

NO: R116

COUNCIL DATE: June 24, 2019

REGULAR COUNCIL

TO: Mayor & Council **DATE: June 20, 2019**
FROM: Acting General Manager, Engineering **FILE: 4811-057/13**
SUBJECT: Crescent Beach Drainage Improvements Phase 2 – Construction Phase
Increase to Consulting Agreement – ISL Engineering and Land Services Ltd.

RECOMMENDATION

The Engineering Department recommends that Council:

1. Increase the expenditure authorization limit on Engineering Agreement No. 4811-057 C2 with ISL Engineering and Land Services Ltd. by \$831,034.05 from \$888,779.50 to \$1,714,813.55 (including GST and contingency) to provide engineering construction services for the Crescent Beach Drainage Improvements Phase 2; and
2. Authorize the General Manager, Engineering to sign the Change Order for the increase to Engineering Agreement No. 4811-057 C2.

BACKGROUND

At its Regular Meeting on May 28, 2018, Council received Corporate Report No. R101; 2018 (attached as Appendix “I”). The purpose of this report was to obtain Council’s approval to retain ISL Engineering and Land Services Ltd. (“ISL”) to provide construction services for the construction phase of the Crescent Beach Improvements Phase 2 project (the “Project”).

The Project consists of the installation of a storm sewer system and minor road improvements to improve drainage servicing to private properties at the locations listed below, which are also illustrated on the map attached to this report as Appendix “II”:

Map Reference Number	Project #	Project Description	Project Locations
1	D-14642	Crescent Beach Drainage Improvements Phase 2	<ul style="list-style-type: none"> • Gardiner Street and Agar Street: Dunsmuir Road to McBride Avenue; • McBride Avenue: Sullivan Street to Wickson Road; and • Ohara Lane: Sullivan Street to Wickson Road.

The engineering services included as part of Engineering Agreement No. 4811-057 C2 consist of contract administration and inspection services for the Project. Geotechnical services were also included for vibrational monitoring to ensure that there were no impacts to private properties resulting from the construction of the Project. In addition, as Crescent Beach is within a high Archaeological Sensitive Area, a significant archaeological component was included.

During the design of the Project, subsurface investigations of the Project area were completed and indicated that it is likely that ancestral remains and archaeological deposits containing cultural First Nations artifacts would be impacted by the Project. As a result, as part of the Heritage Conservation Act, a Site Alteration Permit (the "Permit") was obtained for construction. Under the conditions of the Permit, the City is required to collect archaeological deposits disturbed during construction and have excavated material screened by a Professional Archaeologist. In order to achieve the conditions of the Permit, the following archeological services were included in the engineering services agreement:

- Monitor and screen 10% of excavated material from the storm sewer installation, and 100% of material if intact archaeological deposits or ancestral remains are discovered; and
- Identify and assess archaeological features in the excavated material and search through displaced cultural deposits to collect artifacts and samples for analysis and report.

As it was uncertain if any ancestral remains and archaeological deposits containing cultural First Nations artifacts would be encountered during the construction of the Project, the construction duration for the Project was estimated at 100 working days, and a significant contingency was provided in the event that any ancestral remains and archaeological deposits containing cultural First Nations artifacts were encountered.

Construction commenced on the Project in June 2018, and throughout the duration of the 2018 construction season, a number of archaeological deposits were encountered, including an archaeological "Wet Site" containing preserved and intact archaeological deposits. These discoveries reduced construction production and resulted in an increase in the number of construction working days from 100 days to 134 days for civil inspection and from 60 days to 100 days for archaeological services, which subsequently resulted the value of expenditure authorization limit increasing from \$690,364.50 to \$888,779.50.

While the duration of the Project substantially increased, Bel Contracting, the Project's contractor, was unable to complete the Project before the winter poor weather and high groundwater levels, as the remaining work along O'Hara Lane and McBride Avenue is near the foreshore of Crescent Beach and is influenced by the tidal cycle. The work that was completed and the work that is remaining to be completed is illustrated on the map attached as Appendix "II".

SCOPE OF WORK

It is estimated that an additional 80 working days is required to complete the Project.

Through consultation with the Semiahmoo First Nation, the remaining area of work has been identified as containing ancestral remains. To reduce the risk of disturbing ancestral remains, the storm sewer will be installed at a shallower depth than originally planned to minimize the excavation needed and will be installed in locations previously disturbed by underground utility excavations.

