Engineer's Opinion of Preliminary Project Costs City of Clark Fork 9th Street Well Refurbishment

Prepared By: Tom Jordan Date: 11/20/2018

TIEM DESCRIPTION					EST. UNIT		EST. TOTAL	
1 Disinfection of well and equipment 1 LS \$1,500.00 \$1,500.00 \$2,000.00 \$2,			QTY	UNIT	PRICE		COST	
2 Camera Inspection	• •							
Pump A Vertical Turbine Well Pump 1 LS \$60,000.00 \$60,00							State of the state	
Pump 1 LS \$60,000.00 \$60,000.00 5 New Piping and Controls 1 LS \$40,000.00 \$40,000.00 6 Treatment System 2 LS \$25,000.00 \$50,000.00 Construction Costs 11 Mobilization 10.0% LS \$150,000.00 Well Pipeline Connection 8" C-900 PVC Water Line Incl. Trenching and Fittings 50 LF \$55.00 \$2,750.00 8" C-900 PVC Water Line Incl. Trenching and Fittings 1,045 LF \$65.00 \$67,925.00 8" Ductile Iron Gate Valve (Resilient Seat) 2 EA \$1,500.00 \$3,000.00 8" Ductile Iron Gate Valve (Resilient Seat) 3 EA \$2,000.00 \$6,000.00 Connection to Existing Water Line 2 EA \$2,000.00 \$4,000.00 Remove and Replace Unsuitable Soils (15% of trench line) 110 CY \$30.00 \$3,285.00 Demo Existing Roadway 2,933 SY \$6.00 \$7,822.22 Mobilization (10%) 1 LS	2	Camera Inspection	1	LS	9 9		40.00	
4 Vertical Turbine Well Pump 5 New Piping and Controls 6 Treatment System 2 LS \$25,000.00 \$40,000.00 6 Treatment System 3 1 LS \$40,000.00 \$40,000.00	D				SUBTOTAL:		\$3,500.00	
5 New Piping and Controls 1 LS \$40,000.00 \$40,000.00 6 Treatment System 2 LS \$25,000.00 \$50,000.00 Construction Costs 11 Mobilization 10.0% LS \$15,350.00 Well Pipeline Connection 8" C-900 PVC Water Line Incl. Trenching and Fittings 50 LF \$55.00 \$2,750.00 10" C-900 PVC Water Line Incl. Trenching and Fittings 1,045 LF \$65.00 \$67,925.00 8" Ductile Iron Gate Valve (Resilient Seat) 2 EA \$1,500.00 \$3,000.00 10" Ductile Iron Gate Valve (Resilient Seat) 3 EA \$2,000.00 \$6,000.00 Connection to Existing Water Line 2 EA \$2,000.00 \$4,000.00 Remove and Replace Unsuitable Soils (15% of trench line) 110 CY \$30,00 \$3,285.00 Demo Existing Roadway 2,933 SY \$6.00 \$17,600.00 3" Thick HMA Roadway (24' Width) 2,933 SY \$9.00 \$26,400.00 BYBOTAL: \$		Vartical Turking Well Duran			# 00 000 00		000 000 00	
6 Treatment System 2 LS \$25,000.00 \$50,000.00 \$UBTOTAL: \$150,000.00 \$UBTOTAL: \$150,000 \$UBTOTAL: \$150,0					10.			
Construction Costs SUBTOTAL: \$150,000.00			17.1					
Construction Costs 11 Mobilization 10.0% LS \$15,350.00 Well Pipeline Connection 8" C-900 PVC Water Line Incl. Trenching and Fittings 50 LF \$55.00 \$ 2,750.00 10" C-900 PVC Water Line Incl. Trenching and Fittings 1,045 LF \$65.00 \$ 67,925.00 8" Ductile Iron Gate Valve (Resilient Seat) 2 EA \$1,500.00 \$ 3,000.00 10" Ductile Iron Gate Valve (Resilient Seat) 3 EA \$2,000.00 \$ 6,000.00 Connection to Existing Water Line 2 EA \$2,000.00 \$ 4,000.00 Remove and Replace Unsuitable Soils (15% of trench line) 110 CY \$30.00 \$ 3,285.00 Demo Existing Roadway 2,933 SY \$6.00 \$ 17,600.00 3" Thick HMA Roadway (24' Width) 2,933 SY \$9.00 \$ 26,400.00 3" CSTC 244.44 CY \$32.00 \$ 7,822.22 Mobilization (10%) 1 LS \$13,878.22 \$ 13,878.22 SUBTOTAL: Cost Per Foot: \$ 12,600.	О	Treatment System	2	LS				
