

Technical Memo 11: Optimized Scenario Capital Costs - Bus Rapid Transit and MnPASS

Highway 169 Mobility Study

Draft

Prepared for: Minnesota Department of Transportation



June 2017



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SRF Consulting Group
2550 University Ave W Suite 316S
St. Paul, MN 55114

December 27, 2017

Subject: RE: Highway 169 BRT MnPASS Optimized Scenario Capital Costs

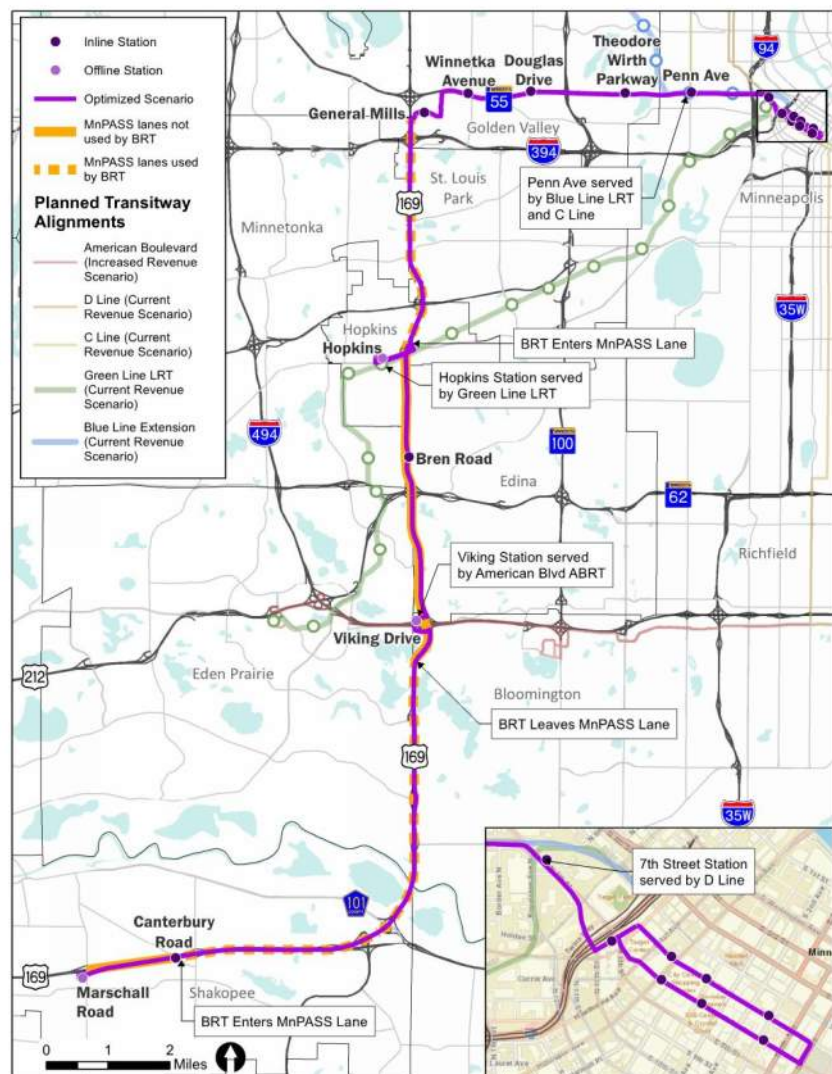
Dear Adele,

As requested, HNTB has developed a draft cost estimate for the Highway 169 BRT MnPASS Optimized Scenario totaling \$376.9 million.

This includes \$44.2 million for Bus Rapid Transit Stations capital costs (including buses and garage rehabilitation) and \$329.3 million for MnPASS in the corridor (not including existing pavement rehabilitation).

The Optimized Scenario (see Figure 1) draft cost estimate deliverable includes the following elements: 1) For BRT stations, a template Standard Cost Category (SCC) worksheet, including a summary sheet and detailed cost for each BRT Station (2) for MnPASS lanes, the MnDOT LWD (length width depth) worksheet. The cost estimate is built from the concepts completed in Summer 2017, but modified to match the scope of the Optimized Scenario. The assumptions for BRT and MnPASS lanes and their integration are outlined below.

Figure 1 Optimized Scenario



In the Optimized Scenario, BRT will use MnPASS lanes for the segment between the Canterbury Road Station and Viking Drive Station and for the segment between Downtown Hopkins Station and General Mills Station. MnPASS lanes and bus-only shoulders will be constructed for the full extent of the corridor. The cost of the 10' shoulder is included as part of the MnPASS costs, with the additional cost of widening the shoulders to 12' for BRT attributed to BRT costs. Additional assumptions for each MnPASS segment are listed below.

[Note: Segment nomenclature denotes the original Segment and options as detailed in the Highway 169 Draft Cost Estimates: Bus Rapid Transit and MnPASS in June 2017].

The cost includes pavement resurfacing for use of the existing lanes for MnPASS, entitled pavement rehabilitation in Attachment C.

The MnPASS Alignment includes the following segments from our original cost estimate from south to north:

- Segment 1: Marshcall Road to S of I-494, includes MnPASS lanes cost, with the BRT traveling **in** the MnPASS lanes, exiting the lanes and the highway corridor to access the Viking Drive offline station
- Segment 2: S of I-494 to N of I-494, includes MnPASS lanes cost without an online station at 78th Street, with the BRT traveling **outside** the MnPASS lanes to serve Viking Drive Station
- Segment 3: N of I-494 to S of TH 62 Interchange, includes the MnPASS lanes costs with the BRT traveling **outside** of the MnPASS lanes
- Segment 4: S of TH 62 Interchange to N of TH 62 Interchange, includes the MnPASS lanes cost with the BRT traveling **outside** of the MnPASS lanes
- Segment 5: N of TH 62 Interchange to N of Interlachen Blvd, includes the MnPASS lanes cost with the BRT traveling **outside** of the MnPASS lanes, but entering at Excelsior Blvd
- Segment 6: N of Interlachen to S of Bridge at 2nd St, includes the MnPASS lanes cost with the BRT traveling **in** the MnPASS lanes, minimally expanding the bridge over the railroad tracks and Excelsior Blvd to accommodate MnPASS.
- Segment 7: S of Bridge at 2nd St to S of Bridge at Minnetonka Blvd, includes MnPASS lanes cost, with the BRT traveling **in** the MnPASS lanes
- Segment 8c: S of Bridge at Minnetonka Blvd to W 16th St, includes the lowest cost concept created for the reconfiguration of Cedar Lake Road interchange to accommodate MnPASS. The concept for the roadway accommodates MnPASS, however for the Optimized Scenario cost estimate does not include the Cedar Lake Rd BRT Station. BRT will be traveling **in** the MnPASS lanes through this Segment.
- Segment 9: W 16th St to TH 55, includes MnPASS lanes cost, but does not include the reconfiguration of the I-394, TH 55 and Betty Crocker Drive interchange. The cost includes the reconstruction of I-394 ramps.

The Bus Rapid Transit Stations for the Optimized Scenario include:

- Marschall Road (offline)
- Canterbury Road (inline), cost estimate similar to Bren Road inline station

- Viking Drive (offline), includes the BRT using roundabouts at Washington and Viking Drive to exit the highway 169 corridor and access the offline station at Viking Dr/78th Street
- Bren Road (inline)
- Downtown Hopkins (offline)
- General Mills (inline)
- TH 55 Stations
 - Winnetka Avenue (inline)
 - Douglas Drive (inline)
 - Theodore Wirth Parkway (inline)
 - Penn Avenue (inline)
- 7th Street (inline)
- 7th Street Transit Center

The BRT route through Downtown Minneapolis assumes inline stations along 6th Street and 7th Street one-way pairs. Along 6th Street and Hennepin Avenue, Nicollet Mall, and 3rd Avenue the station needs will be for dropping of passengers only. Along 7th Street, arterial BRT platforms are planned at the intersections with Hennepin Avenue, Nicollet Mall, and 3rd Avenue. The Optimized Scenario includes the use of existing infrastructure and coordinated projects. Therefore, the cost estimate for building these station platforms is not included in this memorandum.

In addition, the capital cost estimate includes the following service elements:

- BRT Vehicles (15) at \$750,000 per vehicle
- Bus garage rehabilitation (for future BRT vehicles)

If you should have any questions, please do not hesitate to contact me.

Best regards,



Pamela Fincher, PTP

Attachments

- A. Highway 169 SCC Workbook Small Starts for Marschall Rd to TH 55 BRT Stations
- B. Highway 169 BRT Station Breakdown Draft Cost Estimate
- C. Highway 169 MnPASS Draft Cost Estimate
- D. Highway 169 BRT Concept Drawings and MnPASS Segment Concept Drawings for the Optimized Scenario (from June 2017)

Attachment A

MAIN SHEET-BUILD ALTERNATIVE							(Rev.18, May 2016)	
MnDOT							Today's Date 12/27/17	
TH 169 BRT Transitway - TH 55 (Optimized Scenario)							Yr of Base Year \$ 2017	
Planning Phase							Yr of Revenue Ops 2028	
	Quantity	Base Year Dollars w/o Contingency (X000)	Base Year Dollars Allocated Contingency (X000)	Base Year Dollars TOTAL (X000)	Base Year Dollars Unit Cost (X000)	Base Year Dollars Percentage of Construction Cost	Base Year Dollars Percentage of Total Project Cost	YOE Dollars Total (X000)
10 GUIDEWAY & TRACK ELEMENTS (route miles)	0.00	1,357	0	1,357		6%	3%	2,050
10.01 Guideway: At-grade exclusive right-of-way	0.00	1,357		1,357				2,050
10.02 Guideway: At-grade semi-exclusive (allows cross-traffic)				0				0
10.03 Guideway: At-grade in mixed traffic				0				0
10.04 Guideway: Aerial structure				0				0
10.05 Guideway: Built-up fill				0				0
10.06 Guideway: Underground cut & cover				0				0
10.07 Guideway: Underground tunnel				0				0
10.08 Guideway: Retained cut or fill				0				0
10.09 Track: Direct fixation				0				0
10.10 Track: Embedded				0				0
10.11 Track: Ballasted				0				0
10.12 Track: Special (switches, turnouts)				0				0
10.13 Track: Vibration and noise dampening				0				0
20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)	10	5,783	0	5,783	\$578	27%	13%	8,739
20.01 At-grade station, stop, shelter, mall, terminal, platform	10	5,783		5,783	\$578			8,739
20.02 Aerial station, stop, shelter, mall, terminal, platform		0		0				0
20.03 Underground station, stop, shelter, mall, terminal, platform				0				0
20.04 Other stations, landings, terminals: Intermodal, ferry, trolley, etc.				0				0
20.05 Joint development				0				0
20.06 Automobile parking multi-story structure				0				0
20.07 Elevators, escalators		0		0				0
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS	0.00	7,403	0	7,403		35%	17%	11,187
30.01 Administration Building: Office, sales, storage, revenue counting				0				0
30.02 Light Maintenance Facility		7,403		7,403				11,187
30.03 Heavy Maintenance Facility				0				0
30.04 Storage or Maintenance of Way Building				0				0
30.05 Yard and Yard Track				0				0
40 SITEWORK & SPECIAL CONDITIONS	0.00	1,564	0	1,564		7%	4%	2,364
40.01 Demolition, Clearing, Earthwork		318		318				481
40.02 Site Utilities, Utility Relocation		550		550				831
40.03 Haz. mat'l, contam'd soil removal/mitigation, ground water treatments		65		65				97
40.04 Environmental mitigation, e.g. wetlands, historic/archeologic, parks				0				0
40.05 Site structures including retaining walls, sound walls		0		0				0
40.06 Pedestrian / bike access and accommodation, landscaping		631		631				954
40.07 Automobile, bus, van accessways including roads, parking lots		0		0				0
40.08 Temporary Facilities and other indirect costs during construction				0				0
50 SYSTEMS	0.00	5,120	0	5,120		24%	12%	7,737
50.01 Train control and signals				0				0
50.02 Traffic signals and crossing protection		1,050		1,050				1,587
50.03 Traction power supply: substations				0				0
50.04 Traction power distribution: catenary and third rail				0				0
50.05 Communications		2,200		2,200				3,324
50.06 Fare collection system and equipment		1,870		1,870				2,826
50.07 Central Control				0				0
Construction Subtotal (10 - 50)	0.00	21,228	0	21,228		100%	48%	32,076
60 ROW, LAND, EXISTING IMPROVEMENTS	0.00	0	0	0			0%	0
60.01 Purchase or lease of real estate				0				#DIV/0!
60.02 Relocation of existing households and businesses				0				#DIV/0!
70 VEHICLES (number)	15	11,250	0	11,250	\$750		25%	17,000
70.01 Light Rail				0				0
70.02 Heavy Rail				0				0
70.03 Commuter Rail				0				0
70.04 Bus	15	11,250		11,250	\$750			17,000
70.05 Other				0				0
70.06 Non-revenue vehicles				0				0
70.07 Spare parts				0				0
80 PROFESSIONAL SERVICES (applies to Cats. 10-50)	0.00	3,109	0	3,109		15%	7%	4,697
80.01 Project Development		259	0	259				391
80.02 Engineering (not applicable to Small Starts)		1,166	0					
80.03 Project Management for Design and Construction		518	0	518				783
80.04 Construction Administration & Management		518	0	518				783
80.05 Professional Liability and other Non-Construction Insurance		259	0	259				391
80.06 Legal; Permits; Review Fees by other agencies, cities, etc.		130	0	130				196
80.07 Surveys, Testing, Investigation, Inspection		130	0	130				196
80.08 Start up		130	0	130				196
Subtotal (10 - 80)	0.00	35,586	0	35,586			81%	53,773
90 UNALLOCATED CONTINGENCY				8,618			19%	13,023
Subtotal (10 - 90)	0.00			44,204			100%	66,796
100 FINANCE CHARGES				0			0%	0
Total Project Cost (10 - 100)	0.00			44,204			100%	66,796
Allocated Contingency as % of Base Yr Dollars w/o Contingency				0.00%				
Unallocated Contingency as % of Base Yr Dollars w/o Contingency				24.22%				
Total Contingency as % of Base Yr Dollars w/o Contingency				24.22%				
Unallocated Contingency as % of Subtotal (10 - 80)				24.22%				
YOE Construction Cost per Mile (X000)					#DIV/0!			
YOE Total Project Cost per Mile Not Including Vehicles (X000)					#DIV/0!			
YOE Total Project Cost per Mile (X000)					#DIV/0!			

TH 169 Transitway BRT: Capital Cost Estimates

Begin Design / Construction
Estimated Begin Operation

Begin Design / Construction Estimated Begin Operation		TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	
		TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	
		Marshall Rd	Canterbury	Viking Dr	Bren Rd	Hopkins	General Mills	TH 55 Stations	7th St	7th St Transit Center	
	Operation Status	Offline Station Park and Ride	Inline Station Matches Bren Rd estimate, given no concept drawing	Offline station	Inline Station New NB and SB station Inline Entrance Ramp	Offline Station	Offline Station	4 Inline Stations Winnetka Ave N (2), Douglas Dr (2), Theodore Wirth Parkway (2), Penn Ave N (2)	Inline Station	In-line Station, At corner of Glenwood Ave/9th St/2nd Ave N	
Potential Operations	Bus only slip ramp into existing transit center				Add platforms to future SWLRT station	Either along Drive or in General Mills parking lot		Use future C-Line infrastructure			
Uses of Funds											
Capital Costs											
10	10	GUIDEWAY & TRACK ELEMENTS (route miles)									
10.01		Bus loading unloading areas (11" concrete)	\$42,240	\$42,240	\$42,240	\$42,240	\$0	\$42,240	\$168,960	\$0	\$42,240
10.01		Curb and Gutter (18")	\$12,500	\$1,500	\$24,825	\$1,500	\$0	\$6,150	\$15,750	\$0	\$0
10.01		2' additional required width of bus shoulder - not included in MnPASS									
	Subtotal										
20	20	STATIONS, STOPS, TERMINALS, INTERMODAL (number)									
20.01		Concrete Platform Construction Incl. tactile edge (14" depth)	\$64,000	\$64,000	\$64,000	\$64,000	\$64,000	\$64,000	\$256,000	\$0	\$64,000
20.01		Bike Rack	\$2,400	\$2,400	\$2,400	\$2,400	\$2,400	\$2,400	\$9,600	\$0	\$2,400
20.01		Benches	\$2,400	\$2,400	\$2,400	\$2,400	\$2,400	\$2,400	\$9,600	\$0	\$2,400
20.01		Station shelter	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$1,200,000	\$0	\$300,000
20.01		Station signage	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$200,000	\$50,000	\$50,000
20.01		Trash Receptacles	\$2,400	\$2,400	\$2,400	\$2,400	\$2,400	\$2,400	\$9,600	\$0	\$2,400
20.01		PA System/Passenger Information Display	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$200,000	\$0	\$50,000
20.01		Site Lighting	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$200,000	\$0	\$50,000
20.02		Bridge Modifications	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
20.07		Elevator Towers	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Subtotal										
	30	SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS									
	Subtotal										
40	40	SITEWORK & SPECIAL CONDITIONS									
40.01		Site Grading	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$40,000	\$0	\$10,000
40.01		Demolition / Removals	\$13,500	\$16,440	\$30,925	\$16,440	\$8,000	\$35,795	\$79,315	\$0	\$8,000
40.02		Utility Relocation (Fiber, Elec, etc.)	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$200,000	\$0	\$50,000
40.03		Catch Basins (curb and general pavement) and covers	\$12,000	\$6,000	\$0	\$6,000	\$0	\$0	\$12,000	\$0	\$3,000
40.03		Concrete Storm Sewer Pipe (24") includes fill	\$4,250	\$0	\$0	\$0	\$0	\$0	\$17,000	\$0	\$4,250
40.05		Retaining walls (Cast in place - 4' footing 5' avg. height)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
40.06		Asphalt Trail	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
40.06		Landscaping (planting and seeding) / Aesthetics	\$24,960	\$0	\$0	\$0	\$0	\$0	\$39,840	\$0	\$0
40.06		Concrete Sidewalk	\$16,500	\$25,320	\$68,775	\$25,320	\$0	\$83,385	\$141,945	\$0	\$0
40.06		Bituminous pavement	\$18,634	\$0	\$0	\$0	\$0	\$0	\$7,204	\$0	\$0
40.06		Crosswalks	\$0	\$44,200	\$4,080	\$44,200	\$0	\$5,100	\$81,940	\$0	\$0
40.07		Parking lot striping	\$123	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
40.07		Handicapped parking symbols and signs (each pair)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Subtotal										
50	50	SYSTEMS									
50.02		Signal Revisions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
50.02		Transit Signal Priority (TSP)	\$100,000	\$100,000	\$0	\$100,000	\$200,000	\$200,000	\$350,000	\$0	\$0
50.05		CCTV System	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$400,000	\$0	\$100,000
50.05		Electrical Data & Other Facilities	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$400,000	\$0	\$100,000
50.06		Smart Card Validators	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$80,000	\$0	\$20,000
50.06		Ticketing Vending Machines	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$600,000	\$0	\$150,000
	Subtotal										
	Subtotal SCC 10 thru 50										
	70	VEHICLES									
	Subtotal										
80	80	PROFESSIONAL SERVICES (applies to Cats. 10-50)									
80.01		Project Development	\$23,918	\$23,738	\$22,441	\$23,738	\$23,184	\$26,477	\$94,375	\$1,000	\$20,174
80.02		Engineering	\$107,632	\$106,821	\$100,984	\$106,821	\$104,328	\$119,148	\$424,688	\$4,500	\$90,782
80.03		Project Management for Design and Construction	\$47,836	\$47,476	\$44,882	\$47,476	\$46,368	\$52,955	\$188,750	\$2,000	\$40,348
80.04		Construction Administration & Management	\$47,836	\$47,476	\$44,882	\$47,476	\$46,368	\$52,955	\$188,750	\$2,000	\$40,348
80.05		Professional Liability and other Non-Construction Insurance	\$23,918	\$23,738	\$22,441	\$23,738	\$23,184	\$26,477	\$94,375	\$1,000	\$20,174
80.06		Legal; Permits; Review Fees by other agencies, cities, etc.	\$11,959	\$11,869	\$11,220	\$11,869	\$11,592	\$13,239	\$47,188	\$500	\$10,087
80.07		Surveys, Testing, Investigation, Inspection	\$11,959	\$11,869	\$11,220	\$11,869	\$11,592	\$13,239	\$47,188	\$500	\$10,087
80.08		Start up	\$11,959	\$11,869	\$11,220	\$11,869	\$11,592	\$13,239	\$47,188	\$500	\$10,087
	Subtotal										
90	90	UNALLOCATED CONTINGENCY									
		Construction Costs (SCC 10 - 50) (30%)	\$358,772	\$356,070	\$336,614	\$356,070	\$347,760	\$397,161	\$1,415,626	\$15,000	\$302,607
		Professional Services (SCC 80) (20%)	\$57,404	\$56,971	\$53,858	\$56,971	\$55,642	\$63,546	\$226,500	\$2,400	\$48,417
		Bus fleet (20%)									
	Subtotal										
100	100	FINANCE CHARGES									
			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
		Capital Costs for Stations	\$1,899,101	\$1,884,797	\$1,781,807	\$1,884,797	\$1,840,810	\$2,102,306	\$7,493,381	\$79,400	\$1,601,800
		Rounded for Technical Memorandums	\$1,900,000	\$1,880,000	\$1,780,000	\$1,880,000	\$1,840,000	\$2,100,000	\$7,490,000	\$80,000	\$1,600,000
								\$1,872,500 Per Station			
		Total Capital Costs for Optimized Scenario									

From Garage Cost Allocations Tab

Assume \$50,000 to add TSP to existing signals. Not including downtown

Assume \$50,000 to add TSP to existing signals. Not including downtown

15 Buses, \$750,000 per bus

2' Bus Shoulder not a part of MnPASS Costs

Unit Cost (SQ FT)		Total Cost	
Full BRT corridor	205,886	\$ 871,934	HNTB historical costs Volume = 7" \$60/TON --> use 145#/CF 10" \$30/CY Base 10" \$25/ CY Select

quantified by Rob Kostick 5/2/17
checked by Pamela Fincher 5/3/17

Cost Estimate Marschall Rd Station

	ITEMS	UNIT	QTY	UNIT COST	TOTAL COST	Sources
Concrete						
10.01	Bus loading unloading areas (11" concrete)	SQ FT	1,920	\$ 22	\$ 42,240	MnDOT - 2016 Avg Bid Prices (add for 11" pavement)
10.01	Curb and Gutter (18")	LF	500	\$ 25	\$ 12,500	MnDOT - 2016 Avg Bid Prices
40.06	Concrete Sidewalk	SQ FT	1,100	\$ 15	\$ 16,500	MnDOT - 2016 Avg Bid Prices
			Subtotal		\$ 71,240	
Paving						
40.06	Bituminous pavement	SQ FT	4,400	\$ 4.24	\$ 18,634	HNTB historical costs Volume = 7" \$60/TON --> use 145#/CF 10" \$30/CY Base 10" \$25/ CY Select
40.01	Site Grading	L SUM	1	\$ 10,000	\$ 10,000	Allowance
40.01	Demolition / Removals	CY	2,700	\$ 5	\$ 13,500	HNTB historical unit cost; sidewalk + platform SQ FT; Assume 10' platform width; 12" or 1' depth
40.03	Catch Basins (curb and general pavement) and covers	EACH	4	\$ 3,000	\$ 12,000	MnDOT
40.03	Concrete Storm Sewer Pipe (24") includes fill	LF	50	\$ 85	\$ 4,250	MnDOT; Culvert to cross ditch to parking lot
40.07	Parking lot striping	LF	123	\$ 1	\$ 123	MnDOT - 2016 Average Bid Prices
40.06	Crosswalks	SQ FT	0	\$ 17	\$ -	MnDOT - 2016 Average Bid Prices
40.07	Handicapped parking symbols and signs (each pair)	EACH	0	\$ 200	\$ -	MnDOT
40.06	Asphalt Trail	SQ FT	0	\$ 3	\$ -	MnDOT
			Subtotal		\$ 58,507	
Utilities						
40.02	Utility Relocation (Fiber, Elec, etc.)	L SUM	1	\$ 50,000	\$ 50,000	HNTB historical costs Utility connection for Station
			Subtotal		\$ 50,000	
Shelters						
20.01	Concrete Platform Construction Incl. tactile edge (14" depth)	LF	160	\$ 400	\$ 64,000	Allowance
20.01	Bike Rack	EACH	2	\$ 1,200	\$ 2,400	Manufacturer
20.01	Benches	EACH	2	\$ 1,200	\$ 2,400	Manufacturer
20.01	Station shelter	EACH	2	\$ 150,000	\$ 300,000	Allowance
20.01	Station signage	EACH	1	\$ 50,000	\$ 50,000	Allowance
20.01	Trash Receptacles	EACH	2	\$ 1,200	\$ 2,400	Manufacturer
			Subtotal		\$ 421,200	
Electrical and Communications						
20.01	PA System/Passenger Information Display	L SUM	1	\$ 50,000	\$ 50,000	HNTB historical costs
20.01	Site Lighting	L SUM	1	\$ 50,000	\$ 50,000	HNTB historical costs
50.02	Transit signal priority	EACH	2	\$ 50,000	\$ 100,000	HNTB historical costs
50.05	CCTV System	L SUM	1	\$ 100,000	\$ 100,000	HNTB historical costs
50.05	Electrical Data & Other Facilities	L SUM	1	\$ 100,000	\$ 100,000	HNTB historical costs
50.06	Smart Card Validators	EACH	2	\$ 10,000	\$ 20,000	Metro Transit
50.06	Ticketing Vending Machines	EACH	2	\$ 75,000	\$ 150,000	Metro Transit
			Subtotal		\$ 570,000	
Retaining Walls						
40.05	Retaining walls (Cast in place - 4' footing 5' avg. height)	SY	0	\$ 400	\$ -	HNTB Historical costs
			Subtotal		\$ -	
Elevators						
20.07	Elevator Towers	EACH	0	\$ 1,000,000	\$ -	HNTB historical costs
			Subtotal		\$ -	
Landscape/Aesthetics						
40.06	Landscaping (planting and seeding) / Aesthetics	SQ FT	1,664	\$ 15	\$ 24,960	HNTB historical costs
			Subtotal		\$ 24,960	
	Base Cost Construction Total				\$ 1,195,907	
90	Unallocated Contingency	Construction				
	Construction Costs (SCC 10 - 50)	30%			\$ 358,772	
	Profesional Services (SCC 80)	20%			\$ 57,404	
			Subtotal		\$ 416,176	
100	Finance Charges				\$ -	
	Professional Services					
80.01	Project Development	2%			\$ 23,918	
80.02	Engineering	9%			\$ 107,632	
80.03	Project Management for Design and Construction	4%			\$ 47,836	
80.04	Construction Administration & Management	4%			\$ 47,836	
80.05	Professional Liability and other Non-Construction Insurance	2%			\$ 23,918	
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	1%			\$ 11,959	
80.07	Surveys, Testing, Investigation, Inspection	1%			\$ 11,959	
80.08	Start up	1%			\$ 11,959	
			Total:		\$ 287,018	
	Total Project Costs (10-100)				\$ 1,899,101	

Cost Estimate Canterbury Station

	ITEMS	UNIT	QTY	UNIT COST	TOTAL COST	Sources
Concrete						
	Bus loading/unloading areas (11" concrete)	SQ FT	1,920	\$ 22	\$ 42,240	MnDOT - 2016 Avg Bid Prices (add for 11" pavement)
10.01						
10.01	Curb and Gutter (18")	LF	60	\$ 25	\$ 1,500	MnDOT - 2016 Avg Bid Prices
40.06	Concrete Sidewalk	SQ FT	1,688	\$ 15	\$ 25,320	MnDOT - 2016 Avg Bid Prices
	Subtotal				\$ 69,060	
Paving						
40.06	Bituminous pavement	SQ FT	0	-	\$ -	HNTB historical costs Volume = 7" \$60/TON --> use 145#/CF 10" \$30/CY Base 10" \$25/ CY Select
40.01	Site Grading	L SUM	1	\$ 10,000	\$ 10,000	Allowance
	Demolition / Removals	CY	3,288	\$ 5	\$ 16,440	HNTB historical unit cost; sidewalk + platform SQ FT; Assume 10' platform width; 12" or 1' depth
40.01						
40.03	Catch Basins (curb and general pavement) and covers	EACH	2	\$ 3,000	\$ 6,000	MnDOT
40.03	Concrete Storm Sewer Pipe (24") includes fill	LF	0	\$ 85	\$ -	MnDOT; Culvert to cross ditch to parking lot
40.07	Parking lot striping	LF	0	\$ 1	\$ -	MnDOT - 2016 Average Bid Prices
40.06	Crosswalks	SQ FT	2,600	\$ 17	\$ 44,200	MnDOT - 2016 Average Bid Prices
40.07	Handicapped parking symbols and signs (each pair)	EACH	0	\$ 200	\$ -	MnDOT
40.06	Asphalt Trail	SQ FT	0	\$ 3	\$ -	MnDOT
	Subtotal				\$ 76,640	
Utilities						
40.02	Utility Relocation (Fiber, Elec, etc.)	L SUM	1	\$ 50,000	\$ 50,000	HNTB historical costs Utility connection for Station
	Subtotal				\$ 50,000	
Shelters						
20.01	Concrete Platform Construction Incl. tactile edge (14" depth)	LF	160	\$ 400	\$ 64,000	Allowance
20.01	Bike Rack	EACH	2	\$ 1,200	\$ 2,400	Manufacturer
20.01	Benches	EACH	2	\$ 1,200	\$ 2,400	Manufacturer
20.01	Station shelter	EACH	2	\$ 150,000	\$ 300,000	Allowance
20.01	Station signage	EACH	1	\$ 50,000	\$ 50,000	Allowance
20.01	Trash Receptacles	EACH	2	\$ 1,200	\$ 2,400	Manufacturer
	Subtotal				\$ 421,200	
Electrical and Communications						
20.01	PA System/Passenger Information Display	L SUM	1	\$ 50,000	\$ 50,000	HNTB historical costs
20.01	Site Lighting	L SUM	1	\$ 50,000	\$ 50,000	HNTB historical costs
50.02	Transit signal priority	EACH	2	\$ 50,000	\$ 100,000	HNTB historical costs
50.05	CCTV System	L SUM	1	\$ 100,000	\$ 100,000	HNTB historical costs
50.05	Electrical Data & Other Facilities	L SUM	1	\$ 100,000	\$ 100,000	HNTB historical costs
50.06	Smart Card Validators	EACH	2	\$ 10,000	\$ 20,000	Metro Transit
50.06	Ticketing Vending Machines	EACH	2	\$ 75,000	\$ 150,000	Metro Transit
	Subtotal				\$ 570,000	
Retaining Walls						
40.05	Retaining walls (Cast in place - 4' footing 5' avg. height)	SY	0	\$ 400	\$ -	MnDOT; Modular Block Wall
	Subtotal				\$ -	
Elevators						
20.07	Elevator Towers	EACH	0	\$ 1,000,000	\$ -	HNTB historical costs
	Subtotal				\$ -	
Landscape/Aesthetics						
40.06	Landscaping (planting and seeding) / Aesthetics	SQ FT	0	\$ 15	\$ -	HNTB historical costs Seeding 4' beyond curb line
	Subtotal				\$ -	
Base Cost Construction Total					\$ 1,186,900	
90 Unallocated Contingency Construction						
	Construction Costs (SCC 10 - 50)	30%			\$ 356,070	
	Profesional Services (SCC 80)	20%			\$ 56,971	
	Subtotal				\$ 413,041	
100 Finance Charges						
					\$ -	
Professional Services						
80.01	Project Development	2%			\$ 23,738	
80.02	Engineering	9%			\$ 106,821	
80.03	Project Management for Design and Construction	4%			\$ 47,476	
80.04	Construction Administration & Management	4%			\$ 47,476	
80.05	Professional Liability and other Non-Construction Insurance	2%			\$ 23,738	
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	1%			\$ 11,869	
80.07	Surveys, Testing, Investigation, Inspection	1%			\$ 11,869	
80.08	Start up	1%			\$ 11,869	
	Total:				\$ 284,856	
Total Project Costs (10-100)					\$ 1,884,797	

