

March 8, 2018

Mike McIsaac Public Works, Road Foreman & Drainage Superintendant Town of Minto

Re: Bridge N, Brunswick St. Drain, Sub-structure Flood Review

Dear Mike,

Based on our field review of the above captioned site on Wednesday March  $7^{th}$  we offer the following summary.

This concrete box culvert (non-rigid) is in poor condition. The top slab has advanced concrete deterioration (break-down) at both the inlet and outlet. This deterioration is advancing inward and starting to affect the inner barrel. In addition the walls are rotating inward due to soil pressure and insufficient rigidity of the connection to the top slab.

This structure is exposed to fast water flows. The existing embankment protection is comprised of various concrete sections and is slightly undermined at the inlet.

Currently there is no sign of critical structural distress. However due to the advanced state of deterioration, wall inward movement, and fast water flows, we recommend this culvert be inspected every 6 months until replaced or closed.

Let me know if you require any clarifications.

Yours truly,

Andrew D. Burgess, P.Eng

President ADB/kb