

Concentric Project #11-3676

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By Phyllis Beaulieu at 4:42 pm, Apr 01, 2011

March 31, 2011

Phyllis Beaulieu
Manager of Licensing
Nunavut Water Board
PO Box 119
Gjoa Haven, NU
X0A 0H0

Re: City of Iqaluit Lake Geraldine Dam and North Berm Water Course Environmental Protection Measures

Dear Ms. Beaulieu:

On behalf of the City of Iqaluit, please accept the following letter from Concentric, as notification of repair to the Lake Geraldine Dam and North Berm (LG Dam and Berm). Appendix A shows the location of LG Dam and Berm.

The City of Iqaluit is preparing to repair the LG Dam and Berm as per the Concentric Dam Safety Inspection 2010. Also, the City is planning on repairing some minor leaks Water Treatment Plant (WTP). The completion of the repairs is planned for the 2011 construction season. The following is a summary of the scope of work:

- A grouting program to address the observed leakage, primarily to seal actively leaking cracks. The grouting program includes injection of the vertical and transverse joints in the vicinity of the above grade leak in the concrete section south of the spillway.
- Invasive/excavation work will be conducted at the north berm. This will assist in assessing the source of leak and developing a repair strategy.
- In the WTP, a grouting program will also be conducted to seal actively leaking cracks associated with one of the holding tank.

Environmental Protection Measures:

Grouting program activities have the potential to negatively impact the environment by introducing sediment and construction materials (e.g. grout, solvents, general refuse, oil and grease etc.) into water bodies. In addition, operation of machinery and other construction related activities may impact habitat on the banks and bed of the water body resulting in erosion and sedimentation. Furthermore, bank stabilization techniques may disrupt the natural flow of the waterway.



11-3676 Lake Geraldine Dam and North Berm Water Course Environmental Protection Measures

Formal Specifications regarding water course environmental protection measures will be included in the Tender Packages for LG Dam and Berm projects in order to ensure that negative impacts to the environment are eliminated or mitigated to a practicable extent. It will be made clear within the specifications that the successful proponent must comply with environmental protection measures therein.

Concentric is pleased to provide a summary of the information that is intended for inclusion in the specifications below:

The Department of Fisheries and Oceans Canada (DFO) provides operational statements that outline the measures required to reduce the negative impacts associated with various construction related activities in or near water bodies. The following (based on DFO guidelines) outlines the environmental protection measures that should be undertaken during planned work at the LG Dam and Berm in the City of Iqaluit, Nunavut.

- If possible, work should be conducted during periods of low flow.
- Wherever possible, access to the sites should be on existing roads and trails.
- To minimize erosion, construction should be halted during periods of heavy precipitation and/or runoff.
- Wherever possible retain existing vegetation thereby reducing the potential for erosion.
- Effective bank erosion control measures such as filter cloth, rock, matting, or polyethylene etc. must be installed prior to starting work to prevent the entry of sediment into the water course resulting from the operation of machinery or other activities which may disturb the bank.
- When possible all machinery should be operated on land (out of the water) and in a way that minimizes disturbance to the bank.
- Erosion control measures should be inspected on a regular basis and repairs made as needed.
- Eroded sediment should be contained on-site using devices such as silt fences and sediment traps.
- Banks should be restored to their original condition if any disturbance occurs.
- Machinery should arrive on-site in clean condition and in good repair (i.e. free of any leaks).
- All fuelling, washing and servicing of vehicles must be conducted as far as practicable from the water to prevent any substances from entering the water body.
- Storage of fuel, other materials required for the vehicles, and waste oils/lubricants will be stored in leak-proof containers and as far away from the water as practicable to prevent any spills or leaks from impacting the water body. These materials should also be contained in a secure area to prevent vandalism.
- An emergency spill kit should be kept at the site in case of fluid leaks or spills from machinery. Any spills of fuels etc. should immediately be contained and the contaminated soil removed from the site and disposed of at an approved disposal site. Spill kits vary, but at a minimum should contain the following:



11-3676 Lake Geraldine Dam and North Berm Water Course Environmental Protection Measures

- Absorbent pads
 - Absorbent socks
 - Absorbent pillows
 - Granular absorbent
 - Hazardous materials disposal bags
 - Nitrile gloves
 - Spill instruction sheet
-
- A shroud should be installed beneath the dam and bridge to trap and prevent construction materials (grout, paint flakes, rust, solvents, etc.) from entering the watercourse.
 - All waste construction materials including (but not limited to) grout, wood wastes, paint chips etc. should be removed from the site and disposed of at an approved disposal site.
 - Waste bins for designated for general refuse should be placed at each site.