Cost Estimate Washington/ Viking Dr

Offline Station

Sheet 7 in Concept Drawings

	ITEMS	UNIT	QTY	UNIT COST	TOTAL COST	Sources
Concrete						
	Bus loading/unloading areas (11" concrete)	SQ FT	1,920	\$ 22	\$ 42,240	MnDOT - 2016 Avg Bid Prices (add for 11" pavement)
10.01						
10.01	Curb and Gutter (18")	LF	993	\$ 25	\$ 24,825	MnDOT - 2016 Avg Bid Prices
40.06	Concrete Sidewalk	SQ FT	4,585	\$ 15	\$ 68,775	MnDOT - 2016 Avg Bid Prices
	Subtotal				\$ 135,840	
Paving						
40.06	Bituminous pavement	SQ FT	0	#DIV/0!	\$ -	HNTB historical costs Volume = 7" \$60/TON --> use 145#/CF 10" \$30/CY Base 10" \$25/ CY Select
40.01	Site Grading	L SUM	1	\$ 10,000	\$ 10,000	Allowance
	Demolition / Removals	CY	6,185	\$ 5	\$ 30,925	HNTB historical unit cost; sidewalk + platform SQ FT; Assume 10' platform width; 12" or 1' depth
40.01						
40.03	Catch Basins (curb and general pavement) and covers	EACH	0	\$ 3,000	\$ -	MnDOT
40.03	Concrete Storm Sewer Pipe (24") includes fill	LF	0	\$ 85	\$ -	MnDOT; Culvert to cross ditch to parking lot
40.07	Parking lot striping	LF	0	\$ 1	\$ -	MnDOT - 2016 Average Bid Prices
40.06	Crosswalks	SQ FT	240	\$ 17	\$ 4,080	MnDOT - 2016 Average Bid Prices
40.07	Handicapped parking symbols and signs (each pair)	EACH	0	\$ 200	\$ -	MnDOT
40.06	Asphalt Trail	SQ FT	0	\$ 3	\$ -	MnDOT
	Subtotal				\$ 45,005	
Utilities						
40.02	Utility Relocation (Fiber, Elec, etc.)	L SUM	1	\$ 50,000	\$ 50,000	HNTB historical costs Utility connection for Station
	Subtotal				\$ 50,000	
Shelters						
20.01	Concrete Platform Construction Incl. tactile edge (14" depth)	LF	160	\$ 400	\$ 64,000	Allowance
20.01	Bike Rack	EACH	2	\$ 1,200	\$ 2,400	Manufacturer
20.01	Benches	EACH	2	\$ 1,200	\$ 2,400	Manufacturer
20.01	Station shelter	EACH	2	\$ 150,000	\$ 300,000	Allowance
20.01	Station signage	EACH	1	\$ 50,000	\$ 50,000	Allowance
20.01	Trash Receptacles	EACH	2	\$ 1,200	\$ 2,400	Manufacturer
	Subtotal				\$ 421,200	
Electrical and Communications						
20.01	PA System/Passenger Information Display	L SUM	1	\$ 50,000	\$ 50,000	HNTB historical costs
20.01	Site Lighting	L SUM	1	\$ 50,000	\$ 50,000	HNTB historical costs
50.02	Transit signal priority	EACH	0	\$ 50,000	\$ -	HNTB historical costs
50.05	CCTV System	L SUM	1	\$ 100,000	\$ 100,000	HNTB historical costs
50.05	Electrical Data & Other Facilities	L SUM	1	\$ 100,000	\$ 100,000	HNTB historical costs
50.06	Smart Card Validators	EACH	2	\$ 10,000	\$ 20,000	Metro Transit
50.06	Ticketing Vending Machines	EACH	2	\$ 75,000	\$ 150,000	Metro Transit
	Subtotal				\$ 470,000	
Retaining Walls						
40.05	Retaining walls (Cast in place - 4' footing 5' avg. height)	SY	0	\$ 400	\$ -	MnDOT; Modular Block Wall
	Subtotal				\$ -	
Elevators						
20.07	Elevator Towers	EACH	0	\$ 1,000,000	\$ -	HNTB historical costs
	Subtotal				\$ -	
Landscape/Aesthetics						
40.06	Landscaping (planting and seeding) / Aesthetics	SQ FT	0	\$ 15	\$ -	HNTB historical costs Seeding 4' beyond curb line
	Subtotal				\$ -	
	Base Cost Construction Total				\$ 1,122,045	
90	Unallocated Contingency	Construction				
	Construction Costs (SCC 10 - 50)	30%			\$ 336,614	
	Profesional Services (SCC 80)	20%			\$ 53,858	
	Subtotal				\$ 390,472	
100	Finance Charges				\$ -	
	Professional Services					
80.01	Project Development	2%			\$ 22,441	
80.02	Engineering	9%			\$ 100,984	
80.03	Project Management for Design and Construction	4%			\$ 44,882	
80.04	Construction Administration & Management	4%			\$ 44,882	
80.05	Professional Liability and other Non-Construction Insurance	2%			\$ 22,441	
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	1%			\$ 11,220	
80.07	Surveys, Testing, Investigation, Inspection	1%			\$ 11,220	
80.08	Start up	1%			\$ 11,220	
	Total:				\$ 269,291	
	Total Project Costs (10-100)				\$ 1,781,807	

Cost Estimate Bren Rd

	ITEMS	UNIT	QTY	UNIT COST	TOTAL COST	Sources
Concrete						
	Bus loading/unloading areas (11" concrete)	SQ FT	1,920	\$ 22	\$ 42,240	MnDOT - 2016 Avg Bid Prices (add for 11" pavement)
10.01						
10.01	Curb and Gutter (18")	LF	60	\$ 25	\$ 1,500	MnDOT - 2016 Avg Bid Prices
40.06	Concrete Sidewalk	SQ FT	1,688	\$ 15	\$ 25,320	MnDOT - 2016 Avg Bid Prices
	Subtotal				\$ 69,060	
Paving						
40.06	Bituminous pavement	SQ FT	0	-	\$ -	HNTB historical costs Volume = 7" \$60/TON --> use 145#/CF 10" \$30/CY Base 10" \$25/ CY Select
40.01	Site Grading	L SUM	1	\$ 10,000	\$ 10,000	Allowance
	Demolition / Removals	CY	3,288	\$ 5	\$ 16,440	HNTB historical unit cost; sidewalk + platform SQ FT; Assume 10' platform width; 12" or 1' depth
40.01						
40.03	Catch Basins (curb and general pavement) and covers	EACH	2	\$ 3,000	\$ 6,000	MnDOT
40.03	Concrete Storm Sewer Pipe (24") includes fill	LF	0	\$ 85	\$ -	MnDOT; Culvert to cross ditch to parking lot
40.07	Parking lot striping	LF	0	\$ 1	\$ -	MnDOT - 2016 Average Bid Prices
40.06	Crosswalks	SQ FT	2,600	\$ 17	\$ 44,200	MnDOT - 2016 Average Bid Prices
40.07	Handicapped parking symbols and signs (each pair)	EACH	0	\$ 200	\$ -	MnDOT
40.06	Asphalt Trail	SQ FT	0	\$ 3	\$ -	MnDOT
	Subtotal				\$ 76,640	
Utilities						
40.02	Utility Relocation (Fiber, Elec, etc.)	L SUM	1	\$ 50,000	\$ 50,000	HNTB historical costs Utility connection for Station
	Subtotal				\$ 50,000	
Shelters						
20.01	Concrete Platform Construction Incl. tactile edge (14" depth)	LF	160	\$ 400	\$ 64,000	Allowance
20.01	Bike Rack	EACH	2	\$ 1,200	\$ 2,400	Manufacturer
20.01	Benches	EACH	2	\$ 1,200	\$ 2,400	Manufacturer
20.01	Station shelter	EACH	2	\$ 150,000	\$ 300,000	Allowance
20.01	Station signage	EACH	1	\$ 50,000	\$ 50,000	Allowance
20.01	Trash Receptacles	EACH	2	\$ 1,200	\$ 2,400	Manufacturer
	Subtotal				\$ 421,200	
Electrical and Communications						
20.01	PA System/Passenger Information Display	L SUM	1	\$ 50,000	\$ 50,000	HNTB historical costs
20.01	Site Lighting	L SUM	1	\$ 50,000	\$ 50,000	HNTB historical costs
50.02	Transit signal priority	EACH	2	\$ 50,000	\$ 100,000	HNTB historical costs
50.05	CCTV System	L SUM	1	\$ 100,000	\$ 100,000	HNTB historical costs
50.05	Electrical Data & Other Facilities	L SUM	1	\$ 100,000	\$ 100,000	HNTB historical costs
50.06	Smart Card Validators	EACH	2	\$ 10,000	\$ 20,000	Metro Transit
50.06	Ticketing Vending Machines	EACH	2	\$ 75,000	\$ 150,000	Metro Transit
	Subtotal				\$ 570,000	
Retaining Walls						
40.05	Retaining walls (Cast in place - 4' footing 5' avg. height)	SY	0	\$ 400	\$ -	MnDOT; Modular Block Wall
	Subtotal				\$ -	
Elevators						
20.07	Elevator Towers	EACH	0	\$ 1,000,000	\$ -	HNTB historical costs
	Subtotal				\$ -	
Landscape/Aesthetics						
40.06	Landscaping (planting and seeding) / Aesthetics	SQ FT	0	\$ 15	\$ -	HNTB historical costs Seeding 4' beyond curb line
	Subtotal				\$ -	
	Base Cost Construction Total				\$ 1,186,900	
90	Unallocated Contingency	Construction				
	Construction Costs (SCC 10 - 50)	30%			\$ 356,070	
	Professional Services (SCC 80)	20%			\$ 56,971	
	Subtotal				\$ 413,041	
100	Finance Charges				\$ -	
	Professional Services					
80.01	Project Development	2%			\$ 23,738	
80.02	Engineering	9%			\$ 106,821	
80.03	Project Management for Design and Construction	4%			\$ 47,476	
80.04	Construction Administration & Management	4%			\$ 47,476	
80.05	Professional Liability and other Non-Construction Insurance	2%			\$ 23,738	
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	1%			\$ 11,869	
80.07	Surveys, Testing, Investigation, Inspection	1%			\$ 11,869	
80.08	Start up	1%			\$ 11,869	
	Total:				\$ 284,856	
	Total Project Costs (10-100)				\$ 1,884,797	

Cost Estimate Hopkins

	ITEMS	UNIT	QTY	UNIT COST	TOTAL COST	Sources
Concrete						
10.01	Bus loading/unloading areas (11" concrete)	SQ FT	0	\$ 22	\$ -	MnDOT - 2016 Avg Bid Prices (add for 11" pavement)
10.01	Curb and Gutter (18")	LF	0	\$ 25	\$ -	MnDOT - 2016 Avg Bid Prices
40.06	Concrete Sidewalk	SQ FT	0	\$ 15	\$ -	MnDOT - 2016 Avg Bid Prices
	Subtotal				\$ -	
Paving						
40.06	Bituminous pavement	SQ FT	0	#DIV/0!	\$ -	HNTB historical costs Volume = 7" \$60/TON --> use 145#/CF 10" \$30/CY Base 10" \$25/ CY Select
40.01	Site Grading	L SUM	1	\$ 10,000	\$ 10,000	Allowance
	Demolition / Removals	CY	1,600	\$ 5	\$ 8,000	HNTB historical unit cost; sidewalk + platform SQ FT; Assume 10' platform width; 12" or 1' depth
40.01						
40.03	Catch Basins (curb and general pavement) and covers	EACH	0	\$ 3,000	\$ -	MnDOT
40.03	Concrete Storm Sewer Pipe (24") includes fill	LF	0	\$ 85	\$ -	MnDOT; Culvert to cross ditch to parking lot
40.07	Parking lot striping	LF	0	\$ 1	\$ -	MnDOT - 2016 Average Bid Prices
40.06	Crosswalks	SQ FT	0	\$ 17	\$ -	MnDOT - 2016 Average Bid Prices
40.07	Handicapped parking symbols and signs (each pair)	EACH	0	\$ 200	\$ -	MnDOT
40.06	Asphalt Trail	SQ FT	0	\$ 3	\$ -	MnDOT
	Subtotal				\$ 18,000	
Utilities						
40.02	Utility Relocation (Fiber, Elec, etc.)	L SUM	1	\$ 50,000	\$ 50,000	HNTB historical costs Utility connection for Station
	Subtotal				\$ 50,000	
Shelters						
20.01	Concrete Platform Construction Incl. tactile edge (14" depth)	LF	160	\$ 400	\$ 64,000	Allowance
20.01	Bike Rack	EACH	2	\$ 1,200	\$ 2,400	Manufacturer
20.01	Benches	EACH	2	\$ 1,200	\$ 2,400	Manufacturer
20.01	Station shelter	EACH	2	\$ 150,000	\$ 300,000	Allowance
20.01	Station signage	EACH	1	\$ 50,000	\$ 50,000	Allowance
20.01	Trash Receptacles	EACH	2	\$ 1,200	\$ 2,400	Manufacturer
	Subtotal				\$ 421,200	
Electrical and Communications						
20.01	PA System/Passenger Information Display	L SUM	1	\$ 50,000	\$ 50,000	HNTB historical costs
20.01	Site Lighting	L SUM	1	\$ 50,000	\$ 50,000	HNTB historical costs
50.02	Transit signal priority	EACH	4	\$ 50,000	\$ 200,000	HNTB historical costs
50.05	CCTV System	L SUM	1	\$ 100,000	\$ 100,000	HNTB historical costs
50.05	Electrical Data & Other Facilities	L SUM	1	\$ 100,000	\$ 100,000	HNTB historical costs
50.06	Smart Card Validators	EACH	2	\$ 10,000	\$ 20,000	Metro Transit
50.06	Ticketing Vending Machines	EACH	2	\$ 75,000	\$ 150,000	Metro Transit
	Subtotal				\$ 670,000	
Retaining Walls						
40.05	Retaining walls (Cast in place - 4' footing 5' avg. height)	SY	0	\$ 400	\$ -	MnDOT; Modular Block Wall
	Subtotal				\$ -	
Elevators						
20.07	Elevator Towers	EACH	0	\$ 1,000,000	\$ -	HNTB historical costs
	Subtotal				\$ -	
Landscape/Aesthetics						
40.06	Landscaping (planting and seeding) / Aesthetics	SQ FT	0	\$ 15	\$ -	HNTB historical costs Seeding 4' beyond curb line
	Subtotal				\$ -	
	Base Cost Construction Total				\$ 1,159,200	
90	Unallocated Contingency	Construction				
	Construction Costs (SCC 10 - 50)	30%			\$ 347,760	
	Professional Services (SCC 80)	20%			\$ 55,642	
	Subtotal				\$ 403,402	
100	Finance Charges				\$ -	
	Professional Services					
80.01	Project Development	2%			\$ 23,184	
80.02	Engineering	9%			\$ 104,328	
80.03	Project Management for Design and Construction	4%			\$ 46,368	
80.04	Construction Administration & Management	4%			\$ 46,368	
80.05	Professional Liability and other Non-Construction Insurance	2%			\$ 23,184	
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	1%			\$ 11,592	
80.07	Surveys, Testing, Investigation, Inspection	1%			\$ 11,592	
80.08	Start up	1%			\$ 11,592	
	Total:				\$ 278,208	
	Total Project Costs (10-100)				\$ 1,840,810	

Cost Estimate Betty Crocker Dr

	ITEMS	UNIT	QTY	UNIT COST	TOTAL COST	Sources
Concrete						
	Bus loading/unloading areas (11" concrete)	SQ FT	1,920	\$ 22	\$ 42,240	MnDOT - 2016 Avg Bid Prices (add for 11" pavement)
10.01						
10.01	Curb and Gutter (18")	LF	246	\$ 25	\$ 6,150	MnDOT - 2016 Avg Bid Prices
40.06	Concrete Sidewalk	SQ FT	5,559	\$ 15	\$ 83,385	MnDOT - 2016 Avg Bid Prices
	Subtotal				\$ 131,775	
Paving						
40.06	Bituminous pavement	SQ FT	0	#DIV/0!	\$ -	HNTB historical costs Volume = 7" \$60/TON --> use 145#/CF 10" \$30/CY Base 10" \$25/ CY Select
40.01	Site Grading	L SUM	1	\$ 10,000	\$ 10,000	Allowance
	Demolition / Removals	CY	7,159	\$ 5	\$ 35,795	HNTB historical unit cost; sidewalk + platform SQ FT; Assume 10' platform width; 12" or 1' depth
40.01						
40.03	Catch Basins (curb and general pavement) and covers	EACH	0	\$ 3,000	\$ -	MnDOT
40.03	Concrete Storm Sewer Pipe (24") includes fill	LF	0	\$ 85	\$ -	MnDOT; Culvert to cross ditch to parking lot
40.07	Parking lot striping	LF	0	\$ 1	\$ -	MnDOT - 2016 Average Bid Prices
40.06	Crosswalks	SQ FT	300	\$ 17	\$ 5,100	MnDOT - 2016 Average Bid Prices
40.07	Handicapped parking symbols and signs (each pair)	EACH	0	\$ 200	\$ -	MnDOT
40.06	Asphalt Trail	SQ FT	0	\$ 3	\$ -	MnDOT
	Subtotal				\$ 50,895	
Utilities						
40.02	Utility Relocation (<i>Fiber, Elec, etc.</i>)	L SUM	1	\$ 50,000	\$ 50,000	HNTB historical costs Utility connection for Station
	Subtotal				\$ 50,000	
Shelters						
20.01	Concrete Platform Construction Incl. tactile edge (14" depth)	LF	160	\$ 400	\$ 64,000	Allowance
20.01	Bike Rack	EACH	2	\$ 1,200	\$ 2,400	Manufacturer
20.01	Benches	EACH	2	\$ 1,200	\$ 2,400	Manufacturer
20.01	Station shelter	EACH	2	\$ 150,000	\$ 300,000	Allowance
20.01	Station signage	EACH	1	\$ 50,000	\$ 50,000	Allowance
20.01	Trash Receptacles	EACH	2	\$ 1,200	\$ 2,400	Manufacturer
	Subtotal				\$ 421,200	
Electrical and Communications						
20.01	PA System/Passenger Information Display	L SUM	1	\$ 50,000	\$ 50,000	HNTB historical costs
20.01	Site Lighting	L SUM	1	\$ 50,000	\$ 50,000	HNTB historical costs
50.02	Transit signal priority	EACH	4	\$ 50,000	\$ 200,000	HNTB historical costs
50.05	CCTV System	L SUM	1	\$ 100,000	\$ 100,000	HNTB historical costs
50.05	Electrical Data & Other Facilities	L SUM	1	\$ 100,000	\$ 100,000	HNTB historical costs
50.06	Smart Card Validators	EACH	2	\$ 10,000	\$ 20,000	Metro Transit
50.06	Ticketing Vending Machines	EACH	2	\$ 75,000	\$ 150,000	Metro Transit
	Subtotal				\$ 670,000	
Retaining Walls						
40.05	Retaining walls (Cast in place - 4' footing 5' avg. height)	SY	0	\$ 400	\$ -	MnDOT; Modular Block Wall
	Subtotal				\$ -	
Elevators						
20.07	Elevator Towers	EACH	0	\$ 1,000,000	\$ -	HNTB historical costs
	Subtotal				\$ -	
Landscape/Aesthetics						
40.06	Landscaping (planting and seeding) / Aesthetics	SQ FT	0	\$ 15	\$ -	HNTB historical costs Seeding 4' beyond curb line
	Subtotal				\$ -	
Base Cost Construction Total					\$ 1,323,870	
90 Unallocated Contingency Construction						
	Construction Costs (SCC 10 - 50)	30%			\$ 397,161	
	Profesional Services (SCC 80)	20%			\$ 63,546	
	Subtotal				\$ 460,707	
100 Finance Charges						
					\$ -	
Professional Services						
80.01	Project Development	2%			\$ 26,477	
80.02	Engineering	9%			\$ 119,148	
80.03	Project Management for Design and Construction	4%			\$ 52,955	
80.04	Construction Administration & Management	4%			\$ 52,955	
80.05	Professional Liability and other Non-Construction Insurance	2%			\$ 26,477	
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	1%			\$ 13,239	
80.07	Surveys, Testing, Investigation, Inspection	1%			\$ 13,239	
80.08	Start up	1%			\$ 13,239	
	Total:				\$ 317,729	
Total Project Costs (10-100)					\$ 2,102,306	

Cost Estimate TH 55

Winnetka Ave N; Douglass Dr; Theodore Wirth Parkway; Penn Ave N Station

	ITEMS	UNIT	QTY				TOTAL QTY	UNIT COST	TOTAL COST	Sources
			Winnetka	Douglas Dr	Theodore	Penn Ave				
Concrete	Bus loading unloading areas (11" concrete)	SQ FT	1920	1,920	1920	1920	7680	\$ 22	\$ 168,960	MnDOT - 2016 Avg Bid Prices (add for 11" pavement)
10.01	Curb and Gutter (18")	LF	330	100	120	80	630	\$ 25	\$ 15,750	MnDOT - 2016 Avg Bid Prices
40.06	Concrete Sidewalk	SQ FT	4574	930	2139	1820	9463	\$ 15	\$ 141,945	MnDOT - 2016 Avg Bid Prices
								Subtotal	\$ 326,655	
Paving	Bituminous pavement	SQ FT	156	1,545	0	0	1701	\$ 46.18	\$ 7,204	HNTB historical costs Volume = 7" \$60/TON --> use 145#/CF 10" \$30/CY Base 10" \$25/ CY Select
40.06										
40.01	Site Grading	LSUM	1	1	1	1	4	\$ 10,000	\$ 40,000	Allowance
	Demolition / Removals	CY	6174	2530	3739	3420	15863	\$ 5	\$ 79,315	HNTB historical unit cost; sidewalk + platform SQ FT; Assume 10' platform width; 12" or 1' depth
40.01										
40.03	Catch Basins (curb and general pavement) and covers	EACH	1	1	1	1	4	\$ 3,000	\$ 12,000	MnDOT
40.03	Concrete Storm Sewer Pipe (24") includes fill	LF	50	50	50	50	200	\$ 85	\$ 17,000	MnDOT
40.07	Parking lot striping	LF	0	0	0	0	0	\$ 1	\$ -	MnDOT - 2016 Average Bid Prices
40.06	Crosswalks	SQ FT	1560	920	1240	1100	4820	\$ 17	\$ 81,940	MnDOT - 2016 Average Bid Prices
40.07	Handicapped parking symbols and signs (each pair)	EACH	0	0	0	0	0	\$ 200	\$ -	MnDOT
40.06	Asphalt Trail	SQ FT	0	0	0	0	0	\$ 3	\$ -	MnDOT
								Subtotal	\$ 237,459	
Utilities	Utility Relocation (Fiber, Elec, etc.)	L SUM	1	1	1	1	4	\$ 50,000	\$ 200,000	HNTB historical costs Utility connection for Station
40.02										
								Subtotal	\$ 200,000	
Shelters	Concrete Platform Construction Incl. tactile edge (14" depth)	LF	160	160	160	160	640	\$ 400	\$ 256,000	Allowance
20.01	Bike Rack	EACH	2	2	2	2	8	\$ 1,200	\$ 9,600	Manufacturer
20.01	Benches	EACH	2	2	2	2	8	\$ 1,200	\$ 9,600	Manufacturer
20.01	Station shelters	EACH	2	2	2	2	8	\$ 150,000	\$ 1,200,000	Allowance
20.01	Station signage	EACH	1	1	1	1	4	\$ 50,000	\$ 200,000	Allowance
20.01	Trash Receptacles	EACH	2	2	2	2	8	\$ 1,200	\$ 9,600	Manufacturer
								Subtotal	\$ 1,684,800	
Electrical and Communications	PA System/Passenger Information Display	L SUM	1	1	1	1	4	\$ 50,000	\$ 200,000	HNTB historical costs
20.01	Site Lighting	L SUM	1	1	1	1	4	\$ 50,000	\$ 200,000	HNTB historical costs
50.02	Transit signal priority	EACH	2	1	1	3	7	\$ 50,000	\$ 350,000	HNTB historical costs
50.05	CCTV System	L SUM	1	1	1	1	4	\$ 100,000	\$ 400,000	HNTB historical costs
50.05	Electrical Data & Other Facilities	L SUM	1	1	1	1	4	\$ 100,000	\$ 400,000	HNTB historical costs
50.06	Smart Card Validators	EACH	2	2	2	2	8	\$ 10,000	\$ 80,000	Metro Transit
50.06	Ticketing Vending Machines	EACH	2	2	2	2	8	\$ 75,000	\$ 600,000	Metro Transit
								Subtotal	\$ 2,230,000	
Retaining Walls	Retaining walls (Cast in place - 4' footing 5' avg. height)	SY	0	0	0	0	0	\$ 400	\$ -	HNTB historical costs
40.05								Subtotal	\$ -	
Elevators	Elevator Towers	EACH	0	0	0	0	0	\$ 1,000,000	\$ -	HNTB historical costs
20.07								Subtotal	\$ -	
Landscape/Aesthetics	Landscaping (planting and seeding) / Aesthetics	SQ FT	2656	0	0	0	2656	\$ 15	\$ 39,840	HNTB historical costs Seeding 4' beyond curb line
40.06								Subtotal	\$ 39,840	
	Base Cost Construction Total								\$ 4,718,754	
90	Unallocated Contingency	Construction								
	Construction Costs (SCC 10 - 50)	30%							\$ 1,415,626	
	Profesional Services (SCC 80)	20%							\$ 226,500	
								Subtotal	\$ 1,642,126	
100	Finance Charges								\$ -	
	Professional Services									
80.01	Project Development	2%							\$ 94,375	
80.02	Engineering	9%							\$ 424,688	
80.03	Project Management for Design and Construction	4%							\$ 188,750	
80.04	Construction Administration & Management	4%							\$ 188,750	
80.05	Professional Liability and other Non-Construction Insurance	2%							\$ 94,375	
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	1%							\$ 47,188	
80.07	Surveys, Testing, Investigation, Inspection	1%							\$ 47,188	
80.08	Start up	1%							\$ 47,188	
								Total:	\$ 1,132,501	
	Total Project Costs (10-100)								\$ 7,493,381	

Cost Estimate 7th St

Assume use of C-Line stations

	ITEMS	UNIT	QTY	UNIT COST	TOTAL COST	Sources
Concrete						
10.01	Bus loading/unloading areas (11" concrete)	SQ FT	0	\$ 22	\$ -	MnDOT - 2016 Avg Bid Prices (add for 11" pavement)
10.01	Curb and Gutter (18")	LF	0	\$ 25	\$ -	MnDOT - 2016 Avg Bid Prices
40.06	Concrete Sidewalk	SQ FT	0	\$ 15	\$ -	MnDOT - 2016 Avg Bid Prices
	Subtotal				\$ -	
Paving						
40.06	Bituminous pavement	SQ FT	0	#DIV/0!	\$ -	HNTB historical costs Volume = 7" \$60/TON --> use 145#/CF 10" \$30/CY Base 10" \$25/ CY Select
40.01	Site Grading	L SUM	0	\$ 10,000	\$ -	Allowance
40.01	Demolition / Removals	CY	0	\$ 5	\$ -	HNTB historical unit cost
40.03	Catch Basins (curb and general pavement) and covers	EACH	0	\$ 3,000	\$ -	MnDOT
40.03	Concrete Storm Sewer Pipe (24") includes fill	LF	0	\$ 85	\$ -	MnDOT
40.07	Parking lot striping	LF	0	\$ 1	\$ -	MnDOT - 2016 Average Bid Prices
40.06	Crosswalks	SQ FT	0	\$ 17	\$ -	MnDOT - 2016 Average Bid Prices
40.07	Handicapped parking symbols and signs (each pair)	EACH	0	\$ 200	\$ -	MnDOT
40.06	Asphalt Trail	SQ FT	0	\$ 3	\$ -	MnDOT
	Subtotal				\$ -	
Utilities						
40.02	Utility Relocation (Fiber, Elec, etc.)	L SUM	0	\$ 50,000	\$ -	HNTB historical costs Utility connection for Station
	Subtotal				\$ -	
Shelters						
20.01	Concrete Platform Construction Incl. tactile edge (14" depth)	LF	0	\$ 400	\$ -	Allowance
20.01	Bike Rack	EACH	0	\$ 1,200	\$ -	Manufacturer
20.01	Benches	EACH	0	\$ 1,200	\$ -	Manufacturer
20.01	Station shelter	EACH	0	\$ 150,000	\$ -	Allowance
20.01	Station signage	EACH	1	\$ 50,000	\$ 50,000	Allowance
20.01	Trash Receptacles	EACH	0	\$ 1,200	\$ -	Manufacturer
	Subtotal				\$ 50,000	
Electrical and Communications						
20.01	PA System/Passenger Information Display	L SUM	0	\$ 50,000	\$ -	HNTB historical costs
20.01	Site Lighting	L SUM	0	\$ 50,000	\$ -	HNTB historical costs
	Transit signal priority	EACH	0	\$ 50,000	\$ -	HNTB historical costs; Assume it has it for C-Line
50.02	CCTV System	L SUM	0	\$ 100,000	\$ -	HNTB historical costs
50.05	Electrical Data & Other Facilities	L SUM	0	\$ 100,000	\$ -	HNTB historical costs
50.06	Smart Card Validators	EACH	0	\$ 10,000	\$ -	Metro Transit
50.06	Ticketing Vending Machines	EACH	0	\$ 75,000	\$ -	Metro Transit
	Subtotal				\$ -	
Retaining Walls						
40.05	Retaining walls (Cast in place - 4' footing 5' avg. height)	SY	0	\$ 400	\$ -	MnDOT Modular Block Wall
	Subtotal				\$ -	
Elevators						
20.07	Elevator Towers	EACH	0	\$ 1,000,000	\$ -	HNTB historical costs
	Subtotal				\$ -	
Landscape/Aesthetics						
40.06	Landscaping (planting and seeding) / Aesthetics	SQ FT	0	\$ 15	\$ -	HNTB historical costs Seeding 4' beyond curb line
	Subtotal				\$ -	
	Base Cost Construction Total				\$ 50,000	
90	Unallocated Contingency	Construction				
	Construction Costs (SCC 10 - 50)	30%			\$ 15,000	
	Professional Services (SCC 80)	20%			\$ 2,400	
	Subtotal				\$ 17,400	
100	Finance Charges				\$ -	
	Professional Services					
80.01	Project Development	2%			\$ 1,000	
80.02	Engineering	9%			\$ 4,500	
80.03	Project Management for Design and Construction	4%			\$ 2,000	
80.04	Construction Administration & Management	4%			\$ 2,000	
80.05	Professional Liability and other Non-Construction Insurance	2%			\$ 1,000	
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	1%			\$ 500	
80.07	Surveys, Testing, Investigation, Inspection	1%			\$ 500	
80.08	Start up	1%			\$ 500	
	Total:				\$ 12,000	
	Total Project Costs (10-100)				\$ 79,400	

