways context (e.g., appropriate for the speed, volume, crossing distance, and other location attributes). Refer to the Regional Solicitation Resources web page for guidance links.

Response:

The new regional trail was recently constructed adjacent to this project, opening in 2021 to the public. This was a major regional investment and partnership between the County, City, University of MN, DNR, and Met Council. The project is on MN Landscape Arboretum property adjacent to TH 5 and includes a free-standing boardwalk through environmentally sensitive areas of Lake Minnewashta. It was determined that pedestrian and bicycle facilities could not and would not be allowed to be added adjacent to Highway 5 due to the roadway existing as a land bridge through Lake Minnewasta and the major impacts additional infrastructure footprint would cause to this environmentally sensitive area. This project is unique in that this major regional investment was just completed to provide dedicated pedestrian infrastructure where none existed for 50+ years along this state highway. Subsequently, there is not a planned second boardwalk or additional bridge width planned as part of the proposed project, as it already exists as described and duplicating it would cause additional environmental impacts. The recently completed regional trail runs adjacent to Highway 5 and provides an east-west connection through an undevelopable area consisting of land owned by the University of Minnesota for research and the MN Landscape Arboretum as well as Lake Minnewashta. The MN Landscape Arboretum is fenced, with no pedestrian traffic allowed except at designated entry points. The regional trail connects to existing at-grade signalized crossings and dedicated pedestrian underpasses on both sides of the Lake to access more developed areas, but these intersections are outside of the proposed project's extents.

The recently completed regional trail link allows users to travel through the project area via the following routes.

- From Victoria to the west, users utilize the trail on north side of Highway 5 with at-grade and separated grade crossings of Highway 5 at Minnewashta Pkwy to cross to the south side of Highway 5 and the newly opened regional trail on Arboretum property. The continued route east remains separated from Highway 5 by wide natural boulevards, boardwalk, and the reconnected Lake Minnewashta.

- Continuing east, outside the extent of this project, a pedestrian underpass on the south leg of the TH 5/TH 41 intersection opened in 2021 and connects to east to existing sidewalks and trails in Chanhassen.

The expanded trail network, along an RBTN Tier 1 Alignment, connects to the Lake Minnetonka LRT Trail, Carver Park Reserve, and downtown Victoria to the west and into Chanhassen. This trail network vastly enables active transportation across the region being the only east-west connection into Eden Prairie within five miles to the north or south of the project area.

(Limit 2,800 characters; approximately 400 words)

Is the distance in between signalized intersections increasing (e.g., removing a signal)?

Select one: No

If yes, describe what measures are being used to fill the gap between protected crossing opportunities for pedestrians (e.g., adding High-Intensity Activated Crosswalk beacons to help motorists yield and help pedestrians find a suitable gap for crossing, turning signal into a roundabout to slow motorist speed, etc.).

Response:

(Limit 1,400 characters; approximately 200 words)

Will your design increase the crossing distance or crossing time across any leg of an intersection? (e.g., by adding turn or through lanes, widening lanes, using a multi-phase crossing, prohibiting crossing on any leg of an intersection, pedestrian bridge requiring length detour, etc.). This does not include any increases to crossing distances solely due to the addition of bike lanes (i.e., no other through or turn lanes being added or widened).

Select one: No

If yes,
How many intersections will likely be affected?

Response: 0

Describe what measures are being used to reduce exposure and delay for pedestrians (e.g., median crossing islands, curb bulb-outs, etc.)

Response:

The highway is expanding from a 2-lane to a 4-lane section; however, the project location is currently a land bridge through Lake Minnewashta that does not allow for pedestrian crossings through the lake. The project limits end prior to the two existing signalized intersections. In a separate 2024 planned and funded project, MnDOT and the City of Chanhassen have partnered for the intersection at Crimson Bay Road to be reconstructed to a cul-de-sac with no access to TH 5.

(Limit 1,400 characters; approximately 200 words)

If grade separated pedestrian crossings are being added and increasing crossing time, describe any features that are included that will reduce the detour required of pedestrians and make the separated crossing a more appealing option (e.g., shallow tunnel that doesnt require much elevation change instead of pedestrian bridge with numerous switchbacks).

Response:

(Limit 1,400 characters; approximately 200 words)

If mid-block crossings are restricted or blocked, explain why this is necessary and how pedestrian crossing needs and safety are supported in other ways (e.g., nearest protected or enhanced crossing opportunity).

Response:

Mid-block crossings are not restricted or blocked; however, the context of this project is such that it includes a bridge over Lake Minnewashta. The project provides improved access over the Lake compared to the existing and outdated 2-lane land bridge.

(Limit 1,400 characters; approximately 200 words)

2. Describe how motorist speed will be managed in the project design, both for through traffic and turning movements. *Describe any project-related factors that may affect speed directly or indirectly, even if speed is not the intended outcome (e.g., wider lanes and turning radii to facilitate freight movements, adding turn lanes to alleviate peak hour congestion, etc.). Note any strategies or treatments being considered that are intended to help motorists drive slower (e.g., visual narrowing, narrow lanes, truck aprons to mitigate wide turning radii, etc.) or protect pedestrians if increasing motorist speed (e.g., buffers or other separation from moving vehicles, crossing treatments appropriate for higher speed roadways, etc.).*

Within the project area, the new non-motorized facilities will be completely separated from crossing traffic on Highway 5 and intersecting roadways. There will be no exposure between traffic and pedestrians or bicyclists in the project area.

The posted speed limit on Highway 5 is not expected to change. Implementing a hardened centerline in the form of raised median and urban shoulders will aid in calming traffic speeds. Following trunk highway design standards for the proposed design speed will prevent overdesigning the section and prevent the encouragement of higher than desired traffic speeds.

Response:

The project context is important to remember: the project location is through an undevelopable area consisting of land owned by the University of Minnesota for research and the MN Landscape Arboretum as well as Lake Minnewashta. The MN Landscape Arboretum is fenced, with no pedestrian traffic allowed except at designated entry points. There are no roadway intersections or developed areas where pedestrians would be expecting to cross within the project limits. The recently completed regional trail runs adjacent to Highway 5 and provides an east-west connection. The regional trail connects to existing at-grade signalized crossings and dedicated pedestrian underpasses on both sides of the Lake to access more developed areas, but these intersections are outside of the proposed project's extents.

(Limit 2,800 characters; approximately 400 words)

If known, what are the existing and proposed design, operation, and posted speeds? Is this an increase or decrease from existing conditions?

Response:

The posted speeds on Highway 5 are 55 mph. Free flow speeds within the project area are documented as approximately 55 mph. The proposed improvements will maintain the existing condition to be designed to 55 mph.

(Limit 1,400 characters; approximately 200 words)

SUB-MEASURE 2: Existing Location-Based Pedestrian Safety Risk Factors

These factors are based on based on trends and patterns observed in pedestrian crash analysis done for the Regional Pedestrian Safety Action Plan. Check off how many of the following factors are present. Applicants receive more points if more risk factors are present.

Existing road configuration is a One-way, 3+ through lanes or	
Existing road configuration is a Two-way, 4+ through lanes	
Existing road has a design speed, posted speed limit, or speed study/data showing 85th percentile travel speeds in excess of 30 MPH or more	Yes
Existing road has AADT of greater than 15,000 vehicles per day	Yes
List the AADT	27000

SUB-MEASURE 3: Existing Location-Based Pedestrian Safety Exposure Factors

These factors are based on based on trends and patterns observed in pedestrian crash analysis done for the Regional Pedestrian Safety Action Plan. Check off how many of the following existing location exposure factors are present. Applicants receive more points if more risk factors are present.

Existing road has transit running on or across it with 1+ transit stops in the project area (If flag-stop route with no fixed stops, then 1+ locations in the project area where roadside stops are allowed. Do not count portions of transit routes with no stops, such as non-stop freeway sections of express or limited-stop routes. If service was temporarily reduced for the pandemic but is expected to return to 2019 levels, consider 2019 service for this item.)	
Existing road has high-frequency transit running on or across it and 1+ high-frequency stops in the project area (high-frequency defined as service at least every 15 minutes from 6am to 7pm weekdays and 9am to 6pm Saturdays. If service frequency was temporarily reduced for the pandemic but is expected to return to 2019 levels, consider 2019 frequency for this item.)	
Existing road is within 500 of 1+ shopping, dining, or entertainment destinations (e.g., grocery store, restaurant)	Yes

If checked, please describe:

The Minnesota Landscape Arboretum is a regional and even international entertainment destination. The Arboretum property, of which the project provides significantly improved access to, includes the following destinations/activities:

- Hiking, snowshoe, and cross-country ski trails, some of which connect to larger regional trail systems such as the Highway 5 Regional Bike Trail
- Seasonal events such as marathons, garden parties, and yoga in the gardens and indoor venues which often host conferences and summits

- Art gallery spaces and cafe

- Educational centers including the Tashjian Bee and Pollinator Discovery Center, the Farm at the Arb, and the Andersen Horticulture Library that offer a number of classes, school programs, and apprenticeships

(Limit 1,400 characters; approximately 200 words)

Existing road is within 500 of other known pedestrian generators (e.g., school, civic/community center, senior housing, multifamily housing, regulatorily-designated affordable housing)

Yes

If checked, please describe:

The Minnesota Landscape Arboretum is a major destination in itself that can be accessed by bikers and pedestrians using the Highway 5 Regional Bike Trail connection which runs along the grounds and additionally receive a discount on admission for using these alternate forms of transportation. In addition, Other pedestrian generators include the following destinations/activities:

- Additional hiking, snowshoe, and cross-country ski trails in the area

- Faith Church

- The southern part of Lake Minnewashta

- Life Time fitness center

Additionally, the project area is not much further removed from the following pedestrian generators:

- Westwood Community Church

- Mount Olivet Lutheran Church West

- Chanhassen Recreation Center

- Lake Minnewashta Regional Park

- Chanhassen High School

- Holy Family Catholic High School

(Limit 1,400 characters; approximately 200 words)

Measure A: Multimodal Elements and Existing Connections

Response:

The new regional trail was recently constructed adjacent to this project, opening in 2021 to the public. This was a major regional investment and partnership between the County, City, University of MN, DNR, and Met Council. The project is on MN Landscape Arboretum property adjacent to TH 5 and includes a free-standing boardwalk through environmentally sensitive areas of Lake Minnewashta. It was determined that pedestrian and bicycle facilities could not and would not be allowed to be added adjacent to Highway 5 due to the roadway existing as a land bridge through Lake Minnewasta and the major impacts additional infrastructure footprint would cause to this environmentally sensitive area. This project is unique in that this major regional investment was just completed to provide dedicated pedestrian infrastructure where none existed for 50+ years along this state highway. Subsequently, there is not a planned second boardwalk or additional bridge width planned as part of the proposed project, as it already exists as described and duplicating it would cause additional environmental impacts. The recently completed regional trail runs adjacent to Highway 5 and provides an east-west connection through an undevelopable area consisting of land owned by the University of Minnesota for research and the MN Landscape Arboretum as well as Lake Minnewashta. The MN Landscape Arboretum is fenced, with no pedestrian traffic allowed except at designated entry points. The regional trail connects to existing at-grade signalized crossings and dedicated pedestrian underpasses on both sides of the Lake to access more developed areas, but these intersections are outside of the proposed project's extents.

The trail network, along an RBTN Tier 1 Alignment, connects to the Lake Minnetonka LRT Trail, Carver Park Reserve, and downtown Victoria to the west and into Chanhassen. This trail network enables

multimodal transportation across the region being the only east-west connection into Eden Prairie within five miles to the north or south of the project area.

The project improves a connection to the TH 5 / TH 41 intersection, which is a Tier 2 Freeway/Expressway barrier in the Major River Bicycle Barrier Crossing (MRBBC). This project connects to the new pedestrian underpass serving the south leg of the intersection.

There is no fixed route transit service in the project area; however, transit benefits include increased travel time reliability for school buses (36,000+ students) accessing the Arboretum every year and commuters accessing the nearby park and rides (SouthWest Transit's Chanhassen Transit Station, 3 miles east and East Creek Transit Station, 3.5 miles south). SouthWest Transit provides on-demand transit service, SouthWest Prime, along the project corridor.

(Limit 2,800 characters; approximately 400 words)

Transit Projects Not Requiring Construction

If the applicant is completing a transit application that is operations only, check the box and do not complete the remainder of the form. These projects will receive full points for the Risk Assessment.
Park-and-Ride and other transit construction projects require completion of the Risk Assessment below.

Check Here if Your Transit Project Does Not Require Construction

Measure A: Risk Assessment - Construction Projects

1.Public Involvement (20 Percent of Points)

Projects that have been through a public process with residents and other interested public entities are more likely than others to be successful. The project applicant must indicate that events and/or targeted outreach (e.g., surveys and other web-based input) were held to help identify the transportation problem, how the potential solution was selected instead of other options, and the public involvement completed to date on the project. The focus of this section is on the opportunity for public input as opposed to the quality of input. NOTE: A written response is required and failure to respond will result in zero points.

Multiple types of targeted outreach efforts (such as meetings or online/mail outreach) specific to this project with the general public and partner agencies have been used to help identify the project need.

Yes

100%

At least one meeting specific to this project with the general public has been used to help identify the project need.

50%

At least online/mail outreach effort specific to this project with the general public has been used to help identify the project need.

50%

No meeting or outreach specific to this project was conducted, but the project was identified through meetings and/or outreach related to a larger planning effort.

25%

No outreach has led to the selection of this project.

0%

Describe the type(s) of outreach selected for this project (i.e., online or in-person meetings, surveys, demonstration projects), the method(s) used to announce outreach opportunities, and how many people participated. Include any public website links to outreach opportunities.

Response:

Completed in early 2021, the Arboretum Area Transportation Plan process identified the Highway 5 vision and was informed with a thorough engagement plan. Tools used included in-person neighborhood meetings and an online storymap with surveys and comment map. Over 500 people attended three open houses, ten neighborhood focused meetings, and three stakeholder business/property owner meetings. Meetings were held on the following dates: 6/19/19,6/25/19,6/27/19,7/16/19,11/6/19,11/20/19,12/4/19,12/17/19, 3/11/20, 4/13/20, 5/29/20, 7/20/20,8/7/20,12/15/20. Public meeting dates were strategic to engage at decision-making milestones. A community pop-up event was held at the Victoria Classic Car Night on 9/4/19 that engaged seniors to children. Online tools enabled feedback at personal convenience, making the process accessible to families with children, seniors, and shift workers. Over 300 online surveys and 100+ comments on the web-based comment map were received.

To engage populations impacted by the project and reach those traditionally not engaged in transportation projects, two of the three open houses were held at the Arboretum and participants received free access to attend ($15 value per adult). This incentive generated wide public participation.

An environmental screening was completed with the study and will inform future public engagement activities. As the proposed Highway 5 project moves into preliminary design, NEPA and Title VI regulations will guide engagement activities. Carver County and project partners look forward to building upon the vastly successful engagement activities to date. This includes more outreach to diverse student populations associated with the UofM Landscape Arboretum programs. The Arboretum

offers youth education (K-12) field trips (~36,000 students/year anticipated to be expanded by 30% up to 60,000 students annually) and the Plant Mobile program bringing programming to schools (~10,000 students/year).

Study website:
https://www.co.carver.mn.us/departments/public-works/projects-studies/arboretum-area-transportation-plan
Interactive StoryMap - click Highway 5 Vision on left hand side:
https://bmi.maps.arcgis.com/apps/MapSeries/index.html?appid=179cfee78337400aaa37f8f8b31d208b
Interactive Comment Map summary:
https://www.co.carver.mn.us/home/showpublisheddocument/18350/636991260708330000
Survey summary:
https://www.co.carver.mn.us/home/showpublisheddocument/18469/637007653202300000
All public meeting documents and summaries:
https://www.co.carver.mn.us/departments/public-works/projects-studies/arboretum-area-transportation-plan/arboretum-area-transportation-plan-additional-information/-fsiteid-1

(Limit 2,800 characters; approximately 400 words)

2.Layout (25 Percent of Points)

Layout includes proposed geometrics and existing and proposed right-of-way boundaries. A basic layout should include a base map (north arrow; scale; legend; city and/or county limits; existing ROW, labeled; existing signals;* and bridge numbers*) and design data (proposed alignments; bike and/or roadway lane widths; shoulder width;* proposed signals;* and proposed ROW). An aerial photograph with a line showing the projects termini does not suffice and will be awarded zero points. *If applicable*

Layout approved by the applicant and all impacted jurisdictions (i.e., cities/counties/MnDOT. If a MnDOT trunk highway is impacted, approval by MnDOT must have occurred to receive full points. A PDF of the layout must be attached along with letters from each jurisdiction to receive points.

100%

A layout does not apply (signal replacement/signal timing, stand-alone streetscaping, minor intersection improvements). Applicants that are not certain whether a layout is required should contact Colleen Brown at MnDOT Metro State Aid colleen.brown@state.mn.us.

100%

For projects where MnDOT trunk highways are impacted and a MnDOT Staff Approved layout is required. Layout approved by the applicant and all impacted local jurisdictions (i.e., cities/counties), and layout review and approval by MnDOT is pending. A PDF of the layout must be attached along with letters from each jurisdiction to receive points.

Yes

75%

Layout completed but not approved by all jurisdictions. A PDF of the layout must be attached to receive points.

50%

Layout has been started but is not complete. A PDF of the layout must be attached to receive points.

25%

Layout has not been started

0%

Attach Layout

1649900938898_003_Layout Pages.pdf

Please upload attachment in PDF form.

Additional Attachments

1649949959099_Risk Assess_Carver Co Layout Letter_Resolutions-combined.pdf

Please upload attachment in PDF form.

3.Review of Section 106 Historic Resources (15 Percent of Points)

No known historic properties eligible for or listed in the National Register of Historic Places are located in the project area, and project is not located on an identified historic bridge

100%

There are historical/archeological properties present but determination of no historic properties affected is anticipated.

