



Pre-Construction Risk Register - 90% North Sewer Expansion Ph 1 CMaR

as of 5/4/2022

Number	Risk Description	Consequence / Impact	Status	Responsible Group	Probability	Impact to Schedule	Impact to Cost	Proposed Mitigation	Management of Risk (if realized)	Potential Costs NOT included in Existing Bid	Potential Cost Savings to Existing Bid From VE Ideas	Comments	
					1 - Very Low	1 - Very Low	1 - Very Low						
					2 - Low	2 - Low	2 - Low						
					3 - Moderate	3 - Moderate	3 - Moderate						
					4 - High	4 - High	4 - High						
5 - Very High	5 - Very High	5 - Very High											
1	Material Supply & Pricing	PVC pipe pricing subject to change at time of shipment.	Open	Town	3	3	3	Order Pipe Prior to Contract Execution.	Ferguson quote \$ 3,591,000, assume 3% escalation	\$107,730.00	\$0.00	If price goes up could be fairly significant cost to project. Lead time is unknown.	
		Shoring Steel- Current steel pricing is valid for 10 days from quote	Open	Town	3	3	3	Order shoring steel early	Steel manufactures only holding pricing for 10 days	\$23,000.00	\$0.00	1% of subcontract	
		Lift station components price increase & availability	Open	Town	3	3	3	Identify & early purchase of lift station components / materials	Electrical held for 90 dy (early July), Medals & Plastics held for 10 dy, Everything else 30 dy. Assumes quote date of 4/18	\$0.00	(\$145,000.00)	If price goes up could be fairly significant cost to project. Lead time are unknown / varies by component. Included in HP 90% bid pricing.	
		Bore casing pricing is valid for 10 days from quote	Open	Town	3	3	3	Order casing early		\$12,000.00	\$0.00	1% of subcontract	
2	Easement / Temporary Construction Easements Acquisition	Constructability & sequencing Permitting Weld Cty	Open	Town	1	1	2	Begin discussions with property owners and finalize agreements	Need to know any requirements for each property owner (timelines, irrigation, replanting, restoration)		\$0.00		Sta 89+00 to 97+00, under irrigation pivot system. Sta 94+00 to 109+00, need 30' minimum from existing property lines
3	CR 48 1/2	Temp OH Power Relocations	Open	Town / IMEG	2	3	3	Shift alignment, mainline bury depth	OH power relocation @ \$75 / lf.	\$187,500.00	\$0.00	Being resolved with revised design. 2,500 lf x \$75 /ft= \$187,500	
		Temp Waterline	Open					Shift alignment, mainline bury depth	Anticipate waterline relocation for mainline deeper than 14'.	\$548,300.00	\$0.00	5,483 lf x \$100 / ft= \$548,300	
		Temp Phone / Comm	Open					Shift alignment, mainline bury depth		Undefined	\$0.00		
		CR 48 1/2 at grade manholes	Open					Buried MH's / Shift Alignment	Acquire variance from Weld Cty.	\$0.00	(\$159,040.00)	pave roadway 14, 200 sy @ \$40 / sy = \$572,000 Relocation decrease base \$(159,040)	
		Seed & Mulch Reduction- Line 5	Open					Shift alignment, mainline bury depth		\$0.00	(\$71,820.00)		
		R&R CMP, Fence & Conc Ditch- Line 26,27 & 29	Open					Shift alignment, mainline bury depth		\$0.00	(\$31,440.00)	May need partial cost for other areas.	
		Traffic Control Reduction- Line 30 - 36	Open					Shift alignment, mainline bury depth		\$0.00	(\$64,873.00)	Still need closure for MH 2-1 or auger bore CR 48 1/2. Maybe keep 10%?	
		Installation production due to less rock excavation	Open					Shift alignment, mainline bury depth	with 5' Rock Ex Reduction, easier excavation		(\$200,000.00)	Shallower depths should allow installation cost reduction.	
		Installation production due to shallower elevations for excavation & manholes						Shift alignment, mainline bury depth			(\$356,184.00)	Shallower depths should allow installation cost reduction.	
4	Wetland Mitigation / Permitting	Need to identify any special requirements for wetlands	Open	IMEG	2	2	3		Need to identify any special requirements for wetlands				
5	High profile utility crossings	Decreased productions, additional potholing	Open	IMEG	4	4	4	Need to identify utility & crossing requirements. Verify no elevation conflicts	Additional shoring & support for crossing	Undefined		Crossing permits / requests submitted to facility owners	
6	Alignment sta 212+61 to sta 236+29	OH power relocation	Open	IMEG	5	2	3	Permanent OH relocation required from sta 230+00 to sta 236+29 (plus 100' west)	Show location of OH power on plans.	\$54,750.00		OH power 730 lf x \$75 / lf= \$54,750	
		Identify ditch reconstruction & irrigation schedule / constraints	Open	IMEG	4	4	3	Revise alignment to south	Schedule constraints	\$71,040.00		Ditch reconstruct 2,368 lf x \$30/ lf= \$71,040	
		Open cut WCR 50 (sta 235+00) & South Cty Line (CR 13)	Open	IMEG	4	2	4	Revise alignment to south	Bore casing crossings if WCR 50 can't be closed	\$260,000.00		Possible to eliminate 2 bore crossings by shifting alignment.	
		WCR 50 (sta 212+00) bore pit located within wetlands & OH power l	Open	IMEG	4	2	4	Extend bore pit under CR 50, near lift station	Open cut during force main install in WCR 50	\$253,650.00		Please show launch & receiving pits at all bore locations. 89 lf x \$2,850 / lf= \$253,650	