Cost Estimate 7th St Transit Center

	ITEMS	UNIT	QTY	UNIT COST	TOTAL COST	Sources
Concrete						
	Bus loading/unloading areas (11" concrete)	SQ FT	1,920	\$ 22	\$ 42,240	MnDOT - 2016 Avg Bid Prices (add for 11" pavement)
10.01						
10.01	Curb and Gutter (18")	LF	0	\$ 25	\$ -	MnDOT - 2016 Avg Bid Prices
40.06	Concrete Sidewalk	SQ FT	0	\$ 15	\$ -	MnDOT - 2016 Avg Bid Prices
	Subtotal				\$ 42,240	
Paving						
40.06	Bituminous pavement	SQ FT	0	#DIV/0!	\$ -	HNTB historical costs Volume = 7" \$60/TON --> use 145#/CF 10" \$30/CY Base 10" \$25/ CY Select
40.01	Site Grading	L SUM	1	\$ 10,000	\$ 10,000	Allowance
	Demolition / Removals	CY	1,600	\$ 5	\$ 8,000	HNTB historical unit cost; sidewalk + platform SQ FT; Assume 10' platform width; 12" or 1' depth
40.01						
40.03	Catch Basins (curb and general pavement) and covers	EACH	1	\$ 3,000	\$ 3,000	MnDOT
40.03	Concrete Storm Sewer Pipe (24") includes fill	LF	50	\$ 85	\$ 4,250	MnDOT
40.07	Parking lot striping	LF	0	\$ 1	\$ -	MnDOT - 2016 Average Bid Prices
40.06	Crosswalks	SQ FT	0	\$ 17	\$ -	MnDOT - 2016 Average Bid Prices
40.07	Handicapped parking symbols and signs (each pair)	EACH	0	\$ 200	\$ -	MnDOT
40.06	Asphalt Trail	SQ FT	0	\$ 3	\$ -	MnDOT
	Subtotal				\$ 25,250	
Utilities						
40.02	Utility Relocation (<i>Fiber, Elec, etc.</i>)	L SUM	1	\$ 50,000	\$ 50,000	HNTB historical costs Utility connection for Station
	Subtotal				\$ 50,000	
Shelters						
20.01	Concrete Platform Construction Incl. tactile edge (14" depth)	LF	160	\$ 400	\$ 64,000	Allowance
20.01	Bike Rack	EACH	2	\$ 1,200	\$ 2,400	Manufacturer
20.01	Benches	EACH	2	\$ 1,200	\$ 2,400	Manufacturer
20.01	Station shelter	EACH	2	\$ 150,000	\$ 300,000	Allowance
20.01	Station signage	EACH	1	\$ 50,000	\$ 50,000	Allowance
20.01	Trash Receptacles	EACH	2	\$ 1,200	\$ 2,400	Manufacturer
	Subtotal				\$ 421,200	
Electrical and Communications						
20.01	PA System/Passenger Information Display	L SUM	1	\$ 50,000	\$ 50,000	HNTB historical costs
20.01	Site Lighting	L SUM	1	\$ 50,000	\$ 50,000	HNTB historical costs
	Transit signal priority	EACH	0	\$ 50,000	\$ -	HNTB historical costs; Assume it has it for other transit
50.02						
50.05	CCTV System	L SUM	1	\$ 100,000	\$ 100,000	HNTB historical costs
50.05	Electrical Data & Other Facilities	L SUM	1	\$ 100,000	\$ 100,000	HNTB historical costs
50.06	Smart Card Validators	EACH	2	\$ 10,000	\$ 20,000	Metro Transit
50.06	Ticketing Vending Machines	EACH	2	\$ 75,000	\$ 150,000	Metro Transit
	Subtotal				\$ 470,000	
Retaining Walls						
40.05	Retaining walls (Cast in place - 4' footing 5' avg. height)	SY	0	\$ 400	\$ -	HNTB historical costs
	Subtotal				\$ -	
Elevators						
20.07	Elevator Towers	EACH	0	\$ 1,000,000	\$ -	HNTB historical costs
	Subtotal				\$ -	
Landscape/Aesthetics						
40.06	Landscaping (planting and seeding) / Aesthetics	SQ FT	0	\$ 15	\$ -	HNTB historical costs Seeding 4' beyond curb line
	Subtotal				\$ -	
	Base Cost Construction Total				\$ 1,008,690	
90 Unallocated Contingency Construction						
	Construction Costs (SCC 10 - 50)	30%			\$ 302,607	
	Profesisonal Services (SCC 80)	20%			\$ 48,417	
	Subtotal				\$ 351,024	
100 Finance Charges						
					\$ -	
Professional Services						
80.01	Project Development	2%			\$ 20,174	
80.02	Engineering	9%			\$ 90,782	
80.03	Project Management for Design and Construction	4%			\$ 40,348	
80.04	Construction Administration & Management	4%			\$ 40,348	
80.05	Professional Liability and other Non-Construction Insurance	2%			\$ 20,174	
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	1%			\$ 10,087	
80.07	Surveys, Testing, Investigation, Inspection	1%			\$ 10,087	
80.08	Start up	1%			\$ 10,087	
	Total:				\$ 242,086	
	Total Project Costs (10-100)				\$ 1,601,800	

Bus Garage Expansion: Cost allocation to project

Total cost of bus garage expansion (2017): expands capacity by 15 vehicles	\$	3,503,438	From Redline	\$	233,563	per bus
Initial vehicle storage and maintenance allowance	\$	3,900,000	From Redline			
	\$	-	From Redline	\$	2,802,750	Agreed upon cost allocation for Stage I Cedar Avenue vehicles (7/31/12 RRA action) (12/40 of total cost; 7 BRT, 5 express)
Bus		15				
Total cost/total vehicles	\$	493,562.50				
Total cost allocation to 15 BRT vehicles	\$	7,403,438				

Attachment C

TH 169 MnPass - Marschall Rd - TH 55 - Draft Cost Estimate					
				Optimized Scenario	Notes
				Higher Build	
Segment 1	Marschall Rd	to	S of I-494	\$110,200,000	Existing Bloomington Ferry Bridge
Segment 2a	S of I-494	to	N I-494	\$20,200,000	
Segment 3	N I-494	to	S of TH 62 Interchange	\$15,300,000	Offline Station
Segment 4	S of TH 62 Interchange	to	N of TH 62 Interchange	\$29,900,000	
Segment 5	N of TH 62 Interchange	to	N of Interlachen Blvd	\$5,800,000	SB Aux and widened Excelsior Bridge
Segment 6	N of Interlachen Blvd	to	S of Bridge at 2nd St	\$21,100,000	
Segment 7	S of Bridge at 2nd St	to	S of Bridge at Minnetonka Blvd	\$25,800,000	
Segment 8c	S of Bridge at Minnetonka Blvd	to	W 16th St	\$41,700,000	
Segment 9	W 16th St	to	TH 55	\$59,300,000	Split Diamond
Total for MnPass				\$329,300,000	Low Build

LWD COST ESTIMATE WORKSHEET

ESTIMATE COMPLETED BY :		
NAME: Pamela Fincher		
Estimate's Completion Date:		03/14/17

SP		DISTRICT	METRO
TH	169	LENGTH	9.9
MSD #		ID #	
LETTING YEAR:			

Project Location:			
Marshall Rd	to	S of I-494	

Project Description:			
MNPASS (GRADING, SURFACING, DRAINAGE, UTILITIES, NOISE WALLS, RETAINING WALLS, TMC,AND BRIDGE NO'S. _)			

PROJECT ROADWAY COST CALCULATIONS		IN INCHES				
ROADWAY	LOCATION (FROM/TO)	AREA (square feet)	DEPTH (inch)	LWD FACTOR	LWD COST MULTIPLIER	CONST. COST
New Mainline:		1,227,177	10.0	193.68	\$90,000	\$17,431,200
New Shoulder:		1,656,909	6.0	209.20	\$90,000	\$18,828,000
Exist Mainline:		2,417,417	0.0	0.00	\$90,000	\$0
Exist Shoulder:		215,810	0.0	0.00	\$90,000	\$0
		5,517,313		402.88		\$36,259,200

PROJECT BRIDGE COST CALCULATIONS							
LOCATION	BRIDGE NUMBER (NB)	BRIDGE NUMBER (SB)	EXISTING SQ FT	PROPOSED SQ FT	\$ / SQ FT	COST	
Marshall Rd	70536	70014	0	0	\$250	\$0	Segment 1
CSAH 16	70037	70038	21,287	9,191	\$250	\$2,297,750	
Cantebury Rd	70039	70040	17,854	7,879	\$250	\$1,969,750	
Box Culvert	97445		3,649	3,500	\$250	\$875,000	
Box Culvert	97278		3,649	3,500	\$250	\$875,000	
Hwy 13	70525	70526	39,618	21,243	\$250	\$5,310,750	
CSAH 21	70527	70528	20,191	7,239	\$250	\$1,809,750	
Slage Coach Rd	70523	70524	24,782	7,283	\$250	\$1,820,750	
Hwy 101 Off Ramp	70521	70522	10,452	2,820	\$250	\$705,000	
Hwy 101	70519	70520	27,999	3,050	\$250	\$762,500	
Minnesota River	27624A	27624B	786,851	5,977	\$250	\$1,494,250	
CSAH 1 (Old Shakopee Rd)	27693	27694	15,984	7,414	\$250	\$1,853,500	
Pioneer Trall	27294		0	0	\$250	\$0	
Anderson Lakes Parkway	27295		0	0	\$250	\$0	
Anderson Lakes	27A15	27A16	67,240	17,918	\$250	\$4,479,500	
Welland	27A17	27A18	51,855	9,657	\$250	\$2,414,250	
						BRIDGE COST TOTALS	\$26,667,750

http://dotapp9.dot.state.mn.us/bridgeinfo3/

PROJECT COST TOTALS							
CONSTRUCTION SUB-ITEM		PROJECT RISK DETAILS		% OF RISK	CONST. COST	CONST + RISK	
ROADWAY COST (PAVEMENT)	Reconstruction			20%	\$36,259,200	\$43,511,040	
BRIDGE COST	New bridge width, \$250 / SQFT			20%	\$26,667,750	\$32,001,300	
DRAINAGE COSTS ABOVE NORMAL NEEDS	Drainage Basins		\$100,000	20%	\$0	\$0	
ROADWAY LIGHTING COST	\$480,000/ mile	9.9	\$300,000	20%	\$2,970,000	\$3,564,000	
INTERCHANGE LIGHTING COST	\$80,000/interchange		\$80,000	20%	\$0	\$0	
NOISE WALL COST			\$22	20%	\$0	\$0	
RETAINING WALL COST			\$100	20%	\$0	\$0	
TMS - TRAFFIC MANAGEMENT SYSTEM	TMS Regular (\$300,000/mile)	9.9	\$300,000	20%	\$2,970,000	\$3,564,000	
OVERHEAD SIGNS		2	\$50,000	20%	\$100,000	\$120,000	
SIGNALS			\$200,000	20%	\$0	\$0	
MEDIAN BARRIER	\$75/LIN FT	63954	\$75	20%	\$4,796,550	\$5,755,860	
NEED MORE LINES? ADD ADDITIONAL ROWS HERE (HIGHLIGHT THIS LINE, RIGHT CLICK, SELECT INSERT)					\$0	\$0	

PVMT. \$ / SQ FT	\$6.57
PVMT. \$ / SQ FT (RISK)	\$7.89
LWD PORTION COST	OTHER COSTS

ROADWAY ONLY	PVMT. \$ / MILE	\$629,500
	\$ / LANE MILE	\$629,500
TOTAL PROJECT	PROJ. \$ / MILE	\$1,536,740
	\$ / LANE MILE	\$1,536,740

TOTAL PROJECT MILES	58
TOTAL PROJECT LANE MILES	58

PROJECT ENGINEERING COSTS	
Pre-Letting 12% of Construction Cost	\$10,621,944
Construction 8% of Construction Cost	\$7,081,296
Engineering Total 20% of Construction	\$17,703,240

ESTIMATED CONSTRUCTION COST (MnDOT)	\$73,763,500	\$88,516,200
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SUB-TOTAL (CONSTRUCTION + RISK) >>>	\$88,516,200
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OVERALL PROJECT RISK	20.00%	PROJECT RISK DOLLARS	\$14,752,700
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RIGHT-OF-WAY COST	0%		\$0
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ENGINEERING DESIGN COST	12.0%	\$10,621,944.00	\$11,896,577
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RAILROAD AGREEMENT COST	0.5%	\$442,581.00	\$444,794
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MAJOR UTILITY RELOCATION COST	5.0%	\$4,425,810.00	\$4,647,101
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TRAFFIC MANAGEMENT PLAN	5.0%	\$4,425,810.00	\$4,647,101
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ESTIMATED PROJECT LANDSCAPE COST	1.0%	\$885,162.00	\$894,014
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(LANDSCAPING NOT INCLUDED IN TOTAL COST BUT IS A REMINDER FOR FUTURE PROGRAMMING NEEDS)

TOTAL COST OF CONSTRUCTION, R-O-W, RAILROAD AGREEMENTS AND UTILITIES	>>>	\$109,317,507
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CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + OTHER EXTERNAL COSTS) >>>	\$110,151,772
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LWD COST ESTIMATE WORKSHEET

ESTIMATE COMPLETED BY :		
NAME: Pamela Fincher		
Estimate's Completion Date:	03/14/17	
Project Location:		

SP		DISTRICT	METRO
TH	169	LENGTH	1.05
MSD #		ID #	
LETTING YEAR:			

S of I-494	to	N I-494
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Project Description:
MNPASS (GRADING, SURFACING, DRAINAGE, UTILITIES, NOISE WALLS, RETAINING WALLS, TMC, AND BRIDGE NO'S. _)

PROJECT ROADWAY COST CALCULATIONS						
		IN INCHES				
ROADWAY	LOCATION (FROM/TO)	AREA (square feet)	DEPTH (inch)	LWD FACTOR	LWD COST MULTIPLIER	CONST. COST
New Mainline:		281,697	10.0	44.45	\$170,000	\$7,556,500
New Shoulder:		148,635	8.0	18.76	\$170,000	\$3,189,200
Exist Mainline:		319,827	0.0	0.00	\$170,000	\$0
Exist Shoulder:		23,246	0.0	0.00	\$170,000	\$0
		773,405		63.21		\$10,745,700

PROJECT BRIDGE COST CALCULATIONS							
LOCATION	BRIDGE NUMBER (NB)	BRIDGE NUMBER (SB)		EXISTING SQ FT	PROPOSED SQ FT	\$ / SQ FT	COST
Marth Rd	27R26	27R25		9,107	3,561	\$250	\$890,250
I-494	27V04	27V03		27,009	6,339	\$250	\$1,584,750
Washington Road Overpass -	27R28	27R27		11,038	1,354	\$250	\$338,500
BRIDGE COST TOTALS							\$1,923,250

Segment 2

<http://dotapp9.dot.state.mn.us/bridgeinfo3/>

PROJECT COST TOTALS		PROJECT RISK DETAILS				% OF RISK	CONST. COST	CONST + RISK
CONSTRUCTION SUB-ITEM								
ROADWAY COST (PAVEMENT)	Reconstruction					20%	\$10,745,700	\$12,894,840
BRIDGE COST						20%	\$1,923,250	\$2,307,900
DRAINAGE COSTS ABOVE NORMAL NEEDS	Drainage Basins	1		\$100,000		20%	\$100,000	\$120,000
ROADWAY LIGHTING COST	\$480,000/ mile	1.05		\$300,000		20%	\$315,000	\$378,000
INTERCHANGE LIGHTING COST	\$80,000/interchange	1		\$80,000		20%	\$80,000	\$96,000
NOISE WALL COST				\$22		20%	\$0	\$0
RETAINING WALL COST				\$100		20%	\$0	\$0
TMS - TRAFFIC MANAGEMENT SYSTEM	TMS Regular (\$300,000/mile)		1.05	\$300,000		20%	\$315,000	\$378,000
OVERHEAD SIGNS		2		\$50,000		20%	\$100,000	\$120,000
SIGNALS				\$200,000		20%	\$0	\$0
NEED MORE LINES? ADD ADDITIONAL ROWS HERE (HIGHLIGHT THIS LINE, RIGHT CLICK, SELECT INSERT)							\$0	\$0

\$16,294,740

PVMT. \$ / SQ FT	\$13.89
PVMT. \$ / SQ FT (RISK)	\$16.67
LWD PORTION COST	OTHER COSTS

ROADWAY ONLY	PVMT. \$ / MILE	\$1,279,250
	\$ / LANE MILE	\$1,279,250
TOTAL PROJECT	PROJ. \$ / MILE	\$1,939,850
	\$ / LANE MILE	\$1,939,850

TOTAL PROJECT MILES	8
TOTAL PROJECT LANE MILES	8

PROJECT ENGINEERING COSTS	
Pre-Letting 12% of Construction Cost	\$1,955,369
Construction 8% of Construction Cost	\$1,303,579
Engineering Total 20% of Construction	\$3,258,948

ESTIMATED CONSTRUCTION COST (MnDOT)	\$13,578,950	\$16,294,740
SUB-TOTAL (CONSTRUCTION + RISK) >>>		\$16,294,740

OVERALL PROJECT RISK 20.00% PROJECT RISK DOLLARS \$2,715,790

RIGHT-OF-WAY COST	0%		\$0
ENGINEERING DESIGN COST	12.0%	\$1,955,368.80	\$2,190,013
RAILROAD AGREEMENT COST		\$0.00	\$0
MAJOR UTILITY RELOCATION COST	5.0%	\$814,737.00	\$855,474
TRAFFIC MANAGEMENT PLAN	5.0%	\$814,737.00	\$855,474
ESTIMATED PROJECT LANDSCAPE COST	1.0%	\$162,947.40	\$164,577

(LANDSCAPING NOT INCLUDED IN TOTAL COST BUT IS A REMINDER FOR FUTURE PROGRAMMING NEEDS)

TOTAL COST OF CONSTRUCTION, R-O-W, RAILROAD AGREEMENTS AND UTILITIES >>> \$20,042,530

CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + OTHER EXTERNAL COSTS) >>>	\$20,195,701
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LWD COST ESTIMATE WORKSHEET

ESTIMATE COMPLETED BY :		
NAME: Pamela Fincher		
Estimate's Completion Date:	03/14/17	
Project Location:		
N I-494	to	S of TH 62 Interchange
Project Description:		
MNPASS (GRADING, SURFACING, DRAINAGE, UTILITIES, NOISE WALLS, RETAINING WALLS, TMC, AND BRIDGE NO'S. _)		

SP		DISTRICT	METRO
TH	169	LENGTH	1.1
MSD #		ID #	
LETTING YEAR:			

PROJECT ROADWAY COST CALCULATIONS

ROADWAY	LOCATION (FROM/TO)	AREA (square feet)	DEPTH (inch)	LWD FACTOR	LWD COST MULTIPLIER	CONST. COST
New Mainline:		335,000	10.0	52.87	\$90,000	\$4,758,300
New Shoulder:		217,313	8.0	27.43	\$90,000	\$2,468,700
Exist Mainline:		218,159	0.0	0.00	\$90,000	\$0
Exist Shoulder:		0	0.0	0.00	\$90,000	\$0
		770,472		80.30		\$7,227,000

PROJECT BRIDGE COST CALCULATIONS

LOCATION	BRIDGE NUMBER (NB) BRIDGE NUMBER (SB)	EXISTING SQ FT	PROPOSED SQ FT	\$ / SQ FT	COST
Valley View Rd	27589	0	0	\$250	\$0
http://dotapp9.dot.state.mn.us/bridgeinfo3/					Segment 3
BRIDGE COST TOTALS					\$0

PROJECT COST TOTALS

CONSTRUCTION SUB-ITEM	PROJECT RISK DETAILS	% OF RISK	CONST. COST	CONST + RISK
ROADWAY COST (PAVEMENT)	Reconstruction	20%	\$7,227,000	\$8,672,400
BRIDGE COST		20%	\$0	\$0
DRAINAGE COSTS ABOVE NORMAL NEEDS	Drainage Basins	20%	\$200,000	\$240,000
ROADWAY LIGHTING COST	\$300,000/ mile	20%	\$330,000	\$396,000
INTERCHANGE LIGHTING COST	\$80,000/interchange	20%	\$0	\$0
NOISE WALL COST		20%	\$1,540,000	\$1,848,000
RETAINING WALL COST	Valley View Road Abutments	20%	\$100,000	\$120,000
TMS - TRAFFIC MANAGEMENT SYSTEM	TMS Regular (\$300,000/mile)	20%	\$330,000	\$396,000
OVERHEAD SIGNS		20%	\$100,000	\$120,000
SIGNALS		20%	\$0	\$0
MEDIAN BARRIER	\$75/LIN FT	20%	\$440,550	\$528,660
NEED MORE LINES? ADD ADDITIONAL ROWS HERE (HIGHLIGHT THIS LINE, RIGHT CLICK, SELECT INSERT)			\$0	\$0

PVMT. \$ / SQ FT	\$9.38
PVMT. \$ / SQ FT (RISK)	\$11.26
LWD PORTION COST	OTHER COSTS

ROADWAY ONLY	PVMT. \$ / MILE	\$1,062,794
	\$ / LANE MILE	\$1,062,794
TOTAL PROJECT	PROJ. \$ / MILE	\$1,811,920.59
	\$ / LANE MILE	\$1,811,921

TOTAL PROJECT MILES	7
TOTAL PROJECT LANE MILES	7

PROJECT ENGINEERING COSTS	
Pre-Letting 12% of Construction Cost	\$1,478,527
Construction 8% of Construction Cost	\$985,685
Engineering Total 20% of Construction	\$2,464,212

ESTIMATED CONSTRUCTION COST (MnDOT)	\$10,267,550	\$12,321,060
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SUB-TOTAL (CONSTRUCTION + RISK) >>>	\$12,321,060
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OVERALL PROJECT RISK	20.00%	PROJECT RISK DOLLARS	\$2,053,510
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RIGHT-OF-WAY COST	0%	\$0
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ENGINEERING DESIGN COST	12.0%	\$1,478,527.20	\$1,655,950
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RAILROAD AGREEMENT COST		\$0.00	\$0
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MAJOR UTILITY RELOCATION COST	5.0%	\$616,053.00	\$646,856
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TRAFFIC MANAGEMENT PLAN	5.0%	\$616,053.00	\$646,856
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ESTIMATED PROJECT LANDSCAPE COST	1.0%	\$123,210.60	\$124,443
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(LANDSCAPING NOT INCLUDED IN TOTAL COST BUT IS A REMINDER FOR FUTURE PROGRAMMING NEEDS)

TOTAL COST OF CONSTRUCTION, R-O-W, RAILROAD AGREEMENTS AND UTILITIES	>>>	\$15,154,904
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CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + OTHER EXTERNAL COSTS) >>>	\$15,270,722
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LWD COST ESTIMATE WORKSHEET

ESTIMATE COMPLETED BY :		
NAME: Pamela Fincher		
Estimate's Completion Date:		03/14/17

SP		DISTRICT	METRO
TH	169	LENGTH	0.9
MSD #		ID #	
LETTING YEAR:			

Project Location:		
S of TH 62 Interchange	to	N of TH 62 Interchange
Project Description:		

MNPASS (GRADING, SURFACING, DRAINAGE, UTILITIES, NOISE WALLS, RETAINING WALLS, TMC, AND BRIDGE NO'S. _)

PROJECT ROADWAY COST CALCULATIONS

ROADWAY	LOCATION (FROM/TO)	AREA (square feet)	DEPTH (Inch)	LWD FACTOR	LWD COST MULTIPLIER	CONST. COST
New Mainline:		338,611	10.0	53.12	\$170,000	\$9,030,400
New Shoulder:		131,747	8.0	16.63	\$170,000	\$2,827,100
Exist Mainline:		141,632	0.0	0.00	\$170,000	\$0
Exist Shoulder:		0	0.0	0.00	\$170,000	\$0
		609,990		69.75		\$11,857,500

PROJECT BRIDGE COST CALCULATIONS

LOCATION	BRIDGE NUMBER (NB)	BRIDGE NUMBER (SB)	EXISTING SQ FT	PROPOSED SQ FT	\$ / SQ FT	COST
TH 62	27080	27079	25,022	40,648	\$170	\$6,910,160
BRIDGE COST TOTALS						\$6,910,160

Segment 4

PROJECT COST TOTALS

CONSTRUCTION SUB-ITEM	PROJECT RISK DETAILS	% OF RISK	CONST. COST	CONST + RISK
ROADWAY COST (PAVEMENT)	Reconstruction	20%	\$11,857,500	\$14,229,000
BRIDGE COST		20%	\$6,910,160	\$8,292,192
DRAINAGE COSTS ABOVE NORMAL NEEDS	Drainage Basins	20%	\$200,000	\$240,000
ROADWAY LIGHTING COST	\$300,000/ mile	20%	\$270,000	\$324,000
INTERCHANGE LIGHTING COST	\$80,000/interchange	20%	\$80,000	\$96,000
NOISE WALL COST	750	20%	\$330,000	\$396,000
RETAINING WALL COST		20%	\$0	\$0
TMS - TRAFFIC MANAGEMENT SYSTEM	TMS Regular (\$300,000/mile)	20%	\$270,000	\$324,000
OVERHEAD SIGNS	4	20%	\$200,000	\$240,000
SIGNALS		20%	\$0	\$0
NEED MORE LINES? ADD ADDITIONAL ROWS HERE (HIGHLIGHT THIS LINE, RIGHT CLICK, SELECT INSERT)			\$0	\$0

\$24,141,192

PVMT. \$ / SQ FT	\$19.44
PVMT. \$ / SQ FT (RISK)	\$23.33
LWD PORTION COST	OTHER COSTS

ROADWAY ONLY	PVMT. \$ / MILE	\$1,992,857
	\$ / LANE MILE	\$1,992,857
TOTAL PROJECT	PROJ. \$ / MILE	\$4,057,343
	\$ / LANE MILE	\$4,057,343

TOTAL PROJECT MILES	6
TOTAL PROJECT LANE MILES	6

PROJECT ENGINEERING COSTS	
Pre-Letting 12% of Construction Cost	\$2,896,943
Construction 8% of Construction Cost	\$1,931,295
Engineering Total 20% of Construction	\$4,828,238

ESTIMATED CONSTRUCTION COST (MnDOT)	\$20,117,660	\$24,141,192
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SUB-TOTAL (CONSTRUCTION + RISK) >>>	\$24,141,192
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OVERALL PROJECT RISK	20.00%	PROJECT RISK DOLLARS	\$4,023,532
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RIGHT-OF-WAY COST	0%		\$0
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ENGINEERING DESIGN COST	12.0%	\$2,896,943.04	\$3,244,576
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RAILROAD AGREEMENT COST		\$0.00	\$0
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MAJOR UTILITY RELOCATION COST	5.0%	\$1,207,059.60	\$1,267,413
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TRAFFIC MANAGEMENT PLAN	5.0%	\$1,207,059.60	\$1,267,413
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ESTIMATED PROJECT LANDSCAPE COST	1.0%	\$241,411.92	\$243,826
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(LANDSCAPING NOT INCLUDED IN TOTAL COST BUT IS A REMINDER FOR FUTURE PROGRAMMING NEEDS)

TOTAL COST OF CONSTRUCTION, R-O-W, RAILROAD AGREEMENTS AND UTILITIES	>>>	\$29,693,666
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CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + OTHER EXTERNAL COSTS) >>>	\$29,920,593
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LWD COST ESTIMATE WORKSHEET

ESTIMATE COMPLETED BY :		
NAME: Pamela Fincher		
Estimate's Completion Date:	03/14/17	
Project Location:		
N of TH 62 Interchange	to	N of Interlachen Blvd
Project Description:		
MNPASS (GRADING, SURFACING, DRAINAGE, UTILITIES, NOISE WALLS, RETAINING WALLS, TMC, AND BRIDGE NO'S. _)		

SP		DISTRICT	METRO
TH	169	LENGTH	1.1
MSD #		ID #	
LETTING YEAR:			

PROJECT ROADWAY COST CALCULATIONS

ROADWAY	LOCATION (FROM/TO)	AREA (square feet)	DEPTH (inch)	LWD FACTOR	LWD COST MULTIPLIER	CONST. COST
New Mainline:		101,870	10.0	16.07	\$90,000	\$1,446,300
New Shoulder:		56,583	8.0	7.14	\$90,000	\$642,600
Exist Mainline:		384,589	0.0	0.00	\$90,000	\$0
Exist Shoulder:		83,804	0.0	0.00	\$90,000	\$0
		626,846		23.21		\$2,088,900

PROJECT BRIDGE COST CALCULATIONS

LOCATION	BRIDGE NUMBER (NB) BRIDGE NUMBER (SB)	EXISTING SQ FT	PROPOSED SQ FT	\$ / SQ FT	COST
Bren Rd	27B69	0	0	\$250	\$0
Nine Mile Creek	27568	11,072	0	\$250	\$0
BRIDGE COST TOTALS					\$0

PROJECT COST TOTALS

CONSTRUCTION SUB-ITEM	PROJECT RISK DETAILS	% OF RISK	CONST. COST	CONST + RISK
ROADWAY COST (PAVEMENT)	Reconstruction	20%	\$2,088,900	\$2,506,680
BRIDGE COST		20%	\$0	\$0
DRAINAGE COSTS ABOVE NORMAL NEEDS	Drainage Basins	20%	\$200,000	\$240,000
ROADWAY LIGHTING COST	\$300,000/ mile	20%	\$330,000	\$396,000
INTERCHANGE LIGHTING COST	\$80,000/interchange	20%	\$80,000	\$96,000
NOISE WALL COST	750	20%	\$330,000	\$396,000
RETAINING WALL COST		20%	\$0	\$0
TMS - TRAFFIC MANAGEMENT SYSTEM	TMS Regular (\$300,000/mile)	20%	\$330,000	\$396,000
OVERHEAD SIGNS	4	20%	\$200,000	\$240,000
SIGNALS		20%	\$0	\$0
MEDIAN BARRIER	\$75/LIN FT	20%	\$366,300	\$439,560
NEED MORE LINES? ADD ADDITIONAL ROWS HERE (HIGHLIGHT THIS LINE, RIGHT CLICK, SELECT INSERT)				\$0

	ESTIMATED CONSTRUCTION COST (MnDOT)	\$3,925,200	\$4,710,240
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PVMT. \$ / SQ FT	\$3.33
PVMT. \$ / SQ FT (RISK)	\$4.00
LWD PORTION COST	OTHER COSTS

ROADWAY ONLY	PVMT. \$ / MILE	\$334,224
	\$ / LANE MILE	\$334,224
TOTAL PROJECT	PROJ. \$ / MILE	\$753,638
	\$ / LANE MILE	\$753,638

TOTAL PROJECT MILES	6
TOTAL PROJECT LANE MILES	6

PROJECT ENGINEERING COSTS	
Pre-Letting 12% of Construction Cost	\$565,229
Construction 8% of Construction Cost	\$376,819
Engineering Total 20% of Construction	\$942,048

SUB-TOTAL (CONSTRUCTION + RISK) >>>	\$4,710,240
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OVERALL PROJECT RISK 20.00% PROJECT RISK DOLLARS \$785,040

RIGHT-OF-WAY COST	0%	\$0
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ENGINEERING DESIGN COST	12.0%	\$565,228.80	\$633,056
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RAILROAD AGREEMENT COST		\$0.00	\$0
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MAJOR UTILITY RELOCATION COST	5.0%	\$235,512.00	\$247,288
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TRAFFIC MANAGEMENT PLAN	5.0%	\$235,512.00	\$247,288
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ESTIMATED PROJECT LANDSCAPE COST	1.0%	\$47,102.40	\$47,573
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(LANDSCAPING NOT INCLUDED IN TOTAL COST BUT IS A REMINDER FOR FUTURE PROGRAMMING NEEDS)

TOTAL COST OF CONSTRUCTION, R-O-W, RAILROAD AGREEMENTS AND UTILITIES	>>>	\$5,793,595
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CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + OTHER EXTERNAL COSTS) >>>	\$5,837,871
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LWD COST ESTIMATE WORKSHEET

ESTIMATE COMPLETED BY :		
NAME: Pamela Fincher		
Estimate's Completion Date:		03/14/17
Project Location:		

SP		DISTRICT	METRO
TH	169	LENGTH	1.1
MSD #		ID #	
LETTING YEAR:			

N of Interlachen Blvd	to	S of Bridge at 2nd St
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Project Description:
MNPASS (GRADING, SURFACING, DRAINAGE, UTILITIES, NOISE WALLS, RETAINING WALLS, TMC,AND BRIDGE NO'S. _)

PROJECT ROADWAY COST CALCULATIONS						
IN INCHES						
ROADWAY	LOCATION (FROM/TO)	AREA (square feet)	DEPTH (inch)	LWD FACTOR	LWD COST MULTIPLIER	CONST. COST
New Mainline:		191,727	10.0	30.25	\$170,000	\$5,142,500
New Shoulder:		127,669	8.0	18.11	\$170,000	\$2,738,700
Exist Mainline:		253,064	0.0	0.00	\$170,000	\$0
Exist Shoulder:		0	0.0	0.00	\$170,000	\$0
		572,460		46.36		\$7,881,200

PROJECT BRIDGE COST CALCULATIONS						
LOCATION	BRIDGE NUMBER (NB) BRIDGE NUMBER (SB)	EXISTING SQ FT	PROPOSED SQ FT	\$ / SQ FT	COST	
Interlachen Rd	27567	11,072	0	\$250	\$0	Segment 6
CSAH 3 Excelsior Blvd/ RR	27586	104,702	12,603	\$250	\$3,150,750	
BRIDGE COST TOTALS					\$3,150,750	

