



Application

04751 - 2016 Roadway Expansion

05216 - Pierce Butler East Extension - Phase I

Regional Solicitation - Roadways Including Multimodal Elements

Status: Submitted

Submitted Date: 07/15/2016 11:47 AM

Primary Contact

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Fax:				
What Grant Programs are you most interested in?	Regional Solicitation - Roadways Including Multimodal Elements			

Organization Information

Name: ST PAUL, CITY OF

Jurisdictional Agency (if different):

Organization Type:

City

Organization Website:

Address:

DEPT OF PUBLIC WORKS-CITY HALL ANNEX
25 W 4TH ST #1500

*

ST PAUL

Minnesota

55101

City

State/Province

Postal Code/Zip

County:

Ramsey

Phone:*

651-266-9700

Ext.

Fax:

PeopleSoft Vendor Number

0000003222A22

Project Information

Project Name

Pierce Butler Route East Extension - Phase I

Primary County where the Project is Located

Ramsey

Jurisdictional Agency (If Different than the Applicant):

Brief Project Description (Limit 2,800 characters; approximately 400 words)

The project as contained in this application is Phase I of a 3-phase project that seeks to provide an improved east-west arterial/industrial connection between the east and west sides of Saint Paul, resulting in relief being provided to the connecting/nearby freeways and other existing Arterials/Collectors. The project would connect Pierce Butler Route/CSAH 33, a B-Minor Arterial, west of Dale Street/CSAH 53 to an A-Minor Arterial (Phalen Boulevard) east of Interstate 35E. The project would include an expansion of the pedestrian/bicycle opportunities by connecting the East Side neighborhood and the Midway area through the inclusion of on-street and off-street bike lanes and connecting the Midway Trail to the Bruce Vento Trail. It is anticipated that trucks will be removed from Minnehaha Avenue/CSAH 33 and Como Avenue/CSAH 32 with implementation of the overall project. As such a bridge would be installed at several locations along the route, one of which is in Phase I at-grade at Dale Street

Phase I would implement the section of the overall project with termini at two N/S local roads (Grotto Street and Arundel Street). Grotto and Arundel are north/south roads with Grotto located approximately two blocks west of Dale Street whereas Arundel is approximately three blocks east of Dale. Both Grotto and Arundel provide access an industrial area approximately one block north, in the case of Grotto, of Pierce Butler. Just west of Dale Street, Pierce Butler turns south and terminates approximately one block south of Pierce Butler at Minnehaha Avenue/CSAH 33. East of Dale Street the land use north of Minnehaha is industrial. South of Minnehaha and Pierce Butler, down to University Avenue/CSAH 34, the land use is residential.

The Grotto Street right-of-way (ROW) extends approximately 140 feet north of Minnehaha where it terminates at a private property abutting railroad

property. The Arundel Street ROW extends between Minnehaha Avenue and Como Avenue/CSAH 32 to the north. However, the Arundel roadway ends at the railroad ROW approximately midway between Minnehaha and Como.

Grotto is an improved roadway whereas the existing approximate 1-block length of Arundel is partially improved and partially unimproved. Curb & gutter (C&G) exists only on east side from Minnehaha to approximately 400 feet north of Minnehaha, after which the C&G terminates as does the pavement.

Include location, road name/functional class, type of improvement, etc.

TIP Description Guidance (will be used in TIP if the project is selected for funding)

Pierce Butler Route East Extension - Phase I

Project Length (Miles)

0.9

Project Funding

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

No

If yes, please identify the source(s)

Federal Amount

\$7,000,000.00

Match Amount

\$4,500,000.00

Minimum of 20% of project total

Project Total

\$11,500,000.00

Match Percentage

39.13%

Minimum of 20%

Compute the match percentage by dividing the match amount by the project total

Source of Match Funds

Local Funds

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:

2021

For TDM projects, select 2018 or 2019. For Roadway, Transit, or Trail/Pedestrian projects, select 2020 or 2021.

Additional Program Years:

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

Project Information: Roadway Projects

County, City, or Lead Agency	City of Saint Paul
Functional Class of Road	A-Minor Arterial Augmenter
Road System	City Street
<i>TH, CSAH, MSAS, CO. RD., TWP. RD., CITY STREET</i>	
Road/Route No.	
<i>i.e., 53 for CSAH 53</i>	
Name of Road	Pierce Butler Route
<i>Example; 1st ST., MAIN AVE</i>	
Zip Code where Majority of Work is Being Performed	55103
(Approximate) Begin Construction Date	04/01/2021
(Approximate) End Construction Date	12/31/2021
TERMINI:(Termini listed must be within 0.3 miles of any work)	
From: (Intersection or Address)	Intersection: Grotto Street/Pierce Butler Route
To: (Intersection or Address)	Intersection: Arundel Street/Minnehaha Avenue
<i>DO NOT INCLUDE LEGAL DESCRIPTION</i>	
Or At	
Primary Types of Work	Grading, Agg. Base, Bituminous Base, Bituminous Surface, Sidewalk, Bike Trail, Lighting, Bridge
<i>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.</i>	
BRIDGE/CULVERT PROJECTS (IF APPLICABLE)	
Old Bridge/Culvert No.:	
New Bridge/Culvert No.:	
Structure is Over/Under (Bridge or culvert name):	

Specific Roadway Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Mobilization (approx. 5% of total cost)	\$172,000.00
Removals (approx. 5% of total cost)	\$271,000.00

Roadway (grading, borrow, etc.)	\$878,000.00
Roadway (aggregates and paving)	\$1,126,100.00
Subgrade Correction (muck)	\$0.00
Storm Sewer	\$742,200.00
Ponds	\$123,800.00
Concrete Items (curb & gutter, sidewalks, median barriers)	\$208,100.00
Traffic Control	\$0.00
Striping	\$12,700.00
Signing	\$8,500.00
Lighting	\$0.00
Turf - Erosion & Landscaping	\$161,100.00
Bridge	\$0.00
Retaining Walls	\$4,392,300.00
Noise Wall (do not include in cost effectiveness measure)	\$0.00
Traffic Signals	\$300,000.00
Wetland Mitigation	\$0.00
Other Natural and Cultural Resource Protection	\$0.00
RR Crossing	\$0.00
Roadway Contingencies	\$1,790,000.00
Other Roadway Elements	\$6,400.00
Totals	\$10,192,200.00

Specific Bicycle and Pedestrian Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Path/Trail Construction	\$163,700.00
Sidewalk Construction	\$0.00
On-Street Bicycle Facility Construction	\$9,200.00
Right-of-Way	\$0.00
Pedestrian Curb Ramps (ADA)	\$0.00
Crossing Aids (e.g., Audible Pedestrian Signals, HAWK)	\$17,800.00
Pedestrian-scale Lighting	\$891,000.00
Streetscaping	\$0.00
Wayfinding	\$0.00
Bicycle and Pedestrian Contingencies	\$226,100.00

Other Bicycle and Pedestrian Elements	\$0.00
Totals	\$1,307,800.00

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	\$11,500,000.00
Construction Cost Total	\$11,500,000.00
Transit Operating Cost Total	\$0.00

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, the 2040 Regional Parks Policy Plan (2015), 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 objectives and strategies that relate to the project.

The project as proposed in this application is consistent with the 2040 Transportation Policy Plan as follows:

Goal: Sustainable investments in the transportation system are protected by strategically preserving, maintaining, and operating system assets;
Objective B; Strategy: A1 on page 2.17

Goal The regional transportation system is safe and secure for all users; Objective B; Strategies: B1 on page 2.20, B2 on page 2.21, B4 on page 2.22, B6 on page 2.23.

Goal: People and businesses prosper by using a reliable, affordable, and efficient multimodal transportation system that connects them to destinations throughout the region and beyond;
Objectives A, C and E; Strategies C1 on page 2.24, C2 on page 2.25, Supportive local actions under C5 on page 2.29, Supportive local action under C6 on page 2.30, C9 on page 2.32, Supportive local action under C10 on page 2.32, C15 & C16 on page 2.36, and C19 on page 2.39.

List the goals, objectives, strategies, and associated pages:

Goal: The regional transportation system supports the economic competitiveness, vitality, and prosperity of the region; Objectives A - C;
Strategies D1 - D5 on pages 2.38 - 2.41.

Goal: The regional transportation system advances equity and contributes to communities' livability and sustainability while protecting the natural, cultural, and developed environments; Objectives A - D;
Strategies E1 on page 2.42 and E3 - E7 on pages 2.44 - 2.47.

Goal: The region leverages transportation investments to guide land use and development patterns that advance the regional vision of stewardship, prosperity, livability, equity, and sustainability; Objectives B & C; Strategies F1 - F3 on pages 2.48 - 2.50.

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.

Pierce Butler Route East Extension project, with Phase I being submitted with this application, is consistent with the City's Transportation Plan as adopted as part of the City's Comprehensive plan approved by the City and the Metropolitan Council. Specific figures/references/pages include:

- o Page 7; Figure T-A; identifies the Pierce Butler Extension as a planned "A-Minor Arterial".

- o Page 10; Strategy 2: Provide Balance and Choice; Policy 2.4, "Develop a strategy for investing in a broad range of infrastructure projects including, but not limited to street improvements to support the growth of existing employment, services, parks and schools."

- o Page 16: Strategy 3: Support Active Lifestyles and a Healthy Environment: Policy 3.3, "Strengthen pedestrian pathways between housing, transit, and neighborhood services." Policy 3.6, "Fill in gaps in the bikeway system."

List the applicable documents and pages:

- o Page 18: Figure T-D, "Proposed Bikeways and Trails"; identifies Pierce Butler Extension as a planned On/Off Road Trail.

- o Page 29; Appendix T-A; Policy 2.4 Recommended Projects; (b) Pierce Butler Route Extension.

This project is also consistent with the Thomas-Dale (District 7) Small Area Plan, an addendum to the City's Comprehensive Plan as adopted by the City Council. More specifically:

- o Page 4: Land Use Strategy L7; "Continue to support the Pierce Butler realignment and extension."

- o Page 6: Priority Action of City Participation; Public Works PW1, "Extend Pierce Butler Route along the

existing BNSF Railroad east to connect with Phalen Boulevard."

4. The project must exclude costs for studies, preliminary engineering, design, or construction engineering. Right-of-way costs are only eligible as part of bicycle/pedestrian projects, 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.

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

5. Applicants that are not 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.

Roadway Expansion: \$1,000,000 to \$7,000,000

Roadway Reconstruction/ Modernization: \$1,000,000 to \$7,000,000

Roadway System Management \$250,000 to \$7,000,000

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.

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

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

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

10. The owner/operator of the facility must operate and maintain the project for the useful life of the improvement.

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

11. 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

12. 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

13. 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 Expansion and Reconstruction/Modernization 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 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.

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.

5.The length of the bridge must equal or exceed 20 feet.

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

6. The bridge must have a sufficiency rating less than 80 for rehabilitation projects and less than 50 for replacement projects. Additionally, the bridge must also be classified as structurally deficient or functionally obsolete.

