


Memorandum

Date: March 24, 2023

Project: 4th Avenue Pedestrian Bridge and Connection SRTS

To: Tracy Sanders, Project Manager
Town of Lyons

From: Chris Jain 

Re: Additional Design Services Request

Background

Conсор (Murraysmith) was contracted in February 2021 to provide engineering design services for a pedestrian bridge and approach over the St Vrain Creek. The improvements also include multi-use path and sidewalk improvements, connecting Bohn Park on the south to the Lyons Elementary School on the north. All path and bridge improvements are being designed as ADA compliant.

The design services scope includes project management, surveying, geotechnical investigation, permitting, civil and structural design services, and the development of final plans, specifications, and probable construction cost estimate for bidding and construction.

Scope of Additional Services

During construction, a proposed change to the abutment location due to a conflict between one of the south abutment caissons and the existing rock retaining wall was identified. In addition, a change to the proposed retaining walls for the south bridge approach has been proposed because of the extremely long lead time for the proposed wall blocks due to the current construction climate of high demands and product shortages. The proposed changes will require additional design and evaluation but will maintain or increase the quality of the finished project.

The south abutment included two (2) caissons in the design. One of the caissons was installed incorrectly, and thus rejected during construction. A third caisson was drilled, that eventually met the design requirements, but required additional survey and testing for evaluation of compliance.

Construction was delayed due to some of these insufficiencies and corrective work required, thereby extending the construction schedule, and resulting in additional meetings and site visits. Verification of the constructed bridge elevations also required additional time for evaluation and site visits.

The additional services include:

- Evaluating and incorporating the as-built survey data of the caissons into the design files
- Evaluating the location of the caissons
- Reviewing the caisson crosshole sonic logging test results.
- Evaluating the elevation of the bridge abutments
- Revising retaining wall layout plans for a cast-in-place retaining wall to replace the proposed block wall.
- Revising the construction plans to reflect the design changes.
- Additional meetings with residents regarding the proposed construction, landscaping, and driveway access.

The attached fee estimate includes a breakdown of the additional hours required to make the proposed design changes and construction plan revisions. We are requesting additional project funding of **\$29,050**, resulting in a new contract total of **\$253,336**.

4TH AVE PEDESTRIAN BRIDGE, TRAIL CONNECTIONS, AND STREET IMPROVEMENTS
TOWN OF LYONS
PROPOSED FEE ESTIMATE
ADDITIONAL SERVICES REQUEST

Staff Name	Estimated Fees														
	Principal Engineer I	Professional Engineer VII	Professional Engineer III	Engineering Designer II	Technician II	Hours	Labor	Subconsultants					Subconsultant Multiplier % Markup	Subconsultant Total with Markup	Total
								TLS and GPRS Survey and Utility Locates	Rocksol Geotechnical	S2O Hydraulic Modelling	Rocksol Environmental Permitting	Rocksol Structural Engineering			
	Price	Jain	Walmsley	Angelos	McFaddin										
Task 1 - Project Management and Administration						0	\$ -								
Task 1 Subtotal	25	41	19	16	0	101	\$ 18,652	\$ -	\$ -	\$ -	\$ -	\$ -		\$ -	\$ 18,652
Task 2 - Permitting, Survey and Utility Identification															
Task 2 Subtotal	6	7	0	10	8	31	\$ 5,059	\$ 15,900	\$ 19,100	\$ 7,500	\$ 22,800	\$ -		\$ 71,830	\$ 76,889
Task 3 - Design Services															
Task 3 Subtotal	23	38	76	78	52	267	\$ 41,690	\$ -	\$ -	\$ -	\$ -	\$ 24,511		\$ 26,962	\$ 68,652
Task 4 - Bidding and Construction Administration Services															
Task 4 Subtotal	7	26	26	42	12	113	\$ 18,048	\$ -	\$ -	\$ -	\$ -	\$ -		\$ -	\$ 18,048
Task 5 - Additional Services (11/2021)															
Task 5 Subtotal	9	32	34	0	0	75	\$ 13,448	\$ 900	\$ -	\$ -	\$ 1,605	\$ 4,412		\$ 7,609	\$ 21,057
Additional Services (04/2022)															
Task 6 - Revised Abutment Location															
Task 6 Subtotal	2	10	22	0	0	34	\$ 5,808	\$ -	\$ 2,950	\$ -	\$ -	\$ 10,850		\$ 15,180	\$ 20,988
Additional Services (02/2023)															
Task 7 - Additional Construction Services															
Task 7.1 - Additional Weekly Meetings and Site Visits	12	48	16			76	\$ 14,344						1.1	\$ -	\$ 14,344
Task 7.2 - Coordination for Failed Abutments	2	16	16			34	\$ 6,012						1.1	\$ -	\$ 6,012
Task 7.3 - Coordination for Bridge Elevation	4	12	2			18	\$ 3,494						1.1	\$ -	\$ 3,494
Task 7.4 - Parking and Striping Revisions		4	4			8	\$ 1,392						1.1	\$ -	\$ 1,392
Task 7.5 - Retaining Wall Revisions at Contractor's Request	4	8	4			16	\$ 3,044						1.1	\$ -	\$ 3,044
Task 7.6 - Additional Meetings with Residents		4				4	\$ 764						1.1	\$ -	\$ 764
Task 7 Subtotal	22	92	42	0	0	156	\$ 29,050	\$ -	\$ -	\$ -	\$ -	\$ -		\$ -	\$ 29,050
TOTAL - ALL TASKS	94	246	219	146	72	777	\$ 131,755	\$ 16,800	\$ 22,050	\$ 7,500	\$ 24,405	\$ 39,773		\$ 121,581	\$ 253,336