<http://dotapp9.dot.state.mn.us/bridgeinfo3/>

PROJECT COST TOTALS		PROJECT RISK DETAILS				CONST. COST	CONST + RISK
CONSTRUCTION SUB-ITEM				% OF RISK			
ROADWAY COST (PAVEMENT)	Reconstruction			20%		\$7,881,200	\$9,457,440
BRIDGE COST				20%		\$3,150,750	\$3,780,900
DRAINAGE COSTS ABOVE NORMAL NEEDS	Drainage Basins	2		20%	\$200,000	\$200,000	\$240,000
ROADWAY LIGHTING COST	\$300,000/ mile	1.1		20%	\$300,000	\$330,000	\$396,000
INTERCHANGE LIGHTING COST	\$80,000/interchange	2		20%	\$80,000	\$160,000	\$192,000
NOISE WALL COST		1750	20	20%	\$22	\$770,000	\$924,000
RETAINING WALL COST	CSAH 3 WB Approach	1000	10	20%	\$100	\$1,000,000	\$1,200,000
RETAINING WALL COST	Interlachen Road	200	5	20%	\$100	\$100,000	\$120,000
TMS - TRAFFIC MANAGEMENT SYSTEM	TMS Regular (\$300,000/mile)		1.1	20%	\$300,000	\$330,000	\$396,000
OVERHEAD SIGNS		3		20%	\$50,000	\$150,000	\$180,000
SIGNALS				20%	\$200,000	\$0	\$0
NEED MORE LINES? ADD ADDITIONAL ROWS HERE (HIGHLIGHT THIS LINE. RIGHT CLICK. SELECT INSERT)						\$0	\$0

		ESTIMATED CONSTRUCTION COST (MnDOT)	\$14,071,950	\$16,886,340
		SUB-TOTAL (CONSTRUCTION + RISK) >>>		\$16,886,340
		OVERALL PROJECT RISK	20.00%	PROJECT RISK DOLLARS \$2,814,390

ROADWAY ONLY	PVMT. \$ / SQ FT	\$13.77
	PVMT. \$ / SQ FT (RISK)	\$16.52
TOTAL PROJECT	LWD PORTION COST	OTHER COSTS

ROADWAY ONLY	PVMT. \$ / MILE	\$1,079,616
	\$ / LANE MILE	\$1,079,616
TOTAL PROJECT	PROJ. \$ / MILE	\$2,313,197
	\$ / LANE MILE	\$2,313,197

TOTAL PROJECT MILES	7
TOTAL PROJECT LANE MILES	7

PROJECT ENGINEERING COSTS	
Pre-Letting 12% of Construction Cost	\$2,026,361
Construction 8% of Construction Cost	\$1,350,907
Engineering Total 20% of Construction	\$3,377,268

RIGHT-OF-WAY COST	0%		\$0
ENGINEERING DESIGN COST	12.0%	\$2,026,360.80	\$2,269,524
RAILROAD AGREEMENT COST	1.0%	\$168,863.40	\$170,552
MAJOR UTILITY RELOCATION COST	5.0%	\$844,317.00	\$886,533
TRAFFIC MANAGEMENT PLAN	5.0%	\$844,317.00	\$886,533
ESTIMATED PROJECT LANDSCAPE COST	1.0%	\$168,863.40	\$170,552
(LANDSCAPING NOT INCLUDED IN TOTAL COST BUT IS A REMINDER FOR FUTURE PROGRAMMING NEEDS)			
TOTAL COST OF CONSTRUCTION, R-O-W, RAILROAD AGREEMENTS AND UTILITIES	>>>	\$20,939,062	
CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + OTHER EXTERNAL COSTS) >>>			\$21,099,482

LWD COST ESTIMATE WORKSHEET

ESTIMATE COMPLETED BY :	
NAME:	Pamela Fincher
Estimate's Completion Date:	03/14/17

SP		DISTRICT	METRO
TH	169	LENGTH	1.3
MSD #		ID #	
LETTING YEAR:			

Project Location:			
S of Bridge at 2nd St	to	S of Bridge at Minnetonka Blvd	

Project Description:			
MNPASS (GRADING, SURFACING, DRAINAGE, UTILITIES, NOISE WALLS, RETAINING WALLS, TMC, AND BRIDGE NO'S. _)			

PROJECT ROADWAY COST CALCULATIONS						
		IN INCHES				
ROADWAY	LOCATION (FROM/TO)	AREA (square feet)	DEPTH (Inch)	LWD FACTOR	LWD COST MULTIPLIER	CONST. COST
New Mainline:		358,901	10.0	56.80	\$170,000	\$9,656,000
New Shoulder:		210,604	8.0	26.59	\$170,000	\$4,520,300
Exist Mainline:		332,373	0.0	0.00	\$170,000	\$0
Exist Shoulder:		0	0.0	0.00	\$170,000	\$0
		902,878		83.39		\$14,176,300

PROJECT BRIDGE COST CALCULATIONS							
LOCATION	BRIDGE NUMBER (NB)	BRIDGE NUMBER (SB)	EXISTING SQ FT	PROPOSED SQ FT	\$ / SQ FT	COST	
2nd St	27587		11,117	2,489	\$250	\$617,250	Segment 7
CSAH 7	27033		27,181	0	\$250	\$0	
36th St	27583		12,327	0	\$250	\$0	
Minnehaha Creek	91115		4,053	907	\$250	\$226,750	
						BRIDGE COST TOTALS	\$844,000

PROJECT COST TOTALS		PROJECT RISK DETAILS		% OF RISK	CONST. COST	CONST + RISK
CONSTRUCTION SUB-ITEM						
ROADWAY COST (PAVEMENT)	Reconstruction			20%	\$14,176,300	\$17,011,560
BRIDGE COST				20%	\$844,000	\$1,012,800
DRAINAGE COSTS ABOVE NORMAL NEEDS	Drainage Basins	2		20%	\$200,000	\$240,000
ROADWAY LIGHTING COST	\$300,000/ mile	1.3		20%	\$390,000	\$468,000
INTERCHANGE LIGHTING COST	\$80,000/interchange	2		20%	\$160,000	\$192,000
NOISE WALL COST		1400	20	20%	\$616,000	\$739,200
RETAINING WALL COST	CSAH 7 / 36th St	400	5	20%	\$200,000	\$240,000
TMS - TRAFFIC MANAGEMENT SYSTEM	TMS Regular (\$300,000/mile)		1.3	20%	\$390,000	\$468,000
OVERHEAD SIGNS		4		20%	\$200,000	\$240,000
SIGNALS				20%	\$0	\$0
NEED MORE LINES? ADD ADDITIONAL ROWS HERE (HIGHLIGHT THIS LINE, RIGHT CLICK, SELECT INSERT)					\$0	\$0

						\$20,611,560
	ESTIMATED CONSTRUCTION COST (MnDOT)	\$17,176,300				\$20,611,560

PVMT. \$ / SQ FT	\$15.70
PVMT. \$ / SQ FT (RISK)	\$18.84
LWD PORTION COST	OTHER COSTS

ROADWAY ONLY	PVMT. \$ / MILE	\$1,642,677
	\$ / LANE MILE	\$1,642,677
TOTAL PROJECT	PROJ. \$ / MILE	\$2,388,362
	\$ / LANE MILE	\$2,388,362

TOTAL PROJECT MILES	9
TOTAL PROJECT LANE MILES	9

PROJECT ENGINEERING COSTS	
Pre-Letting 12% of Construction Cost	\$2,473,387
Construction 8% of Construction Cost	\$1,648,925
Engineering Total 20% of Construction	\$4,122,312

SUB-TOTAL (CONSTRUCTION + RISK) >>>	\$20,611,560
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OVERALL PROJECT RISK	20.00%	PROJECT RISK DOLLARS	\$3,435,260
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RIGHT-OF-WAY COST	0%		\$0
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ENGINEERING DESIGN COST	12.0%	\$2,473,387.20	\$2,770,194
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RAILROAD AGREEMENT COST	1.0%	\$206,115.60	\$208,177
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MAJOR UTILITY RELOCATION COST	5.0%	\$1,030,578.00	\$1,082,107
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TRAFFIC MANAGEMENT PLAN	5.0%	\$1,030,578.00	\$1,082,107
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ESTIMATED PROJECT LANDSCAPE COST	1.0%	\$206,115.60	\$208,177
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(LANDSCAPING NOT INCLUDED IN TOTAL COST BUT IS A REMINDER FOR FUTURE PROGRAMMING NEEDS)

TOTAL COST OF CONSTRUCTION, R-O-W, RAILROAD AGREEMENTS AND UTILITIES >>>	\$25,558,334
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CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + OTHER EXTERNAL COSTS) >>>	\$25,754,144
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LWD COST ESTIMATE WORKSHEET

ESTIMATE COMPLETED BY :		
NAME: Pamela Fincher		
Estimate's Completion Date:		03/14/17

SP		DISTRICT	METRO
TH	169	LENGTH	1.4
MSD #		ID #	
LETTING YEAR:			

Project Location:		
S of Bridge at Minnetonka Blvd	to	W 16th St
Project Description:		
MNPASS (GRADING, SURFACING, DRAINAGE, UTILITIES, NOISE WALLS, RETAINING WALLS, TMC,AND BRIDGE NO'S. _)		

PROJECT ROADWAY COST CALCULATIONS		IN INCHES				
ROADWAY	LOCATION (FROM/TO)	AREA (square feet)	DEPTH (inch)	LWD FACTOR	LWD COST MULTIPLIER	CONST. COST
New Mainline:		412,557	10.0	65.11	\$170,000	\$11,068,700
New Shoulder:		189,741	8.0	23.95	\$170,000	\$4,071,500
New Walk:		0	6.0	0.00	\$170,000	\$0
Exist Mainline:		288,016	0.0	0.00	\$170,000	\$0
Exist Shoulder:		0	0.0	0.00	\$170,000	\$0
		890,324		89.06		\$15,140,200

PROJECT BRIDGE COST CALCULATIONS						
LOCATION	BRIDGE NUMBER (NB)	BRIDGE NUMBER (SB)	EXISTING SQ FT	PROPOSED SQ FT	\$ / SQ FT	COST
Minnetonka Blvd			10,944	8,788	\$250	\$2,196,500
Railroad Tracks			14,936	3,255	\$250	\$813,750
Proposed Jordan Ave Bridge			0	6,018	\$170	\$1,023,060
Cedar Lake Rd			9,222	13,294	\$170	\$2,259,980
BRIDGE COST TOTALS						\$6,293,290

http://dotapp9.dot.state.mn.us/bridgeinfo3/

PROJECT COST TOTALS						
CONSTRUCTION SUB-ITEM	PROJECT RISK DETAILS	% OF RISK	CONST. COST	CONST + RISK		
ROADWAY COST (PAVEMENT)	Reconstruction	20%	\$15,140,200	\$18,168,240		
BRIDGE COST		20%	\$6,293,290	\$7,551,948		
DRAINAGE COSTS ABOVE NORMAL NEEDS	Drainage Basins 2	20%	\$200,000	\$240,000		
ROADWAY LIGHTING COST	\$300,000/ mile 1.4	20%	\$420,000	\$504,000		
INTERCHANGE LIGHTING COST	\$80,000/interchange 2	20%	\$160,000	\$192,000		
NOISE WALL COST	4000 20	20%	\$1,760,000	\$2,112,000		
RETAINING WALL COST	CSAH 7 / 36th St 1800 15	20%	\$2,700,000	\$3,240,000		
TMS - TRAFFIC MANAGEMENT SYSTEM	TMS Regular (\$300,000/mile) 1.4	20%	\$420,000	\$504,000		
OVERHEAD SIGNS	3	20%	\$150,000	\$180,000		
SIGNALS	3	20%	\$600,000	\$720,000		
NEED MORE LINES? ADD ADDITIONAL ROWS HERE (HIGHLIGHT THIS LINE, RIGHT CLICK, SELECT INSERT)			\$0	\$0		

PVMT. \$ / SQ FT	\$17.01
PVMT. \$ / SQ FT (RISK)	\$20.41
LWD PORTION COST	OTHER COSTS

ROADWAY ONLY	PVMT. \$ / MILE	\$1,754,368
	\$ / LANE MILE	\$1,754,368
TOTAL PROJECT	PROJ. \$ / MILE	\$3,871,632
	\$ / LANE MILE	\$3,871,632

TOTAL PROJECT MILES	9
TOTAL PROJECT LANE MILES	9

PROJECT ENGINEERING COSTS	
Pre-Letting 12% of Construction Cost	\$4,009,463
Construction 8% of Construction Cost	\$2,672,975
Engineering Total 20% of Construction	\$6,682,438

ESTIMATED CONSTRUCTION COST (MnDOT)	\$27,843,490	\$33,412,188
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SUB-TOTAL (CONSTRUCTION + RISK) >>>	\$33,412,188
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OVERALL PROJECT RISK	20.00%	PROJECT RISK DOLLARS	\$5,568,698
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RIGHT-OF-WAY COST	0%	\$0
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ENGINEERING DESIGN COST	12.0%	\$4,009,462.56	\$4,490,598
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RAILROAD AGREEMENT COST	1.0%	\$334,121.88	\$337,463
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MAJOR UTILITY RELOCATION COST	5.0%	\$1,670,609.40	\$1,754,140
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TRAFFIC MANAGEMENT PLAN	5.0%	\$1,670,609.40	\$1,754,140
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ESTIMATED PROJECT LANDSCAPE COST	1.0%	\$334,121.88	\$337,463
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(LANDSCAPING NOT INCLUDED IN TOTAL COST BUT IS A REMINDER FOR FUTURE PROGRAMMING NEEDS)

TOTAL COST OF CONSTRUCTION, R-O-W, RAILROAD AGREEMENTS AND UTILITIES	>>>	\$41,431,113
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CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + OTHER EXTERNAL COSTS) >>>	\$41,748,529
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LWD COST ESTIMATE WORKSHEET

ESTIMATE COMPLETED BY :	
NAME: Pamela Fincher	
Estimate's Completion Date:	03/14/17
Project Location:	
W 16th St	to TH 55

SP		DISTRICT	METRO
TH	169	LENGTH	1.35
MSD #		ID #	
LETTING YEAR:			

Project Description:	
MNPASS (GRADING, SURFACING, DRAINAGE, UTILITIES, NOISE WALLS, RETAINING WALLS, TMC, AND BRIDGE NO'S. _.)	

PROJECT ROADWAY COST CALCULATIONS

ROADWAY	LOCATION (FROM/TO)	AREA (square feet)	DEPTH (inch)	LWD FACTOR	LWD COST MULTIPLIER	CONST. COST
New Mainline:		632,173	10.0	99.77	\$170,000	\$16,960,900
New Shoulder:		221,086	8.0	27.91	\$170,000	\$4,744,700
New Walk:		62,053	6.0	5.87	\$170,000	\$997,900
Exist Mainline:		405,869	0.0	0.00	\$170,000	\$0
Exist Shoulder:		22,872	0.0	0.00	\$170,000	\$0
		1,343,853		133.55		\$22,703,500

PROJECT BRIDGE COST CALCULATIONS

LOCATION	BRIDGE NUMBER (NB)	BRIDGE NUMBER (SB)	BR REMOVAL SQ FT	EXISTING SQ FT	PROPOSED SQ FT	\$ / SQ FT	COST
Bridges				71,095	67,529	\$170	\$11,479,930
BRIDGE COST TOTALS							\$11,479,930

PROJECT COST TOTALS

CONSTRUCTION SUB-ITEM	PROJECT RISK DETAILS	% OF RISK	CONST. COST	CONST + RISK
ROADWAY COST (PAVEMENT)	Reconstruction	20%	\$22,703,500	\$27,244,200
BRIDGE COST		20%	\$11,479,930	\$13,775,916
DRAINAGE COSTS ABOVE NORMAL NEEDS	Drainage Basins	20%	\$400,000	\$480,000
ROADWAY LIGHTING COST	\$300,000/ mile	20%	\$405,000	\$486,000
INTERCHANGE LIGHTING COST	\$80,000/interchange	20%	\$240,000	\$288,000
NOISE WALL COST		20%	\$880,000	\$1,056,000
RETAINING WALL COST	CSAH 7 / 36th St	20%	\$2,250,000	\$2,700,000
TMS - TRAFFIC MANAGEMENT SYSTEM	TMS Regular (\$300,000/mile)	20%	\$405,000	\$486,000
OVERHEAD SIGNS		20%	\$500,000	\$600,000
SIGNALS		20%	\$600,000	\$720,000
NEED MORE LINES? ADD ADDITIONAL ROWS HERE (HIGHLIGHT THIS LINE, RIGHT CLICK, SELECT INSERT)			\$0	\$0

ESTIMATED CONSTRUCTION COST (MnDOT)	\$39,863,430	\$47,836,116
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PVMT. \$ / SQ FT	\$16.89
PVMT. \$ / SQ FT (RISK)	\$20.27
LWD PORTION COST	OTHER COSTS

ROADWAY ONLY	PVMT. \$ / MILE	\$2,837,938
	\$ / LANE MILE	\$2,837,938
TOTAL PROJECT	PROJ. \$ / MILE	\$5,979,515
	\$ / LANE MILE	\$5,979,515

TOTAL PROJECT MILES	8
TOTAL PROJECT LANE MILES	8

PROJECT ENGINEERING COSTS	
Pre-Letting 12% of Construction Cost	\$5,740,334
Construction 8% of Construction Cost	\$3,826,889
Engineering Total 20% of Construction	\$9,567,223

SUB-TOTAL (CONSTRUCTION + RISK) >>>	\$47,836,116
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OVERALL PROJECT RISK 20.00% PROJECT RISK DOLLARS \$7,972,686

RIGHT-OF-WAY COST	0%	\$0
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ENGINEERING DESIGN COST	12.0%	\$5,740,333.92	\$6,429,174
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RAILROAD AGREEMENT COST		\$0.00	\$0
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MAJOR UTILITY RELOCATION COST	5.0%	\$2,391,805.80	\$2,511,396
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TRAFFIC MANAGEMENT PLAN	5.0%	\$2,391,805.80	\$2,511,396
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ESTIMATED PROJECT LANDSCAPE COST	1.0%	\$478,361.16	\$483,145
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(LANDSCAPING NOT INCLUDED IN TOTAL COST BUT IS A REMINDER FOR FUTURE PROGRAMMING NEEDS)

TOTAL COST OF CONSTRUCTION, R-O-W, RAILROAD AGREEMENTS AND UTILITIES >>> \$58,838,423

CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + OTHER EXTERNAL COSTS) >>>	\$59,288,082
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LWD COST ESTIMATE WORKSHEET

ESTIMATE COMPLETED BY :		
NAME: Pamela Fincher		
Estimate's Completion Date:		03/14/17
Project Location:		
Marshall Rd	to	TH 55
Project Description:		
Rehab		

SP		DISTRICT	METRO
TH	169	LENGTH	1
MSD #		ID #	
LETTING YEAR:			

PROJECT ROADWAY COST CALCULATIONS

ROADWAY	LOCATION (FROM/TO)	AREA (square feet)	DEPTH (inch)	LWD FACTOR	LWD COST MULTIPLIER	CONST. COST
New Mainline:			10.0	0.00	\$170,000	\$0
New Shoulder:			8.0	0.00	\$170,000	\$0
New Walk:			6.0	0.00	\$170,000	\$0
Exist Mainline:		4,626,553	8.0	584.16	\$170,000	\$99,307,200
Exist Shoulder:		322,286	8.0	40.69	\$170,000	\$8,917,300
		4,948,839		624.85		\$106,224,500

PROJECT BRIDGE COST CALCULATIONS

LOCATION	BRIDGE NUMBER (NB)	BRIDGE NUMBER (SB)	EXISTING SQ FT	PROPOSED SQ FT	\$ / SQ FT	COST	
Bridges			1,427,149		\$75	\$107,036,175	Segment 9
						BRIDGE COST TOTALS	\$107,036,175

PROJECT COST TOTALS

CONSTRUCTION SUB-ITEM	PROJECT RISK DETAILS	% OF RISK	CONST. COST	CONST + RISK
ROADWAY COST (PAVEMENT)	Reconstruction	20%	\$106,224,500	\$127,469,400
BRIDGE COST	New bridge width, \$160 / SQFT	20%	\$107,036,175	\$128,443,410
NEED MORE LINES? ADD ADDITIONAL ROWS HERE (HIGHLIGHT THIS LINE, RIGHT CLICK, SELECT INSERT)			\$0	\$0

PVMT. \$ / SQ FT	\$21.46
PVMT. \$ / SQ FT (RISK)	\$25.76
LWD PORTION COST	OTHER COSTS

ROADWAY ONLY	PVMT. \$ / MILE	#DIV/0!
	\$ / LANE MILE	#DIV/0!
TOTAL PROJECT	PROJ. \$ / MILE	#DIV/0!
	\$ / LANE MILE	#DIV/0!

TOTAL PROJECT MILES	0
TOTAL PROJECT LANE MILES	0
TOTAL PROJECT AUX. LANE MILES	0

PROJECT ENGINEERING COSTS	
Pre-Letting 12% of Construction Cost	\$30,709,537
Construction 8% of Construction Cost	\$20,473,025
Engineering Total 20% of Construction	\$51,182,562

ESTIMATED CONSTRUCTION COST (MnDOT)	\$213,260,675	\$255,912,810
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SUB-TOTAL (CONSTRUCTION + RISK) >>>	\$255,912,810
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OVERALL PROJECT RISK	20.00%	PROJECT RISK DOLLARS	\$42,652,135
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RIGHT-OF-WAY COST	0%		\$2,800,000
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RAILROAD AGREEMENT COST		\$0.00	\$0
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MAJOR UTILITY RELOCATION COST	1.0%	\$2,559,128.10	\$2,584,719
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TRAFFIC MANAGEMENT PLAN	5.0%	\$12,795,640.50	\$13,435,423
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ESTIMATED PROJECT LANDSCAPE COST	1.0%	\$2,559,128.10	\$2,584,719
(LANDSCAPING NOT INCLUDED IN TOTAL COST BUT IS A REMINDER FOR FUTURE PROGRAMMING NEEDS)			

TOTAL COST OF CONSTRUCTION, R-O-W, RAILROAD AGREEMENTS AND UTILITIES	>>>	\$273,826,707
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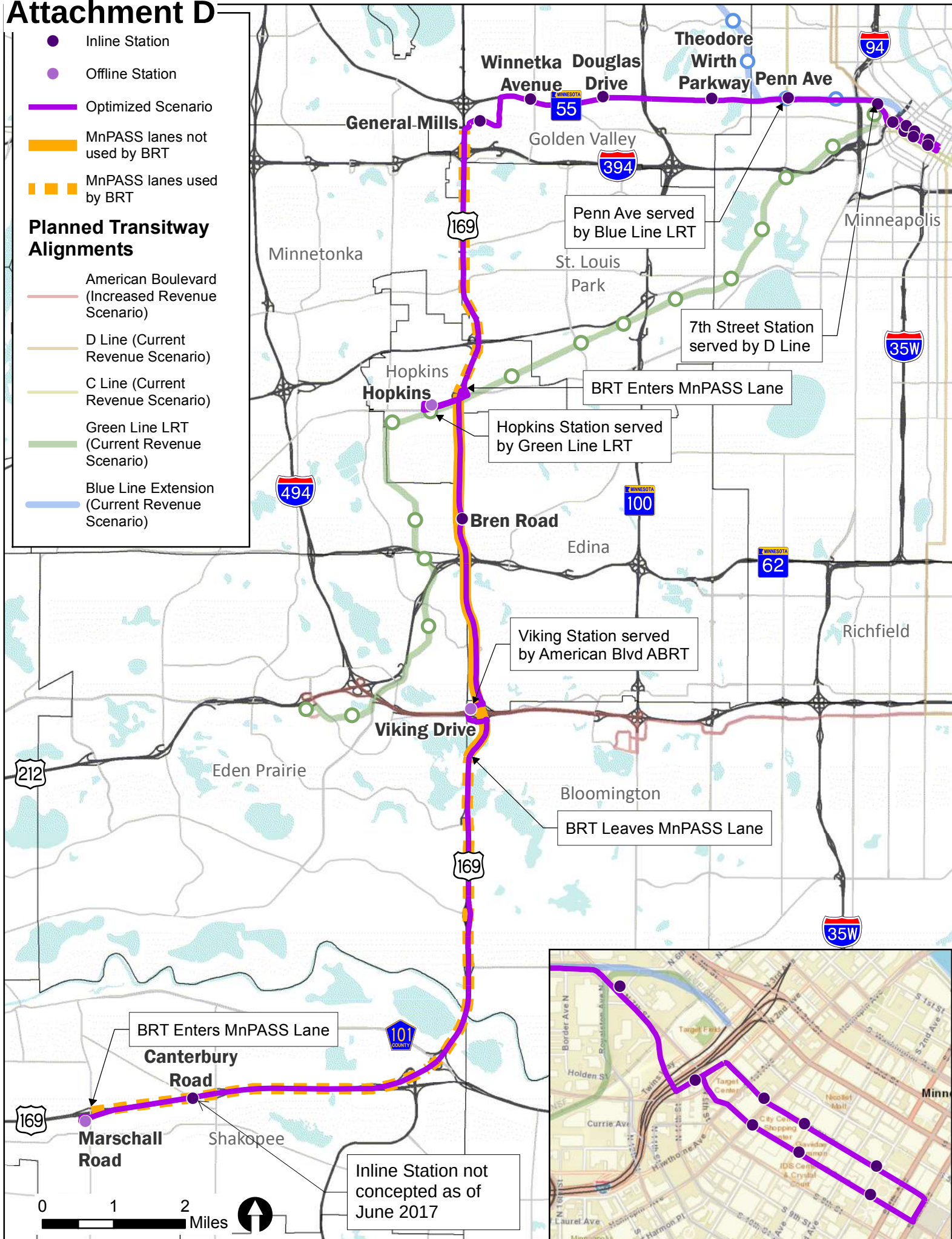
CURRENT PROJECT COST TOTAL (CONSTRUCTION + RISK + OTHER EXTERNAL COSTS) >>>	\$274,732,952
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Attachment D

-  Inline Station
-  Offline Station
-  Optimized Scenario
-  MnPASS lanes not used by BRT
-  MnPASS lanes used by BRT

Planned Transitway Alignments

-  American Boulevard
(Increased Revenue Scenario)
-  D Line (Current Revenue Scenario)
-  C Line (Current Revenue Scenario)
-  Green Line LRT
(Current Revenue Scenario)
-  Blue Line Extension
(Current Revenue Scenario)

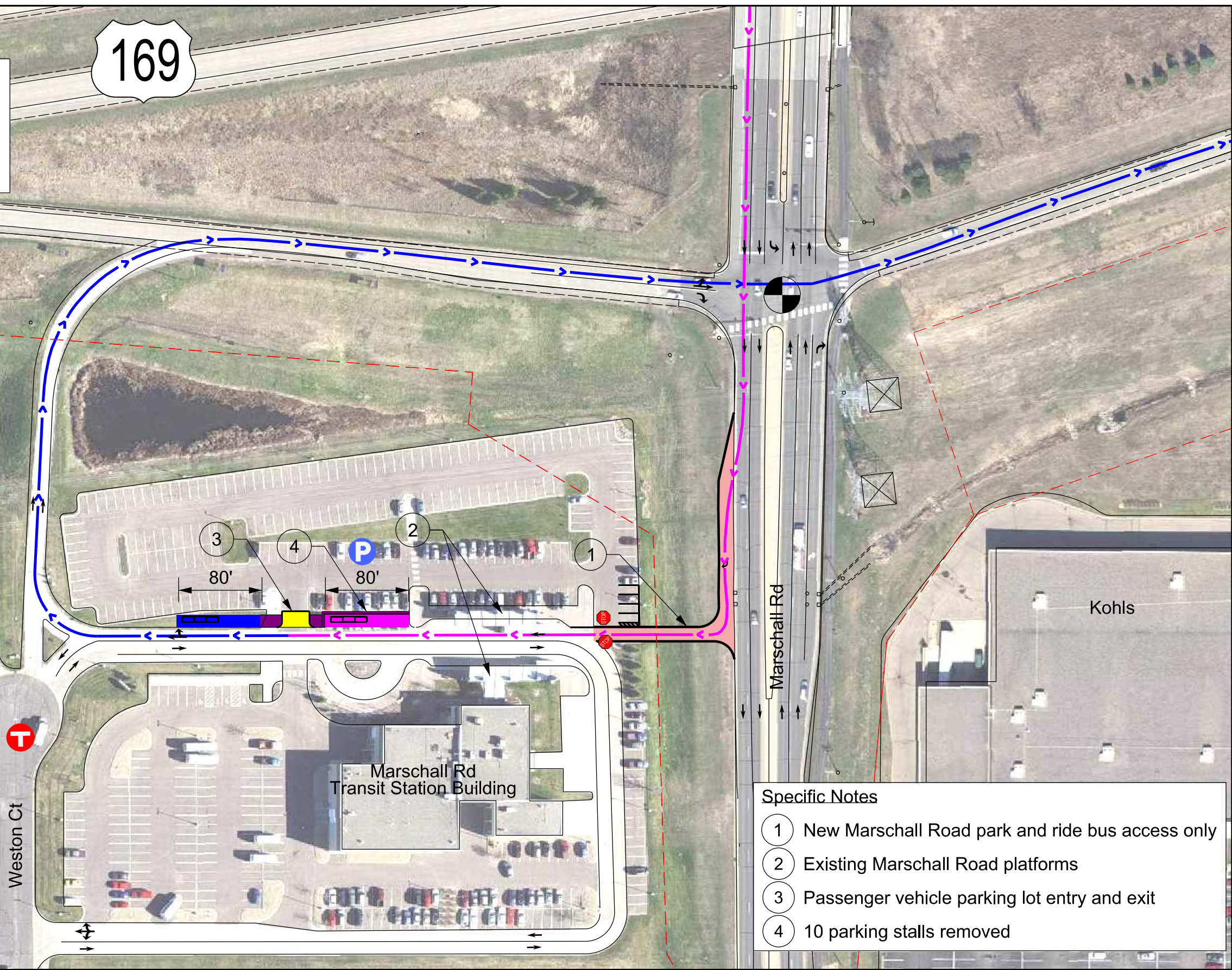
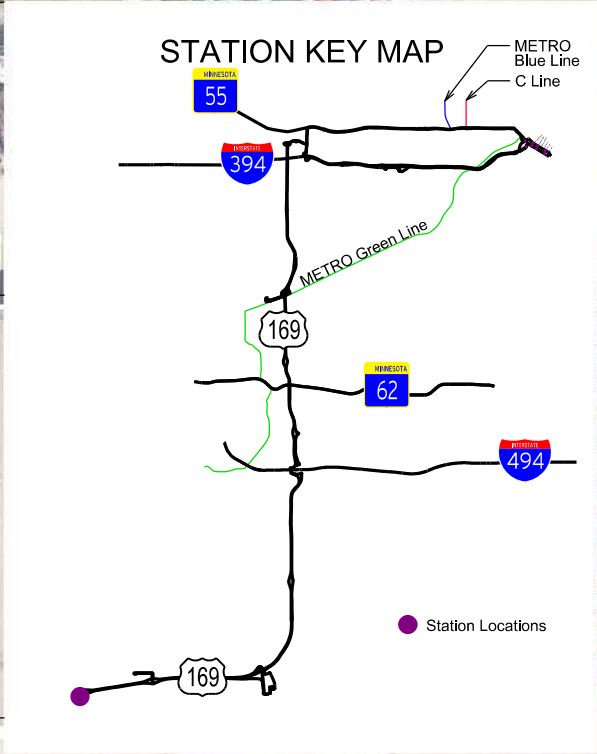




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SCALE IN FEET

Existing and Potential Connecting Bus Routes:
MVTA Express Route 490
MVTA Express Route 493
MVTA 495
MVTA 497
MVTA 499 (Enhance, Restructure)

Marschall Road Transit Station Park and Ride
-400 parking spaces
-indoor climate controlled waiting area
-bike racks



- Specific Notes
- 1 New Marschall Road park and ride bus access only
 - 2 Existing Marschall Road platforms
 - 3 Passenger vehicle parking lot entry and exit
 - 4 10 parking stalls removed

DESIGN FILE: SPLEMANES
PLOTTED ON: 04/04/2024
PLOT BY: SPLEMANES
PEN TABLE: SPEN.TAB

	SOUTHBOUND/WESTBOUND		GREEN LINE LRT TRACKS		EXISTING BUS STOP
	NORTHBOUND/EASTBOUND		BLUE LINE LRT TRACKS		PARK AND RIDE
	SB PLATFORM LOCATION		RIGHT OF WAY		TRAFFIC SIGNAL
	NB PLATFORM LOCATION		EXISTING MANHOLE		PROPOSED ROADWAY
	ALTERNATIVE ROUTING		EXISTING LIGHT POLE		PROPOSED SIDEWALK
	C-LINE BRT		EXISTING DRAINAGE STRUCTURE		PROPOSED TRANSIT ONLY

DEPARTMENT OF
TRANSPORTATION

Consulting Group, Inc.