Yes

100%

Historic/archeological property impacted; determination of no adverse effect anticipated

80%

Historic/archeological property impacted; determination of adverse effect anticipated

40%

Unsure if there are any historic/archaeological properties in the project area.

0%

Project is located on an identified historic bridge

4.Right-of-Way (25 Percent of Points)

Right-of-way, permanent or temporary easements, and MnDOT agreement/limited-use permit either not required or all have been acquired

100%

Right-of-way, permanent or temporary easements, and/or MnDOT agreement/limited-use permit required - plat, legal descriptions, or official map complete	
50%	
Right-of-way, permanent or temporary easements, and/or MnDOT agreement/limited-use permit required - parcels identified	Yes
25%	
Right-of-way, permanent or temporary easements, and/or MnDOT agreement/limited-use permit required - parcels not all identified	
0%	

5.Railroad Involvement (15 Percent of Points)

No railroad involvement on project or railroad Right-of-Way agreement is executed (include signature page, if applicable)	Yes
100%	
Signature Page	
Please upload attachment in PDF form.	
Railroad Right-of-Way Agreement required; negotiations have begun	
50%	
Railroad Right-of-Way Agreement required; negotiations have not begun.	
0%	

Measure A: Cost Effectiveness

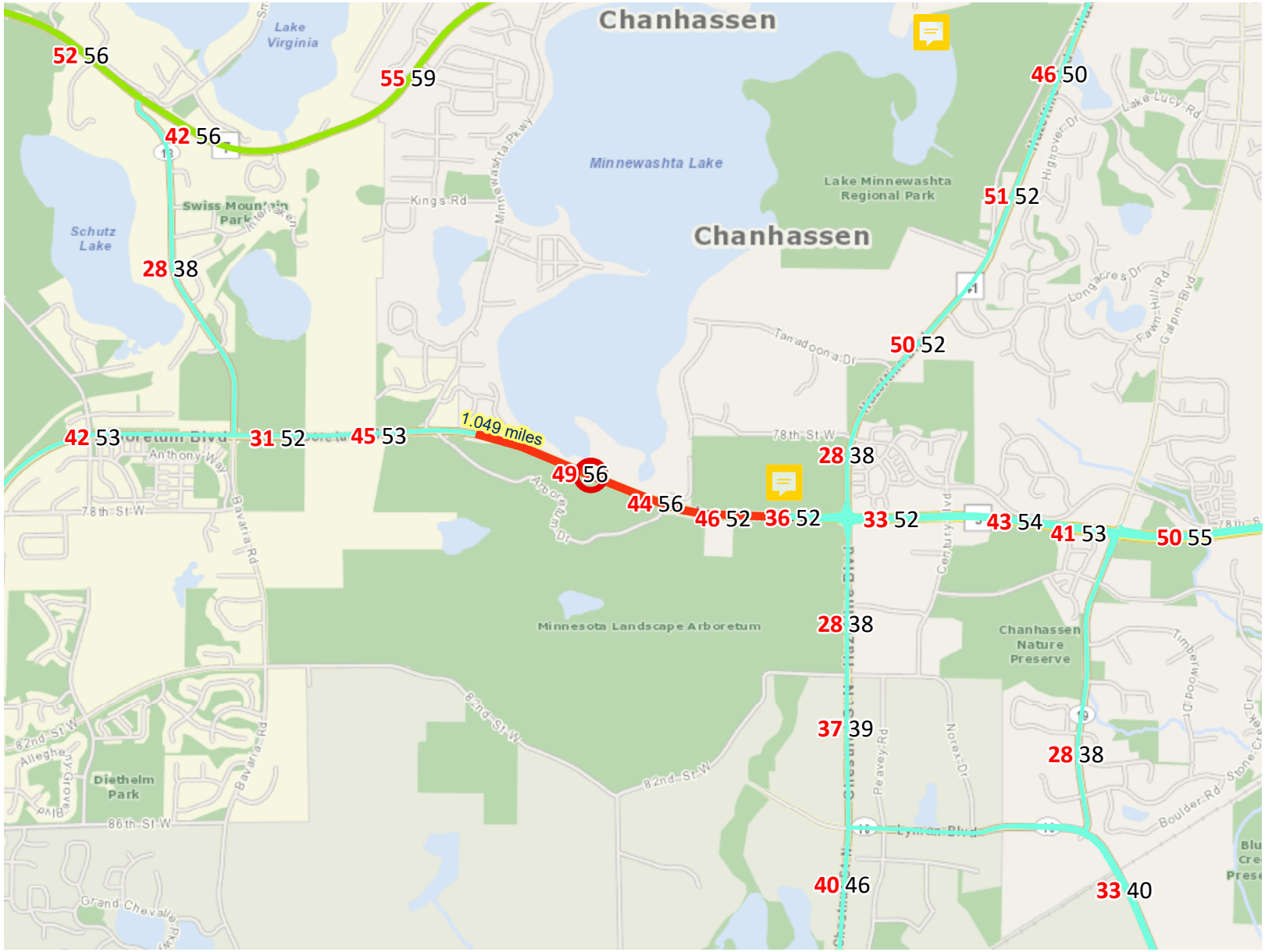
Total Project Cost (entered in Project Cost Form):	$28,715,000.00
Enter Amount of the Noise Walls:	$1,848,000.00
Total Project Cost subtract the amount of the noise walls:	$26,867,000.00
Enter amount of any outside, competitive funding:	$0.00
Attach documentation of award:	
Points Awarded in Previous Criteria	
Cost Effectiveness	$0.00

Other Attachments

File Name	Description	File Size
001_Carver Co Hwy 5 One Pager.pdf	Project Summary Sheet	426 KB
002_Existing Conditions Photo.pdf	Existing Conditions Photo - Highway 5 Lake Minnewashta	3.8 MB
003_Layout Pages.pdf	Proposed Project Layout Pages - Highway 5 Lake Minnewashta	1.2 MB
008_Overall Gap Layout_ONLINE APP UPLOAD.pdf	Summary Layout Page - Highway 5 Lake Minnewashta	1.1 MB
20220316 LOS from Chanhassen-TH5 AATP.pdf	City of Chanhassen Letter of Support - Highway 5 Lake Minnewashta	826 KB
20220411_ARB_Support Letter_TH5_to Carver Co.pdf	University of Minnesota Letter of Support - Highway 5 Lake Minnewashta	247 KB
Carver County Resolution 23-22 - signed.pdf	Carver County Resolution - Highway 5 Lake Minnewashta	368 KB
City of Victoria 2022-03-28-Letter of Support.pdf	City of Victoria Letter of Support - Highway 5 Lake Minnewashta	92 KB
RS MnDOT Letter Carver Co TH 5 c orridor.pdf	MnDOT Letter of Support - Highway 5 Lake Minnewashta	223 KB

Level of Congestion

Strategic Capacity Project: Highway 5 Mobility & Lake Minnewashta Causeway Bridge Projec | Map ID: 1647110734224



Project Points — Principal Arterials — Principal Arterials Planned

Project — A Minor Arterials — A Minor Arterials Planned

0 0.3 0.6 1.2 1.8 2.4 Miles

Created: 3/12/2022
LandscapeRSA1

For complete disclaimer of accuracy, please visit https://giswebsite.metc.state.mn.us/gissite/notice.aspx

METROPOLITAN COUNCIL

Regional Economy

Strategic Capacity Project: Highway 5 Mobility & Lake Minnewashta Causeway Bridge Projec | Map ID: 16471107342

Results

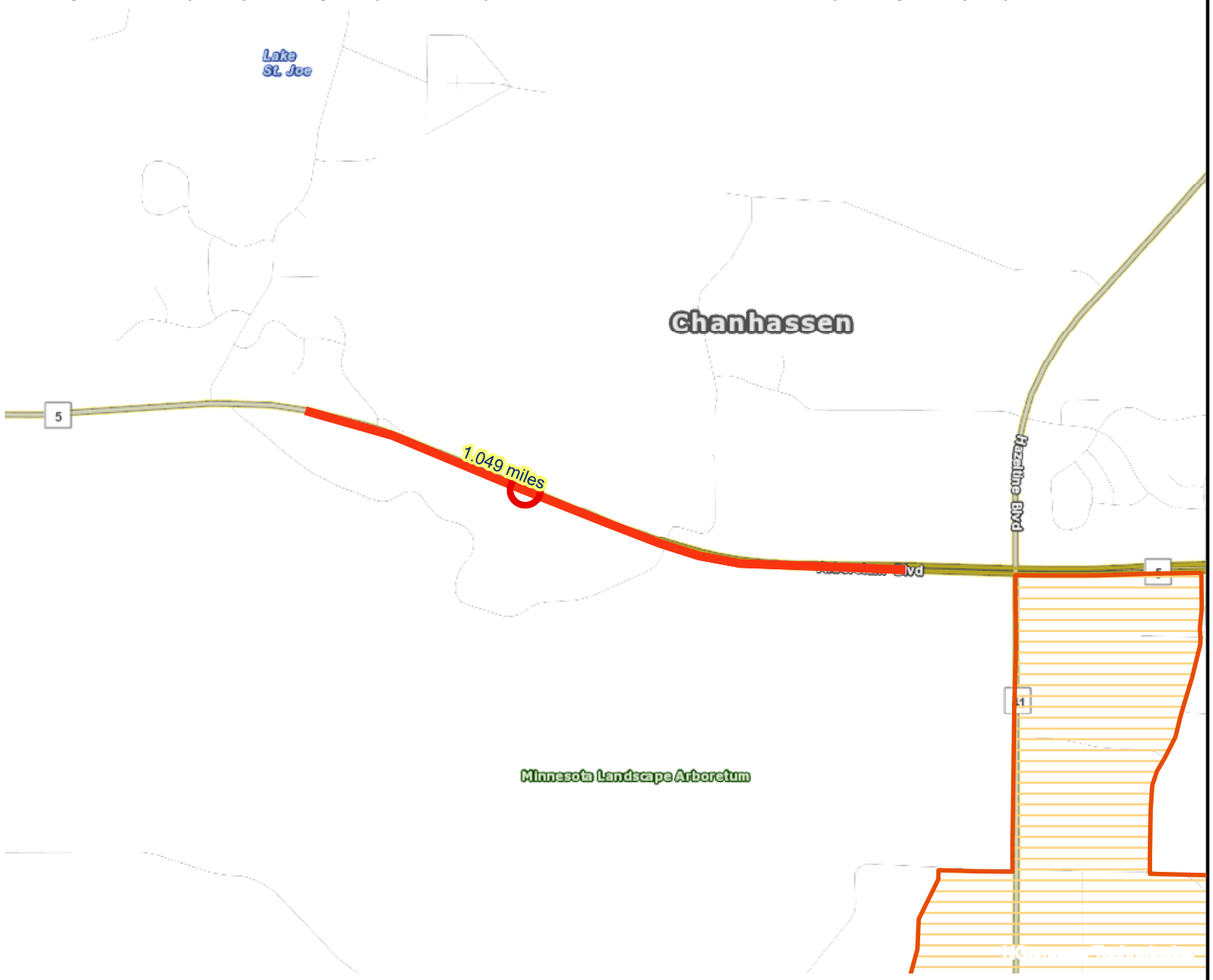
WITHIN ONE MI of project:
Postsecondary Students: 0

Totals by City:

Chanhassen
Population: 5701
Employment: 1719
Mfg and Dist Employment: 180

Chaska
Population: 689
Employment: 779
Mfg and Dist Employment: 738

Victoria
Population: 1900
Employment: 92
Mfg and Dist Employment: 12



Project Points
Project
Manfacturing/Distribution Centers
Job Concentration Centers

0 0.15 0.3 0.6 0.9 1.2 Miles

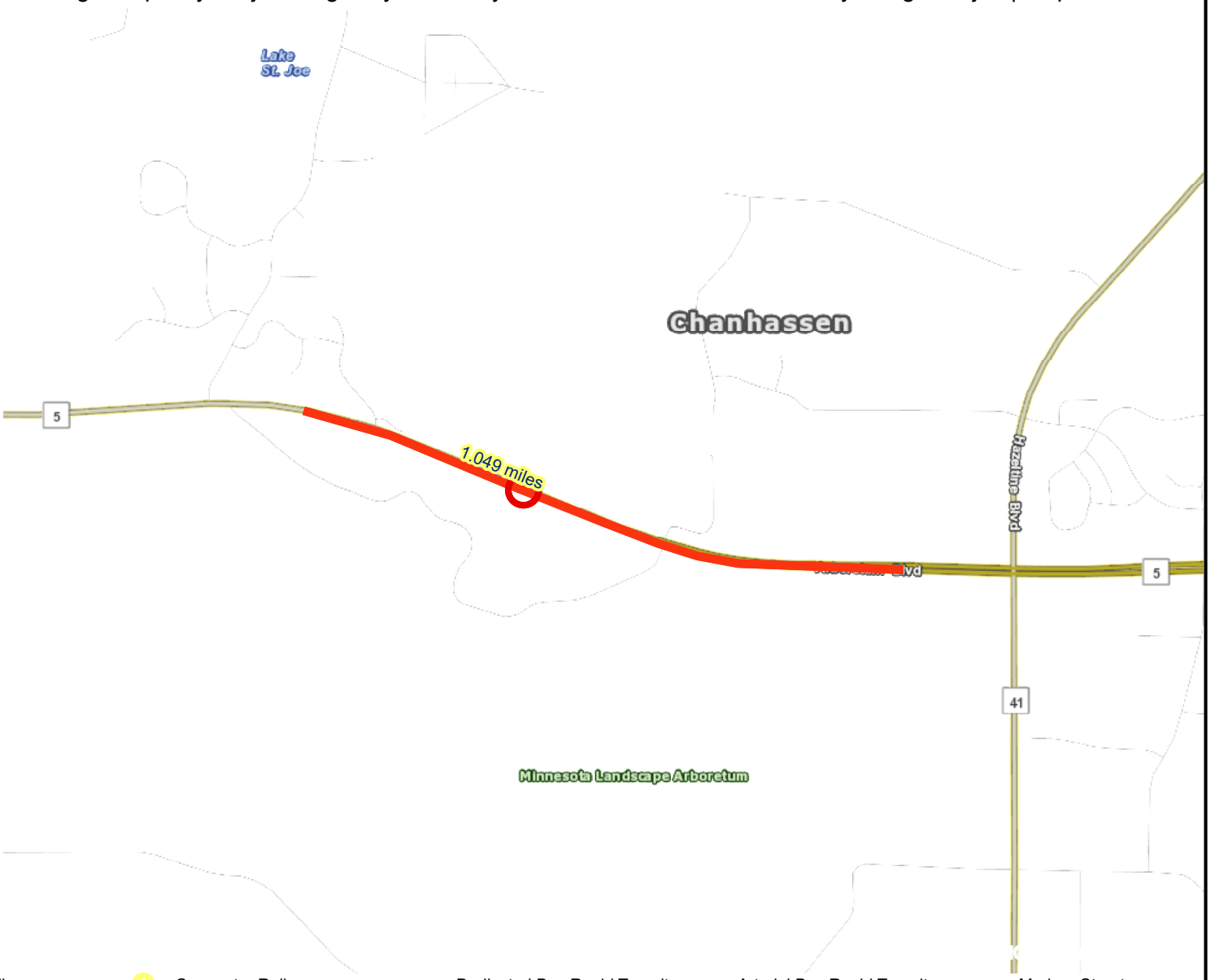
Created: 3/12/2022
LandscapeRSA5

For complete disclaimer of accuracy, please visit
http://giswebsite.metc.state.mn.us/gissitenew/notice.aspx

METROPOLITAN COUNCIL

Transit Connections

Strategic Capacity Project: Highway 5 Mobility & Lake Minnewashta Causeway Bridge Projec | Map ID: 1647110734



Results

Transit with a Direct Connection to project:
-- NONE --

**indicates Planned Alignments*

Transit Market areas: 4

Project Points	Commuter Rail	Commuter Rail	Dedicated Bus Rapid Transit	Arterial Bus Rapid Transit	Modern Streetcar
Project	Dedicated Bus Rapid Transit	Dedicated Bus Rapid Transit	Highway Bus Rapid Transit	Commuter Rail	Undetermined
Project Area	Highway Bus Rapid Transit	Highway Bus Rapid Transit	Light Rail	Dedicated Bus Rapid Transit	
Active Stop	Light Rail	Light Rail	Modern Streetcar	Highway Bus Rapid Transit	
Arterial Bus Rapid Transit	Arterial Bus Rapid Transit	Arterial Bus Rapid Transit	Undetermined	Light Rail	

0 0.15 0.3 0.6 0.9 1.2 Miles

Created: 3/12/2022
LandscapeRSA3

METROPOLITAN COUNCIL

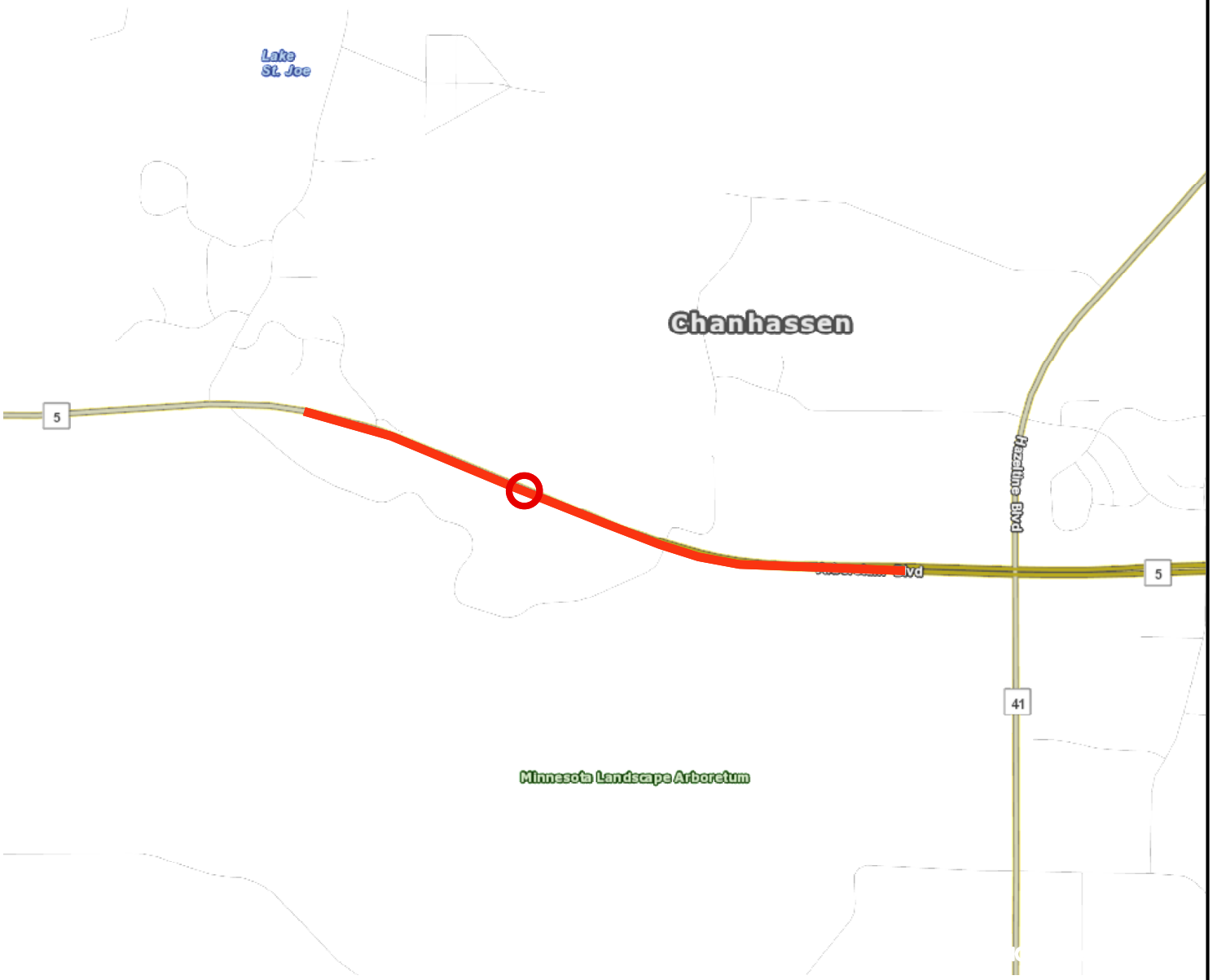
Socio-Economic Conditions

Strategic Capacity Project: Highway 5 Mobility & Lake Minnewashta Causeway Bridge Projec | Map ID: 1647110734224

Results

Total of publicly subsidized rental housing units in census tracts within 1/2 mile: 258

Project located in census tracts that are BELOW the regional average for population in poverty or population of color.



