

Nunavut Water Board  
P.O. Box 119  
Gjoa Haven, Nunavut  
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06 September 2019

Attention: Manager of Licencing

**RE: 8BC-SHE1929, Culvert Replacement CAM-3**

The North Warning System Office (NWSO) and its Operations and Maintenance contractor, Raytheon Canada Limited (RCL) are proposing a project to replace damaged culverts at the North Warning System (NWS) located at Shepherd Bay, CAM-3. NWSO was issued the water licence 8BC-SHE1929 for operations of CAM-3 in April 2019. Item C7 requires board approval prior to conducting any work below the high water mark of any water body.

The main access road at CAM-3 extends from the beach landing area to the summit site and continues to the airstrip and water lake. Over many years, some of the culverts in this road have been damaged (Figure 4) other culverts were made of drums laid end-to-end which have started to separate (Figure 5).

RCL and NWSO would like approval for a project that will include in-water work to replace culverts in four areas at CAM-3.


**Table 1: Number and dimensions of Culverts to be installed in each area**

Area	Culverts to be Installed
1	Five culverts 0.6 m diameter, 15 m long
2A	Five culverts 0.6 m diameter, 15 m long
2B	Five culverts 0.6 m diameter, 15 m long
3	Three culverts 0.6 m diameter, 15 m long
4	Five culverts 0.6 m diameter, 15 m long

In addition to the culvert work, the existing slopes and ditches along the road will be re-graded to achieve proper drainage. No permanent diversion of water will occur. The water courses / runoff will be temporarily diverted during construction using a berm to re-direct the water. Check-dams and silt fencing will be installed to remove silt, sediment, and debris from the diverted water. Upon completion of the work, the temporary control measures will be removed in a manner that prevents the release of sediment or debris into nearby waterbodies. Accumulated sediment will be removed prior to the removal of the silt fencing. No new roads will be created as a part of this work.

This project is scheduled for implementation in Summer of 2021. The necessary equipment includes a loader, an excavator, a bulldozer, a grader, a dump truck, and a vibratory plate compactor. No camp will be required for this project as the crew will stay in the existing accommodations. Food will be prepared in the existing kitchen facilities and the disposal of all waste will conform to the requirements of the site's Nunavut Water Board licence.

Please contact me with any questions,



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Attachments:

- Figure 1: CAM-3 site map with culver replacement areas identified
- Figure 2: photograph of "Area #1"
- Figure 3: photograph of "Area #2"
- Figure 4: photograph of damaged culverts in "Area #2"
- Figure 5: photograph of example of culvert to be replaced in "Area #2"
- Figure 6: photograph of "Area #3"
- Figure 7: photograph of "Area #4"

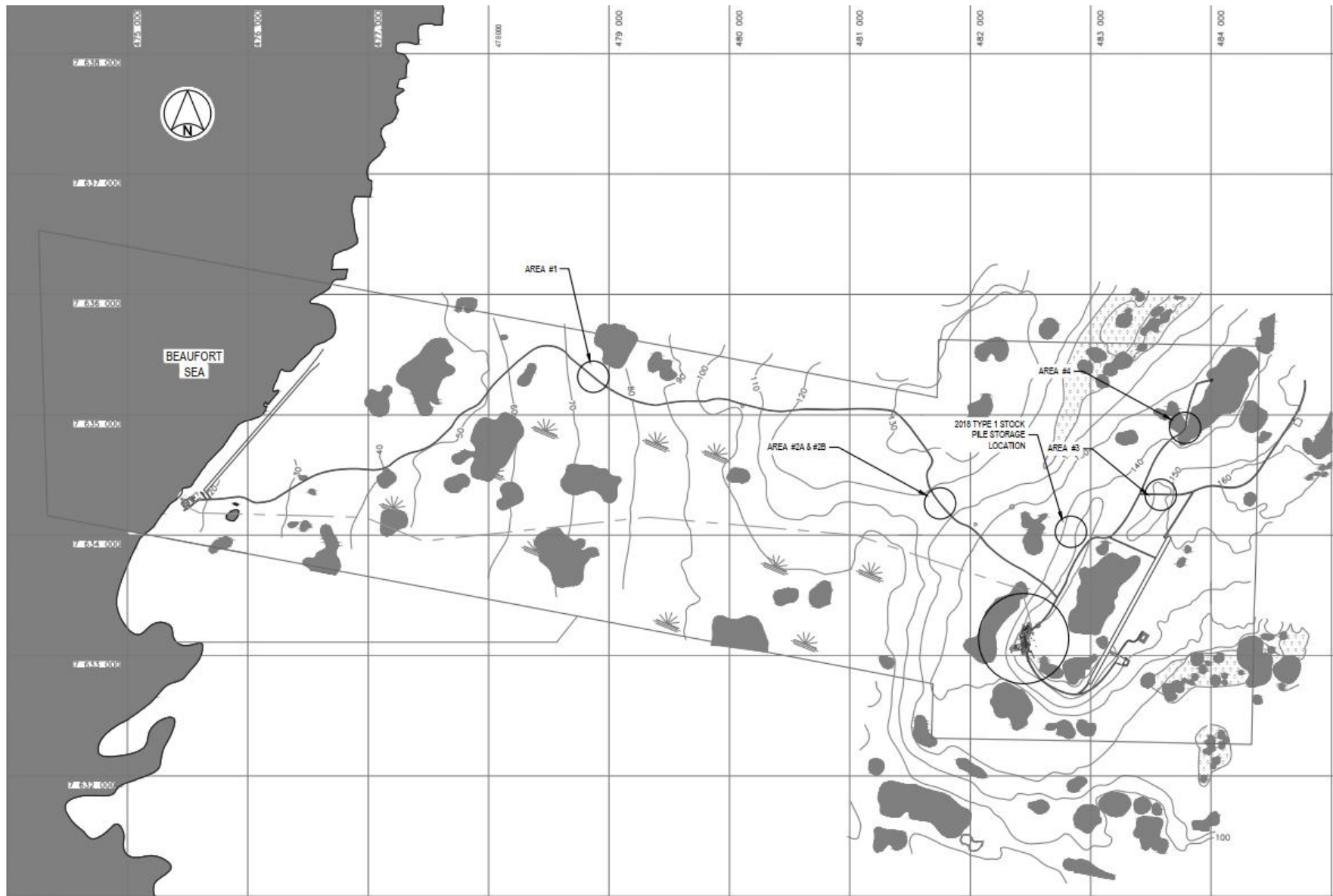


Figure 1: CAM-3, proposed areas for culvert replacement



**Figure 2: "Area #1" on Figure 1**



**Figure 3: "Area #2" on Figure 1**





**Figure 4: "Area #2" on Figure 1**



**Figure 5: Example on condition of culvert to be replaced in "Area #2"**



Figure 6: "Area 3" in Figure 1



Figure 7: "Area 4" in Figure 1