Mobilization 10.0%	Constr	uction Costs			SUBTUTAL.		\$150,000.00	
Well Pipeline Connection 8" C-900 PVC Water Line Incl. Trenching and Fittings 50 LF \$55.00 \$2,750.00 10" C-900 PVC Water Line Incl. Trenching and Fittings 1,045 LF \$65.00 \$67,925.00 8" Ductile Iron Gate Valve (Resilient Seat) 2 EA \$1,500.00 \$3,000.00 10" Ductile Iron Gate Valve (Resilient Seat) 3 EA \$2,000.00 \$6,000.00 Connection to Existing Water Line 2 EA \$2,000.00 \$4,000.00 Remove and Replace Unsuitable Soils (15% of trench line) 110 CY \$30.00 \$3,285.00 Demo Existing Roadway 2,933 SY \$6.00 \$17,600.00 3" Thick HMA Roadway (24' Width) 2,933 SY \$9.00 \$26,400.00 3" CSTC 244.44 CY \$32.00 7,822.22 Mobilization (10%) 1 LS \$13,878.22 \$13,878.22 \$13,878.22 \$152,660.44 Cost Per Foot: \$32,151.04 20% Construction Contingency \$64,302.09 10% Geotechnical & Engineering Design Fee \$32,151.04 417,963.58			10.0%	15			\$15.350.00	
8" C-900 PVC Water Line Incl. Trenching and Fittings 10" C-900 PVC Water Line Incl. Trenching and Fittings 1,045 EF \$55.00 \$ 2,750.00 10" C-900 PVC Water Line Incl. Trenching and Fittings 1,045 EF \$65.00 \$ 67,925.00 8" Ductile Iron Gate Valve (Resilient Seat) 2 EA \$1,500.00 \$ 3,000.00 10" Ductile Iron Gate Valve (Resilient Seat) 3 EA \$2,000.00 \$ 6,000.00 Connection to Existing Water Line 2 EA \$2,000.00 \$ 4,000.00 Remove and Replace Unsuitable Soils (15% of trench line) 110 CY \$30.00 \$ 3,285.00 Demo Existing Roadway 2,933 SY \$6.00 \$ 17,600.00 3" Thick HMA Roadway (24' Width) 2,933 SY \$9.00 \$ 26,400.00 3" CSTC 244.44 CY \$32.00 \$ 7,822.22 Mobilization (10%) 1 LS \$13,878.22 \$ 13,878.22 SUBTOTAL: \$ 152,660.44 Cost Per Foot: \$ 139.42 Construction Estimate Subtotal: \$321,510.44 20% Construction Contingency 10% Geotechnical & Engineering Design Fee Total \$417,963.58	7.0	Woolingation	10.070	LO			\$15,550.00	
10" C-900 PVC Water Line Incl. Trenching and Fittings 8" Ductile Iron Gate Valve (Resilient Seat) 2 EA \$1,500.00 \$3,000.00 10" Ductile Iron Gate Valve (Resilient Seat) 3 EA \$2,000.00 \$6,000.00 Connection to Existing Water Line 2 EA \$2,000.00 \$4,000.00 Remove and Replace Unsuitable Soils (15% of trench line) Demo Existing Roadway 3" Thick HMA Roadway (24' Width) 3" CSTC 244.44 CY \$32.00 \$7,822.22 Mobilization (10%) Construction Estimate Subtotal: 20% Construction Contingency 10% Geotechnical & Engineering Design Fee Total Total 67,925.00	Well Pi	Well Pipeline Connection						