Points
Area of Concentrated Poverty
Lines

0 0.15 0.3 0.6 0.9 1.2 Miles

Created: 3/12/2022
LandscapeRSA2

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METROPOLITAN COUNCIL

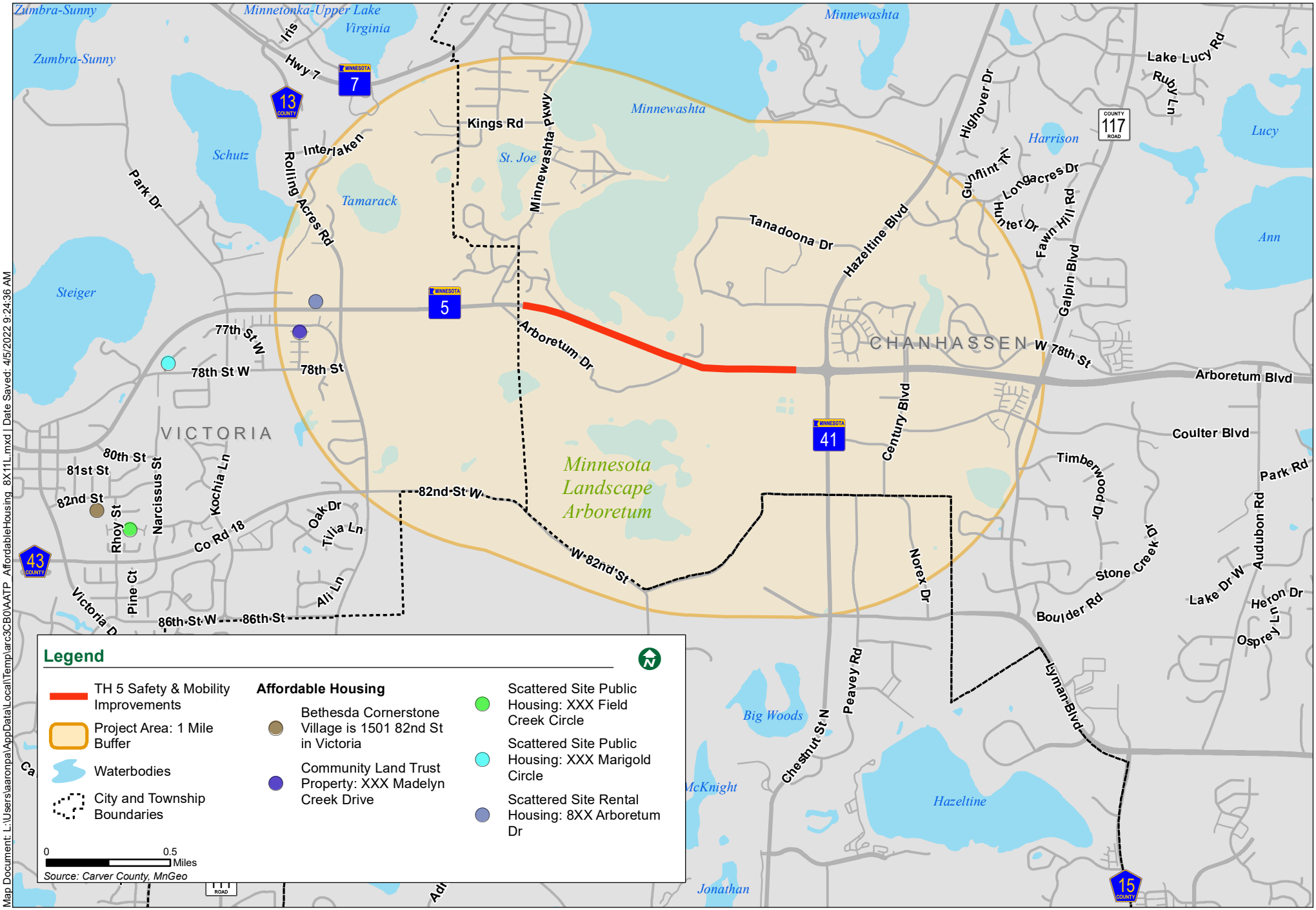
TH 5 Safety & Mobility Improvements

Carver County, MN

Affordable Housing Developments

April 2022

BOLTON & MENK
Real People. Real Solutions.



Legend

- TH 5 Safety & Mobility Improvements
- Project Area: 1 Mile Buffer
- Waterbodies
- City and Township Boundaries

Affordable Housing

- Bethesda Cornerstone Village is 1501 82nd St in Victoria
- Community Land Trust Property: XXX Madelyn Creek Drive
- Scattered Site Public Housing: XXX Field Creek Circle
- Scattered Site Public Housing: XXX Marigold Circle
- Scattered Site Rental Housing: 8XX Arboretum Dr

0 0.5 Miles

Source: Carver County, MnGeo

Map Document: L:\Users\aaronpa\AppData\Local\Temp\arc3CB0\AATP_AffordableHousing_8X11L.mxd | Date Saved: 4/5/2022 9:24:36 AM

Arterial Level of Service: EB TH 5

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	9	5.2	20.0	0.2	41
	7	3.5	20.0	0.2	45
	5	3.6	40.0	0.6	50
	1	2.0	18.9	0.3	49
TH 41	65	25.1	46.1	0.3	25
Total		39.4	145.0	1.6	40

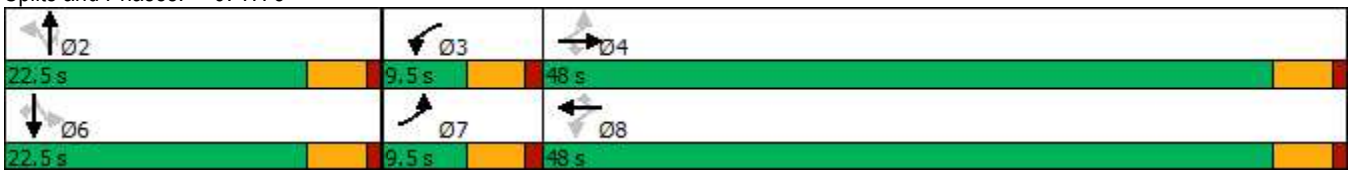
Arterial Level of Service: WB TH 5

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
TH 41	65	388.1	432.7	0.8	6
	1	25.1	46.3	0.3	25
	5	3.4	20.0	0.3	46
	7	5.1	41.5	0.6	48
	9	6.1	21.9	0.2	41
Total		427.8	562.4	2.2	14

Phase Number	2	3	4	6	7	8
Movement	NBTL	WBL	EBTL	SBTL	EBL	WBTL
Lead/Lag		Lead	Lag		Lead	Lag
Lead-Lag Optimize		Yes	Yes		Yes	Yes
Recall Mode	Min	None	None	Min	None	None
Maximum Split (s)	22.5	9.5	48	22.5	9.5	48
Maximum Split (%)	28.1%	11.9%	60.0%	28.1%	11.9%	60.0%
Minimum Split (s)	22.5	9.5	22.5	22.5	9.5	22.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1	1	1	1	1	1
Minimum Initial (s)	5	5	5	5	5	5
Vehicle Extension (s)	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0
Walk Time (s)	7		7	7		7
Flash Dont Walk (s)	11		11	11		11
Dual Entry	Yes	No	Yes	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	0	22.5	32	0	22.5	32
End Time (s)	22.5	32	0	22.5	32	0
Yield/Force Off (s)	18	27.5	75.5	18	27.5	75.5
Yield/Force Off 170(s)	18	27.5	64.5	18	27.5	64.5
Local Start Time (s)	0	22.5	32	0	22.5	32
Local Yield (s)	18	27.5	75.5	18	27.5	75.5
Local Yield 170(s)	18	27.5	64.5	18	27.5	64.5

Intersection Summary	
Cycle Length	80
Control Type	Actuated-Uncoordinated
Natural Cycle	80

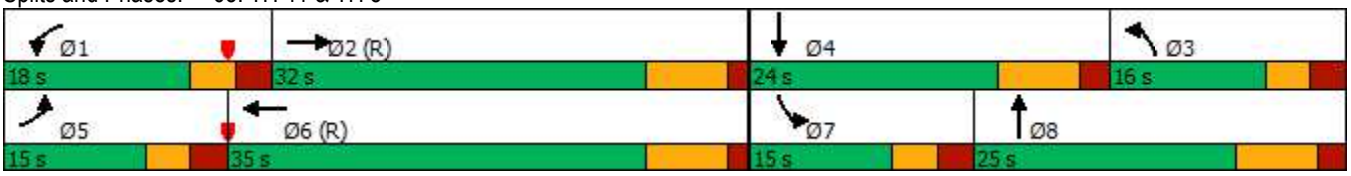
Splits and Phases: 9: TH 5



Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBT	NBL	SBT	EBL	WBT	SBL	NBT
Lead/Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	None	C-Min	None	None
Maximum Split (s)	18	32	16	24	15	35	15	25
Maximum Split (%)	20.0%	35.6%	17.8%	26.7%	16.7%	38.9%	16.7%	27.8%
Minimum Split (s)	15	23	15	15	15	23	15	15
Yellow Time (s)	3	5.5	3	5.5	3	5.5	3	5.5
All-Red Time (s)	2.5	1.5	2.5	2	2.5	1.5	2.5	2
Minimum Initial (s)	7	15	7	7	7	15	7	7
Vehicle Extension (s)	4	6	3	6	3	6	3	5.5
Minimum Gap (s)	4	4	3	6	3	4	3	5.5
Time Before Reduce (s)	0	25	0	0	0	25	0	0
Time To Reduce (s)	0	25	0	0	0	25	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		13		19		13		21
Dual Entry	No	No	No	No	No	No	No	No
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	75	3	59	35	75	0	35	50
End Time (s)	3	35	75	59	0	35	50	75
Yield/Force Off (s)	87.5	28	69.5	51.5	84.5	28	44.5	67.5
Yield/Force Off 170(s)	87.5	15	69.5	32.5	84.5	15	44.5	46.5
Local Start Time (s)	75	3	59	35	75	0	35	50
Local Yield (s)	87.5	28	69.5	51.5	84.5	28	44.5	67.5
Local Yield 170(s)	87.5	15	69.5	32.5	84.5	15	44.5	46.5

Intersection Summary	
Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green	

Splits and Phases: 65: TH 41 & TH 5



5: TH 5

Direction	All
Future Volume (vph)	2476
Total Delay (hr)	0
CO Emissions (kg)	3.74
NOx Emissions (kg)	0.73
VOC Emissions (kg)	0.87

9: TH 5

Direction	All
Future Volume (vph)	2484
Total Delay (hr)	6
CO Emissions (kg)	5.57
NOx Emissions (kg)	1.08
VOC Emissions (kg)	1.29

65: TH 41 & TH 5

Direction	All
Future Volume (vph)	3807
Total Delay (hr)	64
CO Emissions (kg)	12.26
NOx Emissions (kg)	2.38
VOC Emissions (kg)	2.84

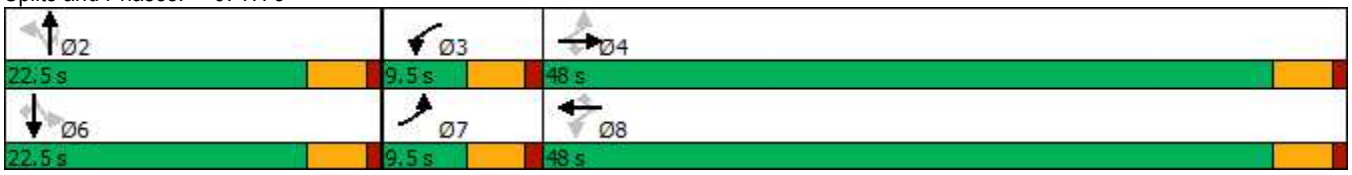
Network Totals

Number of Intersections	3
Total Delay (hr)	70
CO Emissions (kg)	21.56
NOx Emissions (kg)	4.19
VOC Emissions (kg)	5.00
Performance Index	81.0

Phase Number	2	3	4	6	7	8
Movement	NBTL	WBL	EBTL	SBTL	EBL	WBTL
Lead/Lag		Lead	Lag		Lead	Lag
Lead-Lag Optimize		Yes	Yes		Yes	Yes
Recall Mode	Min	None	None	Min	None	None
Maximum Split (s)	22.5	9.5	48	22.5	9.5	48
Maximum Split (%)	28.1%	11.9%	60.0%	28.1%	11.9%	60.0%
Minimum Split (s)	22.5	9.5	22.5	22.5	9.5	22.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1	1	1	1	1	1
Minimum Initial (s)	5	5	5	5	5	5
Vehicle Extension (s)	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0
Walk Time (s)	7		7	7		7
Flash Dont Walk (s)	11		11	11		11
Dual Entry	Yes	No	Yes	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	0	22.5	32	0	22.5	32
End Time (s)	22.5	32	0	22.5	32	0
Yield/Force Off (s)	18	27.5	75.5	18	27.5	75.5
Yield/Force Off 170(s)	18	27.5	64.5	18	27.5	64.5
Local Start Time (s)	0	22.5	32	0	22.5	32
Local Yield (s)	18	27.5	75.5	18	27.5	75.5
Local Yield 170(s)	18	27.5	64.5	18	27.5	64.5

Intersection Summary	
Cycle Length	80
Control Type	Actuated-Uncoordinated
Natural Cycle	80

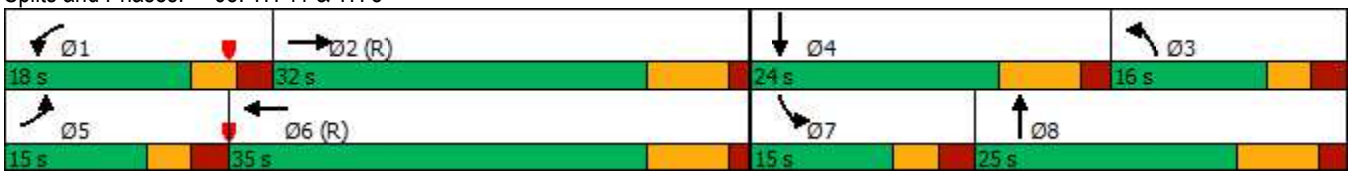
Splits and Phases: 9: TH 5



Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBT	NBL	SBT	EBL	WBT	SBL	NBT
Lead/Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	None	C-Min	None	None
Maximum Split (s)	18	32	16	24	15	35	15	25
Maximum Split (%)	20.0%	35.6%	17.8%	26.7%	16.7%	38.9%	16.7%	27.8%
Minimum Split (s)	15	23	15	15	15	23	15	15
Yellow Time (s)	3	5.5	3	5.5	3	5.5	3	5.5
All-Red Time (s)	2.5	1.5	2.5	2	2.5	1.5	2.5	2
Minimum Initial (s)	7	15	7	7	7	15	7	7
Vehicle Extension (s)	4	6	3	6	3	6	3	5.5
Minimum Gap (s)	4	4	3	6	3	4	3	5.5
Time Before Reduce (s)	0	25	0	0	0	25	0	0
Time To Reduce (s)	0	25	0	0	0	25	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		13		19		13		21
Dual Entry	No	No	No	No	No	No	No	No
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	75	3	59	35	75	0	35	50
End Time (s)	3	35	75	59	0	35	50	75
Yield/Force Off (s)	87.5	28	69.5	51.5	84.5	28	44.5	67.5
Yield/Force Off 170(s)	87.5	15	69.5	32.5	84.5	15	44.5	46.5
Local Start Time (s)	75	3	59	35	75	0	35	50
Local Yield (s)	87.5	28	69.5	51.5	84.5	28	44.5	67.5
Local Yield 170(s)	87.5	15	69.5	32.5	84.5	15	44.5	46.5

Intersection Summary	
Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green	

Splits and Phases: 65: TH 41 & TH 5



5: TH 5

Direction	All
Future Volume (vph)	2476
Total Delay (hr)	0
CO Emissions (kg)	3.73
NOx Emissions (kg)	0.73
VOC Emissions (kg)	0.86

9: TH 5

Direction	All
Future Volume (vph)	2484
Total Delay (hr)	6
CO Emissions (kg)	5.57
NOx Emissions (kg)	1.08
VOC Emissions (kg)	1.29

65: TH 41 & TH 5

Direction	All
Future Volume (vph)	3807
Total Delay (hr)	64
CO Emissions (kg)	12.26
NOx Emissions (kg)	2.38
VOC Emissions (kg)	2.84

Network Totals

Number of Intersections	3
Total Delay (hr)	70
CO Emissions (kg)	21.55
NOx Emissions (kg)	4.19
VOC Emissions (kg)	5.00
Performance Index	80.9

Arterial Level of Service: EB TH 5

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	9	3.6	18.2	0.2	45
	7	2.0	18.4	0.2	48
	5	1.8	38.2	0.6	53
	1	1.0	17.8	0.3	52
TH 41	65	25.1	46.1	0.3	26
Total		33.5	138.6	1.6	42

Arterial Level of Service: WB TH 5

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
TH 41	65	264.2	311.0	0.8	9
	1	11.3	32.7	0.3	36
	5	1.5	18.0	0.3	51
	7	3.3	39.6	0.6	51
	9	7.3	23.2	0.2	38
Total		287.7	424.5	2.2	18

Explanation of Methodology – Section 5 (Congestion Reduction Calculation)

The goal of the congestion reduction/air quality section of this application is to determine the reduction in delay due to the project. Since this is a project that improves a section of roadway with the two to four lane expansion and is not simply an intersection improvement project it is not possible to quantify the improvement by only considering peak hour delay at intersections in Synchro. Since Synchro does not simulate the traffic, it doesn't show the delay along the corridor itself and the backups caused by the 4 to 2 lane drop as this is not considered to be an intersection.