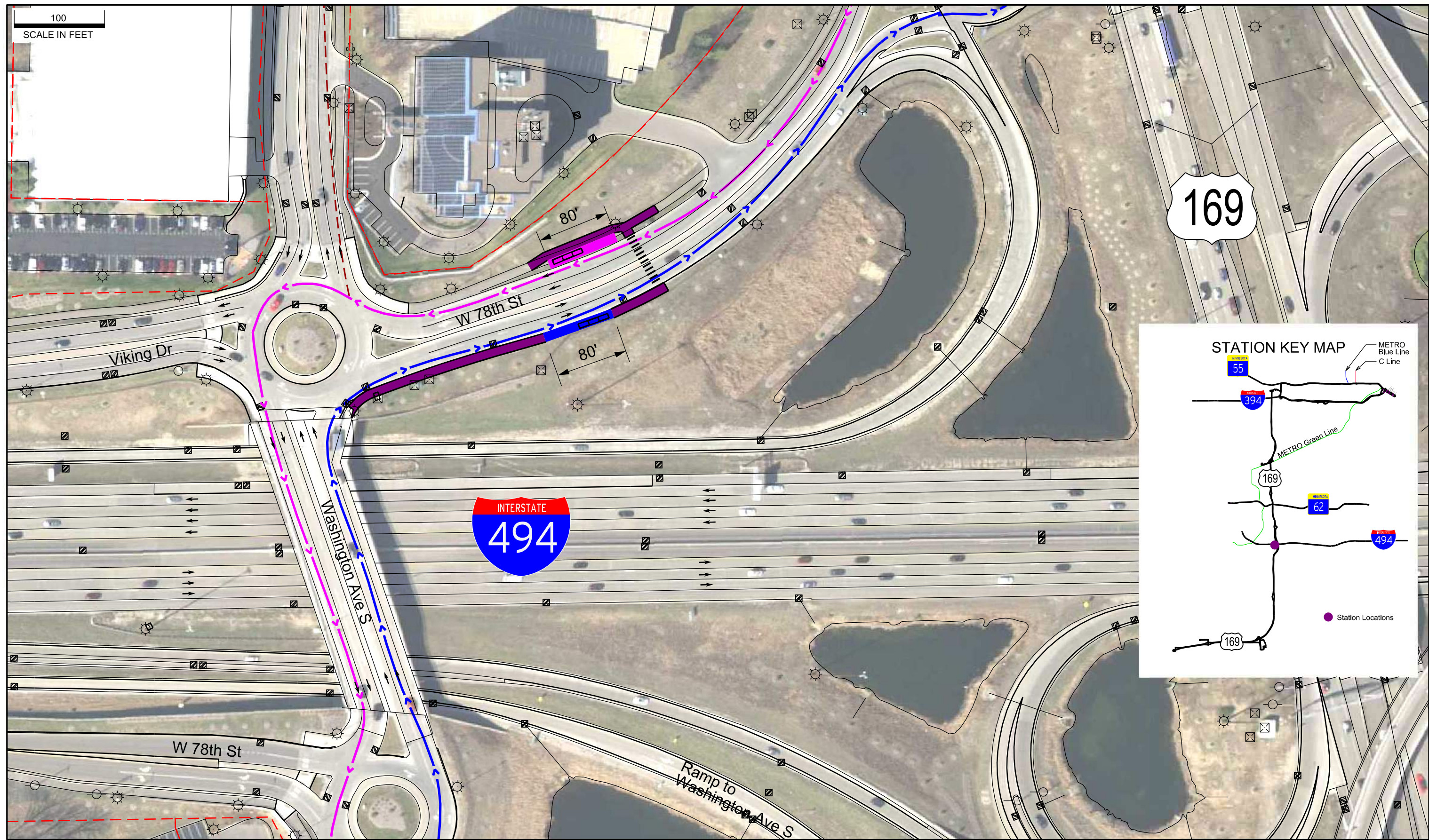
MNDOT TH 169 STUDY
TH 169 TRANSITWAY AND MNPASS

DRAFT TH 169 - I-394 AND
TH 169 - 55 BRT ROUTES
MARSHALL RD STATION

SHEET
2
OF
19



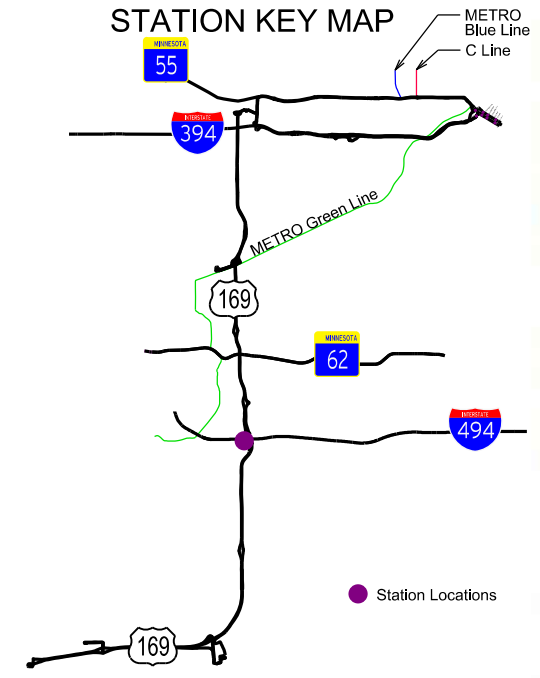
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169

INTERSTATE
494

STATION KEY MAP



DESIGN FILE: SPLEMANES
PLOTTED ON: 04/04/2019
PLOT BY: SPLEMANES
PEN TABLE: SPEN.TABLE

	SOUTHBOUND/WESTBOUND		GREEN LINE LRT TRACKS		EXISTING BUS STOP
	NORTHBOUND/EASTBOUND		BLUE LINE LRT TRACKS		PARK AND RIDE
	SB PLATFORM LOCATION		RIGHT OF WAY		TRAFFIC SIGNAL
	NB PLATFORM LOCATION		EXISTING MANHOLE		PROPOSED ROADWAY
	ALTERNATIVE ROUTING		EXISTING LIGHT POLE		PROPOSED SIDEWALK
	C-LINE BRT		EXISTING DRAINAGE STRUCTURE		PROPOSED TRANSIT ONLY

DEPARTMENT OF
TRANSPORTATION

Scott

METROPOLITAN
COUNCIL

SRH
Consulting Group, Inc.

HNTB

MNDOT TH 169 STUDY
TH 169 TRANSITWAY AND MNPASS

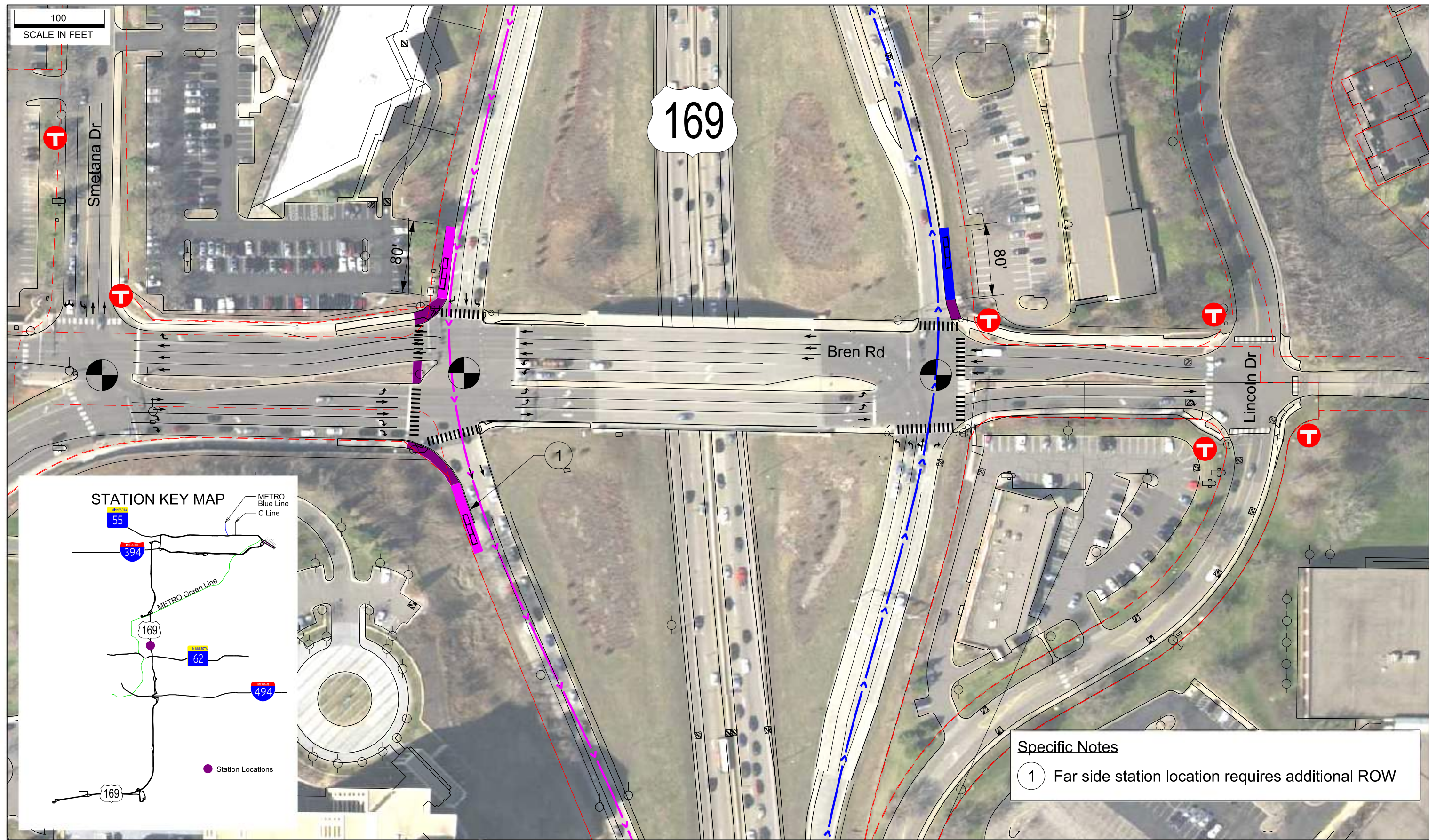
DRAFT TH 169 - I-394 AND
TH 169 - 55 BRT ROUTES
VIKING DR/WASHINGTON AVE STATION

SHEET
7
OF
19

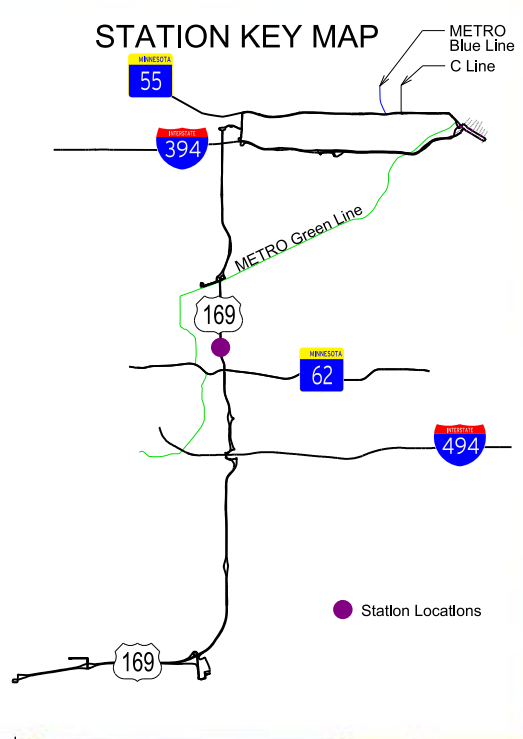
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SCALE IN FEET



STATION KEY MAP



Specific Notes

1 Far side station location requires additional ROW

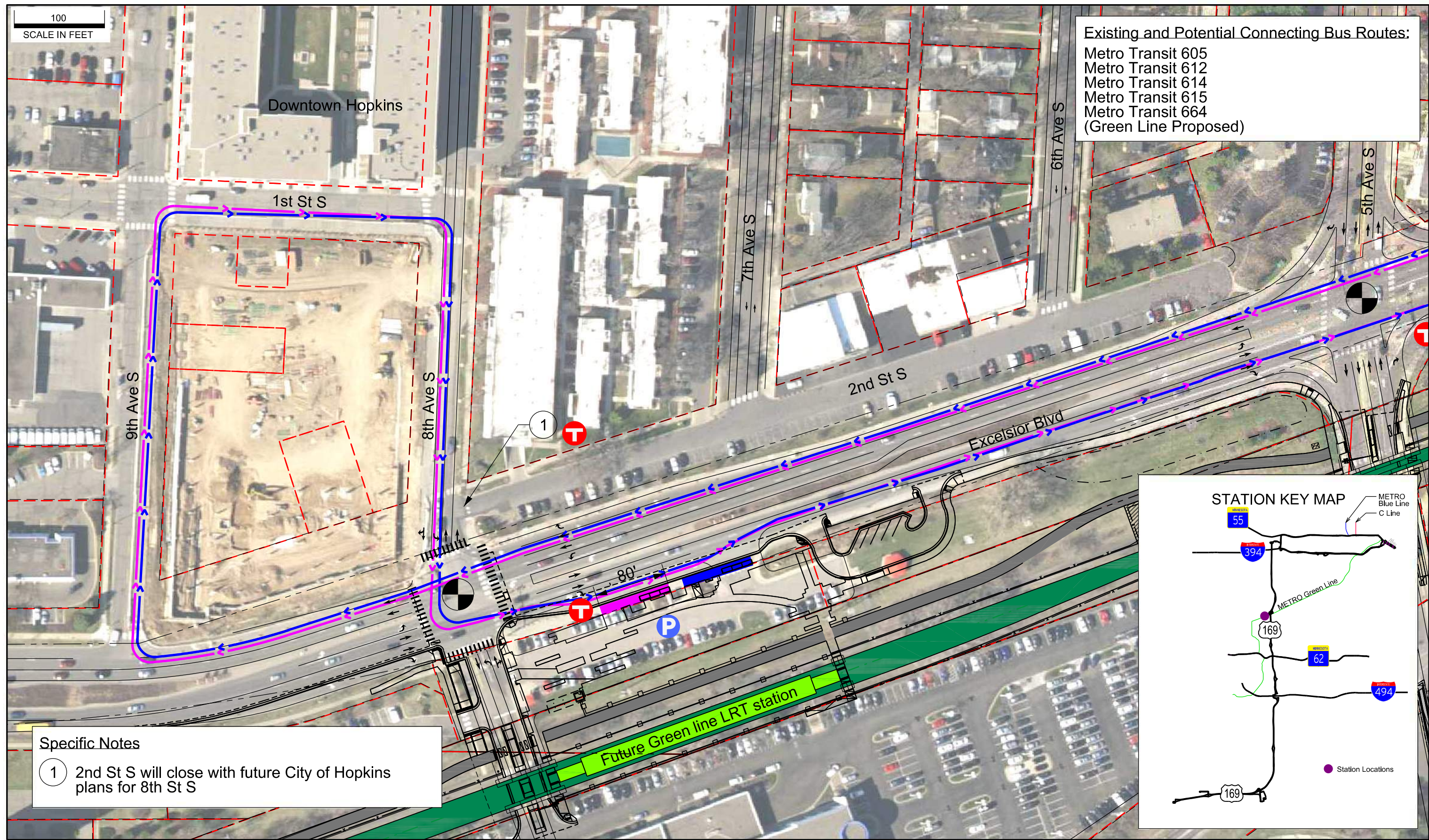
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|----------------------|-----------------------------|-----------------------|
| SOUTHBOUND/WESTBOUND | GREEN LINE LRT TRACKS | EXISTING BUS STOP |
| NORTHBOUND/EASTBOUND | BLUE LINE LRT TRACKS | PARK AND RIDE |
| SB PLATFORM LOCATION | RIGHT OF WAY | TRAFFIC SIGNAL |
| NB PLATFORM LOCATION | EXISTING MANHOLE | PROPOSED ROADWAY |
| ALTERNATIVE ROUTING | EXISTING LIGHT POLE | PROPOSED SIDEWALK |
| C-LINE BRT | EXISTING DRAINAGE STRUCTURE | PROPOSED TRANSIT ONLY |

DEPARTMENT OF TRANSPORTATION	Scott	METROPOLITAN COUNCIL	SRE Consulting Group, Inc.	HNTB	MNDOT TH 169 STUDY TH 169 TRANSITWAY AND MNPASS DRAFT TH 169 - I-394 AND TH 169 - 55 BRT ROUTES BREN RD STATION	SHEET 8 OF 19
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100
SCALE IN FEET

Existing and Potential Connecting Bus Routes:
Metro Transit 605
Metro Transit 612
Metro Transit 614
Metro Transit 615
Metro Transit 664
(Green Line Proposed)



Specific Notes
1 2nd St S will close with future City of Hopkins plans for 8th St S

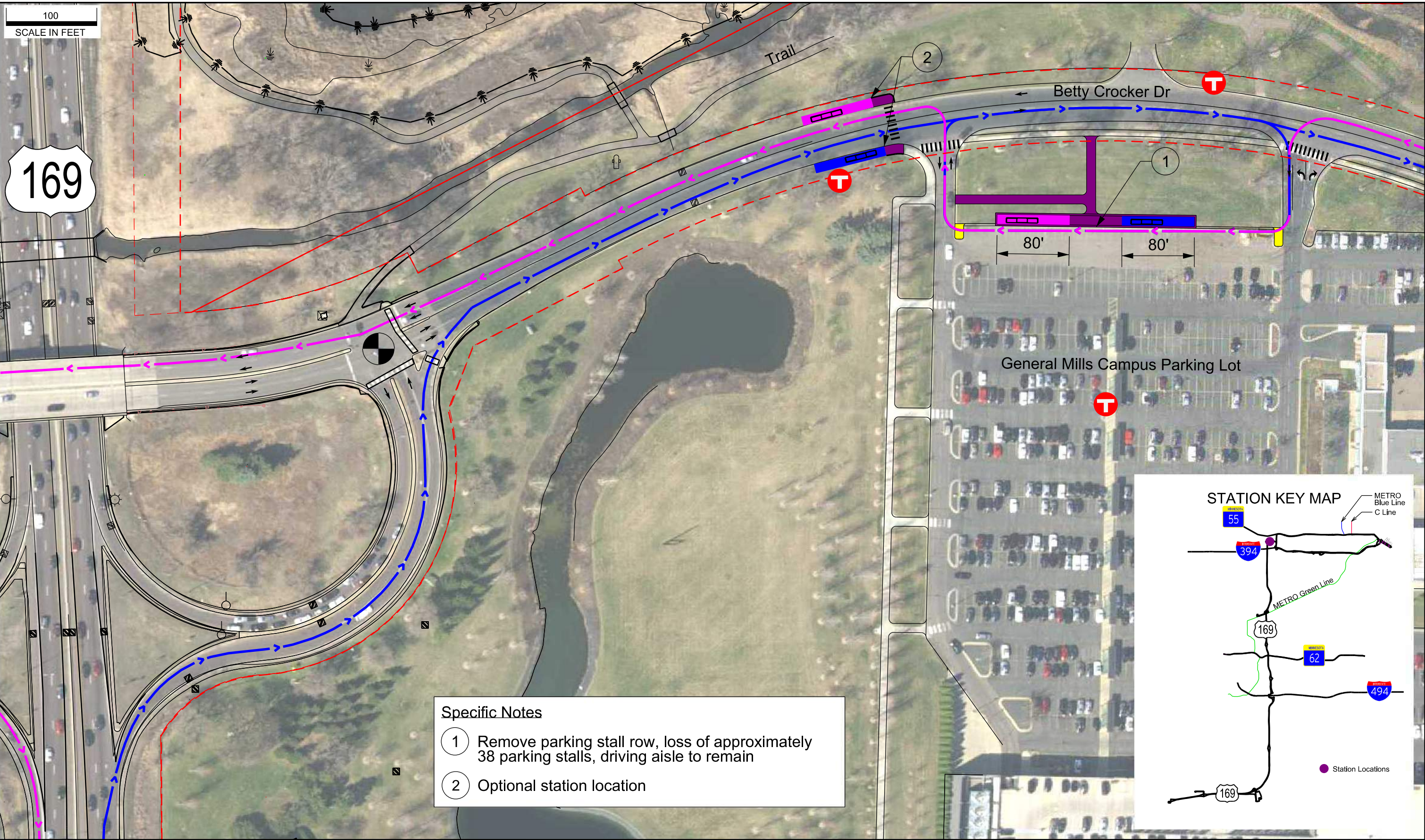
	SOUTHBOUND/WESTBOUND		GREEN LINE LRT TRACKS		EXISTING BUS STOP
	NORTHBOUND/EASTBOUND		BLUE LINE LRT TRACKS		PARK AND RIDE
	SB PLATFORM LOCATION		RIGHT OF WAY		TRAFFIC SIGNAL
	NB PLATFORM LOCATION		EXISTING MANHOLE		PROPOSED ROADWAY
	ALTERNATIVE ROUTING		EXISTING LIGHT POLE		PROPOSED SIDEWALK
	C-LINE BRT		EXISTING DRAINAGE STRUCTURE		PROPOSED TRANSIT ONLY

MNDOT TH 169 STUDY
TH 169 TRANSITWAY AND MNPASS

DRAFT TH 169 - I-394 AND
TH 169 - 55 BRT ROUTES
DOWNTOWN HOPKINS STATION

SHEET
9
OF
19

DESIGN FILE: SPLEMANES
PLOTTED ON: 04/04/2018
PLOT BY: SPLEMANES
PEN TABLE: SPEN.TABLES



- Specific Notes**
- 1 Remove parking stall row, loss of approximately 38 parking stalls, driving aisle to remain
 - 2 Optional station location

	SOUTHBOUND/WESTBOUND		GREEN LINE LRT TRACKS		EXISTING BUS STOP
	NORTHBOUND/EASTBOUND		BLUE LINE LRT TRACKS		PARK AND RIDE
	SB PLATFORM LOCATION		RIGHT OF WAY		TRAFFIC SIGNAL
	NB PLATFORM LOCATION		EXISTING MANHOLE		PROPOSED ROADWAY
	ALTERNATIVE ROUTING		EXISTING LIGHT POLE		PROPOSED SIDEWALK
	C-LINE BRT		EXISTING DRAINAGE STRUCTURE		PROPOSED TRANSIT ONLY



MNDOT TH 169 STUDY
TH 169 TRANSITWAY AND MNPASS

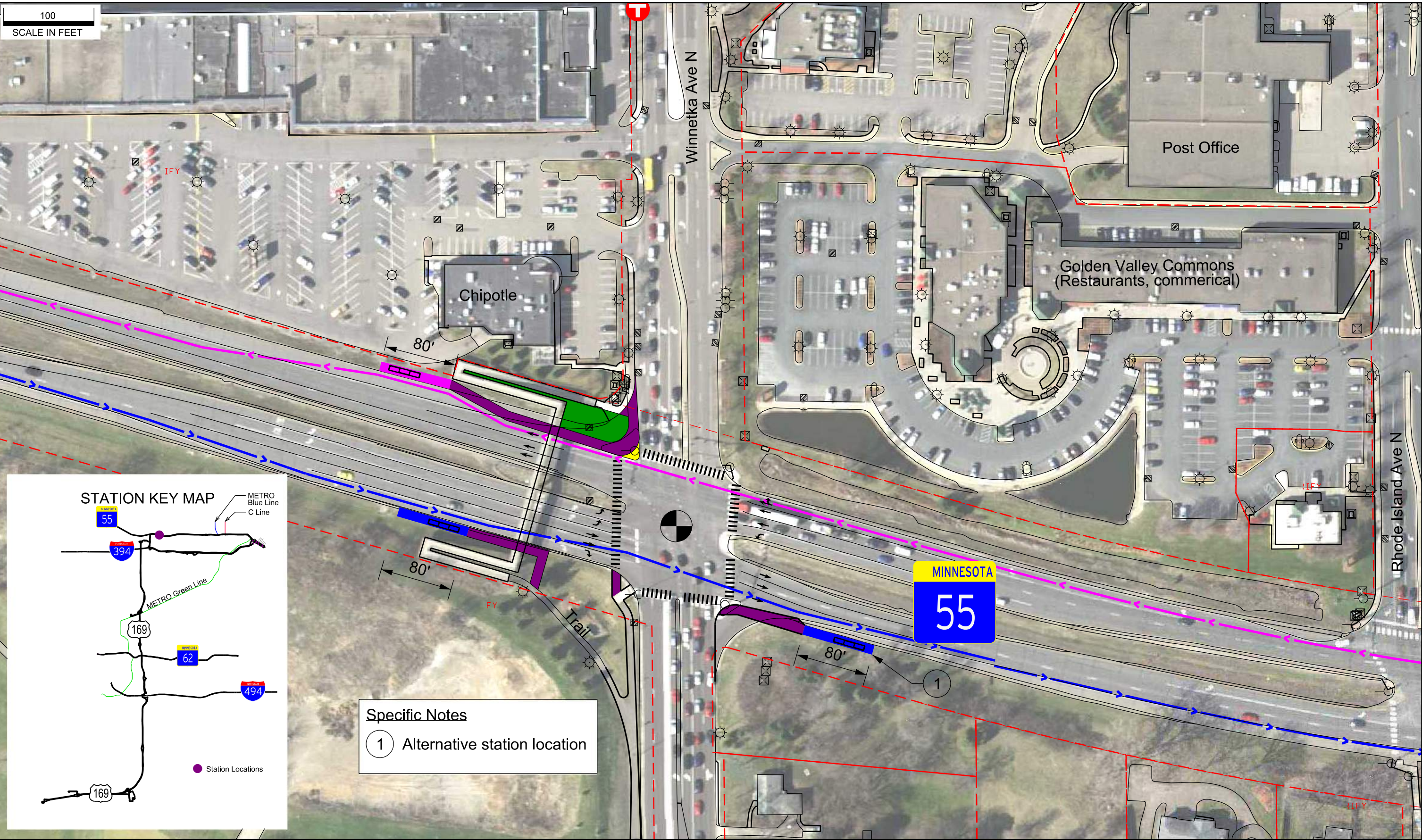
DRAFT TH 169 - I-394 AND
TH 169 - 55 BRT ROUTES
BETTY CROCKER DR STATION

SHEET
11
OF
19

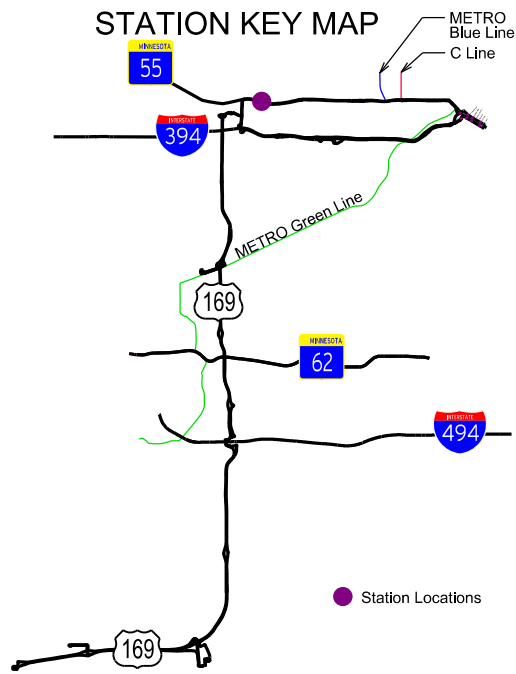
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PLOTTED ON: 04/15/2025
PLOT BY: SPLEMAN'S
PEN TABLE: SPLEMAN'S



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SCALE IN FEET



STATION KEY MAP



Specific Notes

- ① Alternative station location

	SOUTHBOUND/WESTBOUND		GREEN LINE LRT TRACKS		EXISTING BUS STOP
	NORTHBOUND/EASTBOUND		BLUE LINE LRT TRACKS		PARK AND RIDE
	SB PLATFORM LOCATION		RIGHT OF WAY		TRAFFIC SIGNAL
	NB PLATFORM LOCATION		EXISTING MANHOLE		PROPOSED ROADWAY
	ALTERNATIVE ROUTING		EXISTING LIGHT POLE		PROPOSED SIDEWALK
	C-LINE BRT		EXISTING DRAINAGE STRUCTURE		PROPOSED TRANSIT ONLY



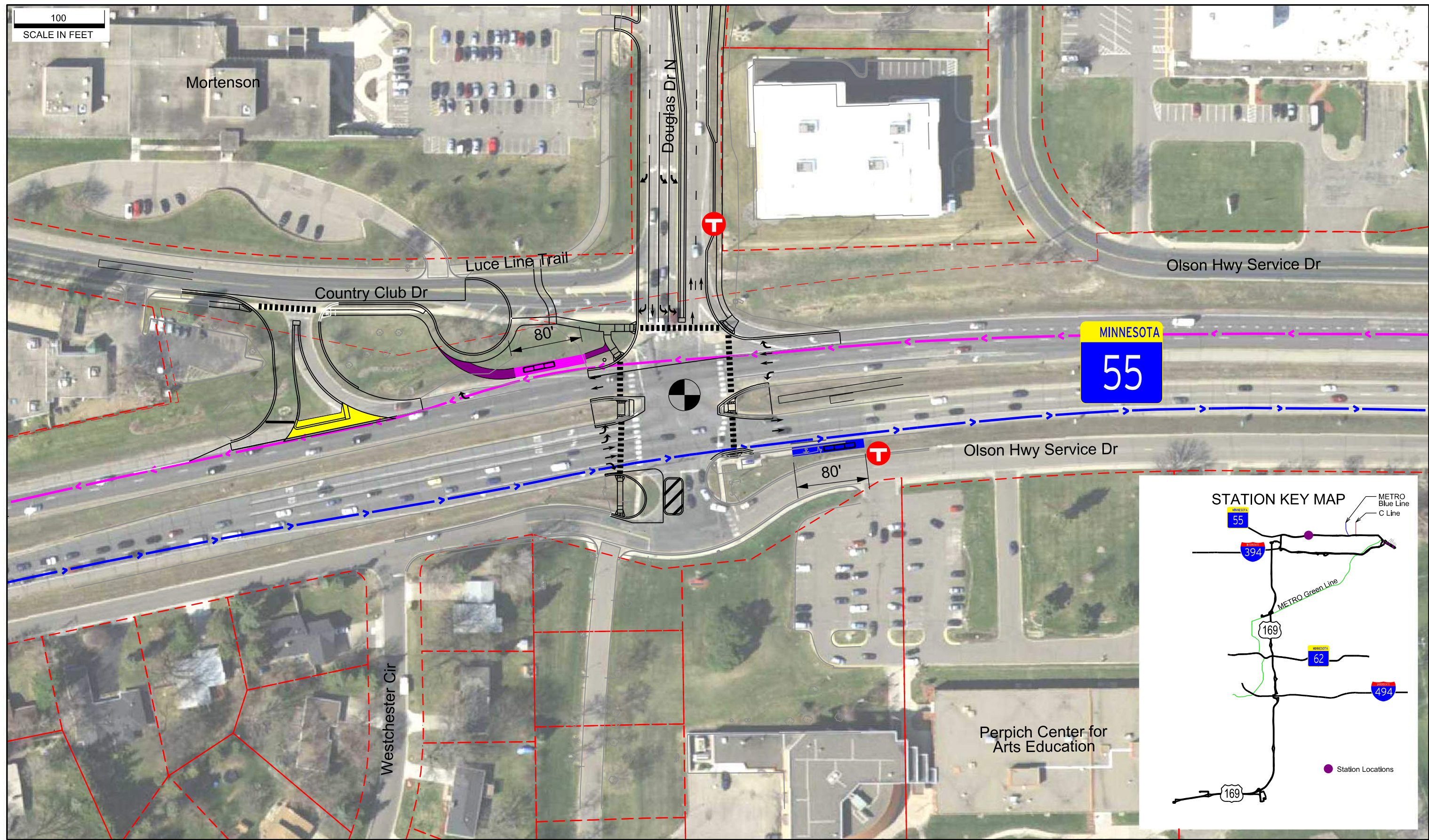
MNDOT TH 169 STUDY
TH 169 TRANSITWAY AND MNPASS