8" Ductile Iron Gate Valve (Resilient Seat) 2 EA \$1,500.00 \$ 3,000.00 10" Ductile Iron Gate Valve (Resilient Seat) 3 EA \$2,000.00 \$ 6,000.00 Connection to Existing Water Line 2 EA \$2,000.00 \$ 4,000.00 Remove and Replace Unsuitable Soils (15% of trench line) 110 CY \$30.00 \$ 3,285.00 Demo Existing Roadway 2,933 SY \$6.00 \$ 17,600.00 3" Thick HMA Roadway (24' Width) 2,933 SY \$9.00 \$ 26,400.00 3" CSTC 244.44 CY \$32.00 \$ 7,822.22 Mobilization (10%) 1 LS \$13,878.22 \$ 13,878.22 SUBTOTAL: \$152,660.44 Cost Per Foot: \$139.42		8" C-900 PVC Water Line Incl. Trenching and Fittings	50	LF	\$55.00	\$	2,750.00	
10" Ductile Iron Gate Valve (Resilient Seat) 3 EA \$2,000.00 \$ 6,000.00 Connection to Existing Water Line 2 EA \$2,000.00 \$ 4,000.00 Remove and Replace Unsuitable Soils (15% of trench line) 110 CY \$30.00 \$ 3,285.00 Demo Existing Roadway 2,933 SY \$6.00 \$ 17,600.00 3" Thick HMA Roadway (24' Width) 2,933 SY \$9.00 \$ 26,400.00 3" CSTC 244.44 CY \$32.00 \$ 7,822.22 Mobilization (10%) 1 LS \$13,878.22 \$ 13,878.22 SUBTOTAL: 5152,660.44 Cost Per Foot: \$ 139.42		10" C-900 PVC Water Line Incl. Trenching and Fittings	1,045	LF	\$65.00	\$	67,925.00	
Connection to Existing Water Line Remove and Replace Unsuitable Soils (15% of trench line) Remove and Replace Unsuitable Soils (15% of trench line) Demo Existing Roadway 3,933 SY \$6.00 \$17,600.00 3" Thick HMA Roadway (24' Width) 2,933 SY \$9.00 \$26,400.00 3" CSTC 244.44 CY \$32.00 \$7,822.22 Mobilization (10%) 1 LS \$13,878.22 \$13,878.22 SUBTOTAL: SUBTOTAL: Cost Per Foot: \$152,660.44 Cost Per Foot: \$139.42 Construction Estimate Subtotal: 20% Construction Contingency 10% Geotechnical & Engineering Design Fee Total Total \$4,000.00 \$4,000.00 \$3,285.00 \$3,285.00 \$17,600.		8" Ductile Iron Gate Valve (Resilient Seat)	2	EA	\$1,500.00	\$	3,000.00	
Remove and Replace Unsuitable Soils (15% of trench line) 110 CY \$30.00 \$ 3,285.00 Demo Existing Roadway 2,933 SY \$6.00 \$ 17,600.00 3" Thick HMA Roadway (24' Width) 2,933 SY \$9.00 \$ 26,400.00 3" CSTC 244.44 CY \$32.00 \$ 7,822.22 Mobilization (10%) 1 LS \$13,878.22 \$ 13,878.22 SUBTOTAL: 504.44 Cost Per Foot: \$ 152,660.44 Cost Per Foot: \$ 139.42		10" Ductile Iron Gate Valve (Resilient Seat)	3	EA	\$2,000.00	\$	6,000.00	
Demo Existing Roadway 3" Thick HMA Roadway (24' Width) 2,933 SY \$9.00 \$ 26,400.00 3" CSTC 244.44 CY \$32.00 \$ 7,822.22 Mobilization (10%) 1 LS \$13,878.22 \$ 13,878.22 SUBTOTAL: \$152,660.44 Cost Per Foot: \$ 139.42 Construction Estimate Subtotal: \$321,510.44 20% Construction Contingency \$64,302.09 10% Geotechnical & Engineering Design Fee Total \$417,963.58		Connection to Existing Water Line	2	EA	\$2,000.00	\$	4,000.00	