In order to properly estimate the delay reduction with this project an existing and no build model was created for TH 5 between Minnewashta Pkwy and TH 41. These limits were chosen to understand how the corridor would operate with this final section a 4 lane roadway versus the existing 2 lane roadway. Simply creating a report in Synchro shows virtually no change between the two options. However, running these two options in SimTraffic and comparing the travel times along the corridor shows how this project reduces the travel time for vehicles driving along the corridor. Therefore, instead of showing peak hour intersection delay, this report shows the total travel time (in seconds per vehicle) in along both directions of TH 5 within the project limits for the "Total Peak Hour Delay per Vehicle with and without the Project" measurement.

Arterial Level of Service: EB TH 5

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	9	5.2	20.0	0.2	41
	7	3.5	20.0	0.2	45
	5	3.6	40.0	0.6	50
	1	2.0	18.9	0.3	49
TH 41	65	25.1	46.1	0.3	25
Total		39.4	145.0	1.6	40

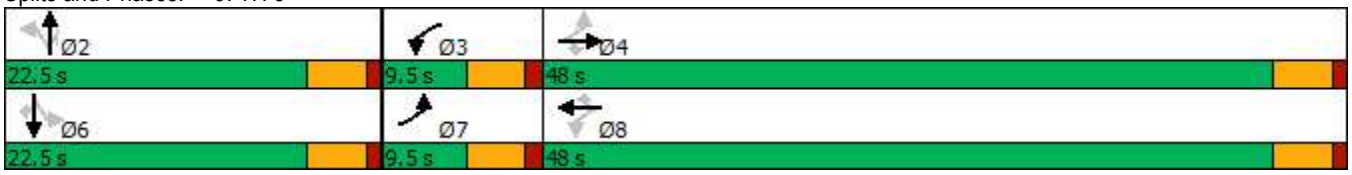
Arterial Level of Service: WB TH 5

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
TH 41	65	388.1	432.7	0.8	6
	1	25.1	46.3	0.3	25
	5	3.4	20.0	0.3	46
	7	5.1	41.5	0.6	48
	9	6.1	21.9	0.2	41
Total		427.8	562.4	2.2	14

Phase Number	2	3	4	6	7	8
Movement	NBTL	WBL	EBTL	SBTL	EBL	WBTL
Lead/Lag		Lead	Lag		Lead	Lag
Lead-Lag Optimize		Yes	Yes		Yes	Yes
Recall Mode	Min	None	None	Min	None	None
Maximum Split (s)	22.5	9.5	48	22.5	9.5	48
Maximum Split (%)	28.1%	11.9%	60.0%	28.1%	11.9%	60.0%
Minimum Split (s)	22.5	9.5	22.5	22.5	9.5	22.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1	1	1	1	1	1
Minimum Initial (s)	5	5	5	5	5	5
Vehicle Extension (s)	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0
Walk Time (s)	7		7	7		7
Flash Dont Walk (s)	11		11	11		11
Dual Entry	Yes	No	Yes	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	0	22.5	32	0	22.5	32
End Time (s)	22.5	32	0	22.5	32	0
Yield/Force Off (s)	18	27.5	75.5	18	27.5	75.5
Yield/Force Off 170(s)	18	27.5	64.5	18	27.5	64.5
Local Start Time (s)	0	22.5	32	0	22.5	32
Local Yield (s)	18	27.5	75.5	18	27.5	75.5
Local Yield 170(s)	18	27.5	64.5	18	27.5	64.5

Intersection Summary	
Cycle Length	80
Control Type	Actuated-Uncoordinated
Natural Cycle	80

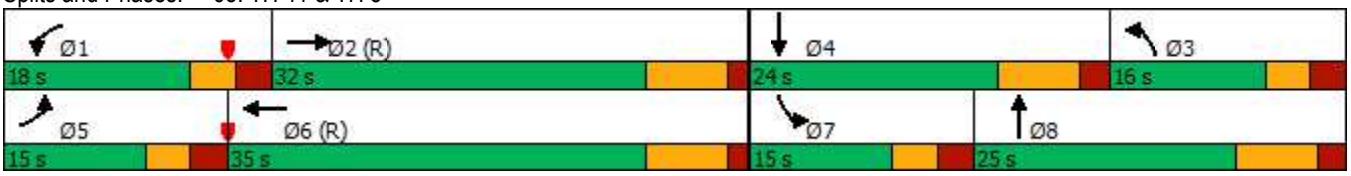
Splits and Phases: 9: TH 5



Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBT	NBL	SBT	EBL	WBT	SBL	NBT
Lead/Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	None	C-Min	None	None
Maximum Split (s)	18	32	16	24	15	35	15	25
Maximum Split (%)	20.0%	35.6%	17.8%	26.7%	16.7%	38.9%	16.7%	27.8%
Minimum Split (s)	15	23	15	15	15	23	15	15
Yellow Time (s)	3	5.5	3	5.5	3	5.5	3	5.5
All-Red Time (s)	2.5	1.5	2.5	2	2.5	1.5	2.5	2
Minimum Initial (s)	7	15	7	7	7	15	7	7
Vehicle Extension (s)	4	6	3	6	3	6	3	5.5
Minimum Gap (s)	4	4	3	6	3	4	3	5.5
Time Before Reduce (s)	0	25	0	0	0	25	0	0
Time To Reduce (s)	0	25	0	0	0	25	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		13		19		13		21
Dual Entry	No	No	No	No	No	No	No	No
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	75	3	59	35	75	0	35	50
End Time (s)	3	35	75	59	0	35	50	75
Yield/Force Off (s)	87.5	28	69.5	51.5	84.5	28	44.5	67.5
Yield/Force Off 170(s)	87.5	15	69.5	32.5	84.5	15	44.5	46.5
Local Start Time (s)	75	3	59	35	75	0	35	50
Local Yield (s)	87.5	28	69.5	51.5	84.5	28	44.5	67.5
Local Yield 170(s)	87.5	15	69.5	32.5	84.5	15	44.5	46.5

Intersection Summary	
Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green	

Splits and Phases: 65: TH 41 & TH 5



5: TH 5

Direction	All
Future Volume (vph)	2476
Total Delay (hr)	0
CO Emissions (kg)	3.74
NOx Emissions (kg)	0.73
VOC Emissions (kg)	0.87

9: TH 5

Direction	All
Future Volume (vph)	2484
Total Delay (hr)	6
CO Emissions (kg)	5.57
NOx Emissions (kg)	1.08
VOC Emissions (kg)	1.29

65: TH 41 & TH 5

Direction	All
Future Volume (vph)	3807
Total Delay (hr)	64
CO Emissions (kg)	12.26
NOx Emissions (kg)	2.38
VOC Emissions (kg)	2.84

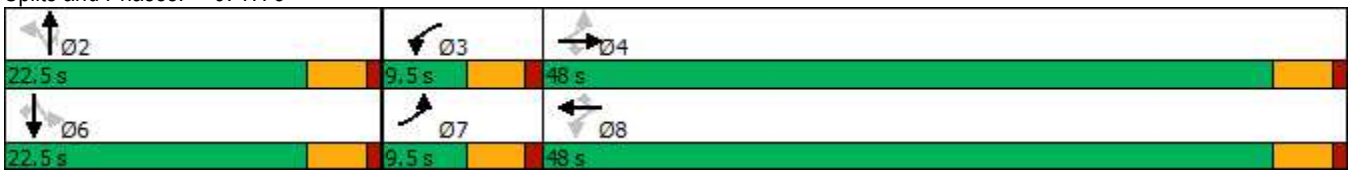
Network Totals

Number of Intersections	3
Total Delay (hr)	70
CO Emissions (kg)	21.56
NOx Emissions (kg)	4.19
VOC Emissions (kg)	5.00
Performance Index	81.0

Phase Number	2	3	4	6	7	8
Movement	NBTL	WBL	EBTL	SBTL	EBL	WBTL
Lead/Lag		Lead	Lag		Lead	Lag
Lead-Lag Optimize		Yes	Yes		Yes	Yes
Recall Mode	Min	None	None	Min	None	None
Maximum Split (s)	22.5	9.5	48	22.5	9.5	48
Maximum Split (%)	28.1%	11.9%	60.0%	28.1%	11.9%	60.0%
Minimum Split (s)	22.5	9.5	22.5	22.5	9.5	22.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1	1	1	1	1	1
Minimum Initial (s)	5	5	5	5	5	5
Vehicle Extension (s)	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0
Walk Time (s)	7		7	7		7
Flash Dont Walk (s)	11		11	11		11
Dual Entry	Yes	No	Yes	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	0	22.5	32	0	22.5	32
End Time (s)	22.5	32	0	22.5	32	0
Yield/Force Off (s)	18	27.5	75.5	18	27.5	75.5
Yield/Force Off 170(s)	18	27.5	64.5	18	27.5	64.5
Local Start Time (s)	0	22.5	32	0	22.5	32
Local Yield (s)	18	27.5	75.5	18	27.5	75.5
Local Yield 170(s)	18	27.5	64.5	18	27.5	64.5

Intersection Summary	
Cycle Length	80
Control Type	Actuated-Uncoordinated
Natural Cycle	80

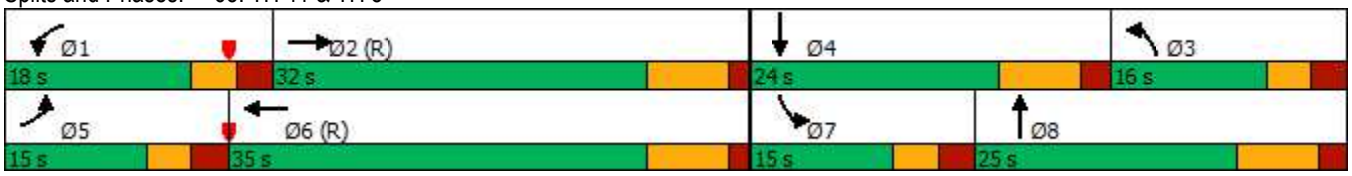
Splits and Phases: 9: TH 5



Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBT	NBL	SBT	EBL	WBT	SBL	NBT
Lead/Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	None	C-Min	None	None
Maximum Split (s)	18	32	16	24	15	35	15	25
Maximum Split (%)	20.0%	35.6%	17.8%	26.7%	16.7%	38.9%	16.7%	27.8%
Minimum Split (s)	15	23	15	15	15	23	15	15
Yellow Time (s)	3	5.5	3	5.5	3	5.5	3	5.5
All-Red Time (s)	2.5	1.5	2.5	2	2.5	1.5	2.5	2
Minimum Initial (s)	7	15	7	7	7	15	7	7
Vehicle Extension (s)	4	6	3	6	3	6	3	5.5
Minimum Gap (s)	4	4	3	6	3	4	3	5.5
Time Before Reduce (s)	0	25	0	0	0	25	0	0
Time To Reduce (s)	0	25	0	0	0	25	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		13		19		13		21
Dual Entry	No	No	No	No	No	No	No	No
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	75	3	59	35	75	0	35	50
End Time (s)	3	35	75	59	0	35	50	75
Yield/Force Off (s)	87.5	28	69.5	51.5	84.5	28	44.5	67.5
Yield/Force Off 170(s)	87.5	15	69.5	32.5	84.5	15	44.5	46.5
Local Start Time (s)	75	3	59	35	75	0	35	50
Local Yield (s)	87.5	28	69.5	51.5	84.5	28	44.5	67.5
Local Yield 170(s)	87.5	15	69.5	32.5	84.5	15	44.5	46.5

Intersection Summary	
Cycle Length	90
Control Type	Actuated-Coordinated
Natural Cycle	90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green	

Splits and Phases: 65: TH 41 & TH 5



5: TH 5

Direction	All
Future Volume (vph)	2476
Total Delay (hr)	0
CO Emissions (kg)	3.73
NOx Emissions (kg)	0.73
VOC Emissions (kg)	0.86

9: TH 5

Direction	All
Future Volume (vph)	2484
Total Delay (hr)	6
CO Emissions (kg)	5.57
NOx Emissions (kg)	1.08
VOC Emissions (kg)	1.29

65: TH 41 & TH 5

Direction	All
Future Volume (vph)	3807
Total Delay (hr)	64
CO Emissions (kg)	12.26
NOx Emissions (kg)	2.38
VOC Emissions (kg)	2.84

Network Totals

Number of Intersections	3
Total Delay (hr)	70
CO Emissions (kg)	21.55
NOx Emissions (kg)	4.19
VOC Emissions (kg)	5.00
Performance Index	80.9

Arterial Level of Service: EB TH 5

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	9	3.6	18.2	0.2	45
	7	2.0	18.4	0.2	48
	5	1.8	38.2	0.6	53
	1	1.0	17.8	0.3	52
TH 41	65	25.1	46.1	0.3	26
Total		33.5	138.6	1.6	42

Arterial Level of Service: WB TH 5

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
TH 41	65	264.2	311.0	0.8	9
	1	11.3	32.7	0.3	36
	5	1.5	18.0	0.3	51
	7	3.3	39.6	0.6	51
	9	7.3	23.2	0.2	38
Total		287.7	424.5	2.2	18

Explanation of Methodology – Section 5 (Congestion Reduction Calculation)

The goal of the congestion reduction/air quality section of this application is to determine the reduction in delay due to the project. Since this is a project that improves a section of roadway with the two to four lane expansion and is not simply an intersection improvement project it is not possible to quantify the improvement by only considering peak hour delay at intersections in Synchro. Since Synchro does not simulate the traffic, it doesn't show the delay along the corridor itself and the backups caused by the 4 to 2 lane drop as this is not considered to be an intersection.

In order to properly estimate the delay reduction with this project an existing and no build model was created for TH 5 between Minnewashta Pkwy and TH 41. These limits were chosen to understand how the corridor would operate with this final section a 4 lane roadway versus the existing 2 lane roadway. Simply creating a report in Synchro shows virtually no change between the two options. However, running these two options in SimTraffic and comparing the travel times along the corridor shows how this project reduces the travel time for vehicles driving along the corridor. Therefore, instead of showing peak hour intersection delay, this report shows the total travel time (in seconds per vehicle) in along both directions of TH 5 within the project limits for the "Total Peak Hour Delay per Vehicle with and without the Project" measurement.

Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project

DEPARTMENT OF TRANSPORTATION

A. Roadway Description

Route	TH 5	**District**	Metro	**County**	Carver
Begin RP		**End RP**		**Miles**	0.800
Location	.25 miles eat of Minnewashta Pkwy to .25 miles west of TH 41				

B. Project Description

Proposed Work	Converting the existing 2 lane roadway to 4 lane divided roadway (bridge section)		
Project Cost*	$28,715,000	**Installation Year**	2026
Project Service Life	30 years	**Traffic Growth Factor**	2.0%

** exclude Right of Way from Project Cost*

C. Crash Modification Factor

0.24	**Fatal (K) Crashes**	**Reference**	CMF ID 7572
0.24	**Serious Injury (A) Crashes**		
0.24	**Moderate Injury (B) Crashes**	**Crash Type**	All
0.24	**Possible Injury (C) Crashes**		
0.24	**Property Damage Only Crashes**		www.CMFclearinghouse.org

D. Crash Modification Factor (optional second CMF)

	Fatal (K) Crashes	**Reference**	
	Serious Injury (A) Crashes		
	Moderate Injury (B) Crashes	**Crash Type**	
	Possible Injury (C) Crashes		
	Property Damage Only Crashes		www.CMFclearinghouse.org

E. Crash Data

Begin Date	1/1/2019	**End Date**	12/31/2021	3 years
Data Source	MnDOT			

Crash Severity	**All**	**< optional 2nd CMF >**
K crashes	0	
A crashes	0	
B crashes	0	
C crashes	0	
PDO crashes	3	

F. Benefit-Cost Calculation

$361,083	**Benefit (present value)**	**B/C Ratio = 0.02**
$28,715,000	**Cost**	

Proposed project expected to reduce 1 crashes annually, 0 of which involving fatality or serious injury.