DRAFT TH 169 - I-394 AND
TH 169 - 55 BRT ROUTES
WINNETKA AVE N STATION

SHEET
12
OF
19



100
SCALE IN FEET



DESIGN FILE: SPLEMANES
PLOTTED ON: 04/04/2018
PLOTTED BY: SUSANNAH
PEN TABLE: SPEN.TABLES

	SOUTHBOUND/WESTBOUND		GREEN LINE LRT TRACKS		EXISTING BUS STOP
	NORTHBOUND/EASTBOUND		BLUE LINE LRT TRACKS		PARK AND RIDE
	SB PLATFORM LOCATION		RIGHT OF WAY		TRAFFIC SIGNAL
	NB PLATFORM LOCATION		EXISTING MANHOLE		PROPOSED ROADWAY
	ALTERNATIVE ROUTING		EXISTING LIGHT POLE		PROPOSED SIDEWALK
	C-LINE BRT		EXISTING DRAINAGE STRUCTURE		PROPOSED TRANSIT ONLY



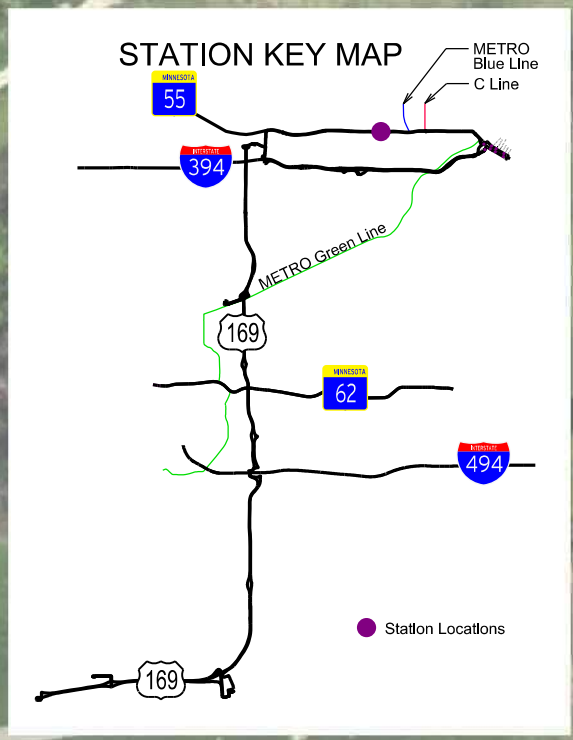
MNDOT TH 169 STUDY
TH 169 TRANSITWAY AND MNPASS

DRAFT TH 169 - I-394 AND
TH 169 - 55 BRT ROUTES
DOUGLAS DR STATION

SHEET
13
OF
19



100
SCALE IN FEET



- Specific Notes
- ① Alternative station location
 - ② Alternative station location to share current shelter space

DESIGN FILE: SPLEMANES
PLOTTED ON: 04/04/2024
PLOT BY: SPLEMANES
PEN TABLE: SPEN.TABLES

	SOUTHBOUND/WESTBOUND		GREEN LINE LRT TRACKS		EXISTING BUS STOP
	NORTHBOUND/EASTBOUND		BLUE LINE LRT TRACKS		PARK AND RIDE
	SB PLATFORM LOCATION		RIGHT OF WAY		TRAFFIC SIGNAL
	NB PLATFORM LOCATION		EXISTING MANHOLE		PROPOSED ROADWAY
	ALTERNATIVE ROUTING		EXISTING LIGHT POLE		PROPOSED SIDEWALK
	C-LINE BRT		EXISTING DRAINAGE STRUCTURE		PROPOSED TRANSIT ONLY



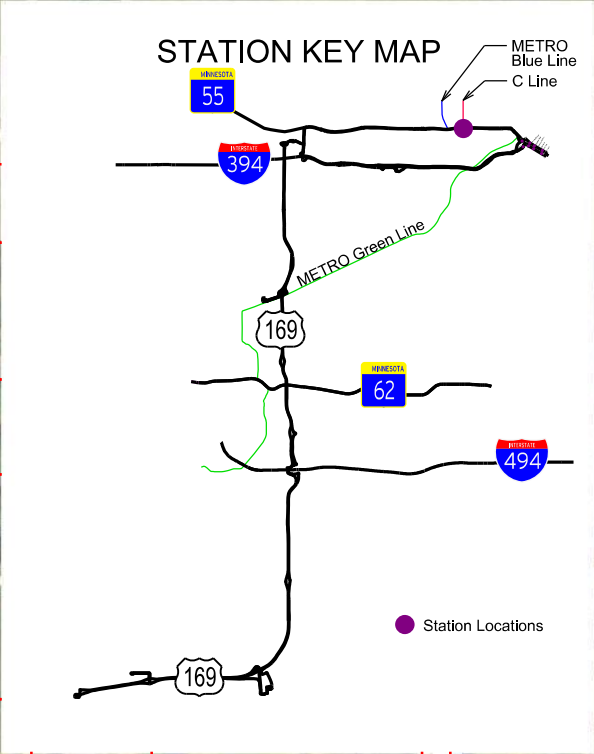
MNDOT TH 169 STUDY
TH 169 TRANSITWAY AND MNPASS

DRAFT TH 169 - I-394 AND
TH 169 - 55 BRT ROUTES
THEODORE WIRTH PKWY STATION

SHEET
14
OF
19



100
SCALE IN FEET



DESIGN FILE: SPLEMANES
PLOTTED ON: 04/15/2025
PLOT BY: SPLEMANES
PEN TABLE: SPEN.TAB

- | | | |
|----------------------|-----------------------------|-----------------------|
| SOUTHBOUND/WESTBOUND | GREEN LINE LRT TRACKS | EXISTING BUS STOP |
| NORTHBOUND/EASTBOUND | BLUE LINE LRT TRACKS | PARK AND RIDE |
| SB PLATFORM LOCATION | RIGHT OF WAY | TRAFFIC SIGNAL |
| NB PLATFORM LOCATION | EXISTING MANHOLE | PROPOSED ROADWAY |
| ALTERNATIVE ROUTING | EXISTING LIGHT POLE | PROPOSED SIDEWALK |
| C-LINE BRT | EXISTING DRAINAGE STRUCTURE | PROPOSED TRANSIT ONLY |



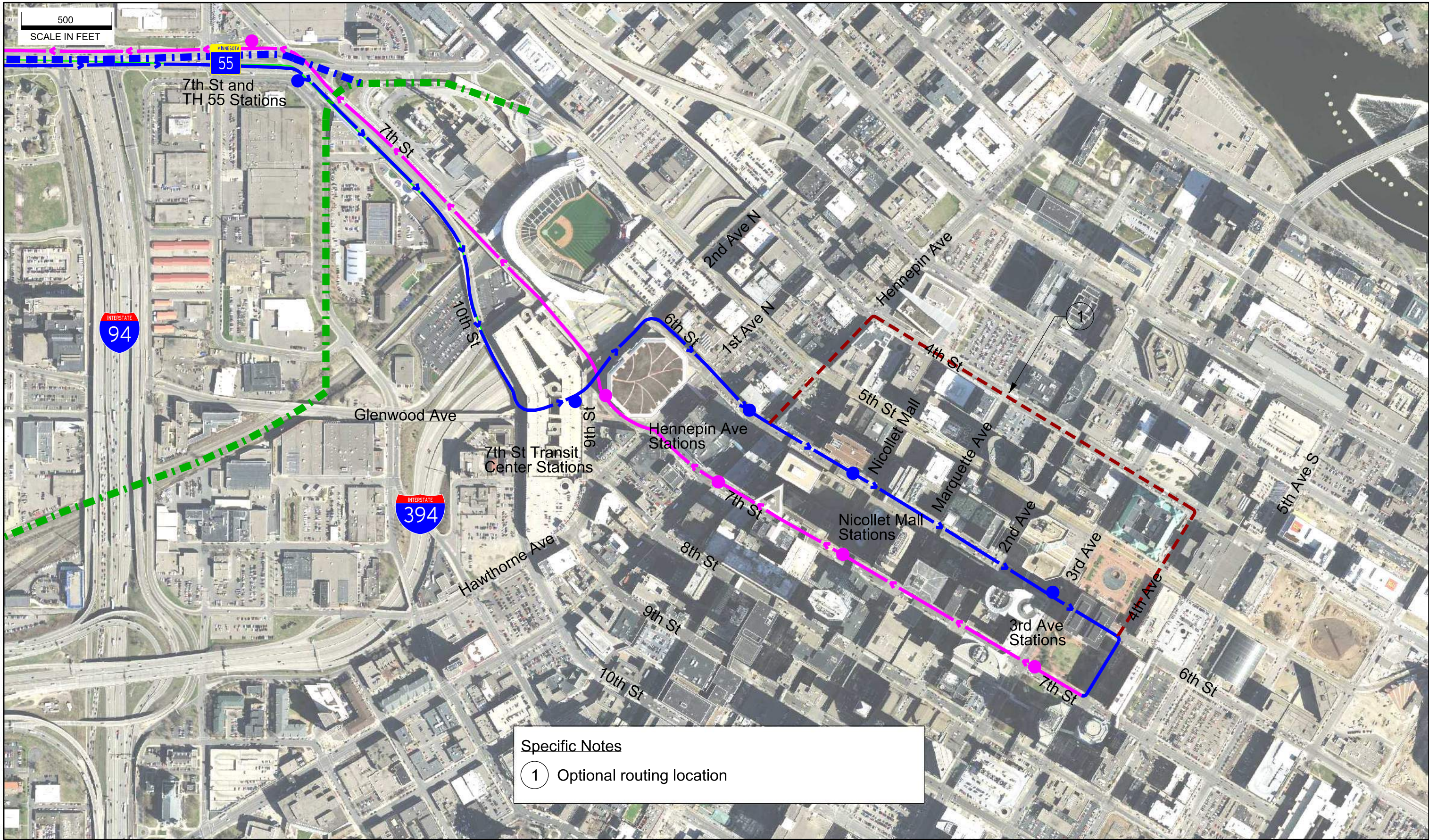
MNDOT TH 169 STUDY
TH 169 TRANSITWAY AND MNPASS

DRAFT TH 169 - I-394 AND
TH 169 - 55 BRT ROUTES
PENN AVE STATION

SHEET
15
OF
19



500
SCALE IN FEET



DESIGN FILE: SFILEMANES
PLOTTED ON: 04/04/2018
PLOT BY: SUSEMANES
PEN TABLE: SPEN.TABLE

	SOUTHBOUND/WESTBOUND		GREEN LINE LRT TRACKS		EXISTING BUS STOP
	NORTHBOUND/EASTBOUND		BLUE LINE LRT TRACKS		PARK AND RIDE
	SB PLATFORM LOCATION		RIGHT OF WAY		TRAFFIC SIGNAL
	NB PLATFORM LOCATION		EXISTING MANHOLE		PROPOSED ROADWAY
	ALTERNATIVE ROUTING		EXISTING LIGHT POLE		PROPOSED SIDEWALK
	C-LINE BRT		EXISTING DRAINAGE STRUCTURE		PROPOSED TRANSIT ONLY

Specific Notes

① Optional routing location

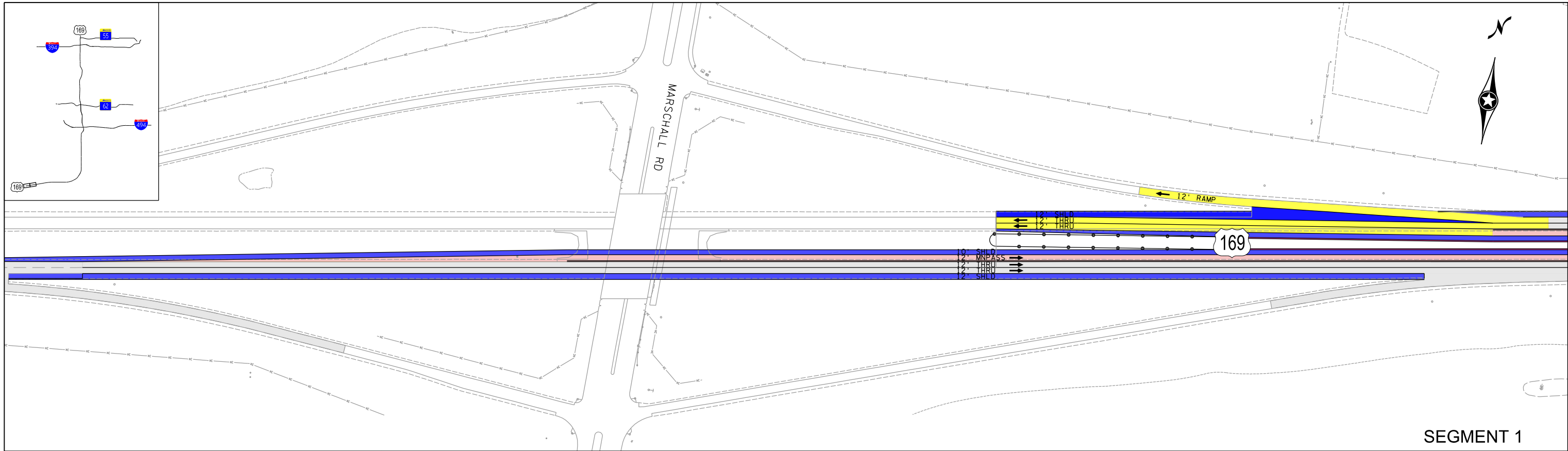


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TH 169 TRANSITWAY AND MNPASS

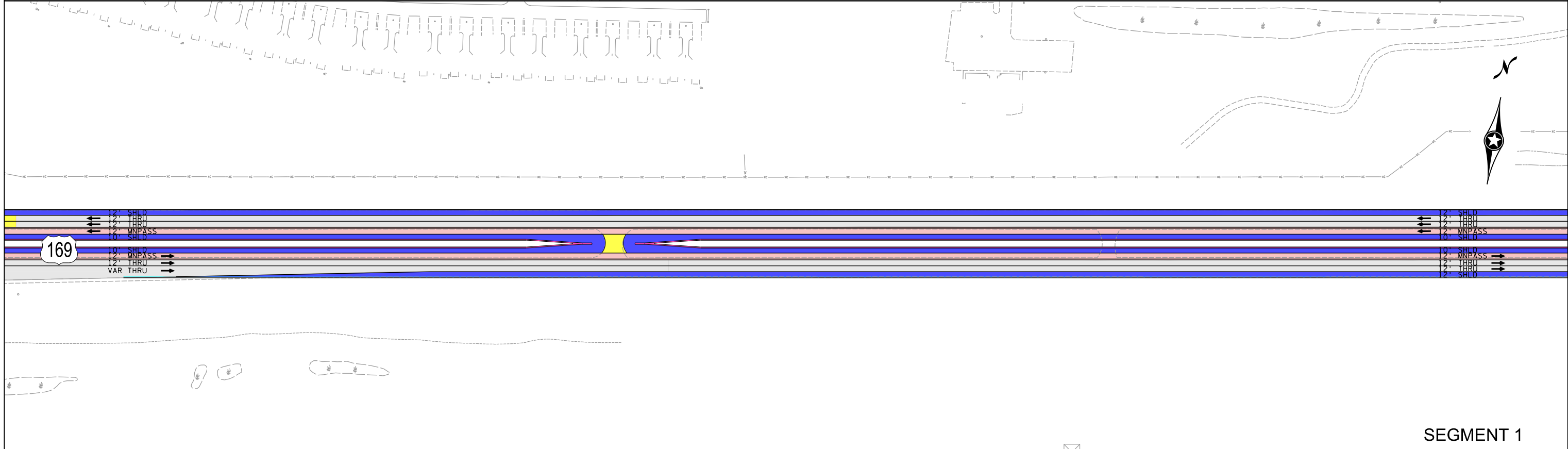
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TH 169 - 55 BRT ROUTES
TH 55 DOWNTOWN MINNEAPOLIS ROUTES

SHEET
16
OF
19

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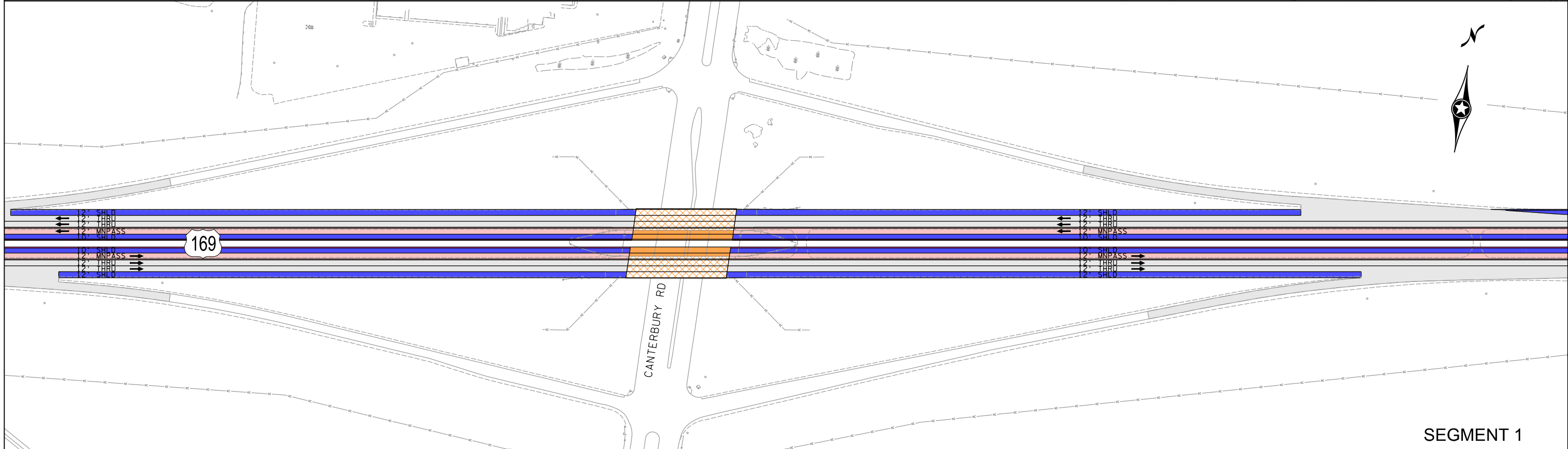
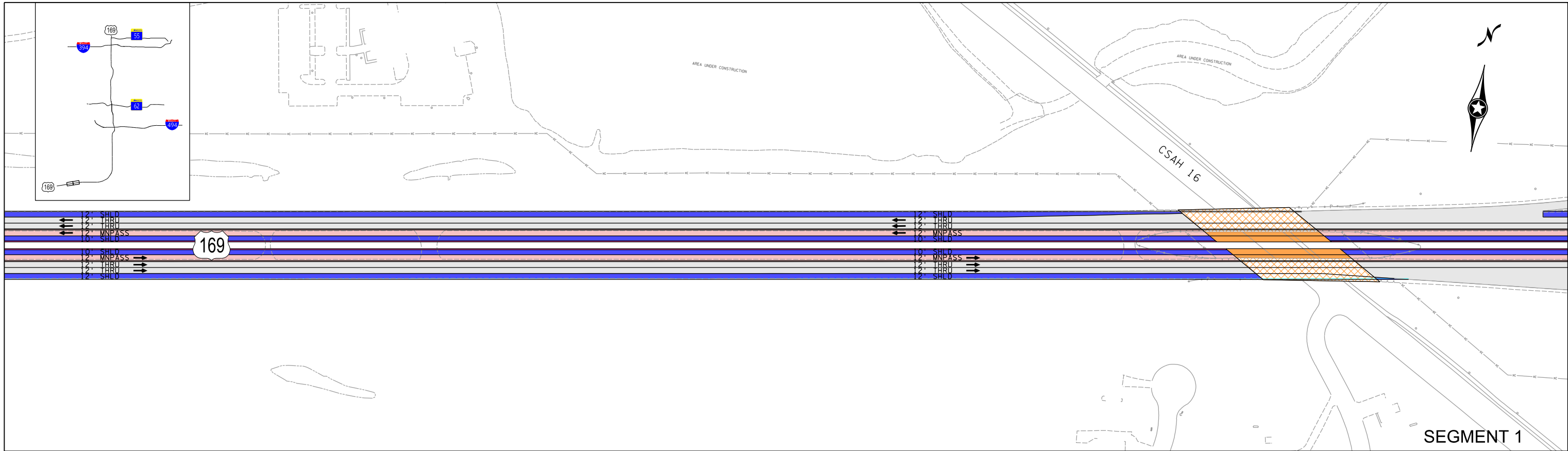
SEGMENT 1



SEGMENT 1

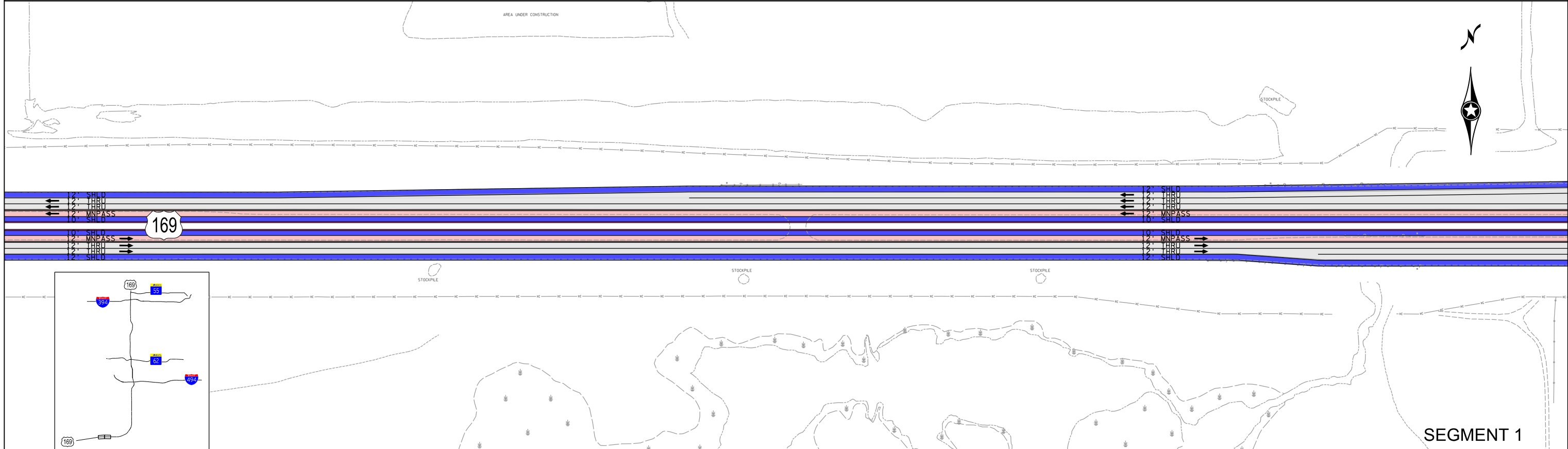
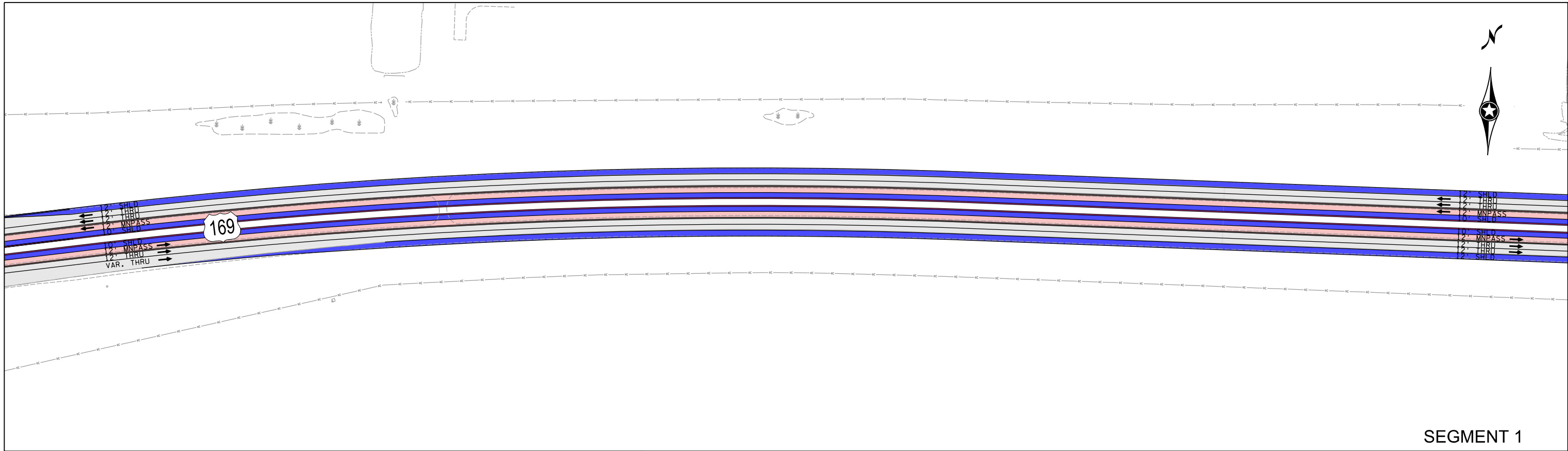
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|--------------------------|------------------|
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| CONSTRUCT SHOULDER | INPLACE SHOULDER |
| CONSTRUCT MNPASS LANE | EXISTING BRIDGE |
| CONSTRUCT MEDIAN BARRIER | |
| CONSTRUCT/EXPAND BRIDGE | |
| CONSTRUCT CONCRETE WALK | |

200
SCALE IN FEET

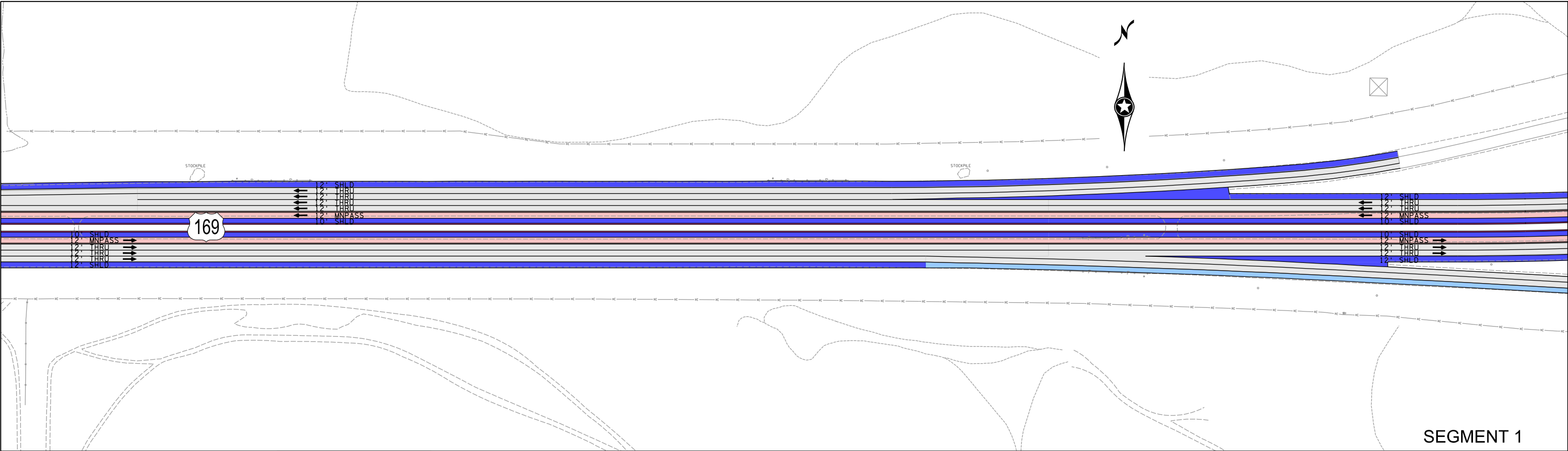


MNDOT TH 169 STUDY
TH 169 TRANSITWAY AND MNPASS

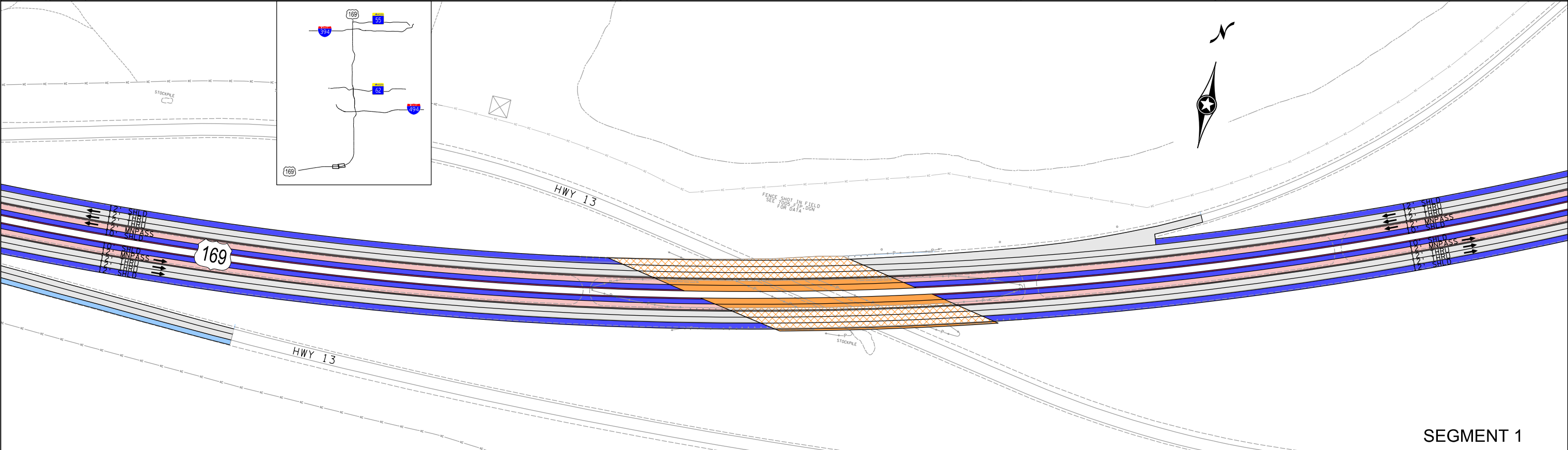
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MNPASS CONCEPT