3" Thick HMA Roadway (24' Width) 2,933 SY \$9.00 \$ 26,400.00 3" CSTC 244.44 CY \$32.00 \$ 7,822.22 Mobilization (10%) 1 LS \$13,878.22 \$ 13,878.22 SUBTOTAL: \$152,660.44 Cost Per Foot: \$ 139.42 Construction Estimate Subtotal: \$321,510.44 20% Construction Contingency \$64,302.09 10% Geotechnical & Engineering Design Fee \$32,151.04 Total \$417,963.58		Remove and Replace Unsuitable Soils (15% of trench line)	110	CY	\$30.00	\$	3,285.00	
3" CSTC Mobilization (10%) 244.44 CY \$32.00 \$ 7,822.22 Mobilization (10%) 1 LS \$13,878.22 \$ 13,878.22 SUBTOTAL: \$ 152,660.44 Cost Per Foot: \$ 139.42 Construction Estimate Subtotal: \$321,510.44 20% Construction Contingency \$64,302.09 10% Geotechnical & Engineering Design Fee \$32,151.04 Total \$417,963.58		Demo Existing Roadway	2,933	SY	\$6.00	\$	17,600.00	
Mobilization (10%) 1 LS \$13,878.22 \$ 13,878.22 SUBTOTAL: \$ 152,660.44 Cost Per Foot: \$ 139.42 Construction Estimate Subtotal: \$321,510.44 20% Construction Contingency \$64,302.09 10% Geotechnical & Engineering Design Fee \$32,151.04 Total \$417,963.58		3" Thick HMA Roadway (24' Width)	2,933	SY	\$9.00	\$	26,400.00	
SUBTOTAL: \$ 152,660.44 Cost Per Foot: \$ 139.42 Construction Estimate Subtotal: \$321,510.44 20% Construction Contingency \$64,302.09 10% Geotechnical & Engineering Design Fee \$32,151.04 Total \$417,963.58		3" CSTC	244.44	CY	\$32.00	\$	7,822.22	
Cost Per Foot: \$ 139.42 Construction Estimate Subtotal: \$321,510.44 20% Construction Contingency \$64,302.09 10% Geotechnical & Engineering Design Fee \$32,151.04 Total \$417,963.58		Mobilization (10%)	1	LS	\$13,878.22	\$	13,878.22	
Construction Estimate Subtotal: \$321,510.44 20% Construction Contingency \$64,302.09 10% Geotechnical & Engineering Design Fee \$32,151.04 Total \$417,963.58					SUBTOTAL:	\$	152,660.44	
20% Construction Contingency \$64,302.09 10% Geotechnical & Engineering Design Fee \$32,151.04 Total \$417,963.58					Cost Per Foot:	\$	139.42	
20% Construction Contingency \$64,302.09 10% Geotechnical & Engineering Design Fee \$32,151.04 Total \$417,963.58	Construction Estimate Subtotal:						\$321,510.44	
10% Geotechnical & Engineering Design Fee \$32,151.04 Total \$417,963.58	20% Construction Contingency						\$64,302.09	
		10% Geotechnical & Engineering Design Fee					Same Same and the same	
Estimated Total Project Cost \$417,963.58					Total		\$417,963.58	
		Estimated Total Project Cost					\$417,963.58	

THIS ESTIMATE EXCLUDES:

Cost of Permits / Fees

Tax

Rock Excavation

Hydrant Replacement

Unsuitable Soils

Assumptions

Gate valves were placed every 400 feet and rounded up

Road width was assumed to be 24' everywhere

Every replaced valve was assumed to be located at a connection to existing