		Traffic Control Reduction- Line 130 - 142										(\$16,151.00)	50% of traffic control costs for bid schedule C
7	Hillsborough Ditch Bore	Potential delay of mainline installation due to ditch constraints	Open	IMEG	2	4	4	Extend casing to 5' past easement	Extend past Hillsborough easement to reduce schedule impact & future maintenance. Identify HB easement on plans.	\$226,040.00			Please show launch & receiving pits at all bore locations. 40 lf x \$5,561 / lf= \$226,040
8	Upsize PVC from 27" to 30"	Price	Open	IMEG	3	1	5			\$0.00			16, 058 LF X \$44/LF = \$706,552
9	WCR 50 Force Main- Open Cut vs. Directional Drill	Directional drill reduce traffic impacts, closure costs, roadway repaving	Open	IMEG					Weld Cty may not allow closure of WCR 50				
		DR 18 vs. DR 25 specification (DR 18 included in 90% pricing)		IMEG	VE	VE	VE						
10	Lift Station Shoring	Cost of Installation	Open	CRI				Obtain additional sub-contractor quotes					
11	Additional Items	Concrete Ditch Repave	Open	IMEG	3	1	2	Identify items for initial pricing to reduce using contingency.					1,500 lf x \$40 / lf= \$60,000
		Native dryland seed vs. seed specification	Open	IMEG	VE	VE	VE	Cost savings to use native dryland seed	Overall qty underrun?	\$0.00		(\$15,750.00)	52 1/2 acre x \$300 / acre= \$15,750
		Fence & Gates	Open	IMEG	3	1	2	Identify items for initial pricing to reduce using contingency.				(\$25,636.00)	2,210 lf x \$10.50 / lf= \$23,205 + Gates
		Railroad flagging							Not used during Central Sewer Phase 1			(\$43,800.00)	
		Gantry crane in lieu of Davit crane			VE	VE	VE			\$0.00		(\$6,000.00)	
		Remove gas detection from electrical / mechanical rooms, leave alarm light bars			VE	VE	VE			\$0.00		(\$17,000.00)	
		Remove 2nd overflow drain valve			VE	VE	VE			\$0.00		(\$3,300.00)	
<b>Total Potential Costs</b>										<b>\$1,744,010.00</b>	<b>(\$1,155,994.00)</b>		