

Step 1: Risk Identification			Step 2: Risk Assessment										Step 3: Risk Response						
Risk Name	Detailed Description	P6 Work Package or Activity Related to Risk	Rank			Cost Impact (\$M)					Schedule Risk				Response Category	Administration Notification	Response	Risk Owner	Contingency Plan
			Probability (1 - 5)	Impact (1-5)	Severity (Priority)	Probability (%)	Minimum (@10%)	Most Likely Cost (\$M)	Maximum (@90%)	COST IMPACT	Risk Price	Minimum	Most Likely (no. of weeks)	Maximum					
Bridge Preservation	If deterioration on bridges advances, then will need to accommodate additional bridge preservation work in the Project 1.	Bridge	3	3	9	10%	0.1	\$0.20	0.3	0.02	\$0.02	12	26	52	2.9	Share	Reality of risk dependent on limits of project as won't include bridges that aren't in the limits.	M/DOT Mgmt. Project Team, Bridge	Find funding to include additional work in project or reduce scope of project.
Railroad Bridge Staging	Construction of the bridge is unable to be done and requires temporary (shoofly) bridge.	Bridge	2	5	10	25%	5	\$10.00	15	2.5	\$2.50								
Xcel line at Nicollet	If the existing Xcel duct line stays in across 494 just west of Nicollet, then a retaining wall needs to be built along the existing NW ramp of Nicollet.	Utilities, Drainage	3	3	9	50%	1	\$2.00	5	1	\$1.00								
Contamination Beyond Sub-cut	If open cut excavation along corridor is beyond the sub-cut, then there may be a need for clean up of contaminated materials.	Contaminated materials work package	4	4	16	20%	0.5	\$1.11	5	0.286	\$0.22	13	26	39	5.2	Mitigate	Phase 1 completed and Phase 2 to be done to determine extent of contamination along corridor. Risk increases closer to businesses from France to TH 77.	Project Team, Contaminated Materials	Find funding to include work or reduce project scope.
Property Acquisition Contamination	If contamination is found during the investigation of property acquisitions along corridor, there will be a need for clean up.	Contaminated materials work package	4	4	16	20%	0.25	\$1.00	2	0.2125	\$0.20	10	26	52	5.7	Mitigate	Phase 1 completed and Phase 2 to be done to determine extent of contamination along corridor.	Project Team, Contaminated Materials	Find funding to include work or reduce project scope.
Dewatering Contamination	If contamination is found during dewatering activities, there will be a need for clean up.	Contaminated materials work package	4	4	16	70%	0.5	\$1.00	2	0.7875	\$0.70	10	26	39	17.675	Mitigate	Phase 1 completed and Phase 2 to be done to determine extent of contamination along corridor.	Project Team, Contaminated Materials	Find funding to include work or reduce project scope.
Groundwater Contamination	Groundwater dewatering may cause cross contamination of local aquifers. Nearby contamination may have plumes that could be mobilized by dewatering.	Drainage	4	4	16	30%	0.5	\$1.20	5	0.4425	\$0.36	12	26	36	7.5	Mitigate	Conduct groundwater sampling and review geotechnical information. Examine if storage would act as a "sink" for groundwater.	Contaminated Materials, Construction, WRE	Relocate or add storage locations. Find funding to include work or reduce scope.
Penn Ave Design Solution	Penn Ave trenches are not viable as a solution and forces a more expensive fix.	Design, WRE, and bridge work packages	2	5	10	10%	2.5	\$10.00	15	0.9375	\$1.00	4	6	16	0.9	Mitigate	Conduct extensive geotechnical investigation. Minimize excavation. Use alternative pipe repairs to jacking.	Project Team, 30% Design Consultant, DB Contractor	Find funding to support construction changes and repairs or reduce scope.
Penn Ave Dewatering	Penn Ave trenches cannot be constructed in allowed timeframe and results in longer construction time with treatment of dewatering water.	Contaminated materials work package	2	5	10	25%	1	\$6.00	10	1.4375	\$1.50	4	6	16	2.25	Mitigate	Conduct geotechnical and hydraulics investigation	Project Team	Utilize contingency funding or reduce scope elsewhere.
Permits	Project is slowed due to unforeseen circumstances with permit acquisition.	Permits work package	1	5	5	10%	0.5	\$1.00	15	0.1	\$0.10	12	26	36	2.55	Mitigate	Need due diligence and coordination up front to reduce impacts as much as possible.	Project Team	Change scope or delay project.
Unknown Utilities	Unknown utilities are discovered which result in design and construction modifications.	Utilities, Drainage, Road Design, Bridge	4	3	12	25%	1	\$5.00	9	1.25	\$1.25	16	20	24	5	Mitigate	Conducting SUE investigation to determine all utilities.	Project Team, SUE Consultant, DB Contractor	Find funding to incorporate, change design/construction, or reduce scope.
Piling	Piling will have to extend further than expected (ex 50' vs 120') due to unforeseen conditions.	Bridge	2	3	6	25%	1	\$2.50	5	0.6875	\$0.63	1	4	6	1,0625	Share	Need to make sure geotechnical investigation includes enough deep borings as well as proper interpretation of boring logs. M/DOT will manage investigation, DB Contractor will manage interpretation.	Project Team, Foundation, DB Contractor	Find funding to pay DB Contractor for difference in length or reduce scope.
Transit Detour Routes	Detour routes for transit are ineffective due to construction staging and/or traffic patterns.	MOT	1	5	5	25%	0.25	\$1.00	2	0.2656	\$0.25	4	6	12	2	Mitigate	Local partners will require this and it is in M/DOT's best interest to accept. Incorporate requirements in RFP.	Project Team	Provide appropriate detour routes during construction and modify if needed.
Temporary Work on Local Network	Provide additional temporary work on the local network (including temporary signing) than what was originally proposed.	MOT	2	5	10	50%	0.25	\$1.00	2	0.5313	\$0.50	12	18	24	9	Mitigate	Need to work with local partners to identify the areas that need additional temporary work to aid in MOT during construction.	Project Team, DB Contractor	Find funding to include work or reduce project scope.
Vibration Monitoring	Retaining wall construction causes vibrations in buildings resulting in damage.	Construction	3	1	3	25%	0.25	\$1.00	2	0.2656	\$0.25	2	4	6	1	Transfer	Will include vibration monitoring requirement in RFP to reduce risk.	DB Contractor	Find funding to pay damages or reduce project scope.
Unknown Subsurface Materials	Unknown subsurface conditions changes designs for bridges, drainage, and pavement.	Design, WRE, and bridge work packages	2	4	8	25%	0.25	\$1.00	7.5	0.6094	\$0.25	10	18	26	4.5	Mitigate	Will do subsurface investigation.	Project Team	Find funding to include work or reduce project scope.
Added scope - 494 pavement	Asset preservation work on 494 pavement as a mill and overlay from 24th Ave to just east of TH 100 and CPR from 24th Ave to MN River is added to Project A scope due to movement of projects from CHIP to STIP.	Roadway	5	5	25	75%	15	\$20.00	25	15	\$15.00	13	26	40	19,6875	Share	Will bring to MPC and work with Programming Unit.	Project Team	Will reduce project scope if funding not received.
MOT	TH 62 temporary widening needs to take place due to political or constructability needs.	Construction	4	4	16	25%	20	\$40.00	50	0.375	\$10.00	7	7	7	7	Mitigate	Will model staging and determine constructability needs; will continue to engage and meet with project partners to address and mitigate their concerns.	Project Team	Reduce scope to the point where temp widening is not needed or reduce scope to accommodate temp widening.