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

Requirements - Roadways Including Multimodal Elements

Expander/Augmentor/Non-Freeway Principal Arterial

Select one:	Augmentor
Area	1.273
Project Length	0.852
Average Distance	1.4941
Upload Map	1467406107222_RoadwayAreaDefinition.pdf

Reliever: Relieves a Principle Arterial that is a Freeway Facility

Facility being relieved

Number of hours per day volume exceeds capacity (based on the Congestion Report) 0

Reliever: Relives a Principle Arterial that is a Non-Freeway Facility

Facility being relieved

Number of hours per day volume exceeds capacity (based on the table below) 0

Non-Freeway Facility Volume/Capacity Table

Hour	NB/EB Volume	SB/WB Volume	Capacity	Volume exceeds capacity
12:00am - 1:00am	2	20	1200.0	No
1:00am - 2:00am	7	13	1200.0	No
2:00am - 3:00am	7	17	1200.0	No
3:00am - 4:00am	5	14	1200.0	No
4:00am - 5:00am	9	23	1200.0	No
5:00am - 6:00am	25	84	1200.0	No
6:00am - 7:00am	124	236	1200.0	No
7:00am - 8:00am	212	478	1200.0	No
8:00am - 9:00am	255	395	1200.0	No
9:00am - 10:00am	298	295	1200.0	No
10:00am - 11:00am	238	215	1200.0	No
11:00am - 12:00pm	287	22	1200.0	No
12:00pm - 1:00pm	315	294	1200.0	No
1:00pm - 2:00pm	291	247	1200.0	No
2:00pm - 3:00pm	341	291	1200.0	No
3:00pm - 4:00pm	455	304	1200.0	No
4:00pm - 5:00pm	584	300	1200.0	No
5:00pm - 6:00pm	484	266	1200.0	No
6:00pm - 7:00pm	206	161	1200.0	No
7:00pm - 8:00pm	147	112	1200.0	No
8:00pm - 9:00pm	102	77	1200.0	No
9:00pm - 10:00pm	89	65	1200.0	No
10:00pm - 11:00pm	47	33	1200.0	No
11:00pm - 12:00am	28	32	1200.0	No

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

Existing Employment within 1 Mile:

16248

Existing Manufacturing/Distribution-Related Employment within 1 Mile:	1170
Existing Students:	9830
Upload Map	1467400524444_RegionalEconomy.pdf

Measure C: Current Heavy Commercial Traffic

Location:	Pierce Butler Route West of Grotto
Current daily heavy commercial traffic volume:	1693
Date heavy commercial count taken:	2016

Measure D: Freight Elements

Response (Limit 1,400 characters; approximately 200 words)

As stated previously in this application, Pierce Butler Route currently terminates approximately 350 feet west of Dale Street via a connection to Minnehaha Avenue one block south of Pierce Butler. Land uses adjacent to the north side of the existing Pierce Butler between the east and west end of Pierce Butler include light industrial, a Ramsey County compost facility and a BNSF intermodal freight yard.

The City's Legislative Code provides for the Traffic Engineer to designate roads meeting certain criteria as truck routes. Two of those routes are Dale Street and Pierce Butler Route. Minnehaha, however, is not an approved truck route but is used as an indirect access to Dale Street and points east. The project as proposed in this application will provide direct access to Dale Street resulting in decreased stress on a roadway (Minnehaha) not designed to handle consistent levels of truck traffic as originate in the BNSF yard and the light industrial areas north of Pierce Butler.

Measure A: Current Daily Person Throughput

Location	Pierce Butler Route west of Dale Street
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Current AADT Volume	17500
Existing Transit Routes on the Project	2
<i>For New Roadways only, list transit routes that will be moved to the new roadway</i>	
Upload Transit Map	1467403107597_TransitConnections.pdf

Response: Current Daily Person Throughput

Average Annual Daily Transit Ridership	0
Current Daily Person Throughput	22750.0

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

The City of St. Paul completed a Draft EAW for the Pierce Butler East Extension Project. Edwards and Kelcey completed traffic study for EAW in 2009. The build 2030 ADT volume for Pierce Butler west of Dale was 18,500 and east of Dale is 16,500. For purposes of this application, forecast volume of 17,500 will be used.

Forecast (2040) ADT volume

17500

Measure A: Project Location and Impact to Disadvantaged Populations

Select one:

Project located in Area of Concentrated Poverty with 50% or more of residents are people of color (ACP50):

Yes

Project located in Area of Concentrated Poverty:

Projects census tracts are above the regional average for population in poverty or population of color:

Project located in a census tract that is below the regional average for population in poverty or populations of color or includes children, people with disabilities, or the elderly:

Difficulty arises when trying to answer this question in the context of isolating Phase I from the rest of the project as the benefits/impacts/mitigation needs are best viewed as a complete project as opposed to just one of the phases. Phase I, in and of itself would, provide very localized benefits, have minimal impacts and need little or no mitigation. Taken as a whole, however, the three phases of the project have fairly substantial benefits citywide.

It is estimated that approximately 80% of the Pierce Butler Route Extension Project (?Project?) is located in areas of concentrated poverty or concentrated poverty with greater than 50% residents of color. The Project would connect areas of income disparity throughout the corridor to the job concentration centers of downtown, University Avenue and West Midway area as well as the manufacturing/distribution centers in the light industrial areas, inclusive of a BNSF Intermodal Facility north of the existing Pierce Butler Route on the west end. With implementation of the Project, it is anticipated that new development/redevelopment will occur, with one of the results being new permanent jobs and mixed use developments. Additionally, with the inclusion of an off-road bike/ped trail and two on-street bike lanes in the Project, the ability of those without a vehicle to travel from/to job centers will be improved as there are numerous on-street and off-street facilities that would connect either directly or indirectly to Pierce Butler.

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

As for disbenefits to the socio-economic fabric of the area, implementing the Project will be accompanied with a temporary disruption to the existing travel patterns of the public. This would include the potential for increased truck traffic through neighborhoods, disruption to existing

bicycle and pedestrian facilities, etc. These impacts would be mitigated by City Staff responsible for approving detours, verifying contractor compliance with the MN MUTCD, actively pursuing a neighborhood involvement program through the life of the Project, etc.

The response should address the benefits, impacts, and mitigation for the populations affected by the project.

Upload Map

1467727267965_SocioEconomicConditions.pdf

Measure B: Affordable Housing

City/Township	Segment Length in Miles (Population)
City of Saint Paul	0.852
	1

Total Project Length

Total Project Length (Total Population)	0.9
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Affordable Housing Scoring - To Be Completed By Metropolitan Council Staff

City/Township	Segment Length (Miles)	Total Length (Miles)	Score	Segment Length/Total Length	Housing Score Multiplied by Segment percent
		0	0	0	0

Affordable Housing Scoring - To Be Completed By Metropolitan Council Staff

Total Project Length (Miles)	0.852
Total Housing Score	0

Measure A: Infrastructure Age

Year of Original Roadway Construction or Most Recent Reconstruction	Segment Length	Calculation	Calculation 2
1968.0	1.273	2505.264	1968.0
	1	2505	1968

Average Construction Year

Weighted Year 1968.0

Total Segment Length (Miles)

Total Segment Length 1.273

Measure A: Vehicle Delay Reduction

Total Peak Hour Delay Per Vehicle Without The Project	Total Peak Hour Delay Per Vehicle With The Project	Total Peak Hour Delay Per Vehicle Reduced by Project	Volume (Vehicles Per Hour)	Total Peak Hour Delay Reduced by the Project (Seconds)	EXPLANATION of methodology used to calculate railroad crossing delay, if applicable:	Synchro or HCM Reports
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Total Delay

Total Peak Hour Delay Reduced 0

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

Total (CO, NOX, and VOC) Peak Hour Emissions Per Vehicle without the Project (Kilograms):	Total (CO, NOX, and VOC) Peak Hour Emissions Per Vehicle with the Project (Kilograms):	Total (CO, NOX, and VOC) Peak Hour Emissions Reduced Per Vehicle by the Project (Kilograms):	Volume (Vehicles Per Hour):	Total (CO, NOX, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms):
65.0	56.0	9.0	1800.0	16200.0
65	56		1800	16200

Total

Total Emissions Reduced: 16200.0

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

Total Parallel Roadways

Emissions Reduced on Parallel Roadways	0
Upload Synchro Report	1468601133562_Pierce Butler EAW Vehicle Emissions Section.pdf

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:	See Attachment Pierce Butler Extension Benefit of Crash Reduction Calculation
<i>(Limit 700 Characters; approximately 100 words)</i>	
Rationale for Crash Modification Selected:	See Attachment Pierce Butler Extension Benefit of Crash Reduction Calculation
<i>(Limit 1400 Characters; approximately 200 words)</i>	
Project Benefit (\$) from B/C Ratio:	6334625.0
Worksheet Attachment	1468518138734_Pierce Butler HSIP Benefit Cost Form.pdf

Roadway projects that include railroad grade-separation elements:

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

Measure A: Multimodal Elements and Existing Connections

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

The project will include construction of an off road 12 foot wide shared use bicycle/pedestrian trail which will be separated from the roadway by a 7 to 13 foot wide boulevard. On road bicycle lanes will also be included in the project. The on road and off road bicycle facilities on Pierce Butler are identified the St. Paul Bicycle Plan which was adopted in March of 2015. The off road trail will eventually be extended to west to connect to Midway Area of St. Paul and existing north-south bicycle connections which connect to the Green Line. As part of future phases of Pierce Butler, the trail will be extended to the east to connect to Phalen Blvd trail east of I-35E which provides connections to the Troutbrook Regional Trail, Gateway Trail, and Vento Trail. The trail will also make local connections to the Minnehaha Recreation Center and Field and schools in the area.

The existing segment of Pierce Butler Route does not carry transit services. However expected redevelopment adjacent to Pierce Butler and continuing development along Phalen Boulevard may require some adjustments to local service. The off road trail will provide a connection to existing north-south transit service on Dale Street. There is existing east-west transit service on lower volume, lower speed Minnehaha Avenue which parallels Pierce Butler and is located roughly 1000 feet south of the proposed Pierce Butler alignment.

Transit Projects Not Requiring Construction

If the applicant is completing a transit or TDM 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

1)Project Scope (5 Percent of Points)

Meetings or contacts with stakeholders have occurred Yes

100%

Stakeholders have been identified

40%

Stakeholders have not been identified or contacted

0%

2)Layout or Preliminary Plan (5 Percent of Points)

Layout or Preliminary Plan completed Yes

100%

Layout or Preliminary Plan started

50%

Layout or Preliminary Plan has not been started

0%

Anticipated date or date of completion

3)Environmental Documentation (5 Percent of Points)

EIS

EA Yes

PM

Document Status:

Document approved (include copy of signed cover sheet) 100%

Document submitted to State Aid for review 75% date submitted

Document in progress; environmental impacts identified; review request letters sent Yes

50%

Document not started

0%

Anticipated date or date of completion/approval 03/01/2020

4)Review of Section 106 Historic Resources (10 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%

Historic/archeological review under way; determination of no historic properties affected or no adverse effect anticipated Yes

80%

Historic/archaeological review under way; determination of adverse effect anticipated

40%

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

0%

Anticipated date or date of completion of historic/archeological review: 01/01/2020

Project is located on an identified historic bridge

5)Review of Section 4f/6f Resources (10 Percent of Points)

4(f) Does the project impacts any public parks, public wildlife refuges, public golf courses, wild & scenic rivers or public private historic properties?

6(f) Does the project impact any public parks, public wildlife refuges, public golf courses, wild & scenic rivers or historic property that was purchased or improved with federal funds?