SHEET
03
OF
21

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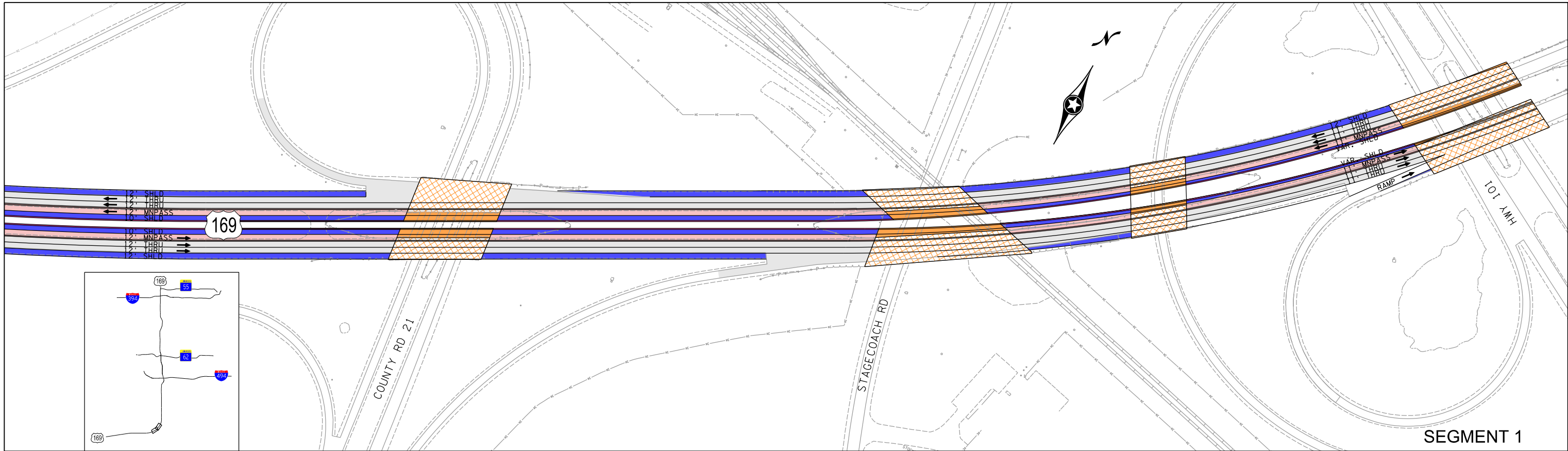
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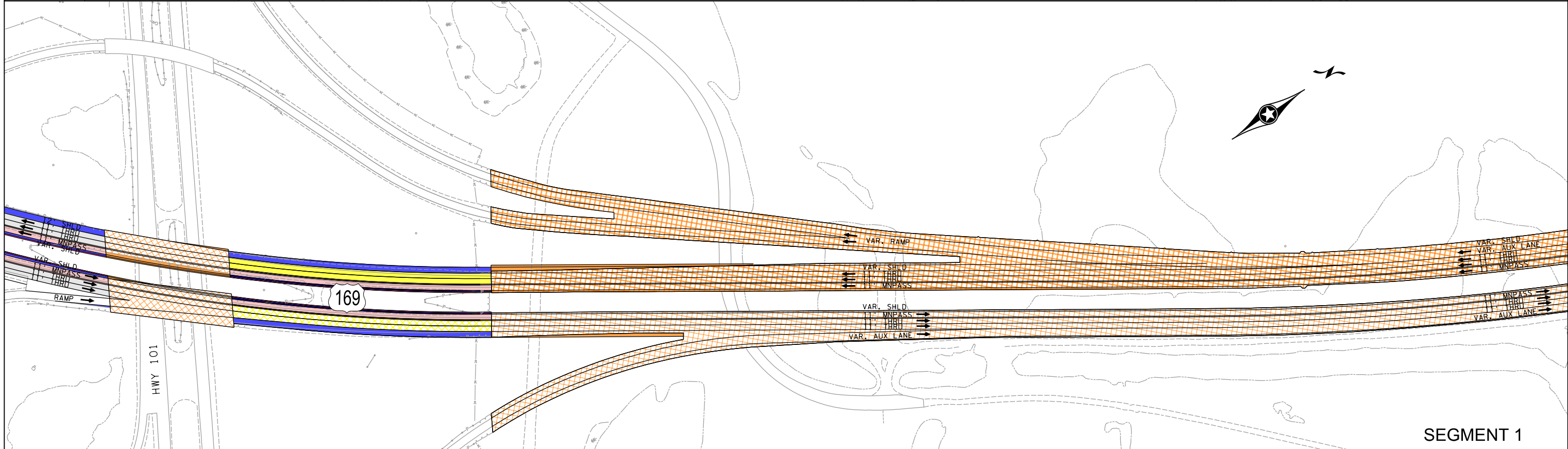
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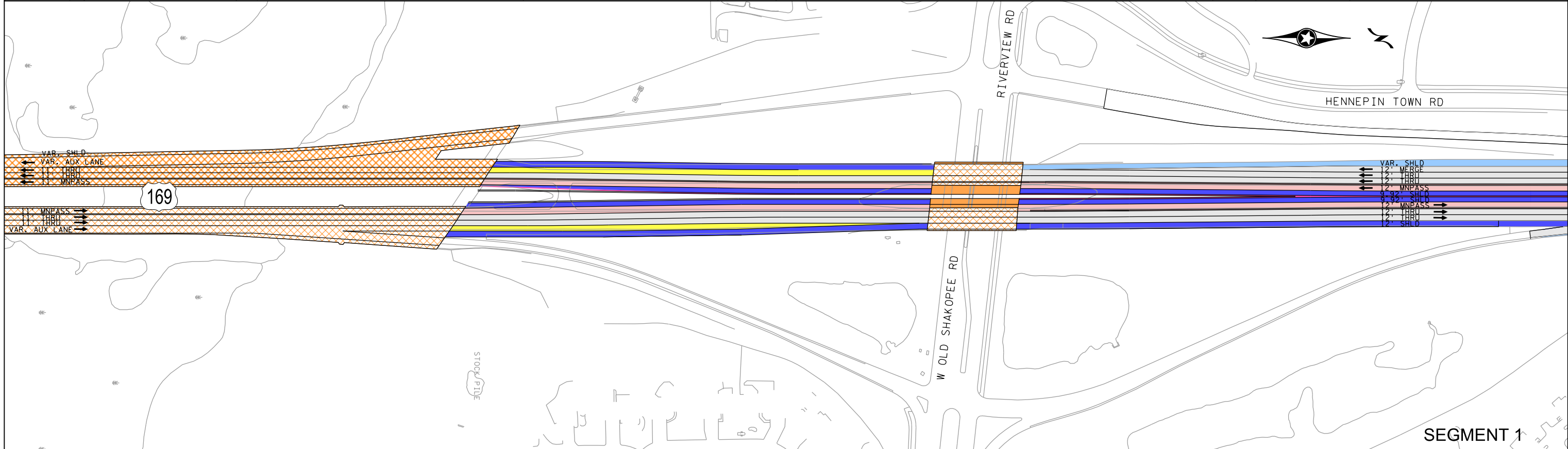
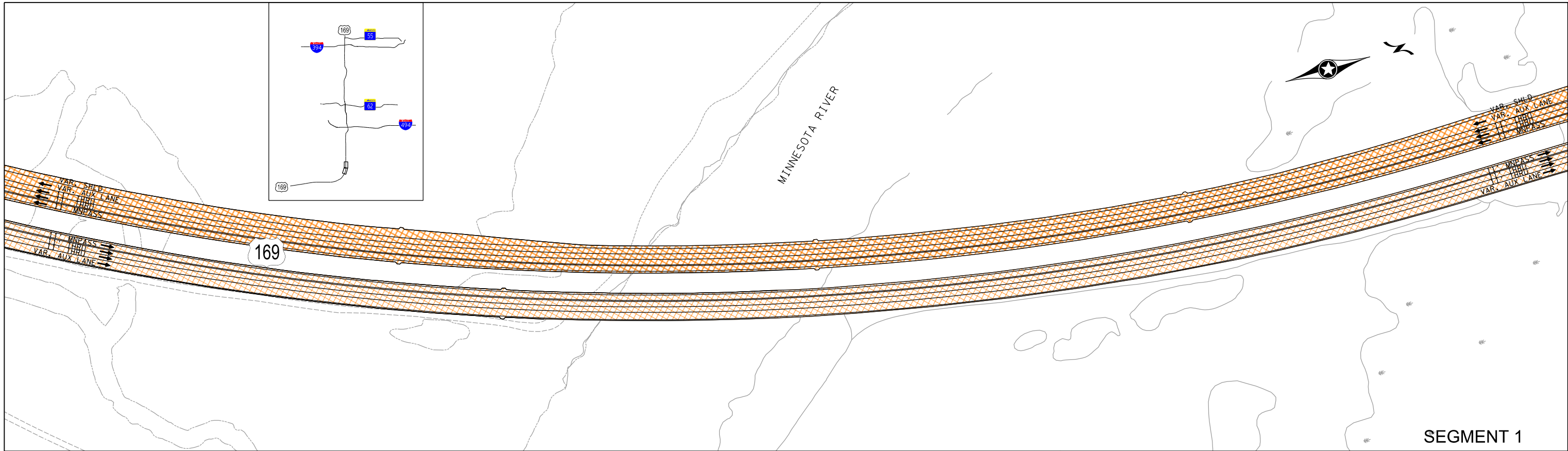
SEGMENT 1



SEGMENT 1

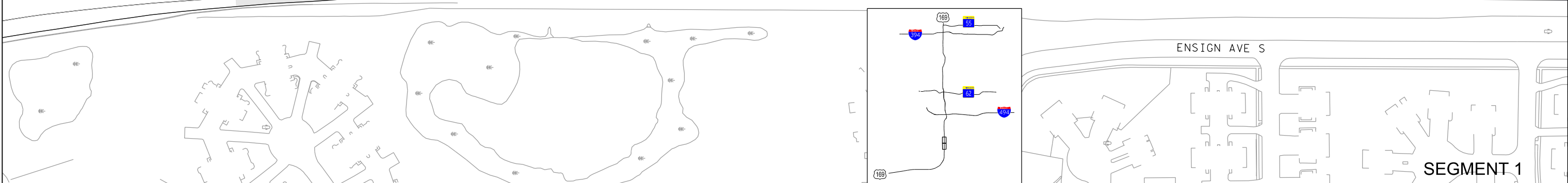
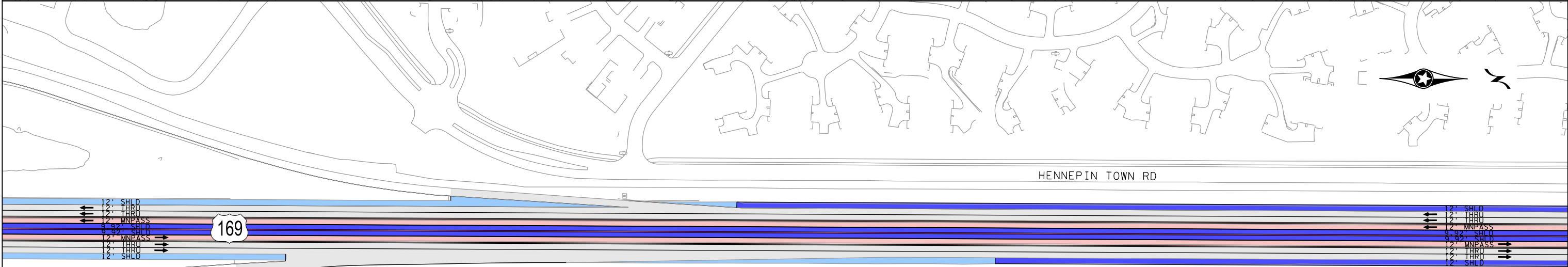
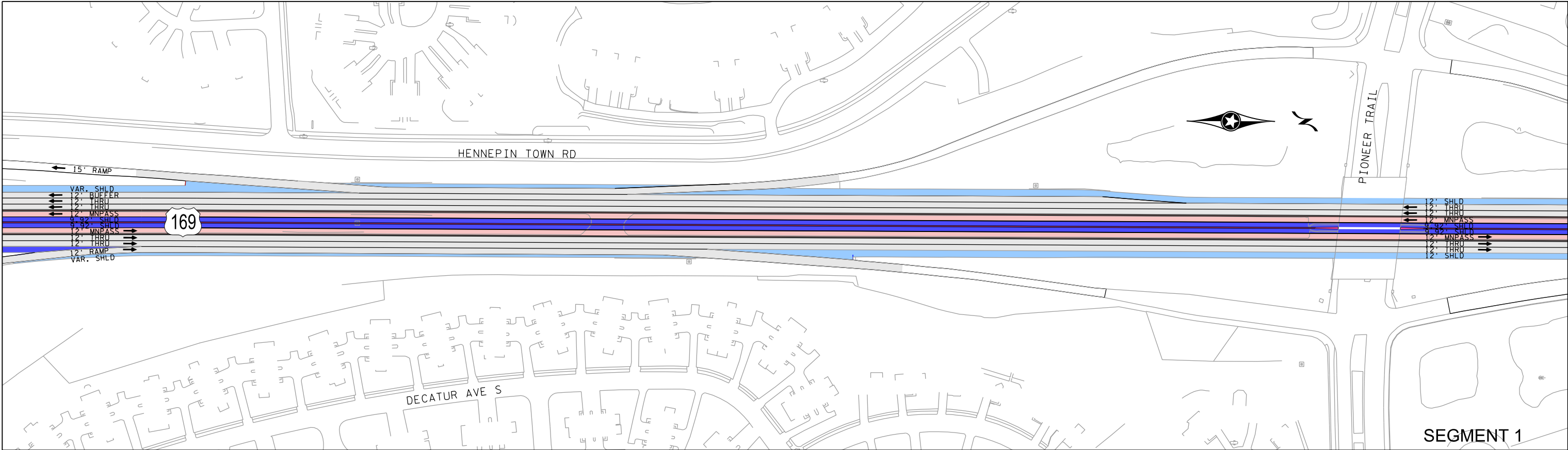
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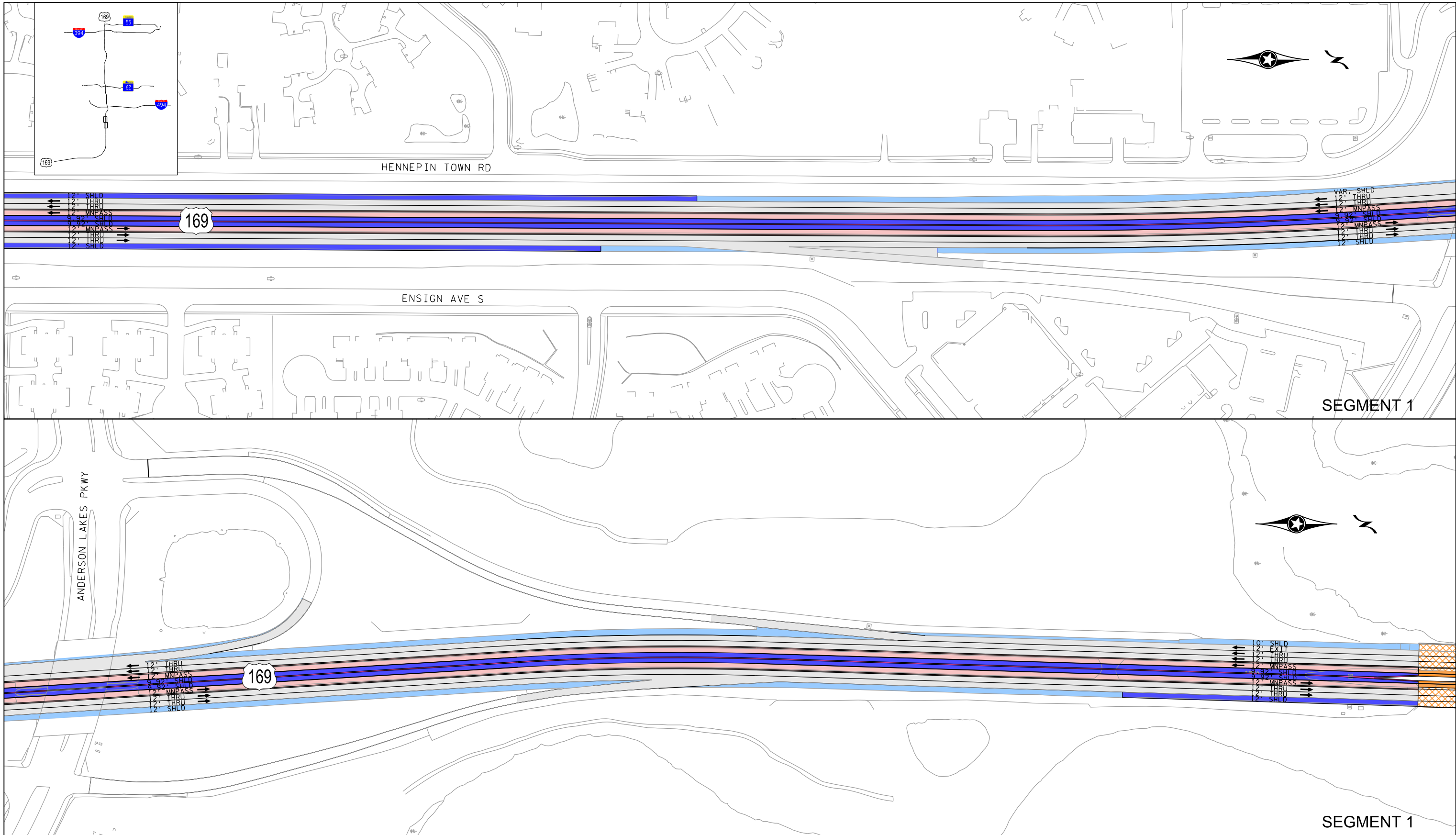
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- | | |
|--------------------------|------------------|
| CONSTRUCT ROADWAY | INPLACE ROADWAY |
| CONSTRUCT SHOULDER | INPLACE SHOULDER |
| CONSTRUCT MNPASS LANE | EXISTING BRIDGE |
| CONSTRUCT MEDIAN BARRIER | |
| CONSTRUCT/EXPAND BRIDGE | |
| CONSTRUCT CONCRETE WALK | |

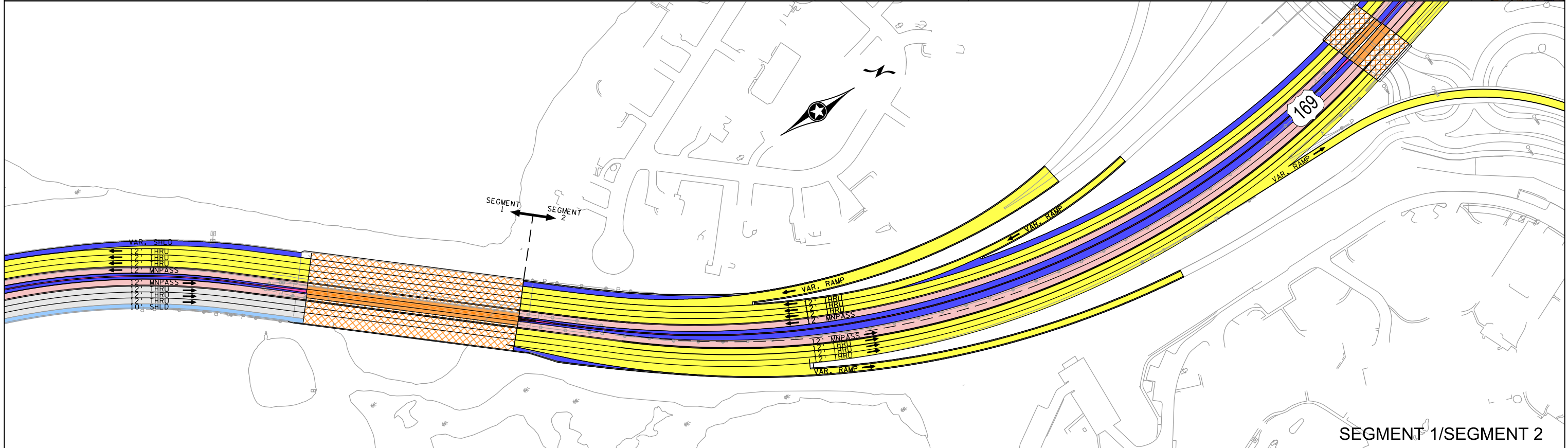
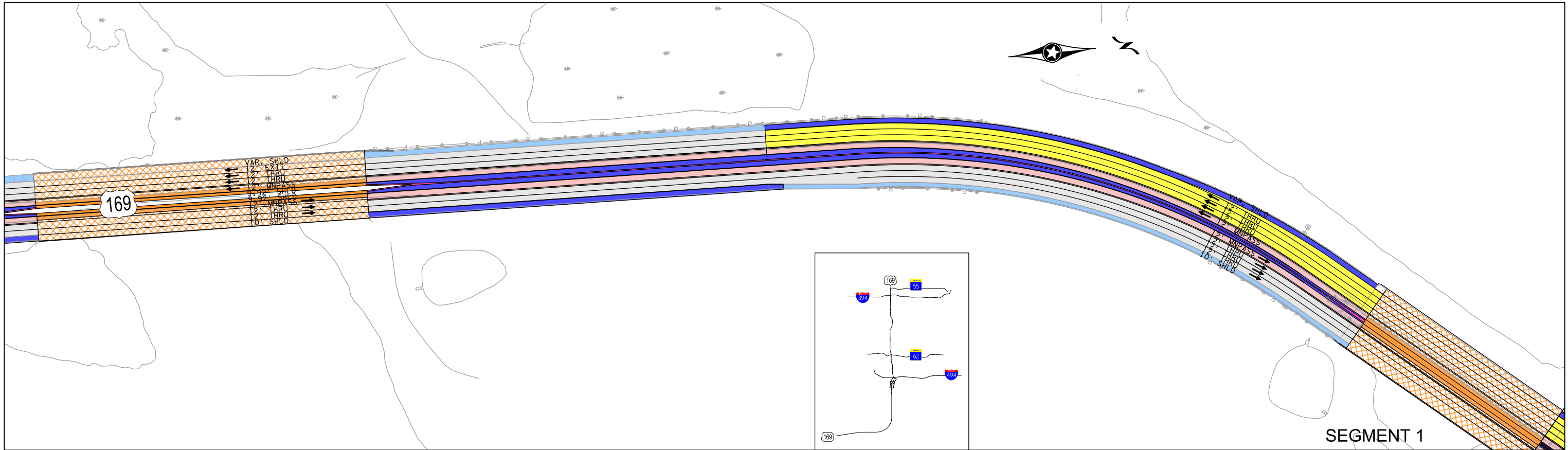
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MNDOT TH 169 STUDY
TH 169 TRANSITWAY AND MNPASS

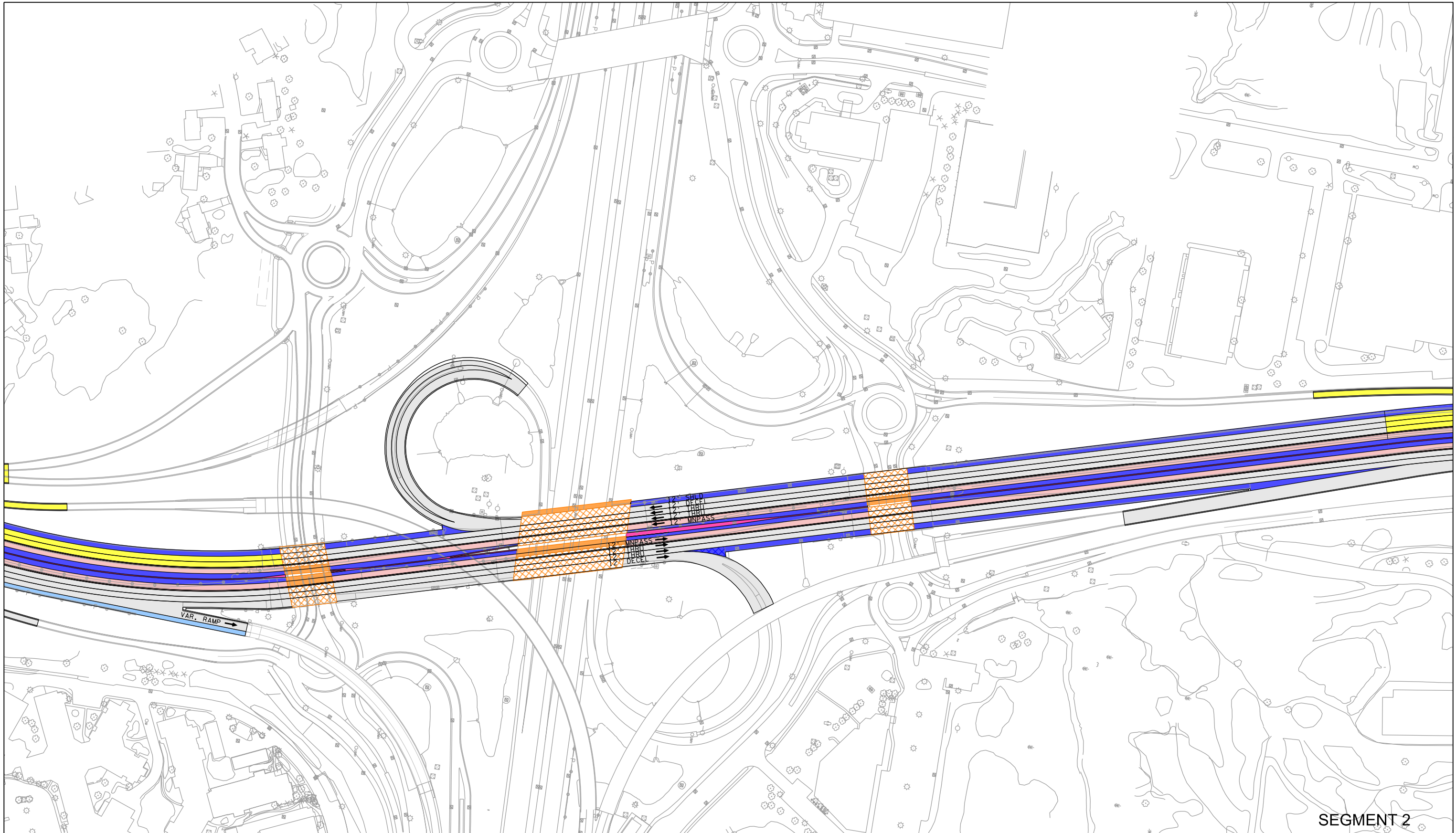
DRAFT TH 169 -
MNPASS CONCEPT

SHEET
08
OF
21



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SEGMENT 2

- | | | | |
|---|--------------------------|---|-----------------------|
|  | CONSTRUCT ROADWAY |  | INPLACE ROADWAY |
|  | CONSTRUCT SHOULDER |  | INPLACE SHOULDER |
|  | CONSTRUCT MNPASS LANE |  | EXISTING BRIDGE |
|  | CONSTRUCT MEDIAN BARRIER |  | FUTURE WORK BY OTHERS |
|  | CONSTRUCT/EXPAND BRIDGE | | |
|  | CONSTRUCT CONCRETE WALK | | |

200
SCALE IN FEET

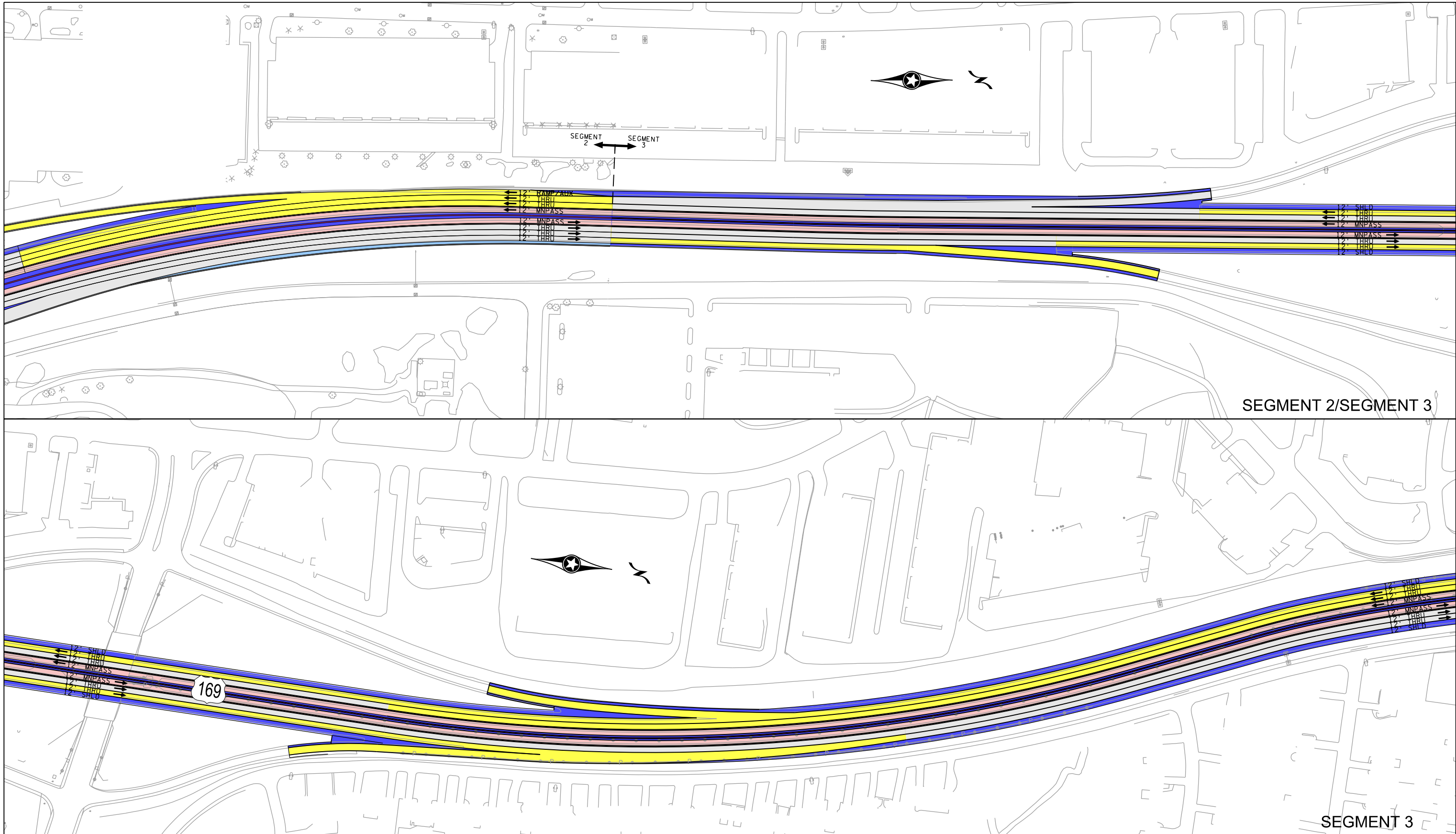


MNDOT TH 169 STUDY
TH 169 TRANSITWAY AND MNPASS

DRAFT TH 169 -
MNPASS CONCEPT

SHEET
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OF
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- CONSTRUCT SHOULDER
- CONSTRUCT MNPASS LANE
- CONSTRUCT MEDIAN BARRIER
- CONSTRUCT/EXPAND BRIDGE
- CONSTRUCT CONCRETE WALK

- INPLACE ROADWAY
- INPLACE SHOULDER
- EXISTING BRIDGE

200
SCALE IN FEET

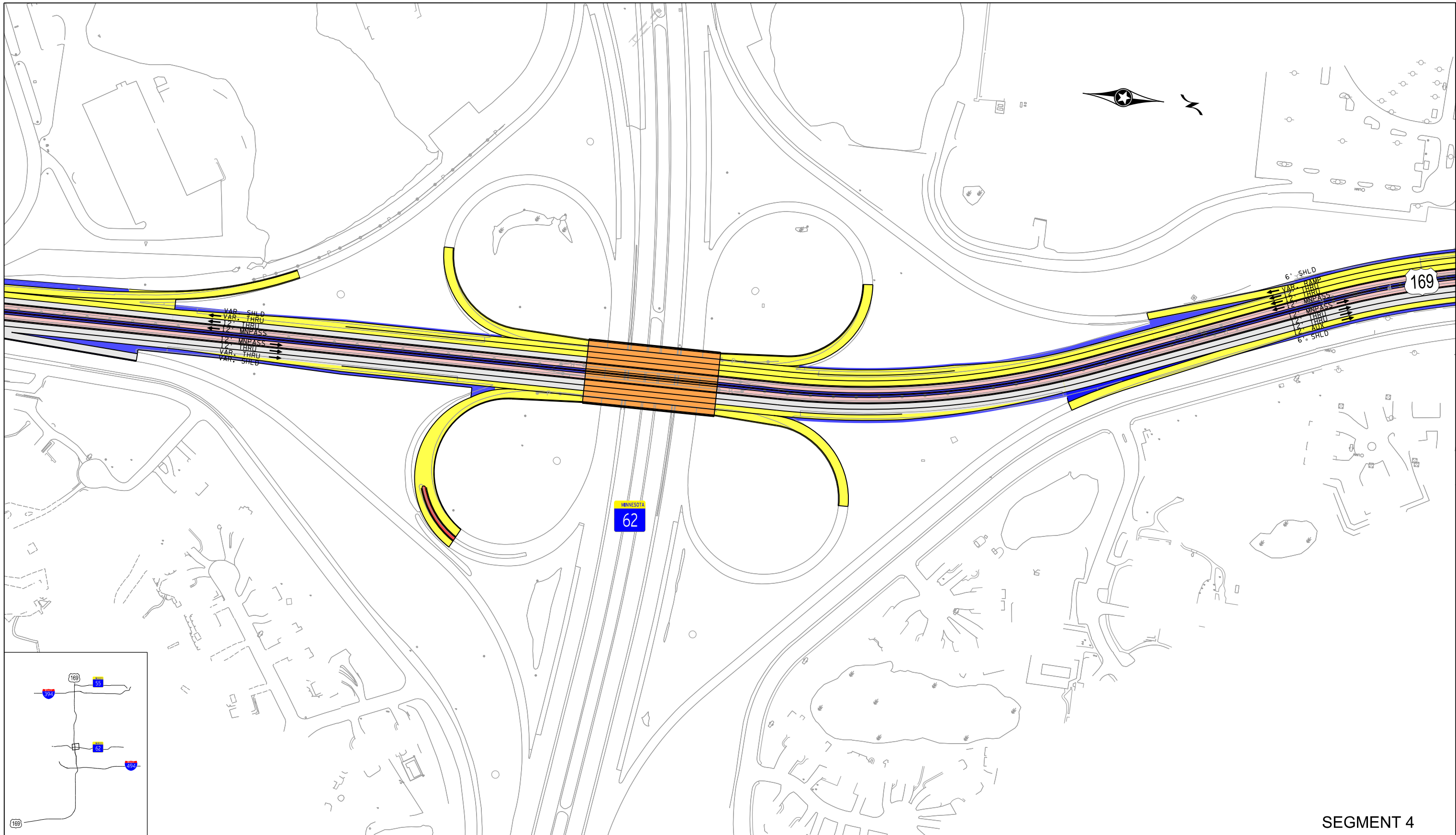


MNDOT TH 169 STUDY
TH 169 TRANSITWAY AND MNPASS

DRAFT TH 169 -
MNPASS CONCEPT

SHEET
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SEGMENT 4

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	CONSTRUCT SHOULDER		INPLACE SHOULDER
	CONSTRUCT MNPASS LANE		EXISTING BRIDGE
	CONSTRUCT MEDIAN BARRIER		
	CONSTRUCT/EXPAND BRIDGE		
	CONSTRUCT CONCRETE WALK		