Even with these efforts to reduce encountering ancestral remains, the risk is still high. If ancestral remains and archaeological deposits are discovered at the start of construction of the Project, the City will suspend the installation of the storm sewer network remaining under this Project and explore alternate servicing approaches given the significant cost increases and impacts to ancestral remains that would ensue with continued construction of the storm sewer network. If ancestral remains and archaeological deposits are not discovered, or not discovered until near the end of the Project, the recommended increase in authorization expenditure, as summarized in the table below, will be sufficient to complete the Project:

Item	Cost
Construction administration, inspection and geotechnical services (80 working days)	\$155,310.00
Archaeological services (including six field staff, two professional archaeologists, and analysis of artifacts) (80 working days)	\$564,200.00
Taxes and contingency	\$111,524.05
TOTAL	\$831,034.05

SUSTAINABILITY CONSIDERATIONS

The work of this contract supports the objectives of the City’s Sustainability Charter 2.0. In particular, this work relates to the Sustainability Charter 2.0 theme of Infrastructure. Specifically, this Project supports the following Desired Outcomes (“DO”) and Strategic Direction (“SD”):

- All Infrastructure DO1: City facilities and infrastructure systems are well managed, adaptable and long lasting, and are effectively integrated into regional systems;
- All Infrastructure DO3: Infrastructure systems are designed to protect human health, preserve environmental integrity, and be adaptable to climate change impacts; and
- All Infrastructure SD1: Proactively manage community assets to maintain them over the long-term in a state of good repair.

FUNDING

Funds are available for this increase in expenditure authorization within the approved 2019 Drainage Budget.

Jaime Boan, P.Eng.
Acting General Manager, Engineering

JA/VJ/cc

Appendix “I” – Corporate Report No. R101; 2018
Appendix “II” - Map of Locations – Contract No. 4811-057 C2

CORPORATE REPORT

NO: **R101**

COUNCIL DATE: **May 28, 2018**

REGULAR COUNCIL

TO: **Mayor & Council** DATE: **May 24, 2018**
FROM: **General Manager, Engineering** FILE: **4811-057/13**
SUBJECT: **Consultant Appointment – ISL Engineering and Land Services Ltd.
Crescent Beach Drainage Improvements Phase 2 – Construction Phase**

RECOMMENDATION

The Engineering Department recommends that Council:

1. Authorize staff to exercise our option under Design Agreement No. 4811-057 D2 and retain ISL Engineering and Land Services Ltd. under Construction Agreement No. 4811-057 C2 to provide engineering construction services for the Crescent Beach Drainage Improvements Phase 2 at an estimated fee limit of \$454,114.50 (including GST, excluding contingency);
2. Set the expenditure authorization limit for Construction Agreement No. 4811-057 C2 at \$690,364.50 (including GST and contingency); and
3. Authorize the General Manager, Engineering to execute Construction Agreement No. 4811-057 C2.

INTENT

The purpose of this report is to obtain Council's approval to hire a consulting team to provide engineering and archeological consulting services for the construction phase of the Crescent Beach Drainage Improvements Phase 2 project.

BACKGROUND

In, 2015, the following consulting firms were invited to submit proposals for this assignment:

- ISL Engineering and Land Services Ltd. ("ISL");
- Parsons Inc.; and
- Urban Systems Ltd.

The proposals were evaluated in the following areas:

- Understanding of the assignment;
- Experience relative to the assignment;
- Strength of the project manager and team;
- Work plan and schedule; and
- Financial considerations.

A consultant was selected by carefully reviewing all of the submissions and following a structured evaluation process. Overall, the proposal from ISL was determined to represent the best value to the City for the design phase and the subsequent construction phase in comparison to the other two proposals.

Staff subsequently awarded the design portion to ISL. ISL's performance on the design portion of the engineering Design Agreement No. 4811-057 D1 has been satisfactory and it is therefore appropriate for the City to exercise its option and retain ISL on a single source basis for the construction phase.

SCOPE OF WORK

This assignment involves provision of engineering services for the construction phase of the Crescent Beach Drainage Improvements Phase 2 project. The work includes engineering construction services, vibration monitoring, and archaeology monitoring and reporting for the archaeology consultant and First Nations bands.