No Section 4f/6f resources located in the project area

100%

No impact to 4f property. The project is an independent bikeway/walkway project covered by the bikeway/walkway Negative Declaration statement; letter of support received

100%

Section 4f resources present within the project area, but no known adverse effects Yes

80%

Project impacts to Section 4f/6f resources likely coordination/documentation has begun

50%

Project impacts to Section 4f/6f resources likely coordination/documentation has not begun

30%

Unsure if there are any impacts to Section 4f/6f resources in the project area

0%

6)Right-of-Way (15 Percent of Points)

Right-of-way, permanent or temporary easements not required

100%

Right-of-way, permanent or temporary easements has/have been acquired

100%

Right-of-way, permanent or temporary easements required, offers made Yes

75%

Right-of-way, permanent or temporary easements required, appraisals made

50%

Right-of-way, permanent or temporary easements required, parcels identified

25%

Right-of-way, permanent or temporary easements required, parcels not identified

0%

Right-of-way, permanent or temporary easements identification has not been completed

0%

Anticipated date or date of acquisition 06/01/2020

7)Railroad Involvement (25 Percent of Points)

No railroad involvement on project

100%

Railroad Right-of-Way Agreement is executed (include signature page) 100%

Railroad Right-of-Way Agreement required; Agreement has been initiated Yes

60%

Railroad Right-of-Way Agreement required; negotiations have begun

40%

Railroad Right-of-Way Agreement required; negotiations not begun

0%

Anticipated date or date of executed Agreement 06/01/2020

8)Interchange Approval (15 Percent of Points)*

**Please contact Karen Scheffing at MnDOT (Karen.Scheffing@state.mn.us or 651-234-7784) to determine if your project needs to go through the Metropolitan Council/MnDOT Highway Interchange Request Committee.*

Project does not involve construction of a new/expanded interchange or new interchange ramps Yes

100%

Interchange project has been approved by the Metropolitan Council/MnDOT Highway Interchange Request Committee

100%

Interchange project has not been approved by the Metropolitan Council/MnDOT Highway Interchange Request Committee

0%

9)Construction Documents/Plan (10 Percent of Points)

Construction plans completed/approved (include signed title sheet)

100%

Construction plans submitted to State Aid for review

75%

Construction plans in progress; at least 30% completion

50%

Construction plans have not been started

Yes

0%

Anticipated date or date of completion

09/01/2020

10) Letting

Anticipated Letting Date

01/15/2021

Measure A: Cost Effectiveness

Total Project Cost (entered in Project Cost Form): \$11,500,000.00

Enter Amount of the Noise Walls: \$0.00

Total Project Cost subtract the amount of the noise walls: \$11,500,000.00

Points Awarded in Previous Criteria

Cost Effectiveness \$0.00

Other Attachments

File Name	Description	File Size
Pierce Butler Extension Benefit of Crash Reduction Calculation.pdf	Methodology used to calculate Crash Reduction Benefit	83 KB
Pierce Butler Overview Aerial.pdf	Pierce Butler East Extension Map	6.5 MB
Pierce Butler ROW Phase 1 11x17 color.pdf	Map/ROW Plan showing Phase I Improvements	6.3 MB
RES 16-1053 SignatureCopy12-Jul-2016-03-18-08.pdf	Local Match Resolution	118 KB

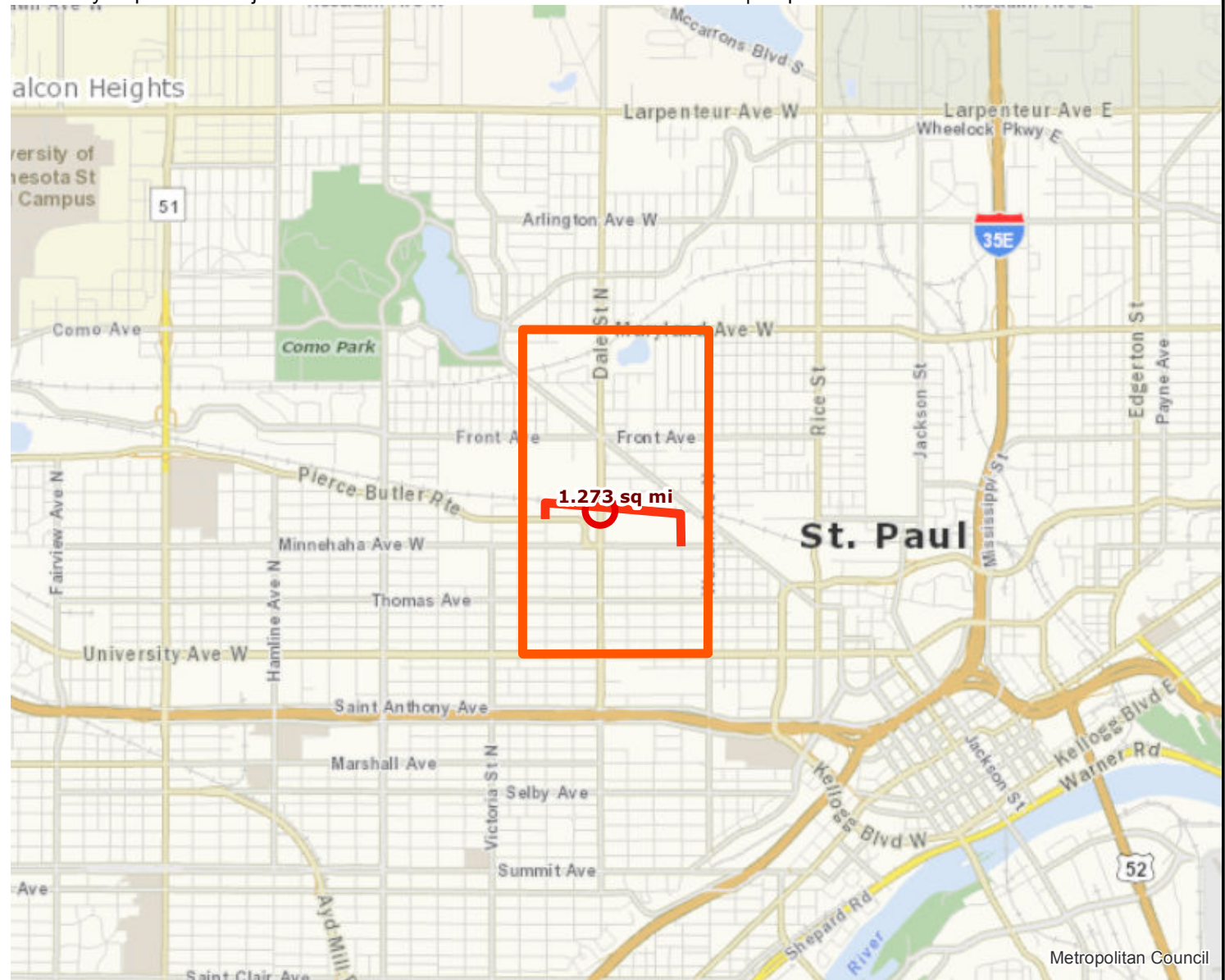
Roadway Area Definition

Roadway Expansion Project: Pierce Butler Route East Extension - Phase I | Map ID: 1465948077706








Results

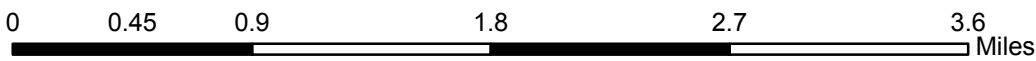
Project Length: 0.852 miles

Project Area: 1.273 sq mi



Metropolitan Council

-  Project Points
-  Principal Arterials
-  A Minor Arterials Planned
-  Project
-  A Minor Arterials
-  Project Area
-  Principal Arterials Planned



Created: 6/14/2016
LandscapeRSA1



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



Regional Economy

Roadway Expansion Project: Pierce Butler Route East Extension - Phase I | Map ID: 1465948077706

Results

WITHIN ONE MI of project:

Totals by City:

St. Paul

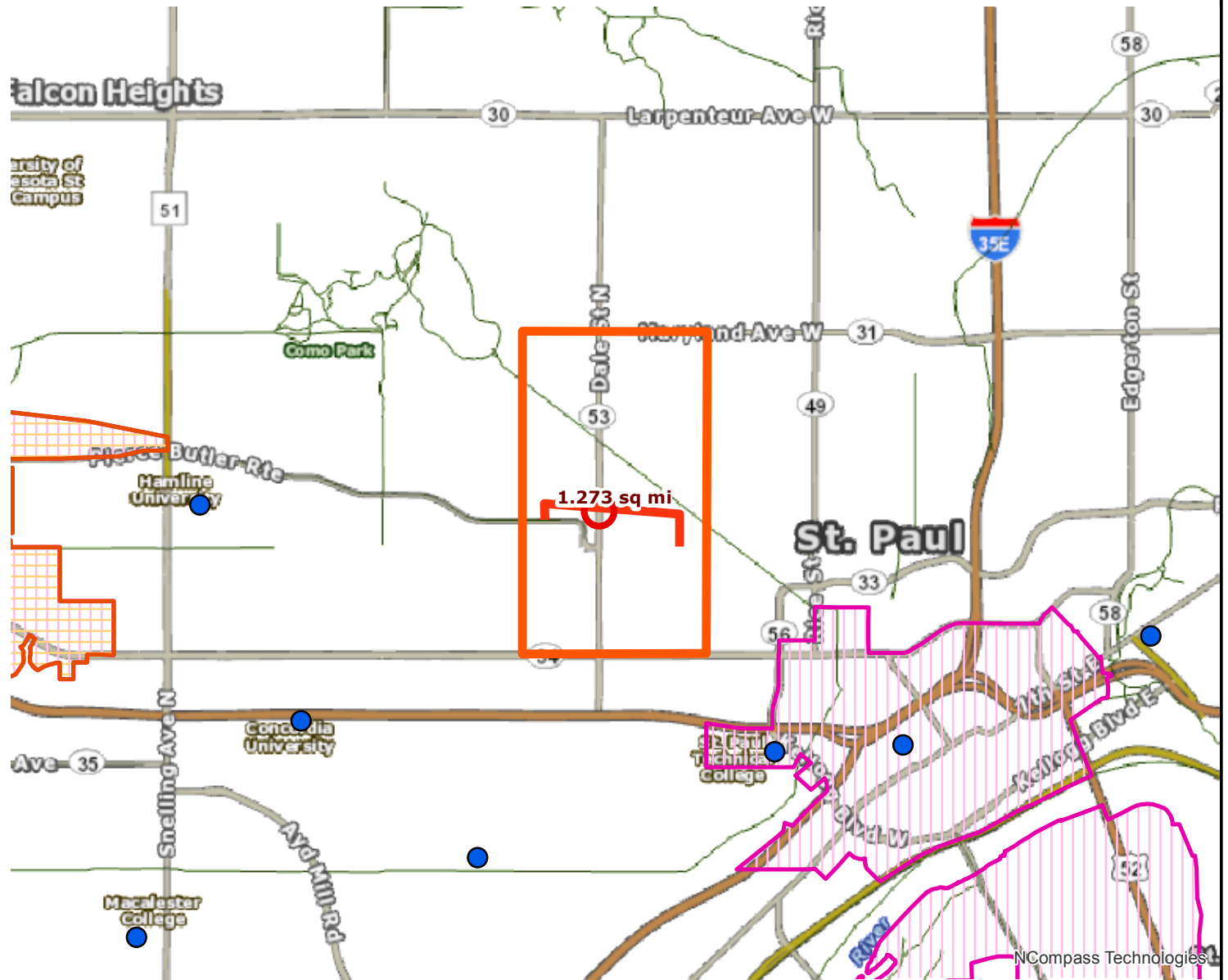
Population: 42211

Employment: 16248

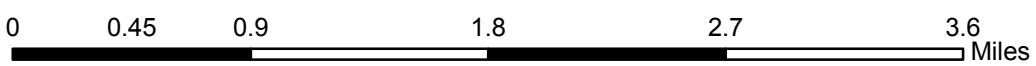
Mfg and Dist Employment: 1170

Postsecondary Students:

9830



- Project Points
- Project Area
- Manufacturing/Distribution Centers
- PostSecondary Education Centers
- Job Concentration Centers



