



NB Department of Transportation and Infrastructure
P. O. Box 6000
Marysville Place
Fredericton, N. B.
E3B 5H1

ATTENTION: Mr. Joel Bragdon, P.Eng. - Director, Design and Engineering Services Buildings

Dear Sir:

**Parley Beach Sewer System Improvements
NB Department of Tourism, Heritage and Culture
PRELIMINARY COST ESTIMATE AND PHASE OF WORK**

Further to meeting on August 23rd, 2017, the following is intended to provide NBDTI with a preliminary costing breakdown and phasing to collect all of Parlee beach sanitary sewer flows and direct it to the Greater Shediac Sewerage Commission's (GSSC) Lift Station No.10.

To summarize, preliminary costs per scope of work is as follows, all including Net HST, Contingency Allowance and Engineering Allowance:

No.	Phase of Work	Added to GSSC GTF Pointe-du-Chêne Sanitary Sewer System Improvements Contracts:	Total Preliminary Cost Estimate (with Net HST*)
1.	Lift Station 10 Upgrades	Lift Station No.7 (Contract 1)	\$719,600.00
2.	Horizontal Directional Drilling from Western Parlee Beach Restaurant to Lift Station 10	St. John Street Sewer Renewal (Contract 2)	\$313,500.00
3.	New Parlee Beach gravity sewer piping	St. John Street Sewer Renewal (Contract 2)	\$395,000.00
4.	Decommissioning of Parlee Beach Lift Station and New Sanitary Service to Civic #116 Satinwood Avenue.	St. John Street Sewer Renewal (Contract 2)	\$62,000.00

*Net HST is calculated as $-(4/7*10\%)+5\%$ *(Sub-Total)



Crandall Engineering Ltd.

1077 boul. St. George Blvd.
Suite 400
Moncton, NB Canada E1E 4C9
Tel: (506) 857-2777
Fax: (506) 857-2753

133 Prince William St.
Suite 703
Saint John, NB E2L 2B5
Tel: (506) 693-5893
Fax: (506) 693-3250

564 Prospect St.
Suite 101
Fredericton, NB E3B 9M3
Tel: (506) 451-4400
Fax: (506) 857-2753



The Grand Total Preliminary Cost of the above work is estimated at **\$1,490,100.00** all including Net HST, Contingency Allowance and Engineering Allowance. The detailed estimate is pending a detailed design, geotechnical soils information and a confirmed Environmental Impact Assessment requirement.

Land Acquisition Consideration

As a result of the preferred winter construction (off Season), it is recommended that the existing flows be maintained from the existing stations No.10 pumps and controls instead of by means of using outdoor temporary pumping equipment that could potentially freeze and fail.

That being said, land acquisition from (PID 00861765) would be required in order to be able to excavate an 8m deep wet well and protect existing infrastructure with the soils condition in this area. In addition, it would be recommended to install the pump controls in a small pre-fabricated building on top of the new wet well and maintain the genset inside the existing building.

The benefit to the above option is it would eliminate the need for by-pass pumping (estimated at approximately \$10,000/week) and allow the new pumps to be installed with no interference to the existing flows until it can be switched over with a detailed sequence of work.

Alternately, if the wet well was required to remain on present GSSC land, by-pass flowing would be required as well as a working easement around the present property to install the deeper wet well using conventional excavation methods and sheet piling.

Environmental Impact Assessment (EIA) Considerations

Crandall Engineering has had preliminary discussions with NBDELG to identify if an EIA is required. We have provided additional information to Environment as of Friday, September 1st, 2017 and at present do not believe an EIA will be required for any of the above work. Crandall will confirm once NBDELG can provide a formal answer.



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Please do not hesitate to contact us should you wish to review the scope and our assumptions in detail or if you require additional information.

Yours very truly,

CRANDALL ENGINEERING LTD.

A handwritten signature in blue ink, appearing to read "Chris Gallant".

Chris Gallant, P. Eng.
Project Engineer

cc. Mike Cormier, P. Eng. - President, Crandall Engineering Ltd.
Joey Frenette, B.Sc., P.Tech - General Manager, GSSC



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