The assignment involves engineering services for the construction phase at the following locations, which are also illustrated on the map attached to this report as Appendix "I":

Project #	Project Description	Project Locations
4811-057 (D-14642)	Crescent Beach Drainage Improvements-Phase 2	Gardiner Street and Agar Street: Dunsmuir Road to McBride Avenue McBride Avenue: Sullivan Street to Wickson Road Ohara Lane: Sullivan Street to Wickson Road

The estimated construction value of this work is \$3.8 Million (including GST) and it is expected to take 100 working days to complete. The scope of work under project 4811-057 C2 also includes a significant archaeological component as the Crescent Beach area is within a high Archaeological Sensitive Area. Geotechnical services are also included for vibrational monitoring. The purpose of including this is to review potential impacts to private properties that may result from the construction activity.

EVALUATION

ISL's original fee estimate from 2015 for optional tendering and construction services was estimated at \$148,905.75 (including GST, excluding contingency). ISL based their original estimate on the terms of reference which indicated a construction duration of 80 working days, 800 inspection hours, and minimal archaeology monitoring and reporting.

As design and public consultation advanced, staff gained a better understanding of the challenges the contractor and residents encountered during the Phase 1 construction project. Accordingly, the scope of work increased to include additional consultant services and further approvals from the Archaeology Branch of the Ministry of Forests, Lands, Natural Resource Operations & Rural Development for retaining cultural bearing soils within the Crescent Beach area.

The construction duration was revised to include full time engineering inspection services for 100 working days plus the assistance of 6 archaeologists, including First Nations, for monitoring, screening soils, reporting, and column sampling. Construction hours were also revised to Monday to Friday from 7 a.m. to 6 p.m. No work is permitted on weekends or holidays (Canada Day, BC Day and Labour Day). Consultants budgeted for full time site presence of 10 hours per day to match the contractors anticipated daily working hours. The breakdown of components of the construction services for Phase 2 is as follows:

<i>Consultant</i>	<i>Component</i>	<i>Cost (including GST)</i>
1. ISL	Engineering	\$219,660.00
2. Archer CRM Partnership (as a Sub-consultant to ISL)	Archeological	\$234,454.50
	TOTAL	\$454,114.50

During construction of Phase 1, ancestral remains were identified, including a semi-intact burial and several disturbed burials. This discovery resulted in an increase in the value of the Phase 1 construction services agreement for the archeology component by \$223,283.81. In the event that ancestral remains are identified during Phase 2, additional costs will be incurred. It is therefore recommended that a contingency of \$225,000.00 be established, similar to the increase required during Phase 1, to effectively manage the discovery of any ancestral remains.

SUSTAINABILITY CONSIDERATIONS

The work of this Contract supports the objectives of the City's Sustainability Charter 2.0. In particular, this work relates to the Sustainability Charter 2.0 theme of All Infrastructure. Specifically, this project supports the following Desired Outcomes (DO) and Strategic Direction (SD):

- All Infrastructure DO1: City facilities and infrastructure systems are well managed, adaptable and long lasting, and are effectively integrated into regional systems;
- All Infrastructure DO3: Infrastructure systems are designed to protect human health, preserve environmental integrity, and be adaptable to climate change impacts; and
- All Infrastructure SD1: Proactively manage community assets to maintain them over the long-term in a state of good repair.

FUNDING

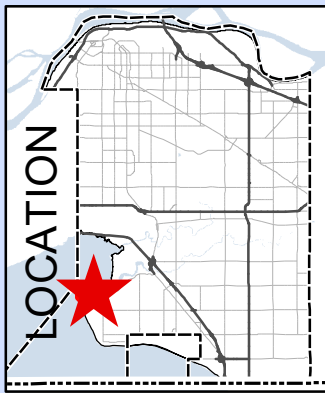
Funding for this Contract is available in the approved 2018 Utilities Budget.



Fraser Smith, P.Eng., MBA
General Manager, Engineering

JA/TS/jma/am/ggg

Appendix "T": Map of Locations – Contract No. 4811-057 C2 **Note: Appendix available upon request**



LEGEND

- New Storm Sewer (Underway)
- New Storm Sewer (Completed)
- Creek
- Parks

Produced by GIS Section: 07-Jun-2019, C9W

Scale: 1:3,000 0 30 M



Agreement No. 4811-057 C2
Crescent Beach Drainage Improvements
Phase 2

ENGINEERING
DEPARTMENT

The data provided is compiled from various sources and IS NOT warranted as to its accuracy or sufficiency by the City of Surrey. This information is provided for information and convenience purposes only. Lot sizes, Legal descriptions and encumbrances must be confirmed at the Land Title Office.