

MEMORANDUM

TO: Board of Trustees

THROUGH: Indra Winquest
District General Manager

FROM: Brad Underwood
Director of Public Works

SUBJECT: Reports to the Board - Effluent Pipeline Project

DATE: November 10, 2021

Public Works Staff, Granite Construction and HDR continue to work towards a 30% design effort. HDR is currently assessing surge pressures that may occur in the system which will be used by Granite Inliner to assess lining possibilities.

The team has also collaborated on a preliminary cost estimate of approximately \$45.6 million (attached), which includes including contingency and soft costs. The cost estimate was based upon constructing a parallel pipeline in new trench excavation, traffic control limitations and restrictions from Nevada Department of Transportation (NDOT) provided in 2011/2012. The excavation, backfill and paving amounts were re-calculated to reflect Granite's assumptions of trench width resulting in increases in these quantities. The pricing was then updated to reflect current labor, equipment and material values.

Various options to lower costs are being vetted as part of the 30% design effort. Some of these efforts include meeting with NDOT to discuss permits to limit restrictions, potential elimination of open-grade paving and slurry cement backfill, replacing the pipeline in the same trench location to avoid rock excavation, double shifting operations, and working during the months of July and August to reduce the overall schedule.

Public Works Staff will provide a project update to the Board of Trustees upon completion of the 30% design effort.

Computation

<i>Project</i>	IVGID Export Pipeline CMAR Project	<i>Computed</i>	K. Calderwood
<i>Subject</i>	Estimate of Probable Construction Cost - 16 inch Effluent Pipeline	<i>Date</i>	10/21/2021
<i>Task</i>	PreDesign Cost Estimate	<i>Reviewed</i>	
<i>File Name</i>	IVGID Export Pipeline CMAR Pre-Design Cost Estimate_102121 - with soft costs.xls	<i>Date</i>	

	QUANTITY	UNITS	UNIT PRICE	TOTAL COST
DIVISION 1 - GENERAL REQUIREMENTS				
Mobilization and Demobilization	1	LS	\$3,854.828	\$3,854.828
Insurance and Bonds	1	LS	\$176.818	\$176.818
SUBTOTAL				\$4,031,646
DIVISION 2 - SITE WORK				
Mitigation and Environmental Controls	1	LS	\$250,000	\$250,000
Asphalt Cutting	59,400	LF	\$4.97	\$295,218
Repaving - Trench Section	222,750	SF	\$10.68	\$2,378,970
Asphalt Overlay (1 inch open-graded) and Rotomill	475,200	SF	\$1.76	\$836,352
Asphalt Stripping	59,400	LF	\$1.00	\$59,400
Excavation (Soil)	31,185	CY	\$105.65	\$3,294,695
Excavation (Rocks)	3,465	CY	\$320.30	\$1,109,840
Hauling and Disposal (Soil and Rocks)	34,650	CY	\$76.90	\$2,664,585
Shoring	29,700	LF	\$12.65	\$375,705
Backfill and Compaction (Intermediate)	10,560	CY	\$152.88	\$1,614,413
Backfill and Compaction (Initial Backfill)	10,311	CY	\$148.95	\$1,535,834
Bedding Material	1,650	CY	\$351.40	\$579,810
Aggregate Base	4,950	CY	\$149.55	\$740,273
Grout Existing Effluent Pipeline	1,536	CY	\$293.59	\$450,922
Traffic Control	1	LS	\$1,921,919.31	\$1,921,919
Blow off Valves (Installation and Miscell.)	5	EACH	\$2,417.56	\$12,088
AVRV manholes	11	EACH	\$6,859.25	\$75,452
SUBTOTAL				\$18,195,475
DIVISION 3 - CONCRETE				
Concrete Pipe Cover	2,475	CY	\$231.51	\$572,987
SUBTOTAL				\$572,987
DIVISION 15 - MECHANICAL				
PIPES				
8 inch DI (Blowoff)	75	LF	\$196.94	\$14,771
2 inch HDPE pipe	176	LF	\$129.29	\$22,755
16-inch DIP Pipe	29,700	LF	\$190.71	\$5,664,087
FITTINGS				
DIP Fittings (Assume 3.5% of Pipe Cost)	1	LS	\$206,616.58	\$206,617
VALVES				
2 inch AVRV	11	EACH	\$4,058.24	\$44,641
2 inch Gate Valve	11	EACH	\$757.51	\$8,333
8 inch Gate Valve (Blowoff)	5	EACH	\$1,888.90	\$9,445
16 inch Butterfly Valves	2	EACH	\$9,173.81	\$18,348
Valve Boxes (Blowoff)	10	EACH	\$900.26	\$9,003
Valve Extension Rod and Casing (Blowoff)	5	EACH	\$2,478.55	\$12,393
Tie-in	2	EACH	\$10,743.05	\$21,486
Pipeline Pressure Testing	29,700	LF	\$4.42	\$131,274
SUBTOTAL				\$6,163,150
Subtotal 1 (Division Total)				\$28,963,258
Contractor Overhead and Profit (14% of Subtotal 1)				\$4,054,856
Subtotal 2				\$33,018,115
Construction Contingencies				\$6,603,623
Design				\$2,641,449
Administrative Costs				\$660,362
Construction Management				\$2,641,449
Subtotal 3				\$45,564,998
TOTAL ESTIMATED PROJECT COST				\$45,564,998