F. Analysis Assumptions

Crash Severity	Crash Cost
K crashes	$1,500,000
A crashes	$750,000
B crashes	$230,000
C crashes	$120,000
PDO crashes	$13,000

Link: mndot.gov/planning/program/appendix_a.html

Real Discount Rate 0.7%

Traffic Growth Rate 2.0%

Project Service Life 30 years

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	$0
A crashes	0.00	0.00	$0
B crashes	0.00	0.00	$0
C crashes	0.00	0.00	$0
PDO crashes	2.29	0.76	$9,932
			$9,932

H. Amortized Benefit

Year	Crash Benefits	Present Value
2026	$9,932	$9,932
2027	$10,131	$10,060
2028	$10,333	$10,190
2029	$10,540	$10,322
2030	$10,751	$10,455
2031	$10,966	$10,590
2032	$11,185	$10,727
2033	$11,409	$10,865
2034	$11,637	$11,005
2035	$11,870	$11,147
2036	$12,107	$11,291
2037	$12,349	$11,437
2038	$12,596	$11,585
2039	$12,848	$11,734
2040	$13,105	$11,886
2041	$13,367	$12,039
2042	$13,635	$12,195
2043	$13,907	$12,352
2044	$14,185	$12,511
2045	$14,469	$12,673
2046	$14,758	$12,837
2047	$15,054	$13,002
2048	$15,355	$13,170
2049	$15,662	$13,340
2050	$15,975	$13,512
2051	$16,294	$13,687
2052	$16,620	$13,864
2053	$16,953	$14,043
2054	$17,292	$14,224
2055	$17,638	$14,407
0	$0	$0

Total = $361,083

CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 7572

Convert 2 lane roadway to 4 lane divided roadway

Description: Conversion of urban and rural two-lane roadways to four-lane divided roadways

Prior Condition: 2 lane roadway

Category: Roadway

Study: *Evaluation of the Safety Effectiveness of the Conversion of Two-Lane Roadways to Four-Lane Divided Roadways: Bayesian vs. Empirical Bayes*, Ahmed et al., 2015

Star Quality Rating:	★★★★☆ [View score details]

Crash Modification Factor (CMF)	
Value:	0.236
Adjusted Standard Error:	
Unadjusted Standard Error:	0.072

Crash Reduction Factor (CRF)	
Value:	76.4 *(This value indicates a **decrease** in crashes)*

Adjusted Standard Error:	
Unadjusted Standard Error:	7.21

Applicability

Crash Type:	All
Crash Severity:	All
Roadway Types:	Not specified
Number of Lanes:	2
Road Division Type:	Undivided
Speed Limit:	
Area Type:	Urban
Traffic Volume:	18000 *Average Daily Traffic (ADT)*
Time of Day:	

If countermeasure is intersection-based

Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Development Details

Date Range of Data Used:	2002 to 2012
Municipality:	

State:	FL
Country:	USA
Type of Methodology Used:	2
Sample Size Used:	

Other Details

Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	Nov-01-2015
Comments:	Applies to roadways with AADT greater than or equal to 18,000

This site is funded by the U.S. Department of Transportation Federal Highway Administration and maintained by the University of North Carolina Highway Safety Research Center

Crash Case Listing

TH 5 Gap Project

Report Version 1.0
February 2020

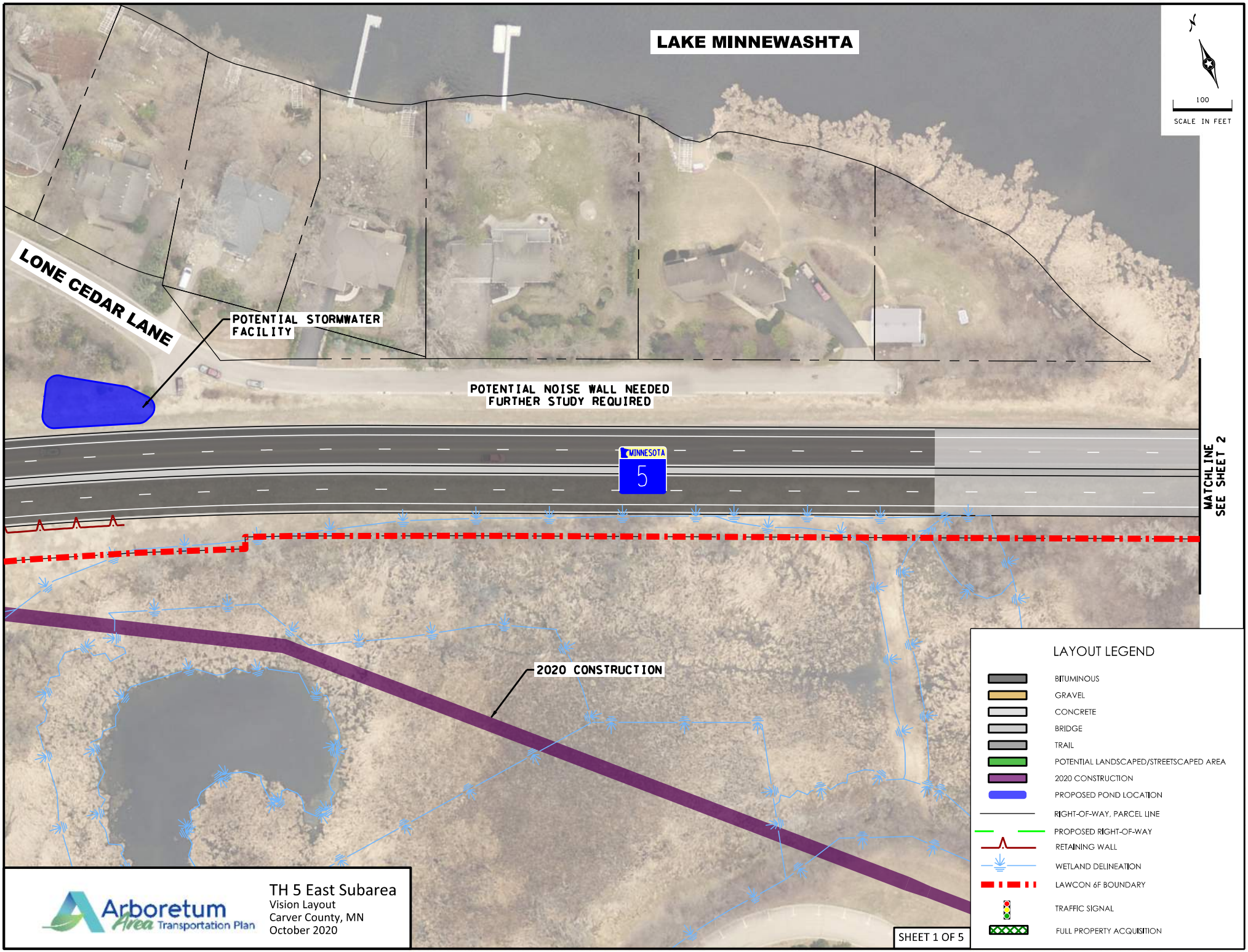
Route System	Route Number	Measure	Co	City	Incident Number	Date	Time	Day of Week	Basic Type	Num Veh	Sev
03-MNTH	5	41.456	10	Chanhassen	00890520	02/13/21	1750	SAT	SSS	2	N
03-MNTH	5	41.595	10	Chanhassen	00904188	05/06/21	1618	THU	Rear End	3	N
03-MNTH	5	41.605	10	Chanhassen	00732619	07/10/19	1620	WED	Rear End	2	N
03-MNTH	5	41.783	10	Chanhassen	00678767	01/24/19	1800	THU	Rear End	3	B
03-MNTH	5	41.817	10	Chanhassen	00868638	12/17/20	1710	THU	Rear End	2	C
03-MNTH	5	41.837	10	Chanhassen	00938678	09/05/21	1648	SUN	SVROR	1	N
03-MNTH	5	41.854	10	Chanhassen	00860666	11/01/20	2045	SUN	Other	1	N
03-MNTH	5	41.862	10	Chanhassen	00967067	10/15/21	1545	FRI	Rear End	3	N
03-MNTH	5	41.937	10	Chanhassen	00890867	02/13/21	1829	SAT	Rear End	6	C
03-MNTH	5	42.095	10	Chanhassen	00974682	11/10/21	1520	WED	SVROR	1	N
03-MNTH	5	42.157	10	Chanhassen	00934969	08/17/21	1500	TUE	Rear End	2	N
03-MNTH	5	42.161	10	Chanhassen	00724253	06/01/19	1915	SAT	SSS	2	N
03-MNTH	5	42.185	10	Chanhassen	00903655	04/30/21	1944	FRI	Rear End	2	N
03-MNTH	5	42.189	10	Chanhassen	00842972	09/25/20	1559	FRI	Rear End	2	N
03-MNTH	5	42.259	10	Chanhassen	00765191	11/25/19	1645	MON	SSS	2	N
10-MUN	565	0.925	10	Chanhassen	00720544	05/16/19	2205	THU	Other	1	N

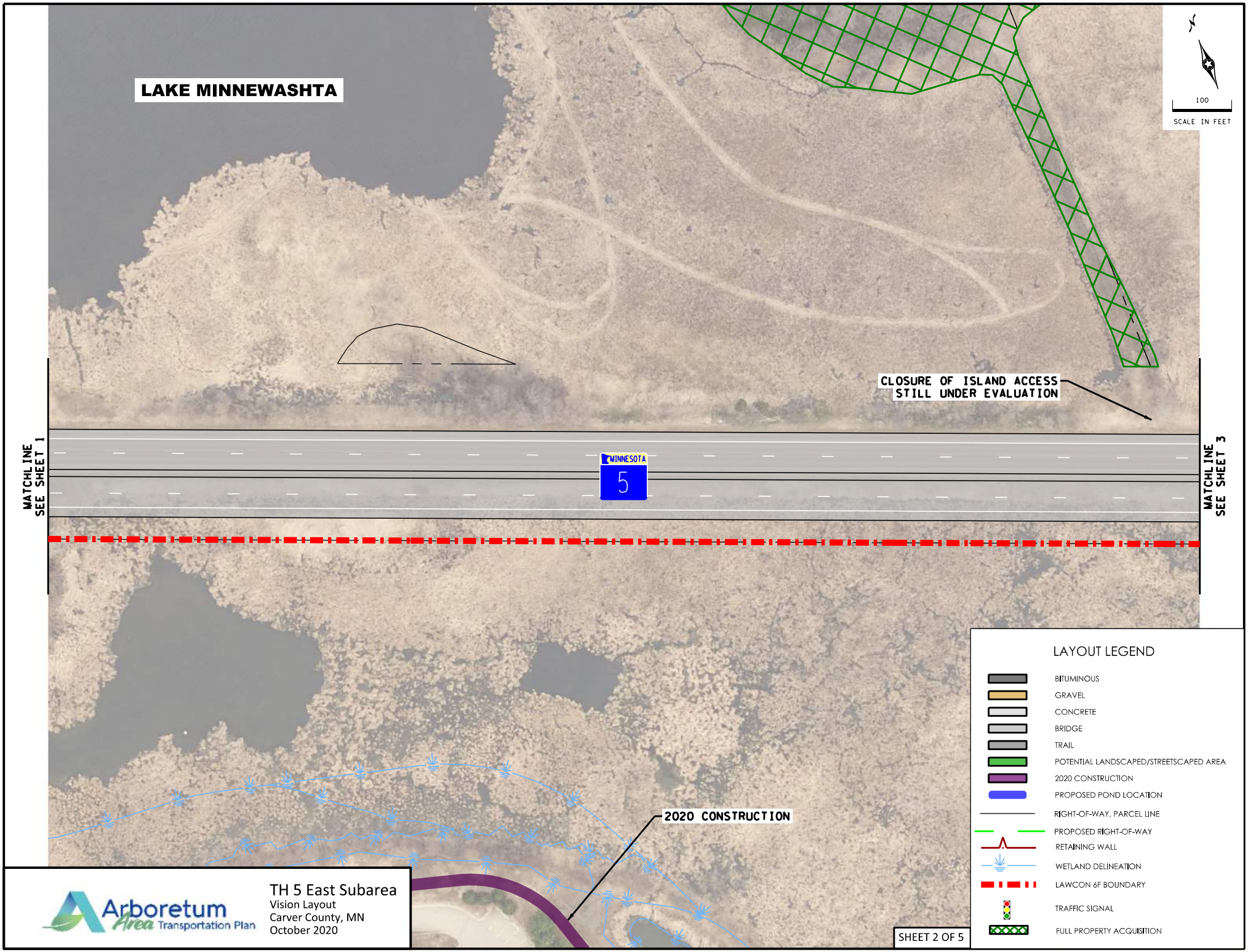
Selection Filter:

WORK AREA: County('659455') - FILTER: Year('2019','2020','2021') - SPATIAL FILTER APPLIED

Analyst: Jacob Bongard

Notes:


LAKE MINNEWASHTA
LONE CEDAR LANE
POTENTIAL STORMWATER FACILITY
POTENTIAL NOISE WALL NEEDED
FURTHER STUDY REQUIRED
MINNESOTA
5
MATCHLINE
SEE SHEET 2
2020 CONSTRUCTION
100
SCALE IN FEET
LAYOUT LEGEND
BITUMINOUS
GRAVEL
CONCRETE
BRIDGE
TRAIL
POTENTIAL LANDSCAPED/STREETSCAPED AREA
2020 CONSTRUCTION
PROPOSED POND LOCATION
RIGHT-OF-WAY, PARCEL LINE
PROPOSED RIGHT-OF-WAY
RETAINING WALL
WETLAND DELINEATION
LAWCON 6F BOUNDARY
TRAFFIC SIGNAL
FULL PROPERTY ACQUISITION
Arboretum Area Transportation Plan
TH 5 East Subarea
Vision Layout
Carver County, MN
October 2020
SHEET 1 OF 5


