



Crandall File: 16196-1
November 10th, 2017

“SENT VIA E-MAIL”

N.B. Department of Environment and Local Government
P. O. Box 6000
Fredericton, NB
E3B 5H1

ATTENTION: Ms. Christie Ward - Project Manager, Environmental Assessment Section

Dear Madam:

EIA Registration No. 4561-3-1476
Lorne Street Reconstruction & Storm Water Mitigation - Phase 2
Sackville, New Brunswick

Crandall Engineering Ltd. is pleased to provide the Department with the following responses to the questions noted in your October 27, 2017 letter on the above referenced project. The response numbers refer to the numbering of each question:

1. Based on an anticipated construction start date of January 15, 2018, it is anticipated that work within the wetland and upland cover will be completed prior to the general nesting period for migratory birds.
2. The existing wooden aboiteau structure is similar to others in the area. Therefore, based on discussions with NBDTI, it is our understanding that this structure would not be of archaeological nature.
3. This is noted.
4. This is noted. A GIS shapefile representing the project footprint, including submerged land, is attached to the submission email.
5. This is noted. The anticipated location of the discharge channel is included in the GIS shapefile attached to the submission email.
6. This is noted. A desktop review will be carried out, and the EMP will be updated as required to include any proposed mitigation.
7. This is noted.



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

CRANDALLENGINEERING.CA

8. Based on the preliminary design to date, and the areas that will require restoration, it is expected that there will be sufficient native material.
9. Mitigation measures will include the use of drip pans, ensuring that re-fueling occurs on level ground, and ensuring that spill kits are on-site.
10. This is noted.
11. In accordance with the current NBDELG wetland management strategies, wetland delineations and functional assessments are not required. Therefore, GeoNB Mapping has been used for this project up to this point (refer to Item 25 below for further comments).
12. In order to be effective, it is necessary for the new aboiteau to be installed in the dyke, including a discharge channel to direct water to the River. As noted in the EIA Registration Document, consideration was given to various stormwater management alternatives; however, the alternative routes were not considered to be feasible.
13. The impacts within the Provincially Significant Wetland (PSW) would be reduced if the dyke was not raised to elevation +/-10m. However, it is necessary to raise the dyke elevation in order to meet the NBDTI's requirements.
14. This is noted.
15. This is noted. A WAWA Permit will be obtained prior to work within 30m of the PSW.
16. This is noted.
17. An archaeological impact assessment would cause serious delays to the project construction and most likely avoid being able to proceed with this project in the winter of 2018, which would result in impacts on wetlands and migratory birds in the area. Therefore, it is proposed to carry out archaeological monitoring during the initial ground disturbing activities in the project areas identified as having elevated archaeological potential.
18. The Contractor will be encouraged to reduce greenhouse gas emissions by employing machinery that is in good working condition, and it will be further discussed at the pre-construction meeting to identify if additional measures can be taken such as the implementation of an anti-idling policy.



19. Concerning the work that was completed with PCSWMM, there was no specific provision for Sea Level Rise or IDF curve adjustments. Previous reports that were completed which described the stormwater management concept that was designed in detail as part of this assignment, did not incorporate climate change adjustments when making recommendations. To remain consistent with the objectives of those studies, our design storm event was the 1:100-year return period storm.

Furthermore, tidal elevation curves were populated using gauged data from the nearby Tantramar River Dam, which includes the influence of storm surge, high tide events, etc. The maximum high-water event was used from this data set (and aligned so that the peak recorded water elevation aligned with the peak flow from the design storm), and was compared to the Canadian Hydrographic Service data for a nearby station. The Tantramar River data includes an event that was significantly (~1.5m) higher than the High Astronomical Tide water level for that station. That being said, it was considered that because both a peak storm event (1:100 year) and a peak water level event (1.5m above High Astronomical Tide) were aligned in the model as a worst-case scenario, that the results would be representative of a much more severe event than 1:100-year return period.

While the PCSWMM model does not specifically account for the impacts of climate change and sea-level rise, construction of our proposed aboiteau structure includes raising the dyke to elevation 10.0m in anticipation of the Dept. of Agriculture raising the entire dyke along this section of Tantramar River. This is being done to mitigate the effects of sea-level rise.

20. The first public meeting was intended for immediately affected landowners and residents of the Lorne Street area, as an update on the current Lorne Street upgrades. The second public meeting will be the EIA public consultation, and will include communication with First Nations.
21. This is noted. Copies of correspondence with First Nations will be provided to the Department.
22. This is noted.
23. This is noted. A WAWA permit will be obtained prior to work within 30m of a watercourse.
24. This is noted. A desktop analysis will be carried out. However, since it is proposed to carry out the work outside of the general nesting season, it is anticipated that the desktop analysis will be sufficient.





25. This is noted. Since this project includes Federal funding, it is our understanding that field-based wetland delineation will be required. Therefore, a wetland delineation will be carried out.

26. This is noted.

27. This is noted.

28. This is noted.

Please do not hesitate to contact us should you require any additional information.

Yours very truly,

CRANDALL ENGINEERING LTD.

Nathan LeBlanc, P. Eng.
Project Engineer

- C. Mr. Dwayne Acton, P. Eng., Town Engineer - Town of Sackville
Mr. Pierre Plourde, P. Eng., Partner - Crandall Engineering Ltd.

G:\Administration\Sackville\Town of Sackville\16196-Lorne St. Reconstruction\EIA Registration\TRC Comments #1\16196-Response to TRC Questions #1 - November 2017.docx



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

CRANDALLENGINEERING.CA