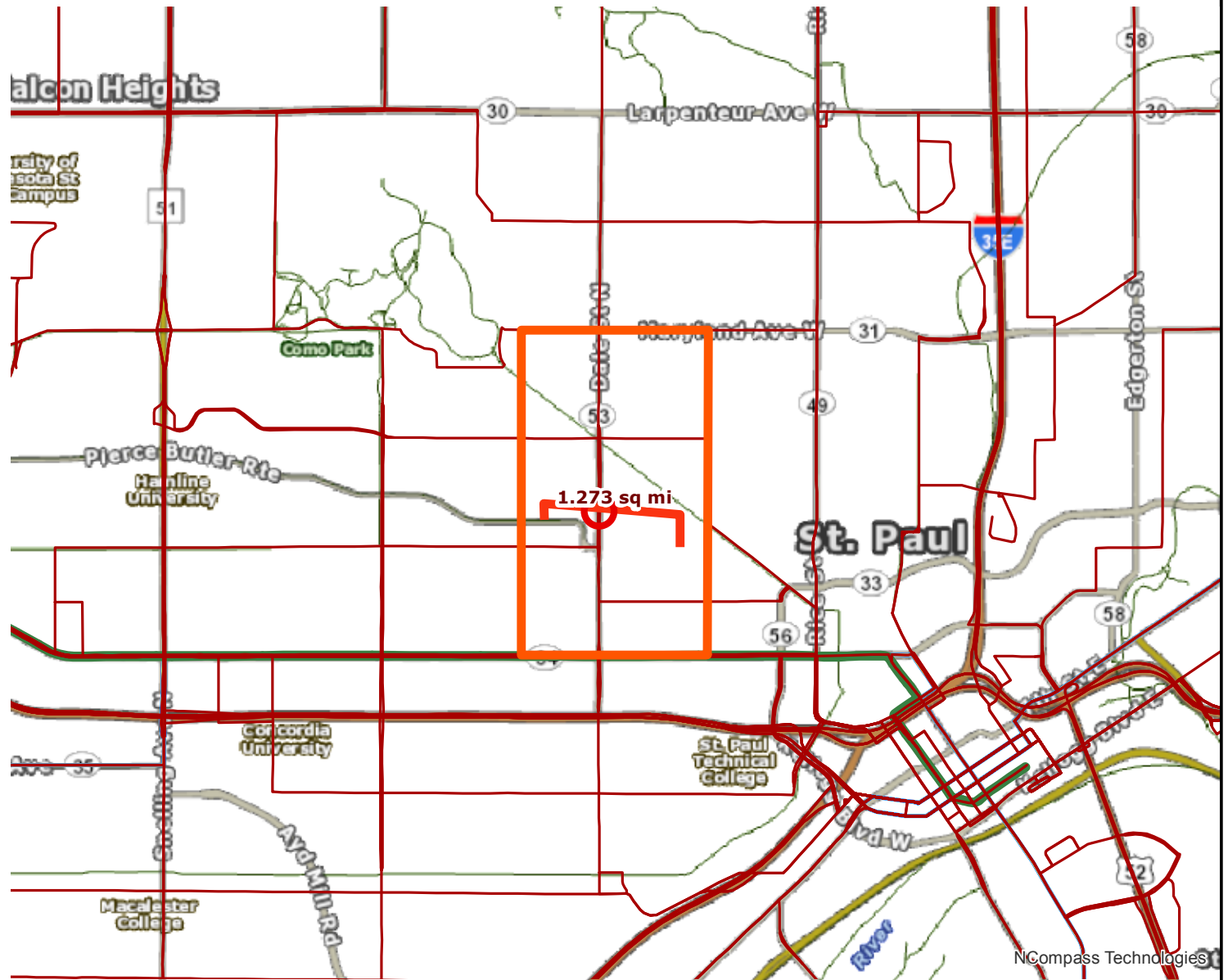
Created: 6/14/2016
LandscapeRSA5



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NCompass Technologies



Results

Transit with a Direct Connection to project:
65 67

**indicates Planned Alignments*

○ Project Points
 Project Area
 — Transitway
 — Planned Alignments
— Project
 — Transit Routes
 — Green Line
 — Arterial BRT



Created: 6/14/2016
LandscapeRSA3



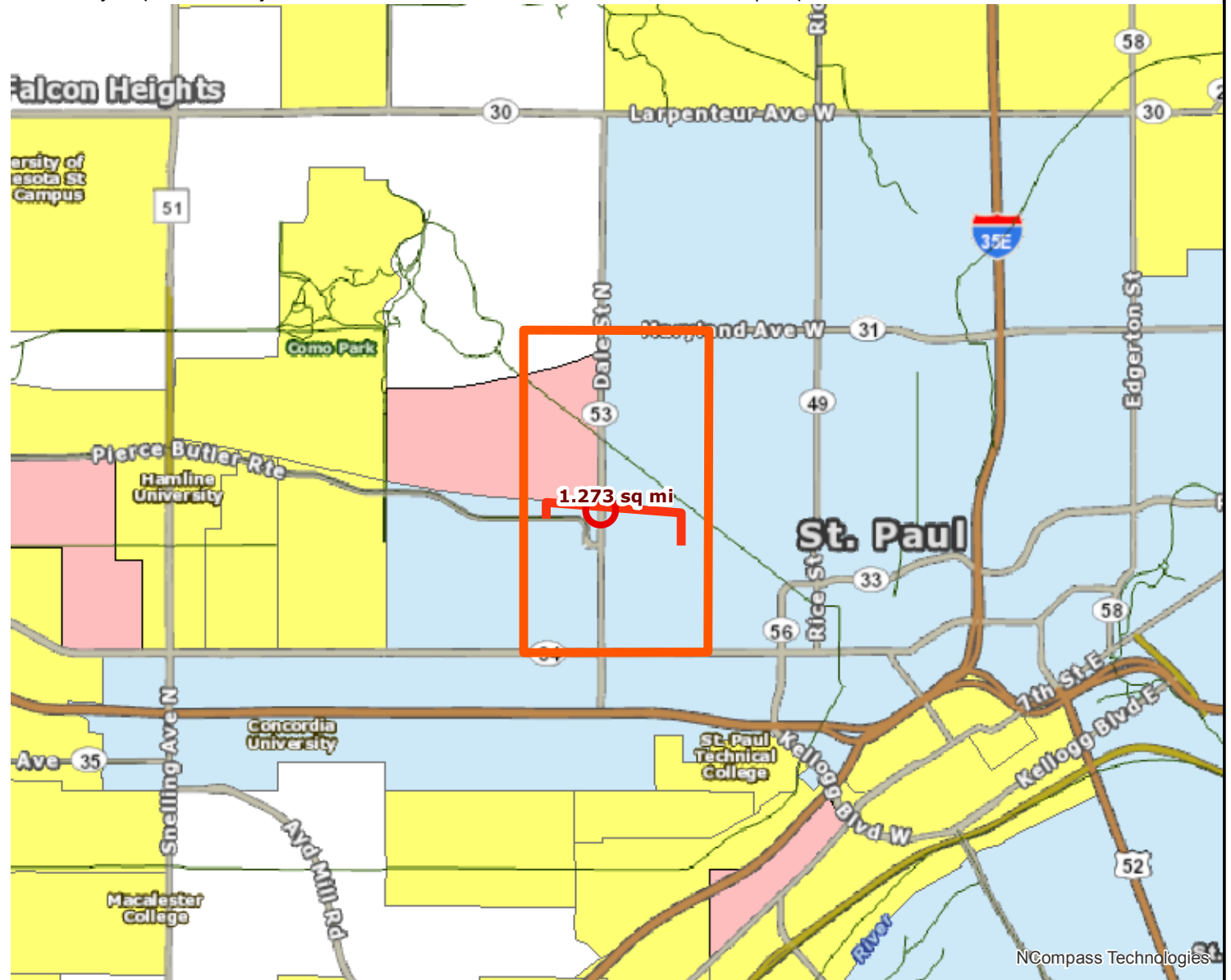
For complete disclaimer of accuracy, please visit
<http://giswebsite.metc.state.mn.us/gissitenew/notice.aspx>

NCompass Technologies

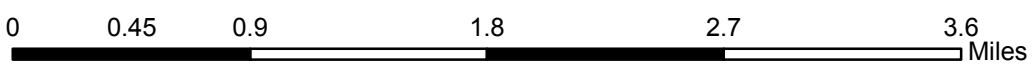


Results

Project located **IN**
 Area of Concentrated Poverty
 with 50% or more of residents
 are people of color (ACP50):
 (0 to 30 Points)



- Project Points
- Project
- Project Area
- Area of Concentrated Poverty > 50% residents of color
- Area of Concentrated Poverty
- Above reg'l avg conc of race/poverty



Created: 6/14/2016
 LandscapeRSA2



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



NCompass Technologies

- Under 2030 No Build network, that total travel time degrades to 9 minutes, using the same route and the same operation program.
- Under the Build alternative, the total travel time improves to 6 minutes from corresponding points west of Dale Street to west of I-35E following the extended Pierce Butler Route to Pennsylvania Avenue routing.

Total System Delay

One measure of effectiveness that takes into account what is happening throughout the entire corridor is Total System Delay. This measure can provide a cumulative comparison of the total length of delay that is occurring throughout a network.

- For the Existing network, the Total System Delay is 173 hours.
- For the 2030 No-Build network, the Total System Delay is 461 hours.
- For the 2030 Build network, the Total System Delay is 211 hours.

While total delay increases versus 2006 under either the No-Build or Build conditions, with traffic growth on the system, the 2030 Build alternative provides a significant improvement compared to the 2030 No-Build conditions.

Regional Impact

The Pierce Butler Route has a functional classification as a B Minor Arterial. Results of the demand and operational modeling show no substantial impact to the surrounding metropolitan region from a transportation perspective.

Mitigation Measures

Overall, the proposed Pierce Butler Extension project provides system improvements over the No-Build alternative. The implementation of the project will reduce 2030 traffic levels along Minnehaha, Thomas, and (to a lesser extent) Como Avenues. Daily and peak hour truck traffic will be reduced for residential buildings along sections of Minnehaha Avenue and along Pennsylvania Avenue. All study intersections within the project corridor and along adjacent neighborhood streets will operate at LOS D or better, and no mitigation measures are required for the proposed project.

22. **Vehicle-related air emissions.** *Estimate the effect of the project's traffic generation on air quality, including carbon monoxide levels. Discuss the effect of traffic improvements or other mitigation measures on air quality impacts. Note: If the project involves 500 or more parking spaces, consult EAW Guidelines about whether a detailed air quality analysis is needed.*

The air quality impacts of the proposed alternatives have been analyzed. In accordance with Environmental Protection Agency (EPA) Rule 93.123, a localized carbon monoxide (CO) hot-spot analysis was conducted for this project because there were intersections operating at level of service D, E, or F within 10 years after opening because of increased traffic volumes related to the project.

Carbon Monoxide Impact Analysis

The impacts from vehicle carbon monoxide (CO) emissions near roadway intersections affected by this project were evaluated using procedures approved by the Minnesota Pollution Control Agency (MPCA). The procedures require use of the U.S. EPA's pollutant dispersion models to evaluate the maximum CO concentrations from vehicle traffic near roadways. The predicted maximum worst-case impact due to the post-development traffic was added to prorated background concentrations and compared to the Minnesota and U.S. EPA ambient air quality standards for CO. These CO ambient air quality standards are listed below:

- Minnesota one-hour average: 30 parts per million (ppm).
- U.S. EPA one-hour average: 35ppm.
- Minnesota and U.S. EPA eight-hour average: 9ppm.