LAKE MINNEWASHTA
100
SCALE IN FEET
CLOSURE OF ISLAND ACCESS
STILL UNDER EVALUATION
MATCHLINE
SEE SHEET 1
MATCHLINE
SEE SHEET 3
MINNESOTA
5
2020 CONSTRUCTION
LAYOUT LEGEND
BITUMINOUS
GRAVEL
CONCRETE
BRIDGE
TRAIL
POTENTIAL LANDSCAPED/STREETSCAPED AREA
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PROPOSED POND LOCATION
RIGHT-OF-WAY, PARCEL LINE
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TH 5 East Subarea
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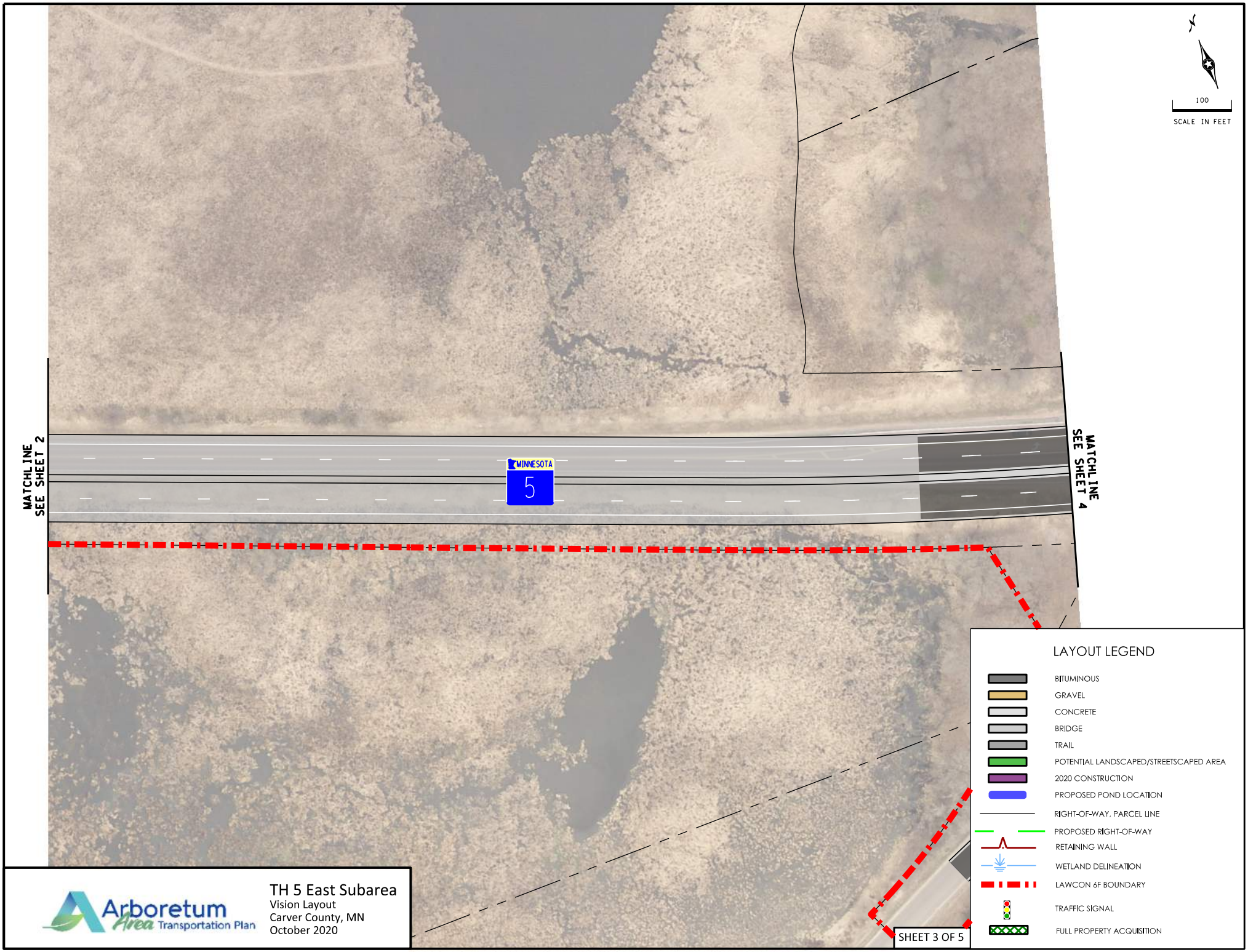
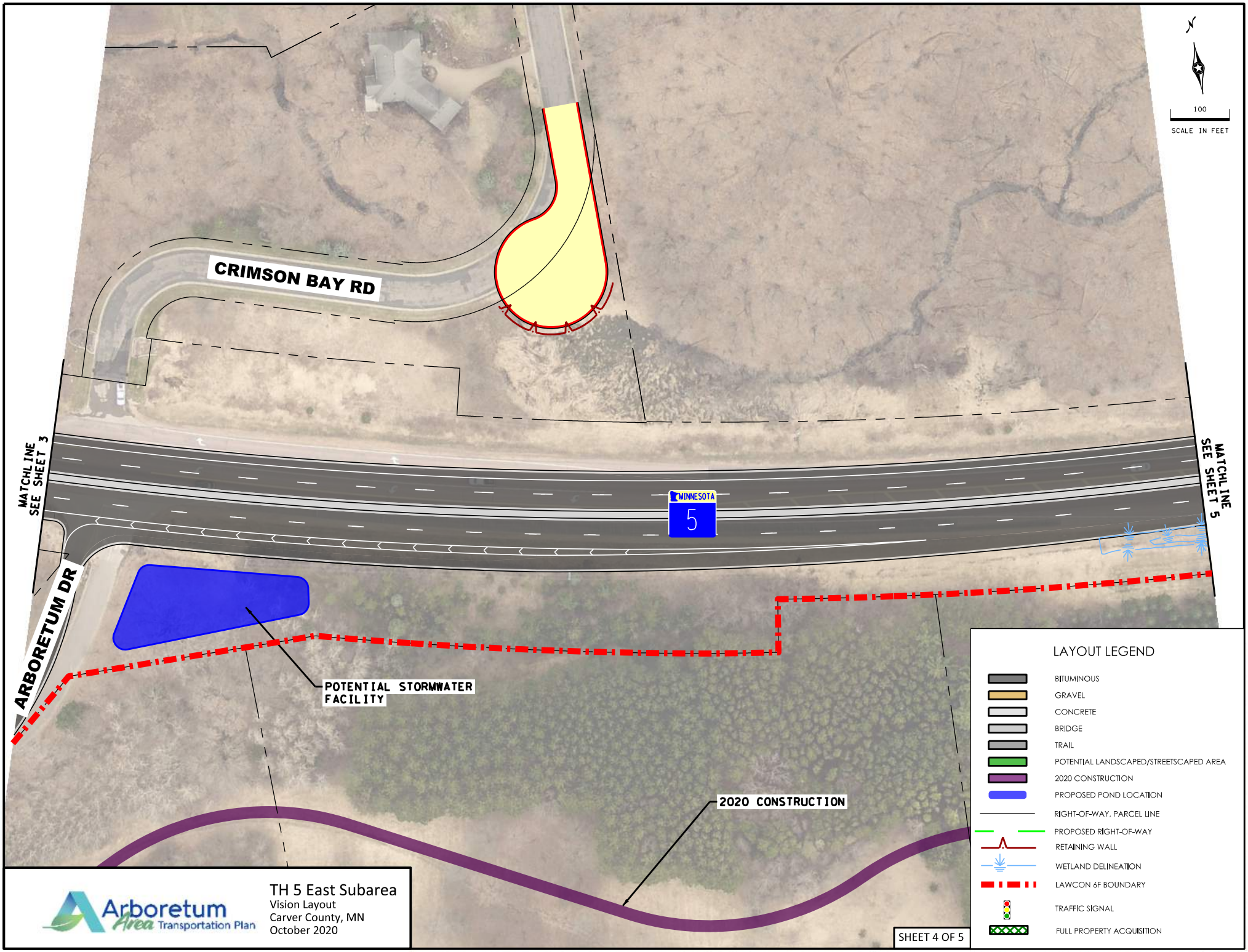
Carver County, MN
October 2020
SHEET 2 OF 5



Arboretum Area Transportation Plan

TH 5 East Subarea

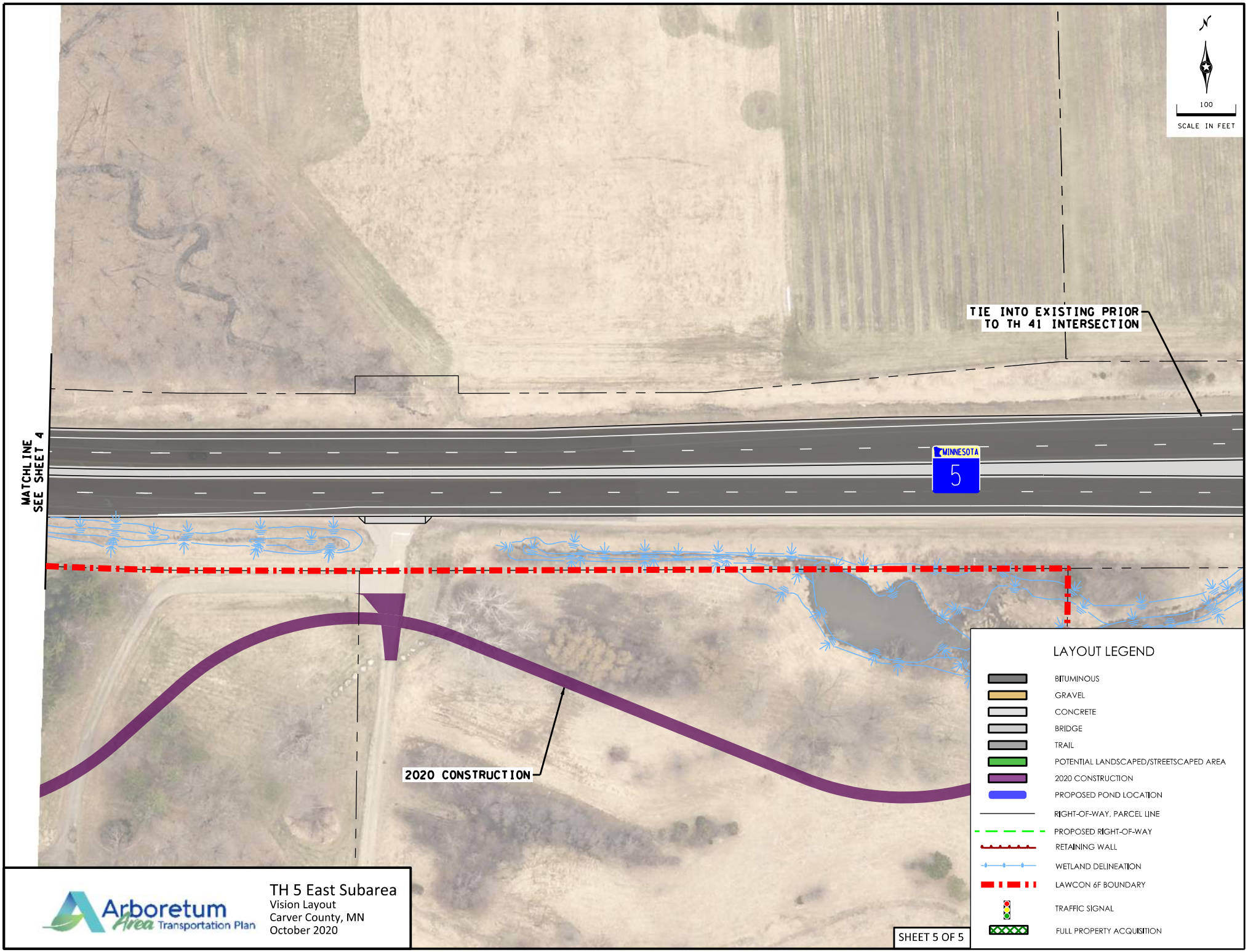
Vision Layout
Carver County, MN
October 2020



Arboretum Area Transportation Plan

TH 5 East Subarea
Vision Layout
Carver County, MN
October 2020

SHEET 4 OF 5


N
100
SCALE IN FEET
TIE INTO EXISTING PRIOR TO TH 41 INTERSECTION
MATCHLINE SEE SHEET 4
MINNESOTA
5
2020 CONSTRUCTION
LAYOUT LEGEND
BITUMINOUS
GRAVEL
CONCRETE
BRIDGE
TRAIL
POTENTIAL LANDSCAPED/STREETSCAPED AREA
2020 CONSTRUCTION
PROPOSED POND LOCATION
RIGHT-OF-WAY, PARCEL LINE
PROPOSED RIGHT-OF-WAY
RETAINING WALL
WETLAND DELINEATION
LAWCON 6F BOUNDARY
TRAFFIC SIGNAL
FULL PROPERTY ACQUISITION
Arboretum Area Transportation Plan
TH 5 East Subarea
Vision Layout
Carver County, MN
October 2020
SHEET 5 OF 5

Carver County
Public Works
11360 Highway 212, Suite 1
Cologne, MN 55322

April 14, 2022

Elaine Koutsoukos
TAB Coordinator
METROPOLITAN COUNCIL
390 Robert St. N
St. Paul, MN 55101

SUBJECT: Highway 5 Lake Minnewashta and Arboretum Access and Mobility Improvement Project Risk Assessment Layout Approval Letter

Dear Ms. Koutsoukos:

This letter is to confirm the County's agreement with and approval to date of the attached layout for the Highway 5 Lake Minnewashta and Arboretum Access and Mobility Improvement Project between Minnewashta Parkway and Trunk Highway 41 and including a bridge of Lake Minnewashta. The project has undergone substantial study and coordination with project partners. The County led and partnered on the development of the layout with MnDOT, the Minnesota Landscape Arboretum (University of MN), and the Cities of Victoria, Chanhassen, and Chaska through the Arboretum Area Transportation Plan corridor study planning process, and we are aware of the details specified in the application attachment.

As a roadway owner, MnDOT also provided the required letter of support for the project. MnDOT was the funding lead on the Arboretum Area Transportation Plan, investing approximately $500,000 in the study and directing the development of the approved concept vision and layout. The cities of Victoria and Chanhassen submitted letters of support for the project, and like the County, adopted the Arboretum Area Transportation Plan in 2021 by resolution. The University of Minnesota also provided a letter of support and is a key partner on the project.

The County is committed to continuing to work with MnDOT, the University of Minnesota, and the Cites of Victoria and Chanhassen to complete the final layout approval engineering process for the Highway 5 Lake Minnewashta and Arboretum Access and Mobility Improvement Project in the coming months.

Sincerely,

Lyndon Robjent, P.E.
Public Works Director/County Engineer

BOARD OF COUNTY COMMISSIONERS
CARVER COUNTY, MINNESOTA

Date: March 16, 2021 Resolution No: 32-21

Motion by Commissioner: Degler Seconded by Commissioner: Workman

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Resolution to Support and Adopt the Arboretum Area Transportation Plan

WHEREAS, Carver County, the Minnesota Department of Transportation (MnDOT), the City of Victoria, the City of Chaska, and the City of Chanhassen and are responsible for the planning and development of a safe and functional multimodal transportation system within their jurisdictional boundaries; and

WHEREAS, Carver County partnered with the Minnesota Department of Transportation (MnDOT), the City of Victoria, the City of Chaska, and the City of Chanhassen to identify transportation system improvements in the area of the Minnesota Landscape Arboretum including Highway 5, Highway 41, Rolling Acres Road, Bavaria Road, and 82nd Street West; and

WHEREAS, the Arboretum Area Transportation Plan recommends roadway corridor visions including roadway typical sections and corridor footprints, pedestrian and bicycle facilities, and access type and intersection control to serve short, mid, and long-term development and transportation infrastructure needs; and

WHEREAS, the Arboretum Area Transportation Plan includes an implementation framework with estimated improvement costs, project sequencing, and timeframes to guide capital improvement planning for Carver County, MnDOT, the City of Victoria, the City of Chaska, the City of Chanhassen, and their partners for improvements along Highway 5, Highway 41, Rolling Acres Road, Bavaria Road, and 82nd Street West; and

WHEREAS, Carver County recognizes the recommended planning level alternatives establish a future vision for agencies to jointly work towards, noting additional engineering design and environmental review will be required for individual projects; and

WHEREAS, Carver County acknowledges that the implementation framework is subject to funding availability and Arboretum Area Transportation Plan partners will continue to coordinate to advance the goals and objectives of the plan, seek and maximize outside funding sources, and will request approvals as required as individual projects move forward; and

NOW THEREFORE, BE IT RESOLVED that Carver County hereby supports and adopts the findings, recommended corridor visions, and the proposed implementation framework of the Arboretum Area Transportation Plan to guide future investments in the study area.

	Yes	No	Abstained
Degler			
Fahey			
Lynch			
Udermann			
Workman			

STATE OF MINNESOTA
COUNTY OF CARVER

I, Dave Hemze, duly appointed and qualified County Administrator of the County of Carver, State of Minnesota, do hereby certify that I have compared the foregoing copy of this resolution with the original minutes of the proceedings of the Board of County Commissioners, Carver County, Minnesota, at its session held on the 16 day of March, 2021, now on file in the Administration office, and have found the same to be a true and correct copy thereof.

Dated this 16 day of March, 2021.

DocuSigned by:
Dave Hemze
Dave Hemze 942D...

County Administrator

CITY OF CHANHASSEN
CARVER AND HENNEPIN COUNTIES, MINNESOTA

DATE: February 8, 2021 **RESOLUTION NO:** 2021-07

MOTION BY: Campion **SECONDED BY:** McDonald

A RESOLUTION TO SUPPORT THE ARBORETUM AREA TRANSPORTATION PLAN DATED FEBRUARY, 2021

CITY PROJECT NO. PW067B5

WHEREAS, the City of Chanhassen, Carver County, and MnDOT are responsible for the planning and development of a safe and functional multimodal transportation system within their jurisdictional boundaries; and

WHEREAS, the City of Chanhassen partnered with Carver County, MnDOT, the University of Minnesota Landscape Arboretum, and the cities of Chaska and Victoria to identify transportation system improvements in the Arboretum Area on Highway 5, Highway 41, Rolling Acres Road, Bavaria Road, and 82nd Street West; and

WHEREAS, the Arboretum Area Transportation Plan considers transportation improvements at the intersections of Crimson Bay Rd, Minnewashta Parkway, and the Arboretum's main entrance along TH 5. The City of Chanhassen acknowledges the need for continued partnership with Carver County, MnDOT, the University of Minnesota Landscape Arboretum, and the City of Victoria to plan safe and reliable intersection solutions at these locations; and

WHEREAS, the Arboretum Area Transportation Plan recommends roadway corridor visions including: roadway typical sections and corridor footprints, pedestrian and bicycle facilities, and access type and intersection control to serve short, mid, and long-term development and transportation infrastructure needs; and

WHEREAS, the City of Chanhassen recognizes that the study recommendations establish a future planning-level corridor vision for agencies to jointly work towards, noting additional design and environmental review will be required for individual projects; and

WHEREAS, the Arboretum Area Transportation Plan includes an implementation framework with estimated improvement costs, project sequencing, and timeframes to guide capital improvement planning for the City of Chanhassen, Carver County, and their partners for improvements along Highway 5, Rolling Acres Road, Bavaria Road, 82nd Street West, and Highway 41; and

WHEREAS, the City of Chanhassen acknowledges that the implementation framework is subject to funding availability and all Arboretum Area Transportation Plan partners will continue to coordinate to advance the goals and objectives of the plan, seek and maximize outside funding sources, and will request City Council approval for each specific project and City of Chanhassen contribution as individual projects move forward.

NOW THEREFORE, BE IT RESOLVED by the Chanhassen City Council:

That the City Council of Chanhassen does hereby support the findings, recommended corridor visions, and the proposed implementation framework of the Arboretum Area Transportation Plan to guide future transportation investments in the study area.

Passed and adopted by the Chanhassen City Council this 8th day of February, 2021.

ATTEST:

Heather Johnston, Interim City Manager

Elise Ryan, Mayor

YES	**NO**	**ABSENT**
Ryan		
McDonald		
Rehm		
Schubert		
Campion		

Resolution No. 2021-14

Moved by Roberts
Seconded by Gunderson

A RESOLUTION OF SUPPORT FOR THE ARBORETUM AREA TRANSPORTATION PLAN

WHEREAS, the City of Victoria, Carver County, and MnDOT are responsible for the planning and development of a safe and functional multimodal transportation system within their jurisdictional boundaries; and

WHEREAS, the City of Victoria partnered with Carver County, MnDOT, the Minnesota Landscape Arboretum, and the cities of Chaska and Chanhassen to identify transportation system improvements in the Arboretum Area including Highway 5, Highway 41, Rolling Acres Road, Bavaria Road, and 82nd Street West; and

WHEREAS, the Arboretum Area Transportation Plan recommends roadway corridor visions including: roadway typical sections and corridor footprints, pedestrian and bicycle facilities, and access type and intersection control to serve short, mid, and long-term development and transportation infrastructure needs; and

WHEREAS, the City of Victoria recognizes that the study recommendations establish future planning-level corridor visions for agencies to jointly work towards, noting additional design and environmental review will be required for individual projects; and

WHEREAS, the Arboretum Area Transportation Plan includes an implementation framework with estimated improvement costs, project sequencing, and timeframes to guide capital improvement planning for the City of Victoria, Carver County, and their partners for improvements along Highway 5, Rolling Acres Road, Bavaria Road, 82nd Street West, and Highway 41; and

WHEREAS, the City of Victoria acknowledges that the implementation framework is subject to funding availability and all Arboretum Area Transportation Plan partners will continue to coordinate to advance the goals and objectives of the plan, seek and maximize outside funding sources, and will request City Council approval for each specific project and City of Victoria contribution as individual projects move forward; and

NOW, THEREFORE, BE IT RESOLVED that the City Council of Victoria does hereby support the findings, recommended corridor visions, and the proposed implementation framework of the Arboretum Area Transportation Plan to guide future transportation investments in the study area.