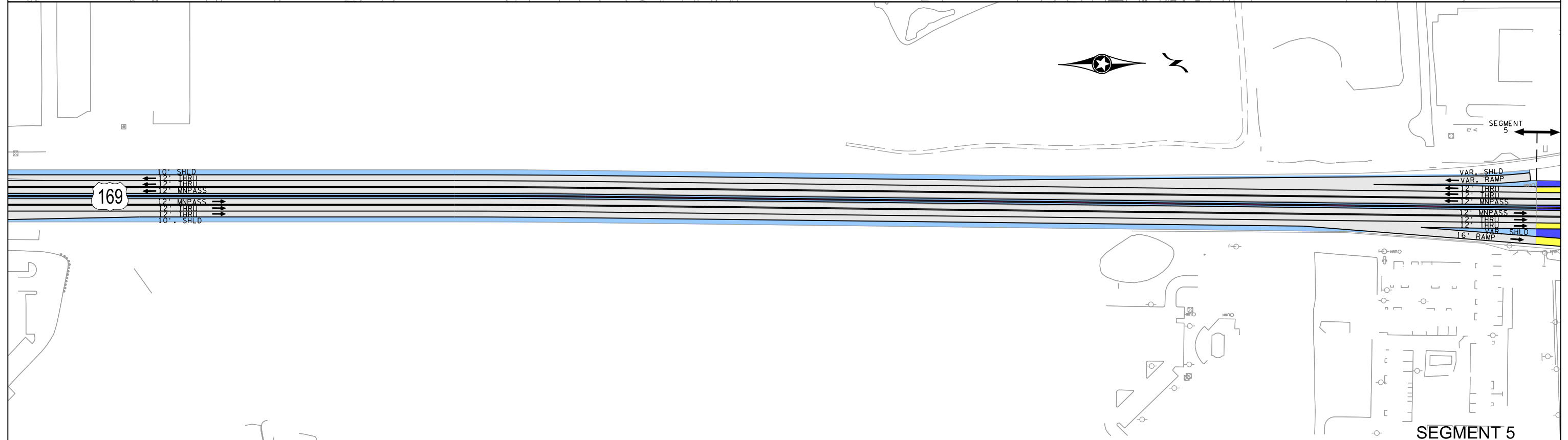
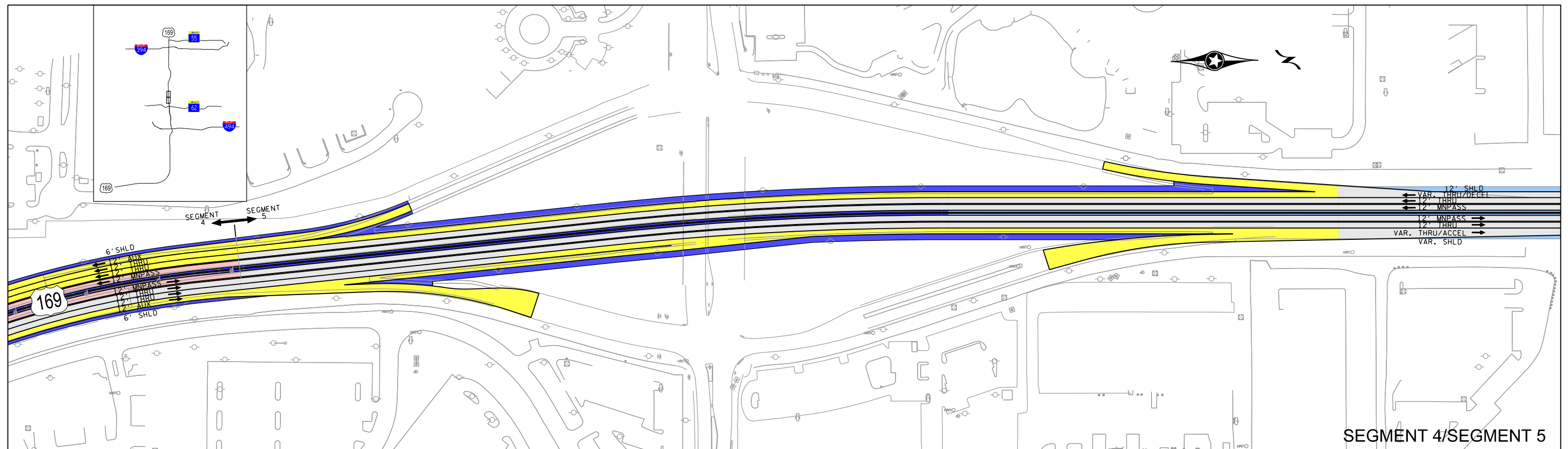
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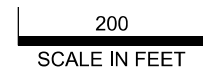
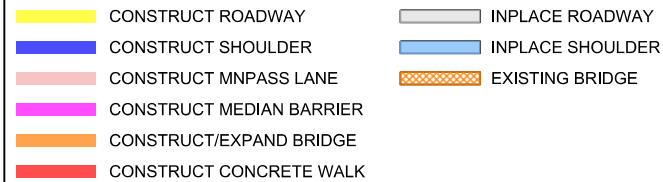
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TH 169 TRANSITWAY AND MNPASS

DRAFT TH 169 -
MNPASS CONCEPT

SHEET
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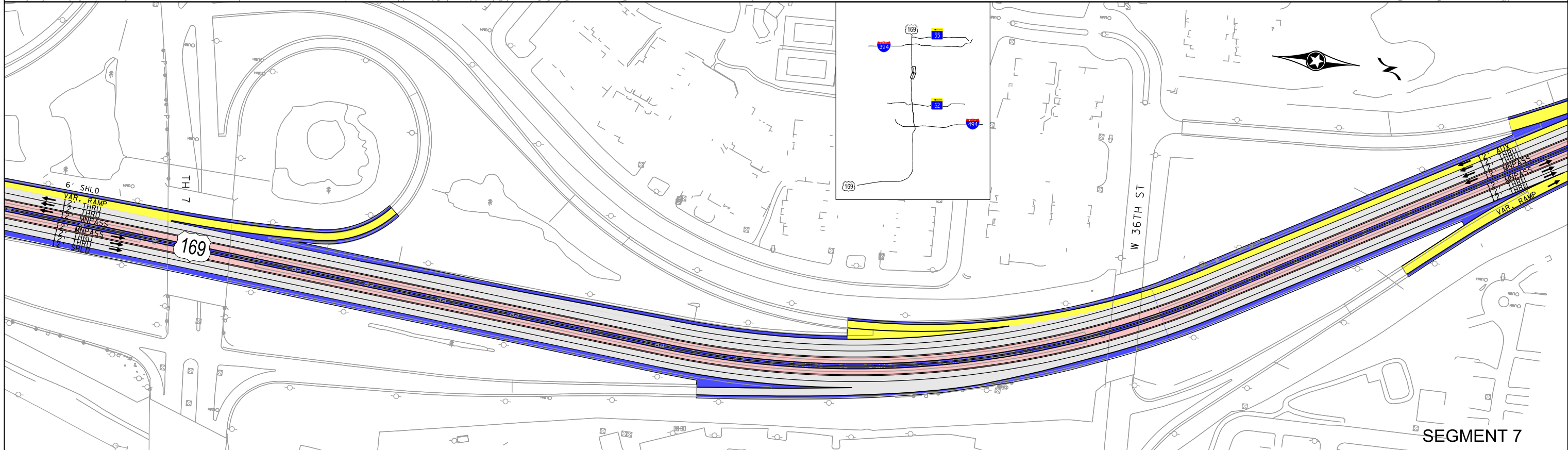
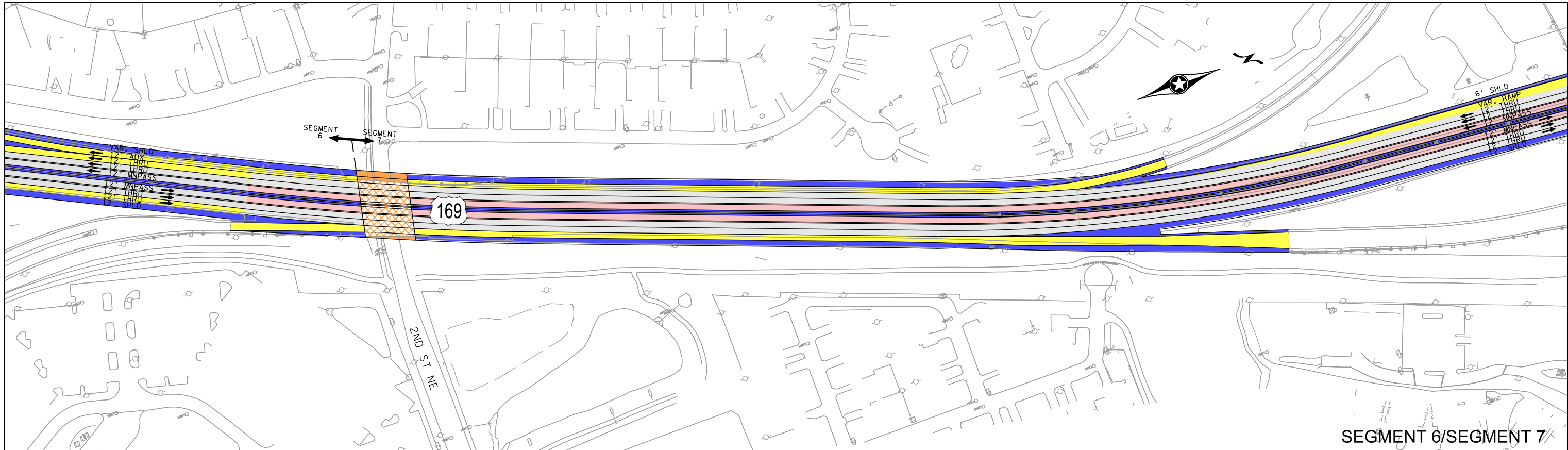


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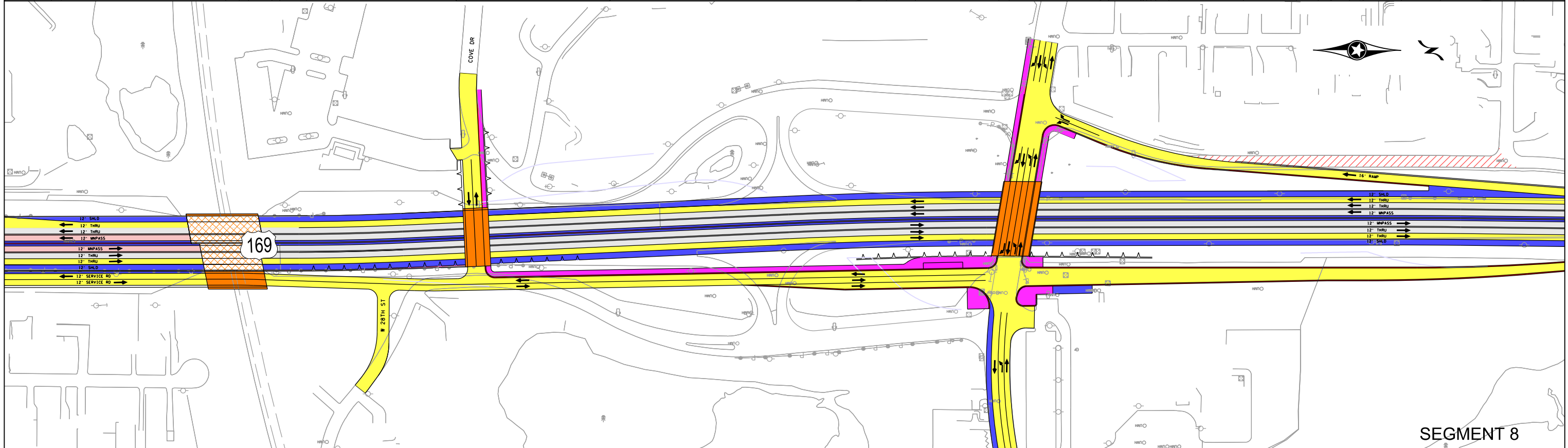
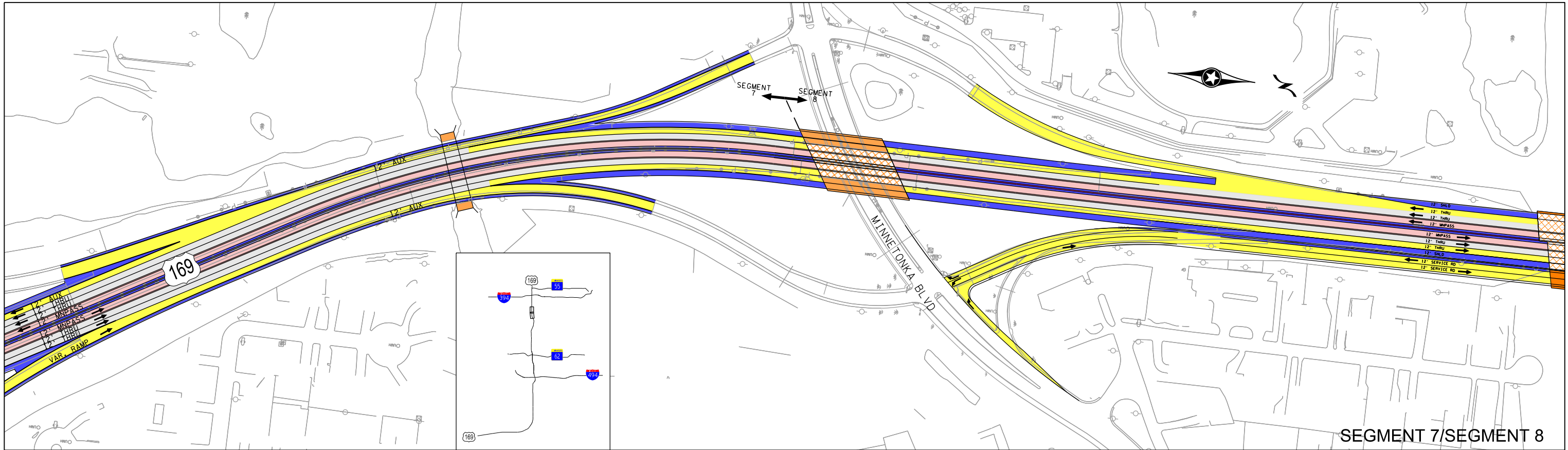
TH 169 TRANSITWAY AND MNPASS

DRAFT TH 169 -
MNPASS CONCEPT

SHEET
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OF
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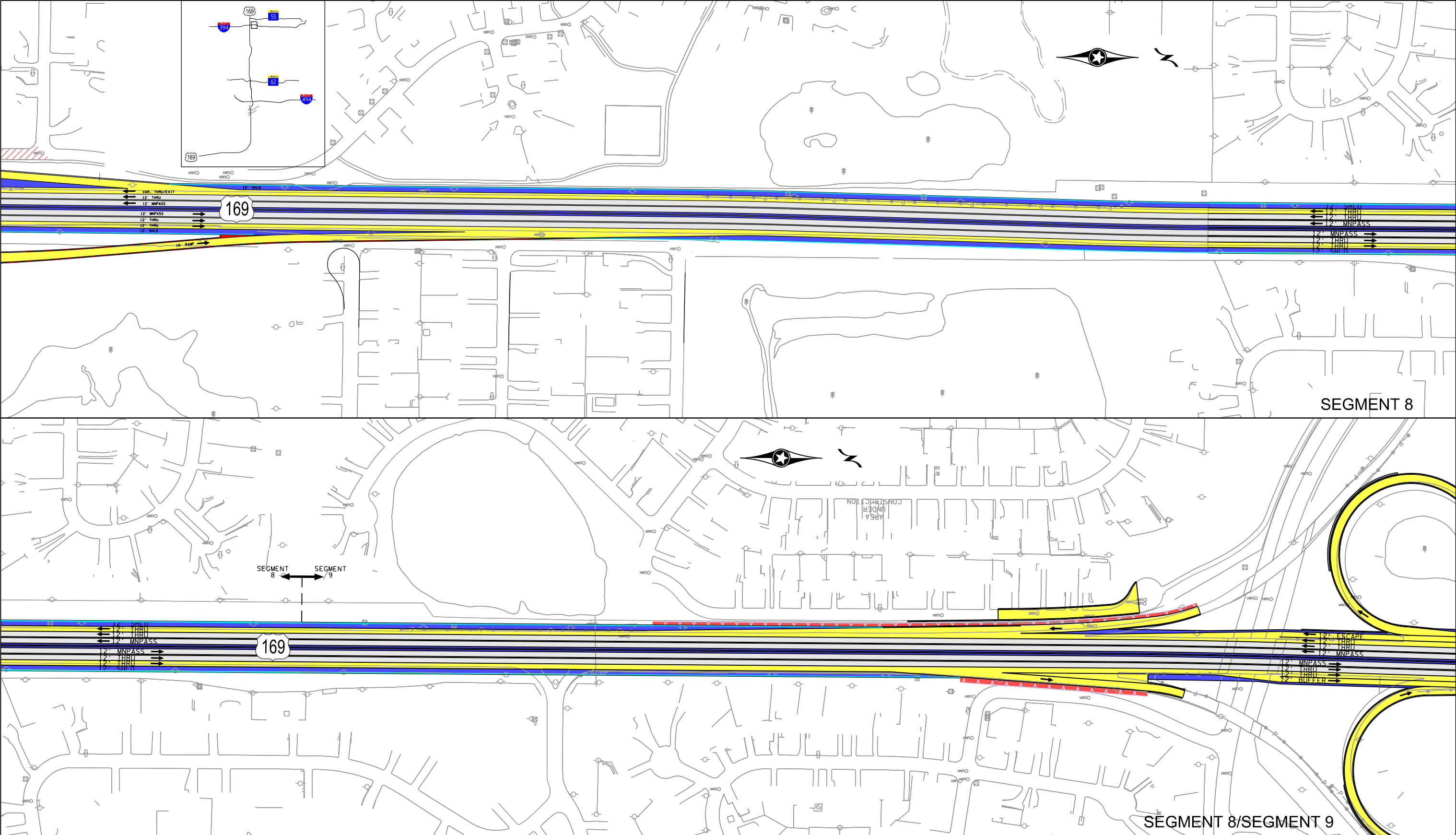


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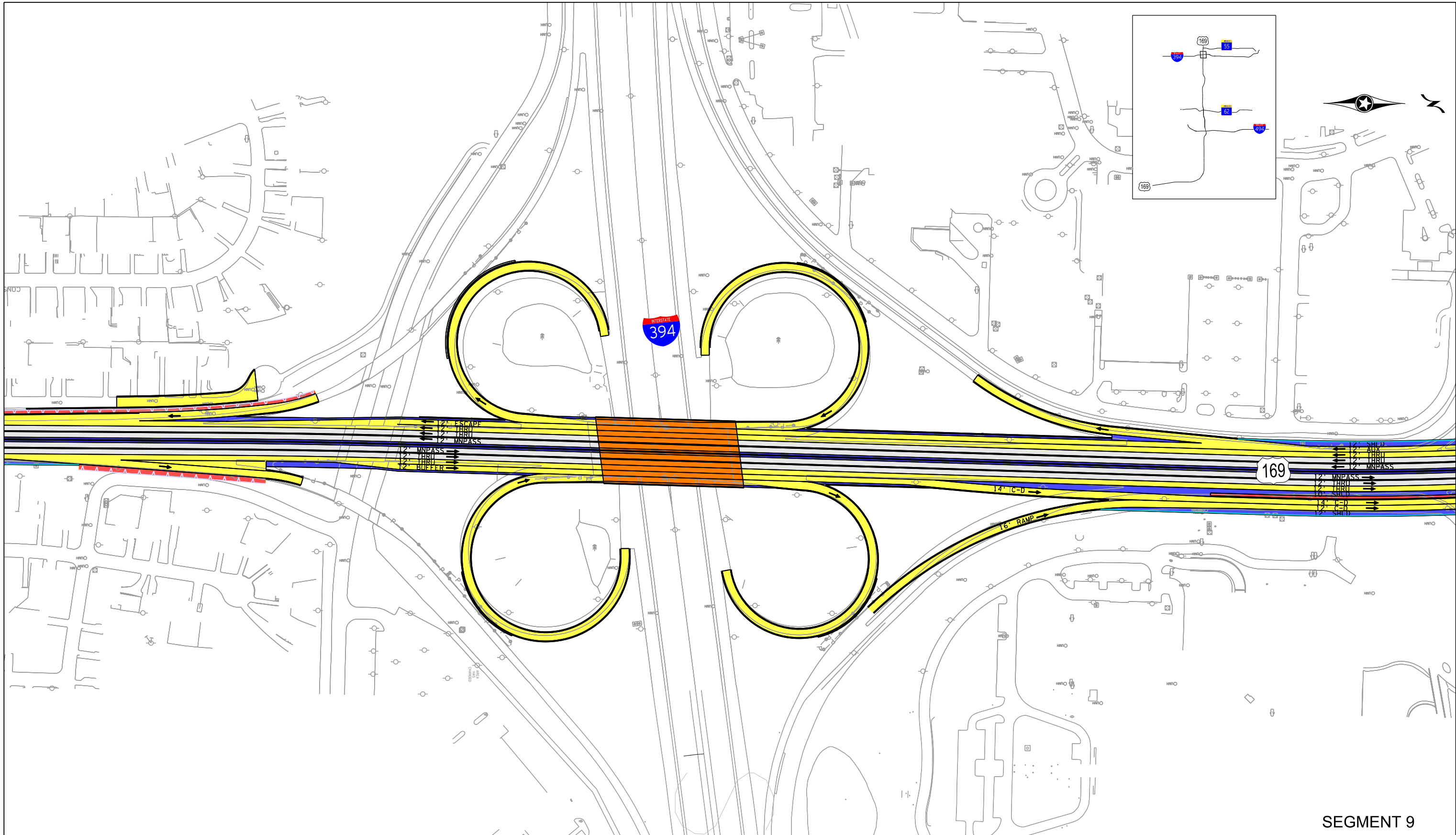


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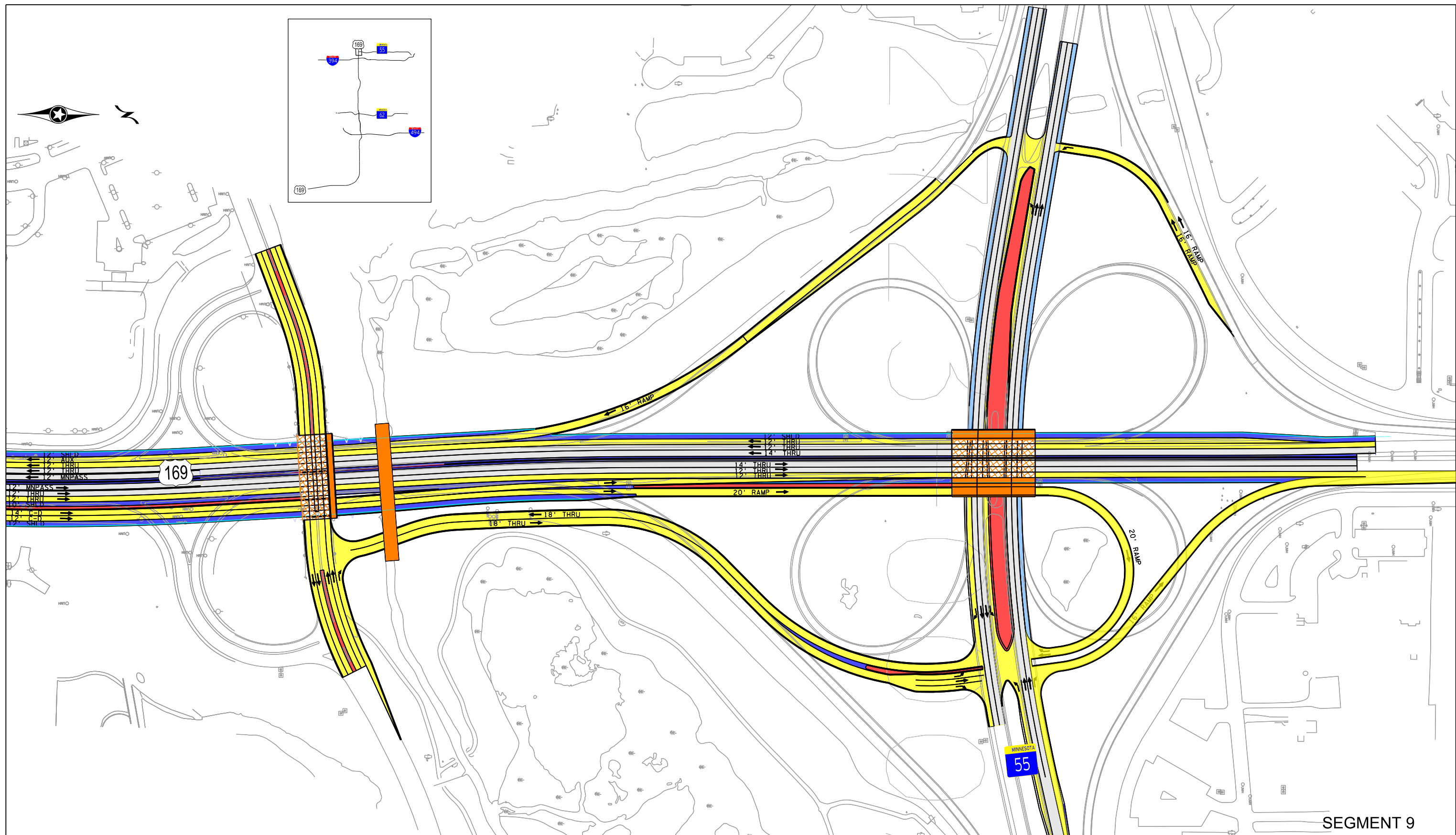


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SEGMENT 9

CONSTRUCT ROADWAY CONSTRUCT SHOULDER CONSTRUCT MNPASS LANE CONSTRUCT MEDIAN BARRIER CONSTRUCT/EXPAND BRIDGE CONSTRUCT CONCRETE WALK INPLACE ROADWAY INPLACE SHOULDER EXISTING BRIDGE 200 SCALE IN FEET m DEPARTMENT OF TRANSPORTATION Scott METROPOLITAN COUNCIL SRI Consulting Group, Inc. HNTB MNDOT TH 169 STUDY TH 169 TRANSITWAY AND MNPASS DRAFT TH 169 - MNPASS CONCEPT SHEET 19 OF 21



SEGMENT 9

MNDOT TH 169 STUDY

TH 169 TRANSITWAY AND MNPASS

DRAFT TH 169 -
MNPASS CONCEPT

SHEET
20
OF
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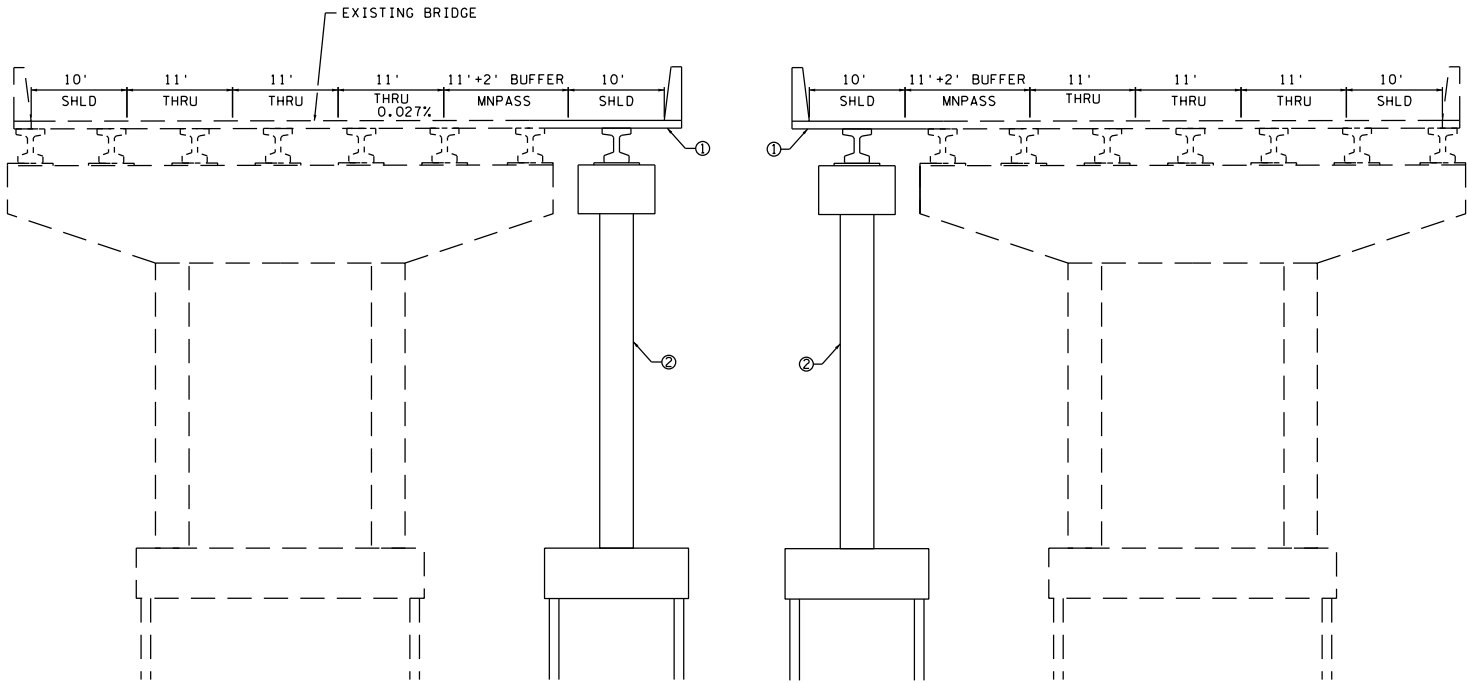
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PEN TABLE: MnDOT Pen Table (Color).tbl

	CONSTRUCT ROADWAY		INPLACE ROADWAY
	CONSTRUCT SHOULDER		INPLACE SHOULDER
	CONSTRUCT MNPASS LANE		EXISTING BRIDGE
	CONSTRUCT MEDIAN BARRIER		
	CONSTRUCT/EXPAND BRIDGE		
	CONSTRUCT CONCRETE WALK		

200
SCALE IN FEET



DESIGN FILE: J:\Jobs\64426 TH 169 Managed Lane BRT Study\TechProd\Work\CADD\Plan Sheets\MnPas\Bloomington Ferry Bridge Expansion Exhibit.dgn
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SPECIFIC NOTES:
① EXPANDED BRIDGE DECK
② NEW PIER REQUIRED TO SUPPORT
EXPANDED BRIDGE DECK



MNDOT TH 169 STUDY
TH 169 TRANSITWAY AND MNPASS

BLOOMINGTON FERRY
BRIDGE EXPANSION

SHEET
21
OF
21