Background CO Levels

Project build-out is expected in approximately 2030. The ambient background CO concentrations were derived from a December 13, 2002, CO monitoring report performed by Mn/DOT at the Richfield Water Treatment Plant in Richfield, Minnesota. Background monitoring was conducted within approximately 9 miles of the project site and was the closest reliable site provided by the Mn/DOT Office of Environmental Services. The maximum CO concentrations measured on that day were 3.83 ppm (1-hour average) and 1.94 ppm (8-hour average).

The 2002 background concentrations were adjusted to 2030 (Build year) using an annual growth factor of three percent and the ratio of idling emission factors between the analysis year (2030) and the year of the given data (2002). The 2030 background concentrations were calculated as follows:

$$\begin{aligned} 2030 \text{ 1-hour background} &= 3.83 \text{ ppm} \times (1.03)^{2030-2002} \times (11.164\text{gm/hr} / 24.575\text{gm/hr}) = 3.98 \text{ ppm.} \\ 2030 \text{ 8-hour background} &= 1.94 \text{ ppm} \times (1.03)^{2030-2002} \times (11.164\text{gm/hr} / 24.575\text{gm/hr}) = 2.02 \text{ ppm.} \end{aligned}$$

The Minnesota Pollution Control Agency (MPCA) maintains an ambient air quality monitoring station 0.75 miles to the south of the Pierce-Butler Route study area at the intersection of Lexington Parkway and University Avenue (Site ID 861). This location was not deemed suitable to be used as "background" air quality information because of its proximity to high volume roadways, including duplication of volume already accounted for in the following AQ analysis method. Analysis using the CO concentration values collected here is included in order to test a "worst-case" scenario.

From data collected between January 1, 2005, and January 1, 2006, the second highest values for 1-hour average and 8-hour average CO concentration were 5.6 and 4.2 ppm, respectively. These 2005 concentrations were adjusted to 2030 (Build year) using an annual growth factor of three percent and the ratio of idling emission factors between the analysis year (2030) and the year of the given data (2005). The 2030 background concentrations were calculated as follows:

$$\begin{aligned} 2030 \text{ 1-hour background} &= 5.6 \text{ ppm} \times (1.03)^{2030-2005} \times (11.164\text{gm/hr} / 24.575\text{gm/hr}) = 5.32 \text{ ppm.} \\ 2030 \text{ 8-hour background} &= 4.2 \text{ ppm} \times (1.03)^{2030-2005} \times (11.164\text{gm/hr} / 24.575\text{gm/hr}) = 3.99 \text{ ppm.} \end{aligned}$$

Vehicle Emissions

Motor vehicle tailpipe CO Emission Factors (EF) were estimated using the U.S. EPA Mobile6.2 model for the year 2030. Model assumptions were selected based on consultation with the MPCA. CO emission factors for moving vehicles were generated at 35 mph for through, approach and depart traffic on all roads, as all roads in the analysis were of similar characteristics.

Idle emission factors were computed using the Mobile6.2 model in accordance with U.S. EPA guidance. All Mobile6.2 emission factors were determined for ambient air temperatures ranging between 16 and 38 degrees Fahrenheit.

The resulting emission factors for year 2030 were:

Idle – 11.164 grams per hour.
35 mph – 16.152 grams per mile.

The worst intersection of each 2030 alternative based on Level-of-Service and overall volume level was analyzed for its emissions impacts. These intersections were:

- 2030 No-Build: Como Avenue/Marion Street
- 2030 Build: Jackson Avenue/Pierce-Butler Route

Site-Specific Inputs

The model outputs provide details of all required model inputs, including:

- Site and roadway geometry.
- Vehicle emission rates for characteristic speeds along modeled roadways.
- Traffic signal cycle times.
- Traffic signal red light times.
- Clearance lost time.
- Post improvement peak-hour traffic volumes for AM and PM peak hours.

Vehicle emission rates were estimated using Mobile6.2. Roadway geometry, traffic volume and signal timing information were based on results of the traffic analyses as discussed in Section 21. The signal timing for stop sign-controlled intersections was estimated using a short timing cycle and adjusting the red times to match the predicted queue lengths from the output of the CAL3QHC model.

Meteorological Inputs

Meteorological Inputs to the CAL3QHC model included the following:

- Wind Speed: 1 meter/second.
- Stability Class: D.
- Mixing Height: 1,000 meters.
- Surface Roughness Length: 108 centimeters (Single Family Residential Use).
- Wind Directions: 360, in increments of 1 degree.

Receptors

Receptors chosen for modeling were located close to the affected intersections and any sensitive location within a 1000-foot radius of the chosen intersections. Therefore, the modeled CO concentrations at these receptors indicate the worst-case impact.

Modeled Concentrations

The traffic operational modeling software, SYNCHRO, also estimates total system emissions for carbon monoxide (CO), nitrogen oxide (NOx) and volatile oxygen compounds (VOC). Total system (see Section 21 for roadway "system" used for traffic analyses) emissions estimates were used as a measure of comparative effectiveness for a Build versus No-Build 2030 analysis. Results are summarized in Table 22.1. As shown, total system emissions are lower for the proposed Build alternative than for comparable No-Build conditions.

Table 22.1. 2030 Total System Emission Comparison¹

Scenario	Location	2030 P.M. Peak Hour Emission (in kg)		
		CO	NOx	VOC
No-Build	Como/Marion	45	9	11
Build	Jackson/Pierce Butler	39	8	9

¹Derived from SYNCHRO operational model for each scenario.

Table 22.2 presents the predicted 1-hour and 8-hour CO concentrations at the modeled intersections for the year 2030.

Table 22.2. 2030 Predicted Maximum Carbon Monoxide Concentrations (ppm)

Scenario	Location	1-Hour Modeled	Richfield Water Treatment Plant		Lexington/University	
			1-Hour Average ¹	8-Hour Average ²	1-Hour Average ¹	8-Hour Average ²
No-Build	Como/Marion	0.70	4.68	2.51	6.02	4.48
Build	Jackson/Pierce-Butler	0.90	4.88	2.65	6.22	4.62

¹ One-hour averages are calculated by adding the 1-hour modeled concentration plus the adjusted 1-hour background concentration for the specific site.

² Eight-hour averages are calculated by multiplying the 1-hour modeled concentration by an averaging time conversion factor of 0.7 plus the adjusted 8-hour background concentration for the specific site.

All predicted impacts, either Build or No-Build, are within the Minnesota ambient air quality standards of 30 ppm and 9 ppm for 1-hour and 8-hour time averages for CO, respectively.

Analytical Tools

- EPA Model Mobile6.2 model to determine CO Emission Factors (March, 2006).
- EPA Model CAL3QHC Line Source Dispersion Model to determine ambient Co levels (Version 2.0, February 21, 1995).

Mitigation Measures

Mitigation actions that will minimize adverse effects of vehicle-related air emissions are identical to mitigation measures for traffic and are discussed at the end of Section 21.


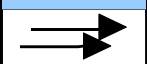



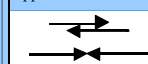
23. **Stationary source air emissions.** Describe the type, sources, quantities and compositions of any emissions from stationary sources of air emissions such as boilers, exhaust stacks or fugitive dust sources. Include any hazardous air pollutants (consult *EAW Guidelines* for a listing) and any greenhouse gases (such as carbon dioxide, methane, nitrous oxide) and ozone-depleting chemicals (chloro-fluorocarbons, hydrofluorocarbons, perfluorocarbons or sulfur hexafluoride). Also describe any proposed pollution prevention techniques and proposed air pollution control devices. Describe the impacts on air quality.

Not applicable.

24. **Odors, noise and dust.** Will the project generate odors, noise or dust during construction or during operation?
 Yes No
 If yes, describe sources, characteristics, duration, quantities or intensity and any proposed measures to mitigate adverse impacts. Also identify locations of nearby sensitive receptors and estimate impacts on them. Discuss potential impacts on human health or quality of life. (Note: fugitive dust generated by operations may be discussed at item 23 instead of here.)

Noise Analysis Overview

The project is expected to result in a general improvement in noise compared to No-Build conditions. Traffic noise impacts for the project were determined using monitoring and computer modeling. Existing noise levels were determined at eight residential areas (receptors) along the project route. Receptor locations are shown in Appendix D. Monitoring was conducted to determine existing noise levels and to calibrate the model for the study locations.

HSIP worksheet		Control Section	T.H. / Roadway	Location				Beginning Ref. Pt.	Ending Ref. Pt.	State, County, City or Township	Study Period Begins	Study Period Ends	
				Pierce Butler - Victoria to Western						Ramsey County	1/1/2013	6/1/2015	
		Description of Proposed Work		Relocate 3,000 vehicles from University to Pierce Butler East Extension									
Accident Diagram Codes	1 Rear End		2 Sideswipe Same Direction		3 Left Turn Main Line		5 Right Angle		4,7 Ran off Road		8, 9 Head On/ Sideswipe - Opposite Direction		
													
										Pedestrian	Other	Total	
Study Period: Number of Crashes	Fatal	F											
	Personal Injury (PI)	A											
		B				1	1						2
		C				2	2						4
	Property Damage	PD			7		2			2		12	23
% Change in Crashes	Fatal	F	-74%	-74%	-74%	-74%	-74%	-74%	-74%	-74%	-74%	-74%	
	PI	A	-74%	-74%	-74%	-74%	-74%	-74%	-74%	-74%	-74%	-74%	
		B	-74%	-74%	-74%	-74%	-74%	-74%	-74%	-74%	-74%	-74%	
		C	-74%	-74%	-74%	-74%	-74%	-74%	-74%	-74%	-74%	-74%	
	Property Damage	PD	-74%	-74%	-74%	-74%	-74%	-74%	-74%	-74%	-74%	-74%	
Change in Crashes <small>= No. of crashes X % change in crashes</small>	Fatal	F											
	PI	A											
		B				-0.74	-0.74						-1.48
		C				-1.48	-1.48						-2.96
	Property Damage	PD			-5.18		-1.48		-1.48		-8.88		-17.02
Year (Safety Improvement Construction)		2021											
Project Cost (exclude Right of Way)		\$ 11,500,000	Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit	<div style="border: 1px solid black; padding: 5px; display: inline-block;">B/C= 0.55</div> <i>Using present worth values,</i> B= \$ 6,334,625 C= \$ 11,500,000 <i>See "Calculations" sheet for amortization.</i>					
Right of Way Costs (optional)			F			\$ 1,140,000							
Traffic Growth Factor		0.5%	A			\$ 570,000							
Capital Recovery			B	-1.48	-0.61	\$ 170,000	\$ 104,238						
1. Discount Rate		2%	C	-2.96	-1.23	\$ 83,000	\$ 101,786						
2. Project Service Life (n)		30	PD	-17.02	-7.05	\$ 7,600	\$ 53,591						
			Total			\$ 259,615							
Office of Traffic, Safety and Technology August 2015													

Pierce Butler Extension Benefit of Crash Reduction Calculation

Step 1

The construction of Pierce Butler East Extension will result in relief of traffic volumes on University Avenue. For purposes of this calculation, the 1 mile section of University between Victoria and Western was used.

Step 2

Between 1/1/13 and 6/1/15 (most current data available from MnCMAT Program) there were 164 crashes on University between Victoria and Western. The crash rate is $(164 \times 1,000,000) / (17,000 \times 1.0 \times 880) = 10.96$

Step 3

The existing volume of University is 17,000. It is anticipated that 3,000 vehicles will relocate to Pierce Butler

Step 4

Crashes of University will decrease by $10.96 \times 3,000 \times 1.0 \times 880 / 1,000,000 = 28.9$ crashes

Step 5

MnDOT 2014 Green Sheet Crash Rate for a divided urban 4 lane roadway is 2.84. For the 3,000 vehicles relocated from Pierce Butler, estimated number of crashes would be $2.84 \times 3,000 \times 1.0 \times 880 / 1,000,000 = 7.5$ crashes.