RESULT:	Motion carried unanimously 4-0
Ayes:	Council Member Black, Council Member Gunderson, Mayor McMillan, and Council Member Roberts

This Resolution is adopted by the City of Victoria and approved by the Mayor this 08 day of February 2021

Debra McMillan, Mayor

ATTEST:

Cindy Patnode, City Clerk

Arboretum Area Transportation Plan

Highway 5 Mobility & Lake Minnewashta Causeway Bridge Project

Applicant, Location, & Route:

Carver County, Highway 5 in the City of Chanhassen *-east of Minnewashta Pkwy to west of TH 41*

Application Category:

Strategic Capacity

Funding Information:

Requested: $10M
Local Match: $18.7M
Project Total: $28.7M

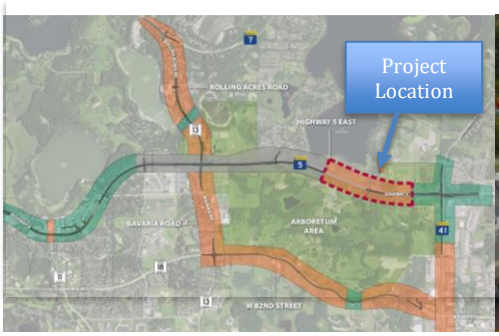
Other Funding Sources:

Carver County Transportation Sales Tax, Congressionally Directed Spending $2M Award

Project Description

Highway 5 is a busy (27,000 vehicles/day) 2-lane undivided A-Minor Expander roadway with a critical index above the statewide average. During peak periods and Minnesota Landscape Arboretum events, traffic backs up several miles and turning onto TH 5 is very difficult due to speeds and traffic volume, resulting in risky decision making and dangerous conditions. This project includes expansion (2- to 4-lane conversion) to mitigate current system failures. To the west of this project, Phase 1 of Highway 5 is fully funded for a 4-lane expansion from Park Rd/Kochia Dr to just east of Minnewashta Pkwy. Fully funding this segment allows both projects to be constructed as one large project to:

- Maximize safety and reliability – eliminates the scenario of a 2-lane gap that would underperform
- Minimize disruption and number of years of construction that will occur on Highway 5

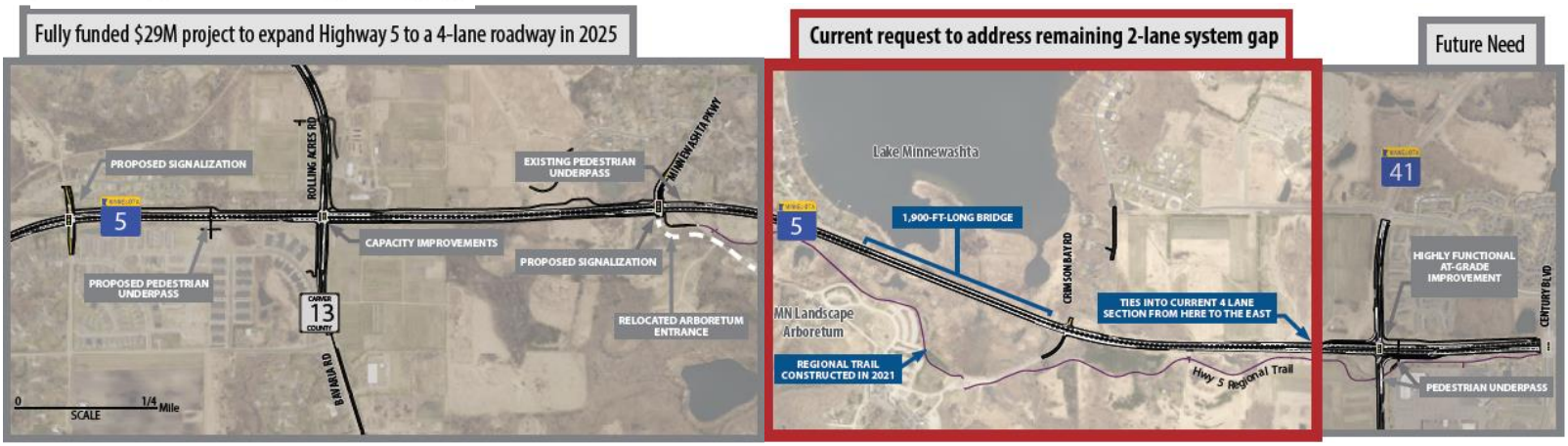


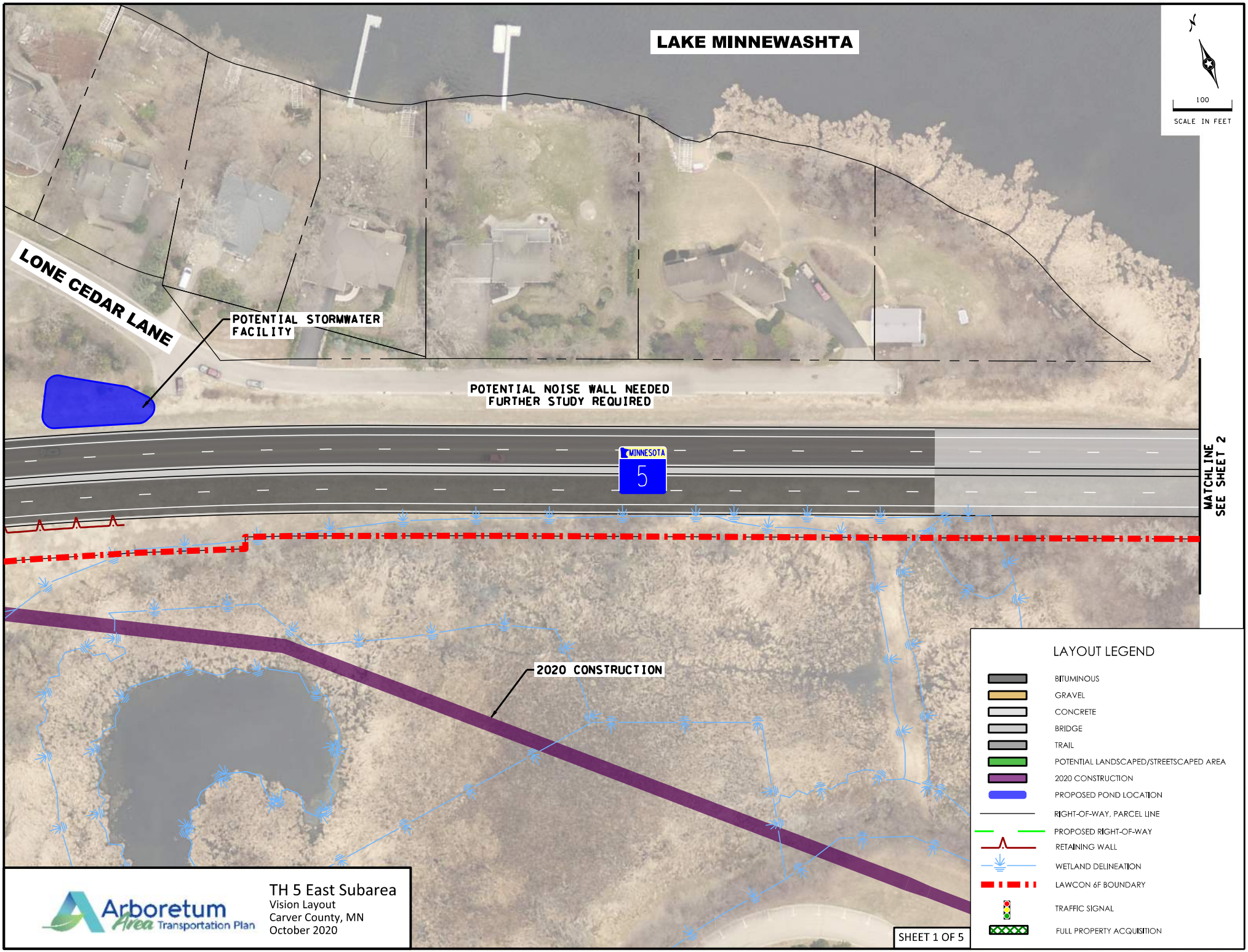
Investment Results

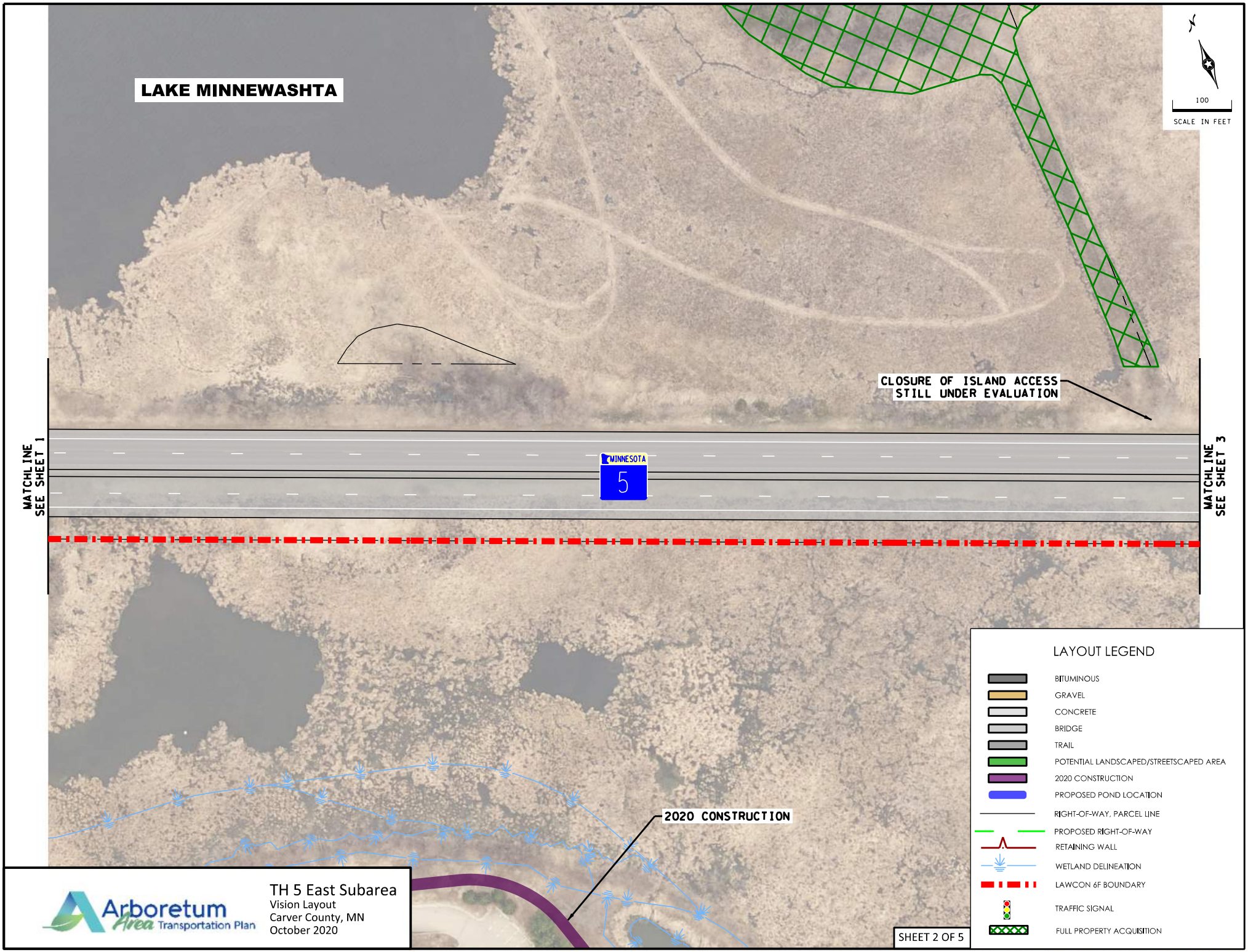
- 70% delay reduction
- Accommodates up to 50,000 vehicles per day
- Efficient, safe, and reliable mobility for all users
- A solution that respects the environment and reconnects Lake Minnewashta

Other Information

Carver County is the fastest growing county in Minnesota. The completion of the Highway 5 four-lane expansion project is critical to support planned growth in jobs and housing in the region. This project is an element of the Arboretum Area Transportation Plan study (AATP). The AATP has addressed additional mobility and safety issues in this area and will identify future projects that build on current and past improvements to TH 5.




LAKE MINNEWASHTA
LONE CEDAR LANE
POTENTIAL STORMWATER FACILITY
POTENTIAL NOISE WALL NEEDED
FURTHER STUDY REQUIRED
MINNESOTA
5
MATCHLINE
SEE SHEET 2
2020 CONSTRUCTION
100
SCALE IN FEET
LAYOUT LEGEND
BITUMINOUS
GRAVEL
CONCRETE
BRIDGE
TRAIL
POTENTIAL LANDSCAPED/STREETSCAPED AREA
2020 CONSTRUCTION
PROPOSED POND LOCATION
RIGHT-OF-WAY, PARCEL LINE
PROPOSED RIGHT-OF-WAY
RETAINING WALL
WETLAND DELINEATION
LAWCON 6F BOUNDARY
TRAFFIC SIGNAL
FULL PROPERTY ACQUISITION
Arboretum Area Transportation Plan
TH 5 East Subarea
Vision Layout
Carver County, MN
October 2020
SHEET 1 OF 5


LAKE MINNEWASHTA
100
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CLOSURE OF ISLAND ACCESS
STILL UNDER EVALUATION
MATCHLINE
SEE SHEET 1
MATCHLINE
SEE SHEET 3
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LAYOUT LEGEND
BITUMINOUS
GRAVEL
CONCRETE
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TRAIL
POTENTIAL LANDSCAPED/STREETSCAPED AREA
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TH 5 East Subarea
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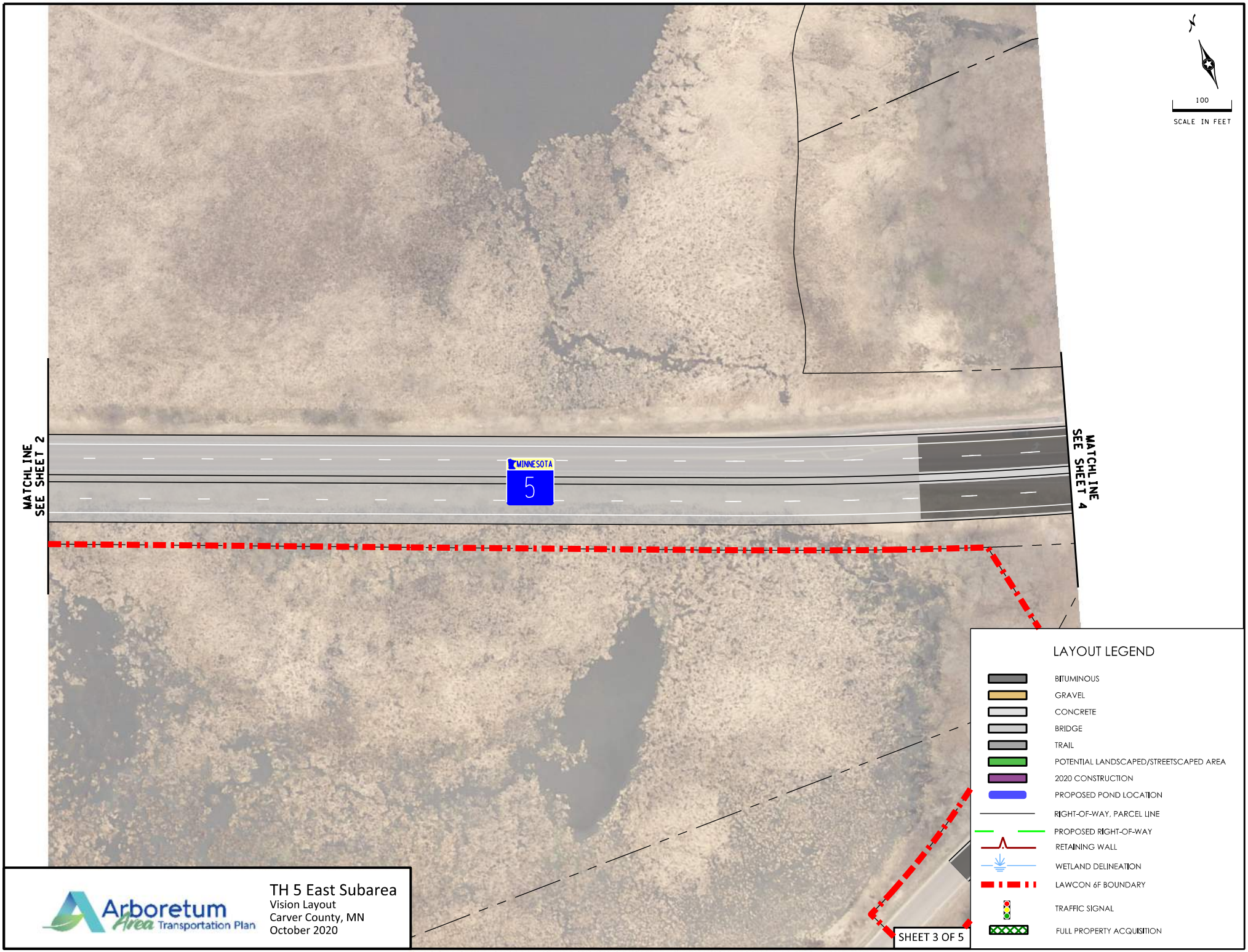
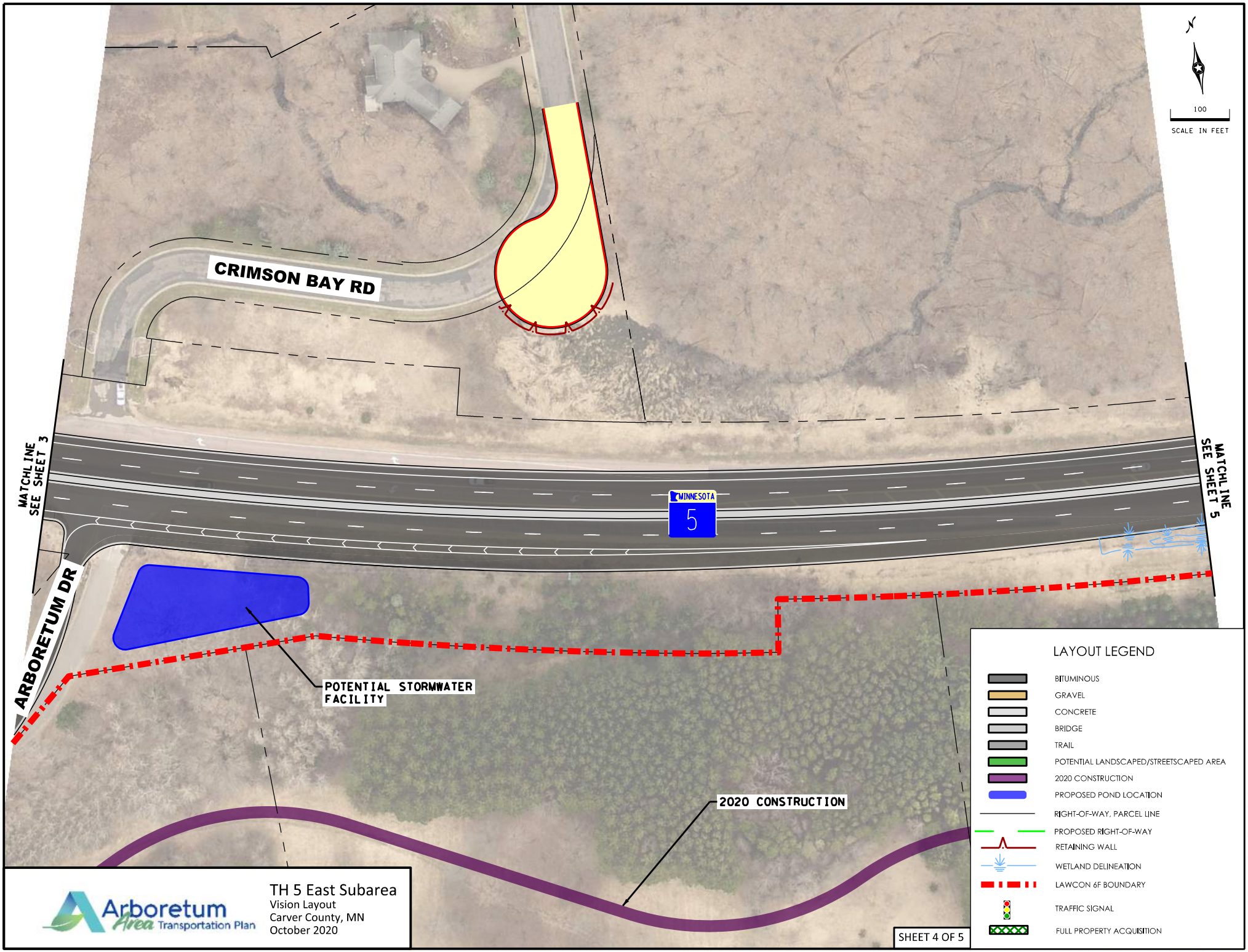
Carver County, MN
October 2020
SHEET 2 OF 5



Arboretum Area Transportation Plan

TH 5 East Subarea

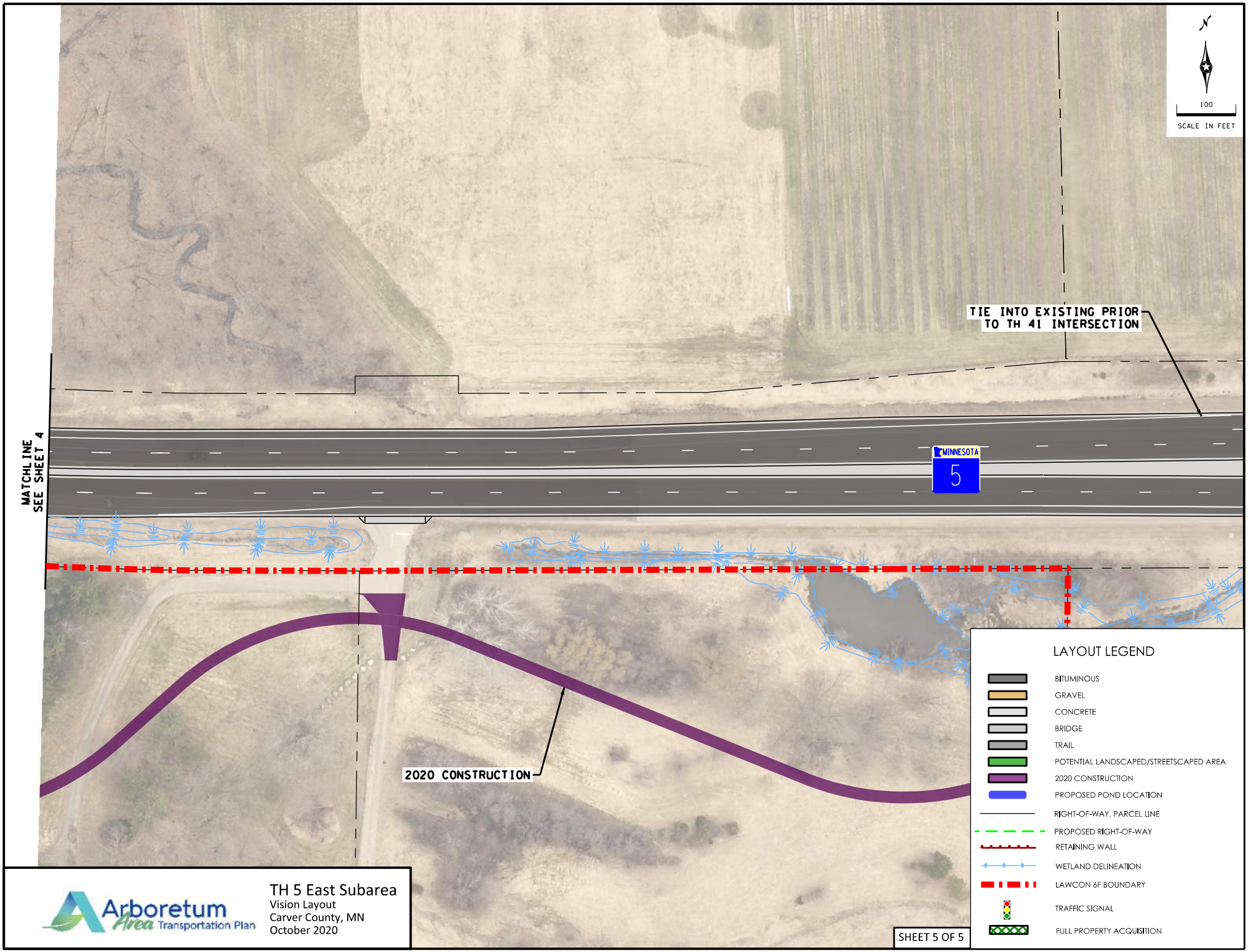
Vision Layout
Carver County, MN
October 2020



Arboretum Area Transportation Plan

TH 5 East Subarea
Vision Layout
Carver County, MN
October 2020

SHEET 4 OF 5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TIE INTO EXISTING PRIOR TO TH 41 INTERSECTION
MATCHLINE SEE SHEET 4
MINNESOTA
5
2020 CONSTRUCTION
LAYOUT LEGEND
BITUMINOUS
GRAVEL
CONCRETE
BRIDGE
TRAIL
POTENTIAL LANDSCAPED/STREETSCAPED AREA
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TH 5 East Subarea
Vision Layout
Carver County, MN
October 2020
SHEET 5 OF 5

LAKE MINNEWASHTA

DOGWOOD ROAD

LONE CEDAR LANE

POTENTIAL STORMWATER FACILITY

POTENTIAL NOISE WALL NEEDED FURTHER STUDY REQUIRED

CRIMSON BAY ROAD EXTENSION TO BE CONSTRUCTED IN 2020

CRIMSON BAY RD

A

A

CLOSURE OF ISLAND ACCESS STILL UNDER EVALUATION

ANDRUS LEARNING CENTER

2020 CONSTRUCTION

MINNESOTA LANDSCAPE ARBORETUM

ARBORETUM DR

OSWALD VISITOR CENTER

SNYDER BUILDING

B

B

MINNESOTA 5

POTENTIAL STORMWATER FACILITY

TIE INTO EXISTING PRIOR TO TH 41 INTERSECTION

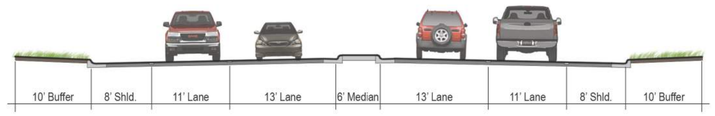
2020 CONSTRUCTION

LAYOUT LEGEND

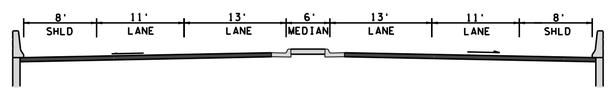
- BITUMINOUS
- GRAVEL
- CONCRETE
- BRIDGE
- TRAIL
- POTENTIAL LANDSCAPED/STREETSCAPED AREA
- 2020 CONSTRUCTION
- PROPOSED POND LOCATION
- RIGHT-OF-WAY, PARCEL LINE
- PROPOSED RIGHT-OF-WAY
- RETAINING WALL
- WETLAND DELINEATION
- LAWCON 6F BOUNDARY
- TRAFFIC SIGNAL
- FULL PROPERTY ACQUISITION

TH 5 TYPICAL SECTIONS

Minnewashta Parkway to Highway 41
B-B



Bridge Section Through Wetland Area
A-A



Arboretum Area Transportation Plan

TH 5 East Subarea
Vision Layout
Carver County, MN
October 2020

200
SCALE IN FEET

CITY OF CHANHASSEN

Chanhassen is a Community for Life - Providing for Today and Planning for Tomorrow

March 16, 2022

Lyndon Robjent, PE
Public Works Director, County Engineer
Carver County Public Works
11360 Highway 212, Suite 1
Cologne, MN 55322

Re: Letter of Support for Carver County's Application to the Metropolitan Council's 2022 Regional Solicitation for Highway 5 Lake Minnewashta and Arboretum Access and Mobility Improvement from east of Minnewashta Parkway to west of Highway 41

Dear Mr. Robjent,

This letter documents the City of Chanhassen's support for Carver County's pursuit of funding for the Highway 5 Lake Minnewashta and Arboretum Access and Mobility Improvement from east of Minnewashta Parkway to west of Highway 41. The project expands Highway 5 to a 4-lane divided facility to upgrade the last remaining two-lane section in the Highway 5 area between County Highway 13 and Highway 41. This project also includes construction of a new bridge to allow reconnection of Minnewashta Lake to wetland areas to the south, improvements at the intersection of Crimson Bay Road, and filling an adjacent regional multiuse trail gap.

The City of Chanhassen partnered with Carver County, the Minnesota Department of Transportation (MnDOT), the City of Victoria, the City of Chaska, and the MN Landscape Arboretum on the Arboretum Area Transportation Plan corridor study to identify coordinated roadway improvements to address significant existing transportation mobility, safety, and access issues on the TH 5 corridor. The Arboretum Area Transportation Plan corridor study included a robust technical analysis, concept development, concept evaluation, and a diversified and broad public engagement strategy to identify and build consensus for short and long-term roadway concepts and recommendation.

The City of Chanhassen supports the County's application for Highway 5 Lake Minnewashta and Arboretum Access and Mobility Improvement from east of Minnewashta Parkway to west of Highway 41 to the Metropolitan Council's 2022 Regional Solicitation funding program. The proposed improvements will greatly address regional safety and mobility issues and are endorsed by the City of Chanhassen.

Charles Howley, PE, LEED AP
Public Works Director/City Engineer

UNIVERSITY OF MINNESOTA

Crookston · Duluth · Morris · Rochester · Twin Cities

Planning, Space, and Real Estate
University Services

451 Donhowe Building
319 15th Avenue SE
Minneapolis, MN 55455
Office: 612-625-5345

April 11, 2022

Lyndon Robjent, PE
Public Works Director, County EngineerCarver
County Public Works
11360 Highway 212, Suite 1
Cologne, MN 55322

Delivered via email **lrobjent@co.carver.mn.us**

Re: Highway 5 Lake Minnewashta and Arboretum Access and Mobility Improvements
Letter of Support

This letter serves to express the University of Minnesota and the Minnesota Landscape Arboretum's support for Carver County's pursuit of funding for the Highway 5 Lake Minnewashta and Arboretum Access and Mobility Improvements project.

The proposed project is consistent with the adopted Arboretum Area Transportation Plan (AATP) study. The Highway 5 project aligns with the MN Landscape Arboretum's long-term vision and immediate need to provide safe and reliable access to this regional and national destination for 500,000 people annually with anticipated visitor growth.

The University of Minnesota and the Minnesota Landscape Arboretum support the County's application for Highway 5 Lake Minnewashta and Arboretum Access and Mobility Improvement to the Metropolitan Council's 2022 Regional Solicitation funding program.

Sincerely,

Monique MacKenzie
Director of Planning, University of Minnesota

Peter C Moe

Peter Moe
Director, University of Minnesota Landscape Arboretum

Cc: Myron Frans, Senior Vice President for Finance and Operations
Brian Buhr, Dean, CFANS
Mike Berthelsen, Vice President for University Services
Leslie Krueger, Assistant Vice President for Planning, Space, and Real Estate
JD Burton, Director, Government Relations

City of Victoria
1670 Stieger Lake Lane
P.O. Box 36
Victoria, MN 55386
952.443.4210

March 28, 2022

Mr. Lyndon Robjent, P.E.
Public Works Director, County Engineer
Carver County Public Works
11360 Highway 212, Suite 1, Cologne, MN 55322

Re: **Letter of Support for Carver County's Application to the Metropolitan Council's 2022 Regional Solicitation for Highway 5 Lake Minnewashta and Arboretum Access and Mobility Improvement from east of Minnewashta Parkway to west of Highway 41**

Dear Mr. Robjent,

This letter documents the City of Victoria's support for Carver County's pursuit of funding for the Highway 5 Lake Minnewashta and Arboretum Access and Mobility Improvement from east of Minnewashta Parkway to west of Highway 41. The project expands Highway 5 to a 4-lane divided facility to upgrade the last remaining two-lane section in the Highway 5 area between County Highway 13 and Highway 41. This project also includes construction of a new bridge to allow reconnection of Minnewashta Lake to wetland areas to the south, improvements at the intersection of Crimson Bay Road, and filling an adjacent regional multiuse trail gap.

The City of Victoria partnered with Carver County, the Minnesota Department of Transportation (MnDOT), the City of Chanhassen, the City of Chaska, and the MN Landscape Arboretum on the Arboretum Area Transportation Plan corridor study to identify coordinated roadway improvements to address significant existing transportation mobility, safety, and access issues on the TH 5 corridor. The Arboretum Area Transportation Plan corridor study included a robust technical analysis, concept development, concept evaluation, and a diversified and broad public engagement strategy to identify and build consensus for short and long-term roadway concepts and recommendations. The proposed project is consistent with the adopted study.

The City of Victoria supports the County's application for Highway 5 Lake Minnewashta and Arboretum Access and Mobility Improvement from east of Minnewashta Parkway to west of Highway 41 to the Metropolitan Council's 2022 Regional Solicitation funding program. The proposed improvements will greatly address regional safety and mobility issues and are endorsed by the City of Victoria.

Sincerely,

Debra McMillan
Mayor

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

April 12, 2022

Lyndon Robjent, PE
Public Works Director, County Engineer
Carver County Public Works

Re: MnDOT Letter for Carver County's Metropolitan Council/Transportation Advisory Board 2020 Regional Solicitation Funding Request for TH 5 improvements

Lyndon,

This letter documents MnDOT Metro District's recognition for Carver County to pursue funding for the Metropolitan Council/Transportation Advisory Board's (TAB) 2022 Regional Solicitation for the following improvements on TH 5.

As proposed, these projects impacts MnDOT right-of-way on TH 5. As the agency with jurisdiction over TH 5, MnDOT will allow Carver County to seek improvements proposed in the applications. If funded, details of any future maintenance agreement will need to be determined during project development to define how the improvements will be maintained for the projects' useful life.

TH 5 Lake Minnewashta and Arboretum Access and Mobility Improvement. Reconstruct and expand TH 5 from a two-lane rural highway to a four-lane divided expressway between Minnewashta Parkway and Highway 41 including a bridge over Lake Minnewashta.

TH 5 Victoria Mobility and Safety Improvement. Reconstruct and expand TH 5 from a two-lane rural highway to a four-lane divided expressway from 78th St./Stieger Lake Ln. to west of Highway 13 (Rolling Acres Rd.) including improvements at the Highway 5/Park Dr./Kochia Ln. intersection and the TH 5/78th St./Stieger Lake Ln. intersection.

TH 5/Highway 11 N Intersection Safety and Access Improvement. Construct a roundabout at the intersection and reconstruct adjacent portions of TH 5 and Hwy 11

There is no funding from MnDOT currently planned or programmed for these projects. If they receive funding, continue to work with MnDOT Area staff to coordinate development and to review needs and opportunities for cooperation.

If you have questions or require additional information at this time, please reach out to Ryan Wilson South Area Manager, at ryan.wilson@state.mn.us or 651-234-4216.

Sincerely,

Michael Barnes Digitally signed by Michael Barnes
Date: 2022.04.12 09:43:07 -05'00'

Michael Barnes, PE Metro District Engineer

CC: Ryan Wilson, Metro Area Manager; Molly McCartney, Metro Program Director; Dan Erickson, Metro State Aid Engineer