Step 6

Crash Reduction Factor = $1 - (7.5 / 28.9) = 0.74$

Number of crashed reduced = $28.9 - 7.5 = 21.4$

Step 7

Crash Detail reports for University were reviewed and 29 crashes were selected using proportions from attached crash type summary. The HSIP B/C Form was completed according using the 29 crashes and the Crash reduction factor of 0.74



Crash Type Summary

University - Victoria to Western Crash Type Summary

Report Version 1.0 March 2010

Analysis Years 2013, 2014, 2015

Crash Summary:		Number of Vehicles		
		1	2	3+
K - Fatal	0	0	0	0
A - Incapacitating	2	2	0	0
B - Non-Incapacitating	7	3	2	2
C - Possible	23	9	12	2
N - Property Damage	131	11	108	12
X - Not Reported	1	0	1	0
Miscoded	0	0	0	0
Total	164	25	123	16

Surface Condition Summary:	
01 - Dry	89
02 - Wet	27
03 - Snow	16
04 - Slush	4
05 - Ice/Packed Snow	26
Other	1
Unknown/Not Specified	1
Miscoded	0
Total	164

Diagram Summary:	
02 - Sideswipe - Same Dir	36
03 - Left Turn	14
04 - Ran Off Road - Left Side	2
05 - Right Angle	24
06 - Right Turn	2
07 - Ran Off Road - Right Side	3
08 - Head On	9
09 - Sideswipe - Opposing Dir	0
Other	73
Unknown/Not Stated	1
Miscoded	0
Total	164

Intersection Relation Summary:	
01 - Not at Intersection	44
02 - T Intersection	7
03 - Y Intersection	0
04 - 4 Legged Intersection	79
05 - 5 or more Leg Intersection	1
06 - Roundabout/Traffic Circle	1
07 - Intersection Related	15
08 - Alley or Driveway	2
09 - School Crossing	0
10 - RR Crossing	0
11 - Recreational Crossing	0
20 -22 - Interchange	0
Other	5
Unknown/Not Stated	10
Miscoded	0
Total	164

Accident Type Summary	
01 - Motor Vehicle in Transport	126
02 - Parked Vehicle	10
03-04 - Road Equipment	0
05 - Train	3
06 - Bike	3
07 - Pedestrian	8
08-09 - Deer/Animal	0
10-14 - Other/Unknown Collision	0
21-42 - Fixed Object	13
51 - Overturn	0
52-65 - Other Non-Collision	0
Other	1
Unknown/Not Stated	0
Miscoded	0
Total	164

Light Condition Summary:	
01 - Daylight	115
02 - Before Sunrise	2
03 - After Sunset	2
04 - Dark (Street Lights On)	43
05 - Dark (Street Lights Off)	0
06 - Dark (No Street Lights)	0
07 - Dark (Unknown Lighting)	2
Other	0
Unknown/Not Stated	0
Miscoded	0
Total	164

Selection Filter:

WORK AREA: COUNTY_CODE('62') - FILTER: CRASH_YEAR('2013','2014','2015') - SPATIAL FILTER APPLIED

Analyst:

Paul St. Martin

Notes:



Phase 1

Phase 1

Phase 2

Phase 2

Phase 2

Phase 2

Phase 1

Phase 1

Phase 2

Phase 2

Phase 2

Phase 2



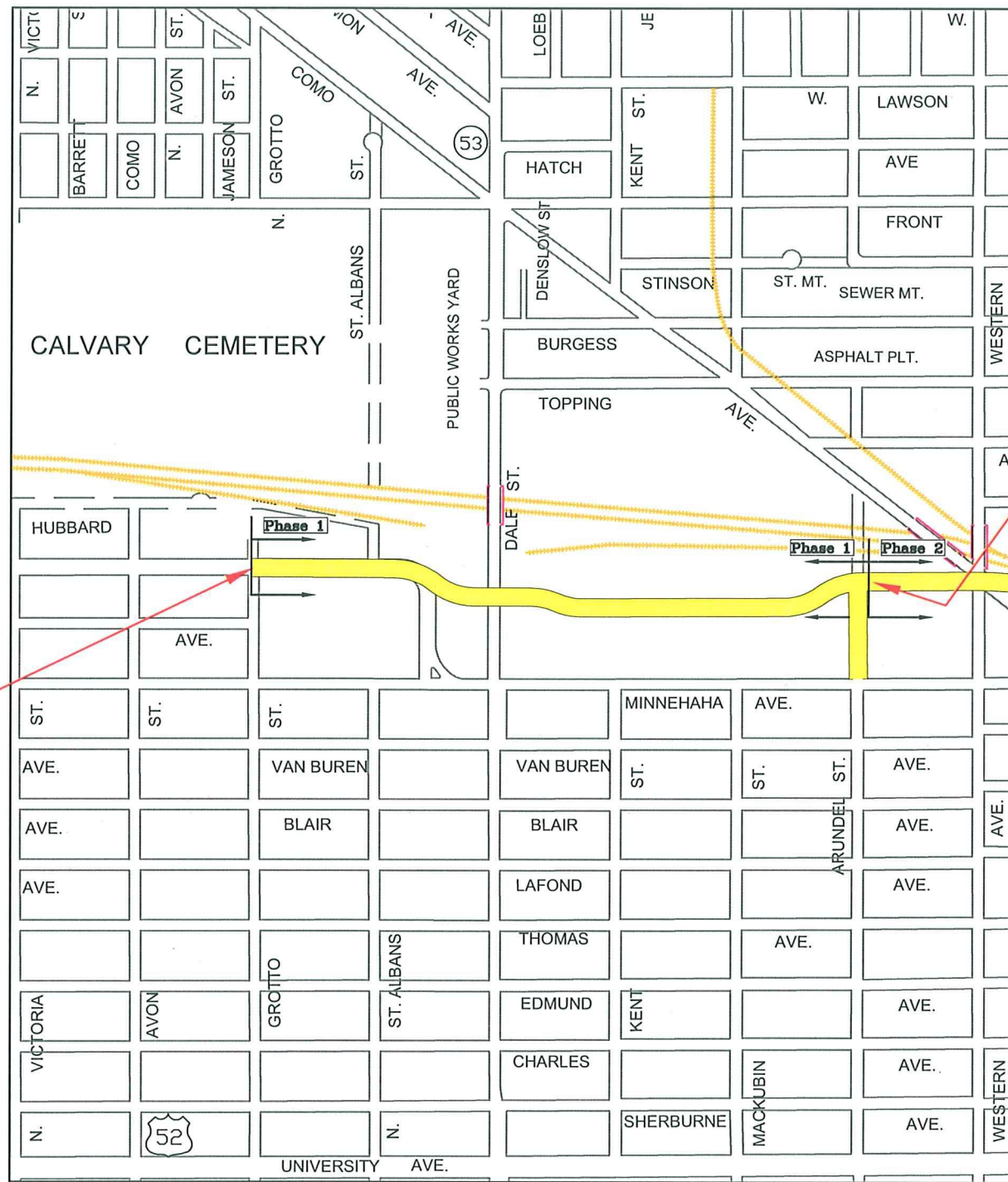


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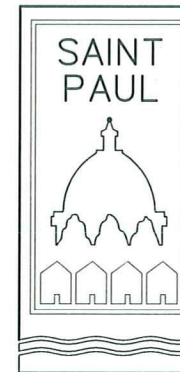
LEGEND:

- PROPOSED ROW ACQUISITION
- PROPOSED RAIL ROW ACQUISITION
- PROPOSED ROADWAY
- PROPOSED SHOULDER
- PROPOSED MEDIAN
- PERMANENT EASEMENT
- PROPOSED OFFSTREET TRAIL
- PROPOSED TUNNEL
- EXISTING BRIDGE
- EXISTING RAILROAD TRACK
- EXISTING CITY ROW
- PROPOSED CURB AND GUTTER

**BEGIN S.A.P. 164-297-001
PIERCE BUTLER ROUTE
EAST EXTENSION
PHASE 1**



**END S.A.P. 164-297-001
PIERCE BUTLER ROUTE
EAST EXTENSION
PHASE 1**



**CITY OF SAINT PAUL
DEPARTMENT OF PUBLIC WORKS**

**RIGHT OF WAY ACQUISITION PLAN FOR
PIERCE BUTLER ROUTE (CSAH 33) EAST EXTENSION
S.A.P. No. 164-297-001 (PHASE 1)**

**PROJECT BOUNDARIES
WEST: GROTTO STREET
EAST: ARUNDEL STREET**

**DESIGN
DESIGNATION**

PIERCE BUTLER EXTENSION		
PRESENT AADT (2007)	WEST OF DALE	7,000
	EAST OF DALE	0
PROJECTED AADT (2030)	WEST OF DALE	18,500
	EAST OF DALE	16,500
FUNCTIONAL CLASS	MINOR ARTERIAL	
TRAFFIC LANES	4	
PARKING LANES	0	
DESIGN SPEED	40 MPH	
DESIGN SPEED NOT ACHIEVED AT:		
PIERCE BUTLER ROUTE P.C. STA. 7+69.28 TO P.T. STA. 10+20.31 (30 MPH)		
PIERCE BUTLER ROUTE P.C. STA. 10+20.31 TO P.T. STA. 12+46.30 (30 MPH)		
PIERCE BUTLER ROUTE P.C. STA. 15+48.84 TO P.T. STA. 17+02.27 (30 MPH)		
PIERCE BUTLER ROUTE V.P.I. STA. 13+57.68 (35 MPH)		
PIERCE BUTLER ROUTE P.C. STA. 17+02.27 TO P.T. STA. 18+40.71 (30 MPH)		
PIERCE BUTLER ROUTE V.P.C. STA. 17+52.76 TO V.P.C. STA. 19+62.76 (30 MPH)		
PIERCE BUTLER ROUTE P.C. STA. 29+51.33 TO P.T. STA. 31+65.70 (30 MPH)		
PIERCE BUTLER ROUTE P.C. STA. 31+65.70 TO P.T. STA. 34+04.88 (30 MPH)		

PLAN INDEX:

Sheet No.	Description
1	Title Sheet
2	Alignment
3	Alignment
4	Right of Way Property Summary
5	Typical Section
6	Profile
7	Profile

NOTE(S):

1. Temporary easements not shown in this plan set. Temporary easements will be determined and documented during the design phases of this project
2. All design and construction shall be completed in accordance with all current Municipal State Aid Standards.
3. All traffic control devices and signing employed by this project shall conform to the most current version (at the time of implementation) of the MMUTCD.

APPROVED DATE: 1/17/08
CITY ENGINEER, CITY OF ST. PAUL

APPROVED DATE: 1/17/08
COUNTY ENGINEER, RAMSEY COUNTY

APPROVED DATE: 8/6/08
DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY

APPROVED DATE: 8/6/08
APPROVED FOR FUNDING: STATE AID ENGINEER



0 100
SCALE IN FEET

Phase 1

ATWATER

ST.

TOPPING



Phase 1

GROTTO STREET

ARUNDEL ST.

NORTH

HUBBARD AVE.

ST. ALBANS

MINNEHAHA AVE.

MINNEHAHA AVE.

MINNEHAHA AVE.

WEST

262923340151
BNSF RAILWAY CO

262923440013
BNSF RAILWAY CO

252923330009
BNSF RAILWAY CO
BN LEASE #545895

252923330012
BNSF RAILWAY CO

262923440009
Apostolic Faith Temple Church

262923440008
MPD, Inc.I

262923440003
City of St. Paul

252923330017
BNSF RAILWAY CO
BN LEASE #547129
RAIL TRANSFER, INC.

252923330010
BNSF RAILWAY CO
BN LEASE #375001
MERIDIAN AGGREGATES, IN

262923440015
Christ's Household of Faith

262923440016
HUANG XIENG
PARTNERSHIP

252923330020
BNSF RAILWAY CO

City Property

ALIGNMENT &
CURVE 1
P.C. STA. 7+69.28
P.T. STA. 10+20.31
L = 251.03'
R = 378.50'
Δ = 38° 00' 00"
DESIGN SPEED NOT
ACHIEVED (30MPH)

ALIGNMENT &
CURVE 2
P.C. STA. 10+20.31
P.T. STA. 12+46.30
L = 225.99'
R = 338.50'
Δ = 38° 15' 07"
DESIGN SPEED NOT
ACHIEVED (30MPH)

ALIGNMENT &
CURVE 3
P.C. STA. 15+48.84
P.T. STA. 17+02.27
L = 153.43'
R = 378.50'
Δ = 23° 13' 32"
DESIGN SPEED NOT
ACHIEVED (30MPH)

252923330021
BNSF RAILWAY CO

262923440017
DRAGON STAR
ORIENTAL FOODS INC

ALIGNMENT &
CURVE 4
P.C. STA. 17+02.27
P.T. STA. 18+40.71
L = 138.44'
R = 338.50'
Δ = 23° 25' 58"
DESIGN SPEED NOT
ACHIEVED (30MPH)

252923330024
PORT AUTHORITY

252923330025
WALACE LLC
CO CIRCUITECH INC

252923330027
RUB RASCH LLC
C/O SUMMIT FIRE
PROTECTION CO

252923
RESTC
PROFS

Refer to Sheet 3 of 7

DESIGNED	XXX
DRAWN	XXX
APPROVED	

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Eriks V. Ludins
ERIKS V. LUDINS LIC. NO. 20675 DATE: 1/17/08

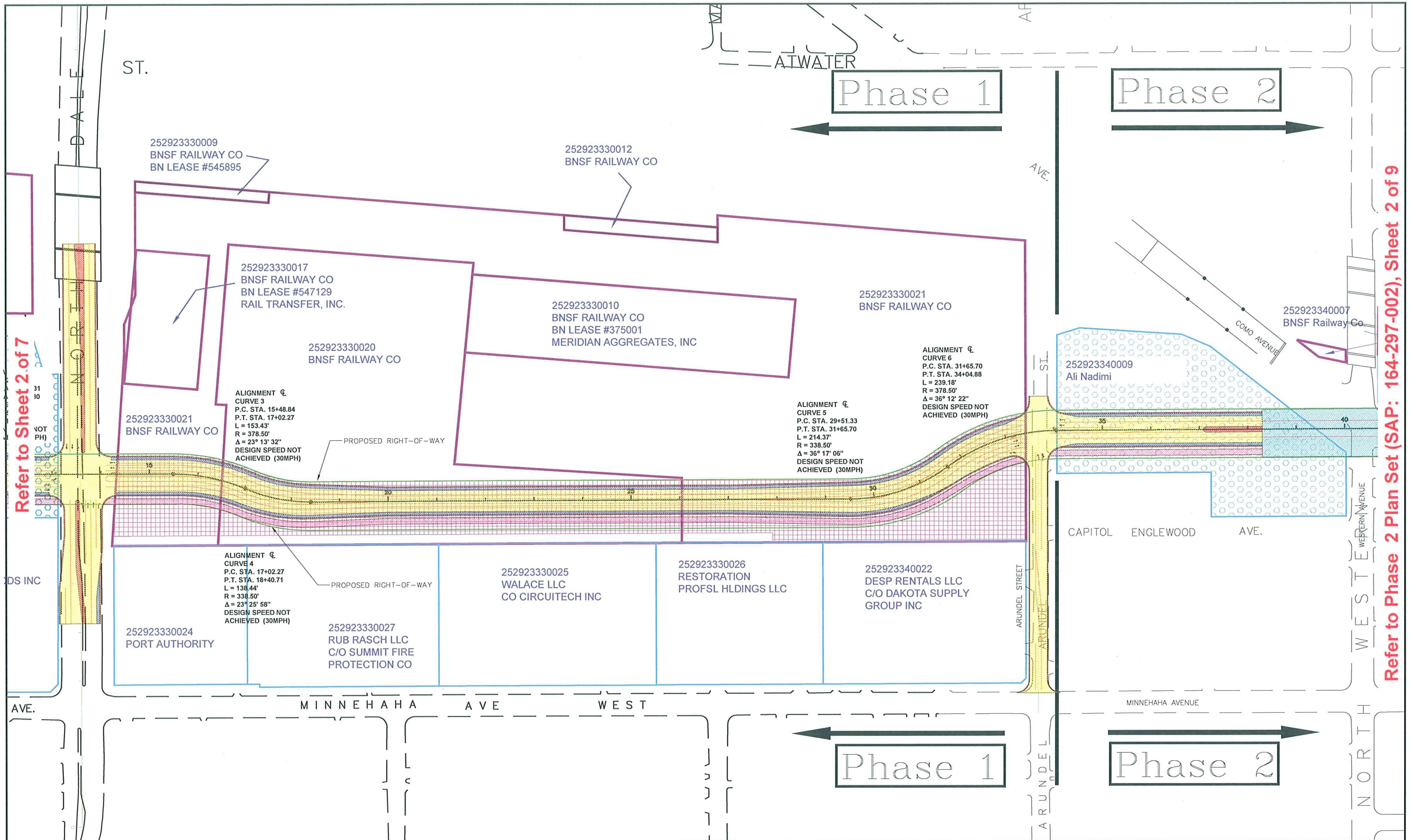
PREPARED BY TRANSPORTATION PLANNING DIVISION FOR THE CITY OF ST. PAUL, DEPARTMENT OF PUBLIC WORKS

PIERCE BUTLER ROUTE—EAST EXTENTION, PHASE 1
R.O.W ACQUISITION, GROTTO ST. TO ARUNDEL ST.

PROJECT NUMBER:	02-P-1299
DRAWER NUMBER:	X
DRAWING NUMBER:	XXXX

STATE AID PROJECT NUMBER:	164-297-001
CAD DRAWING NAME:	/ROW_PLAN,_PHASE1,_VER_0.DWG
DATE:	1/17/08
SHEET 2 OF 7 SHEETS	





Refer to Sheet 2 of 7

Refer to Phase 2 Plan Set (SAP: 164-297-002), Sheet 2 of 9

	DESIGNED	XXX	I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. ERIKS V. LUDINS LIC. NO. 20675 DATE: 1/17/08	PREPARED BY TRANSPORTATION PLANNING DIVISION FOR THE CITY OF ST. PAUL, DEPARTMENT OF PUBLIC WORKS PIERCE BUTLER ROUTE-EAST EXTENTION, PHASE 1 R.O.W ACQUISITION, GROTTO ST. TO ARUNDEL ST.	PROJECT NUMBER:	02-P-1299	STATE AID PROJECT NUMBER:	164-297-001
	DRAWN	XXX			DRAWER NUMBER:	X	CAD DRAWING NAME:	/ROW_PLAN,_PHASE1,_VER_0.DWG
	APPROVED				DRAWING NUMBER:	XXXX	DATE:	1/17/08

Parcel #	Owner	Address	PIN	PARCEL AREA (SQ. FT.)	PERMANENT EASEMENT (SQ. FT.)	TEMPORARY EASEMENT (SQ. FT.)
1	Huang Xieng Partnership	630 Pierce Butler Route	262923440016	119,790	119,790	0
2	BNSF		252923330020 252923330021	1,087,258	255,557	TBD

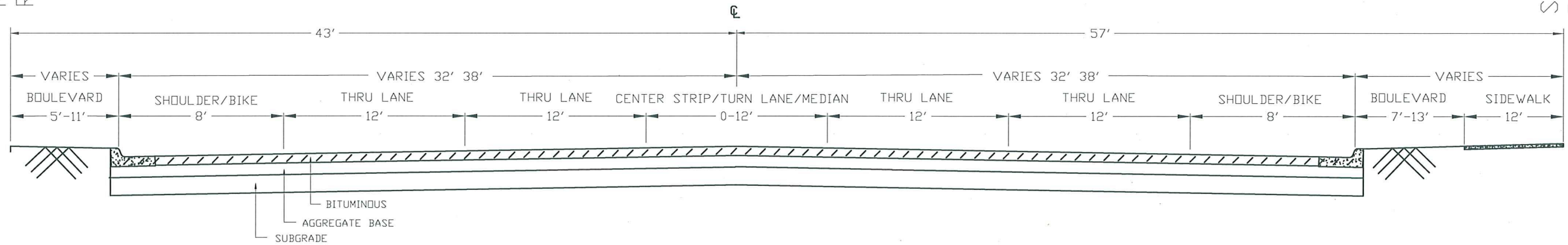
NOTE(S):

1. TEMPORARY EASEMENTS TO BE DETERMINED (TBD) AND DOCUMENTED DURING THE DESIGN PHASE OF THIS PROJECT.

	DESIGNED	XXX	I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  LIC. NO. 20675 DATE: 4/17/08	PREPARED BY TRANSPORTATION PLANNING DIVISION FOR THE CITY OF ST. PAUL, DEPARTMENT OF PUBLIC WORKS PIERCE BUTLER ROUTE—EAST EXTENTION, PHASE 1 R.O.W ACQUISITION, GROTTO ST. TO ARUNDEL ST.	PROJECT NUMBER:	02-P-1299	STATE AID PROJECT NUMBER:	164-297-001	
	DRAWN	XXX			DRAWER NUMBER:	X	CAD DRAWING NAME:	/ROW_PLAN,_PHASE1,_VER_0.DWG	
	APPROVED				DRAWING NUMBER:	XXXX	DATE:	1/17/08	

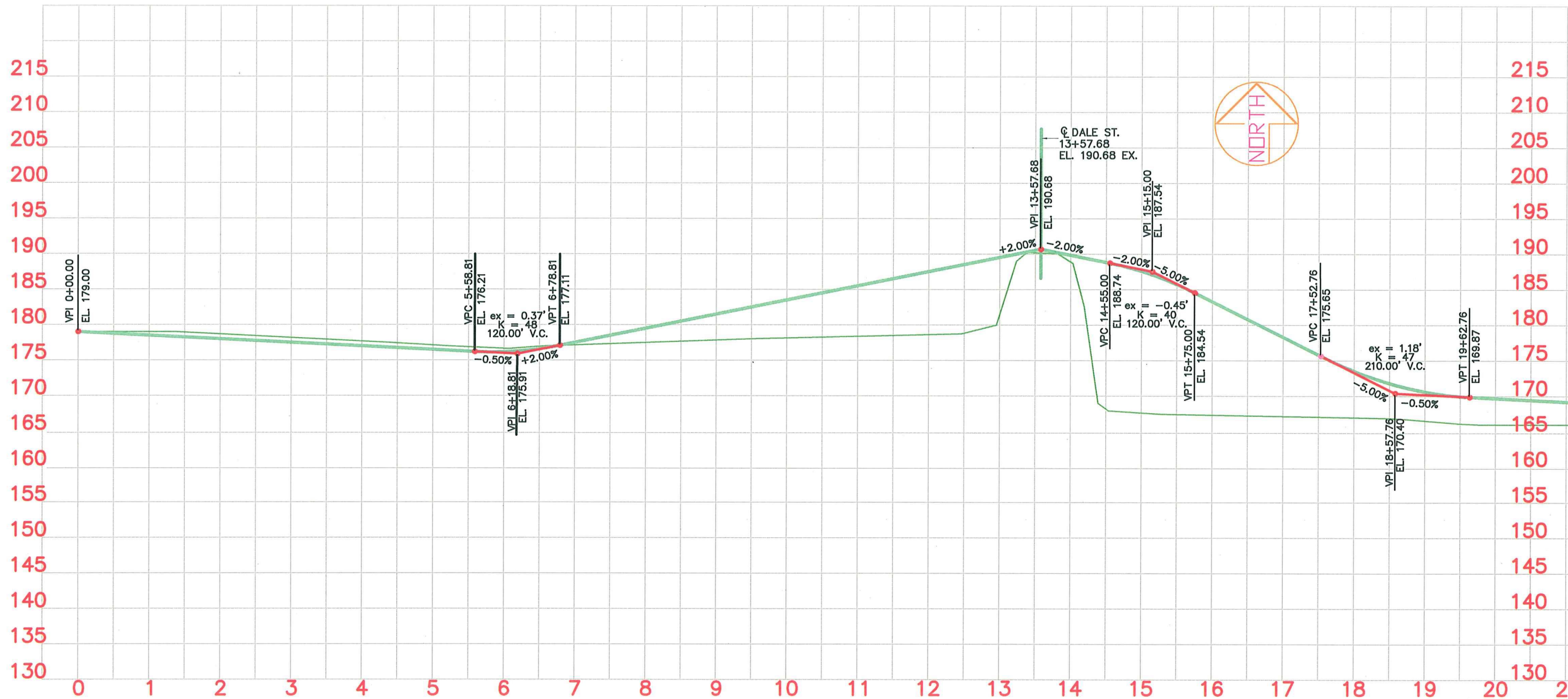
NORTH
R.O.W.

SOUTH
R.O.W.



TYPICAL SECTION

	DESIGNED	XXX	I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  Eriks V. Ludins LIC. NO. 20675 DATE: 1/17/08	PREPARED BY TRANSPORTATION PLANNING DIVISION FOR THE CITY OF ST. PAUL, DEPARTMENT OF PUBLIC WORKS PIERCE BUTLER ROUTE-EAST EXTENSION, PHASE 1 R.O.W. AQUISITION, GROTTO ST. TO ARUNDEL ST.	PROJECT NUMBER:	02-P-1299	STATE AID PROJECT NUMBER:	164-297-001	
	DRAWN	XXX			DRAWER NUMBER:	X	CAD DRAWING NAME:	/KLASSEN/PIERCEBUTLERBIOSCIENCE	
	APPROVED	XXX			DRAWING NUMBER:	XXXX	DATE:	1/17/08	



Refer to Sheet 7 of 7

TKDA

ENGINEERS • ARCHITECTS • PLANNERS

PROFILE



DESIGNED	XXX
DRAWN	XXX
APPROVED	XXX

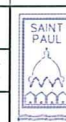
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Eriks V. Ludins
 Eriks V. Ludins LIC. NO. 20675 DATE: 1/17/08

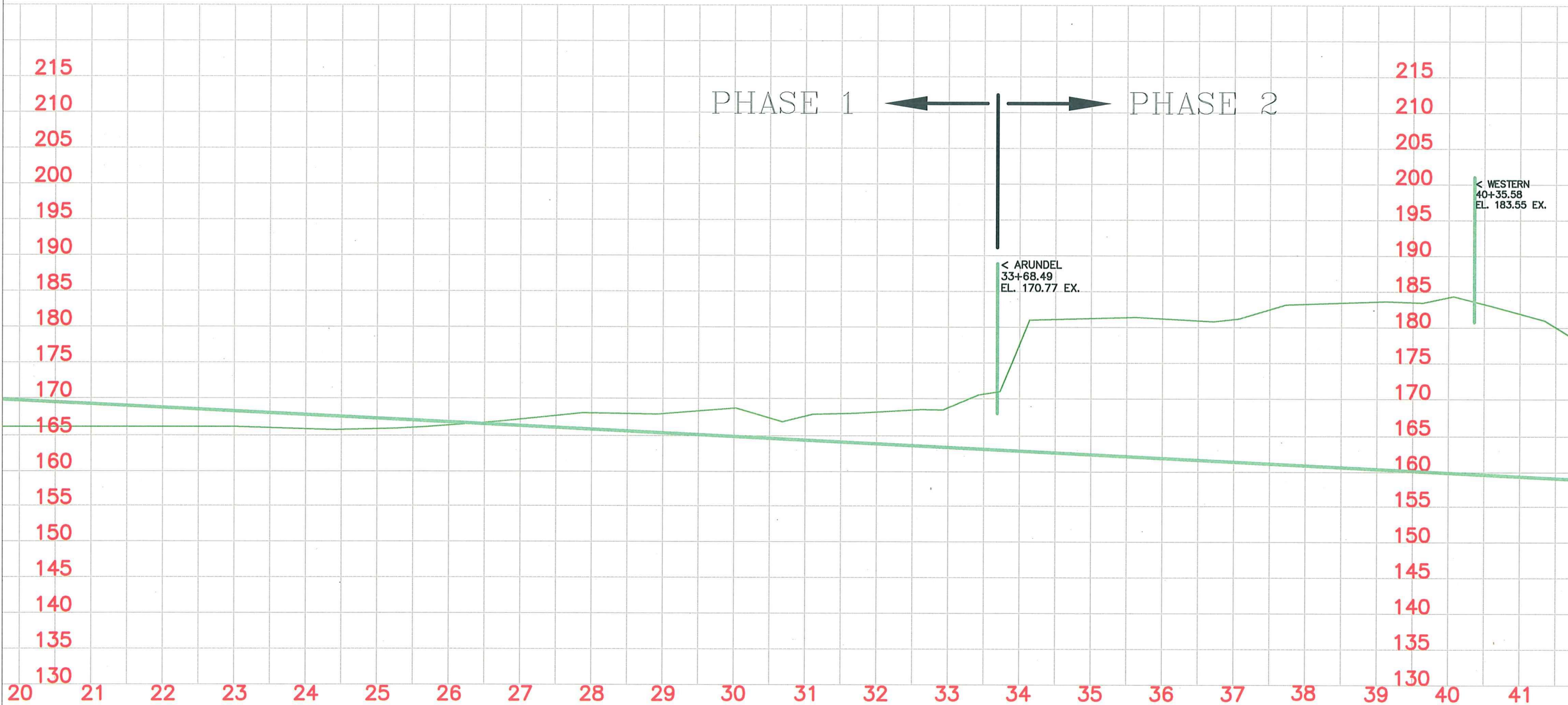
PREPARED BY TRANSPORTATION PLANNING DIVISION FOR THE CITY OF ST. PAUL, DEPARTMENT OF PUBLIC WORKS
 PIERCE BUTLER ROUTE—EAST EXTENSION, PHASE 1
 R.O.W. AQUISITION, GROTTO ST. TO ARUNDEL ST.

PROJECT NUMBER:	02-P-1299
DRAWER NUMBER:	X
DRAWING NUMBER:	XXXX

STATE AID PROJECT NUMBER:	164-297-001
CAD DRAWING NAME:	/KLASSEN/PIERCEBUTLERBIOSCIENCE
DATE:	1/17/08
SHEET 6 OF 7 SHEETS	



Refer to Sheet 6 of 7



TKDA
 ENGINEERS • ARCHITECTS • PLANNERS

PROFILE

	DESIGNED	XXX	I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. ERIKS V. LUDINS LIC. NO. 20675 DATE: 1/17/08	PREPARED BY TRANSPORTATION PLANNING DIVISION FOR THE CITY OF ST. PAUL, DEPARTMENT OF PUBLIC WORKS PIERCE BUTLER ROUTE-EAST EXTENSION, PHASE 1 R.O.W. AQUISITION, GROTTO ST. TO ARUNDEL ST.		PROJECT NUMBER: 02-P-1299	STATE AID PROJECT NUMBER: 164-297-001	
	DRAWN	XXX		DRAWER NUMBER: X	CAD DRAWING NAME: /KLASSEN/PIERCEBUTLERBIOSCIENCE		DRAWING NUMBER: XXXX	DATE: 1/17/08
	APPROVED	XXX		SHEET 7 OF 7 SHEETS				



City of Saint Paul

City Hall and Court
House
15 West Kellogg
Boulevard
Phone: 651-266-8560

Signature Copy

Resolution: RES 16-1053

File Number: RES 16-1053

Authorizing the Departments of Public Works and Parks and Recreation to submit 14 project applications for federal funding into the 2016 Metropolitan Council Regional Solicitation Program and to authorize the commitment of a 20% local funding match for any project(s) that get awarded federal funding.

WHEREAS, The Departments of Public Works and Parks and Recreation are proposing to submit 14 project applications for possible federal transportation funding in years 2020 and 2021 under the Metropolitan Council Regional Solicitation Process, and

WHEREAS, there is a required twenty percent local funding match to any project(s) awarded to an agency under the Regional Solicitation Program, and

WHEREAS, the projects to be submitted by the City under the Metropolitan Council Regional Solicitation are:

- Freight Connection from Pierce Butler to I-94 via Transfer, Ellis and Vandalia
- University Avenue Reconstruction - I35E to Lafayette Road
- Sidewalk Infill, Replacement and ADA Compliance - Area Bounded by Maryland-Case-Forest-Duluth
- Tedesco Street Reconstruction - University Avenue to Payne Avenue
- Como Avenue Trail Construction - Raymond Avenue to Hamline Avenue
- Troutbrook Road Connection - Kittson Street to Lafayette/University
- Eastbound Kellogg Boulevard Bridge near the RiverCentre Ramp
- Johnson Parkway Trail (Grand Round) - Burns Avenue to Phalen Boulevard
- Bruce Vento Bicycle and Pedestrian Bridge - connects Sam Morgan Trail with Bruce Vento Trail
- Pierce Butler East Extension - Grotto to Arundel
- Battle Creek to Sam Morgan Regional Trail Rehabilitation
- Arterial Corridor Management (Snelling and Lexington) - Implement Technology to Improve Traffic Flow & Safety (Fiber Optics, Detection, ADA Upgrades)
- Safe Routes to School (SRTS) - Washington Magnet School Area and Ran-Ham Schools (Cretin, Holy Spirit Elementary and Expo Elementary)
- Lafayette Bridge reconstruction from University to Otsego

WHEREAS, these projects all fall within appropriate funding categories and all meet the conditions and requirements specified for eligibility of federal funding, and so

THEREFORE BE IT RESOLVED, by the Council of the City of Saint Paul to authorize submission of the thirteen project applications for possible award of federal transportation funds through the Metropolitan Council Regional Solicitation Program, and

BE IT FURTHER RESOLVED, by the Council of the City of Saint Paul to authorize the commitment of local funds on a twenty percent match basis for any project(s) awarded federal funding under

the Regional Solicitation Program.

At a meeting of the City Council on 7/6/2016, this Resolution was Passed.

Yea: 6 Councilmember Bostrom, Councilmember Brendmoen, Councilmember Tolbert, City Council President Stark, Councilmember Noecker, and Councilmember Prince

Nay: 0

Absent: 1 Councilmember Thao

Vote Attested by _____
Council Secretary Trudy Moloney

Date 7/6/2016

Approved by the Mayor 
Chris Coleman

Date 7/8/2016