If you have any questions or concerns regarding the above, please do not hesitate to contact us.

Respectfully submitted,

Concentric Associates International Incorporated

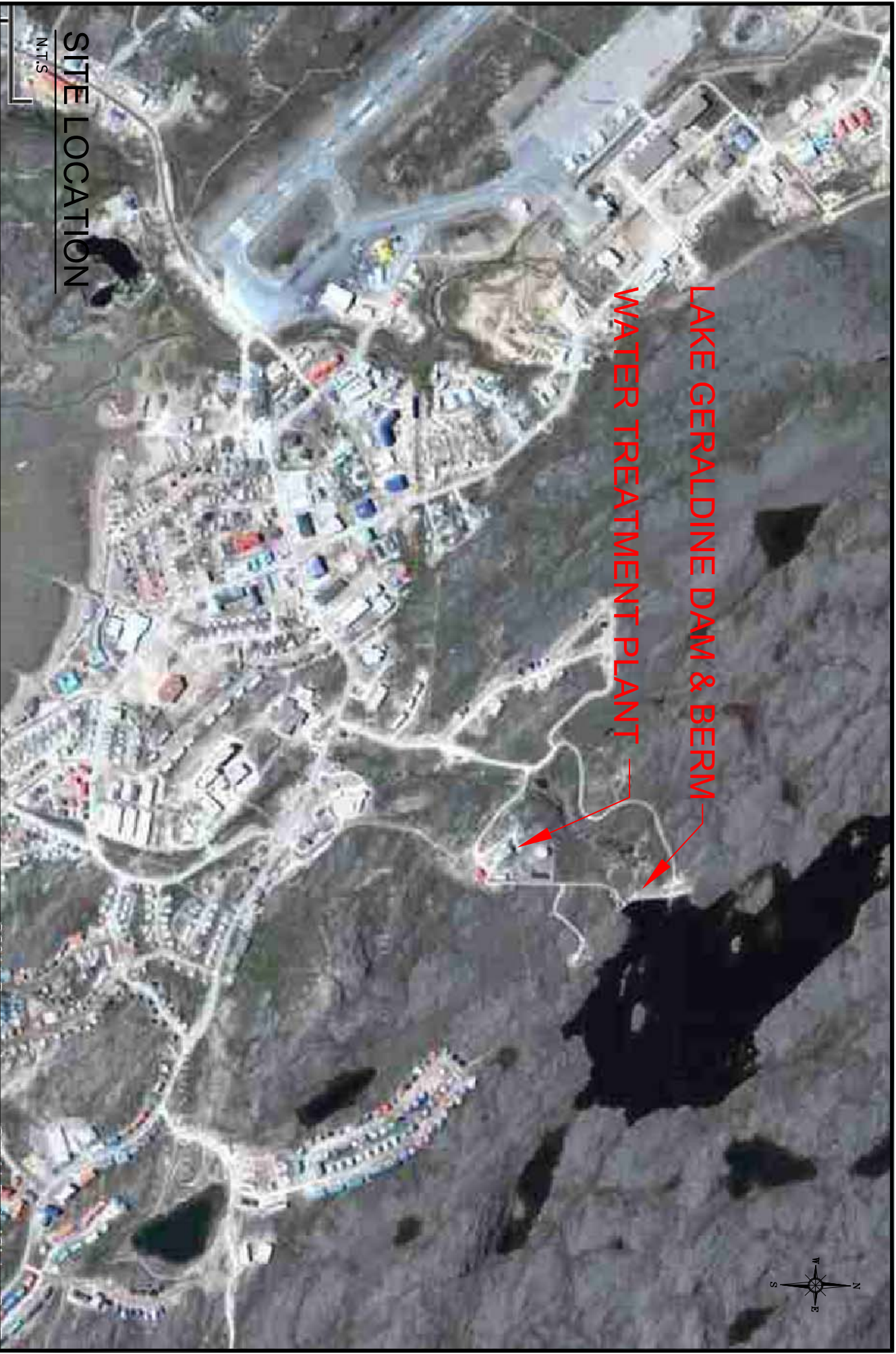
Nancy Caldwell, B.A.

Allan Murray, P.Eng.



Appendix A

Location of Lake Geraldine Dam



SITE LOCATION



OTTAWA 1-866-919-4530
LONDON 1-866-919-4531
IQUALUIT 1-866-919-4533

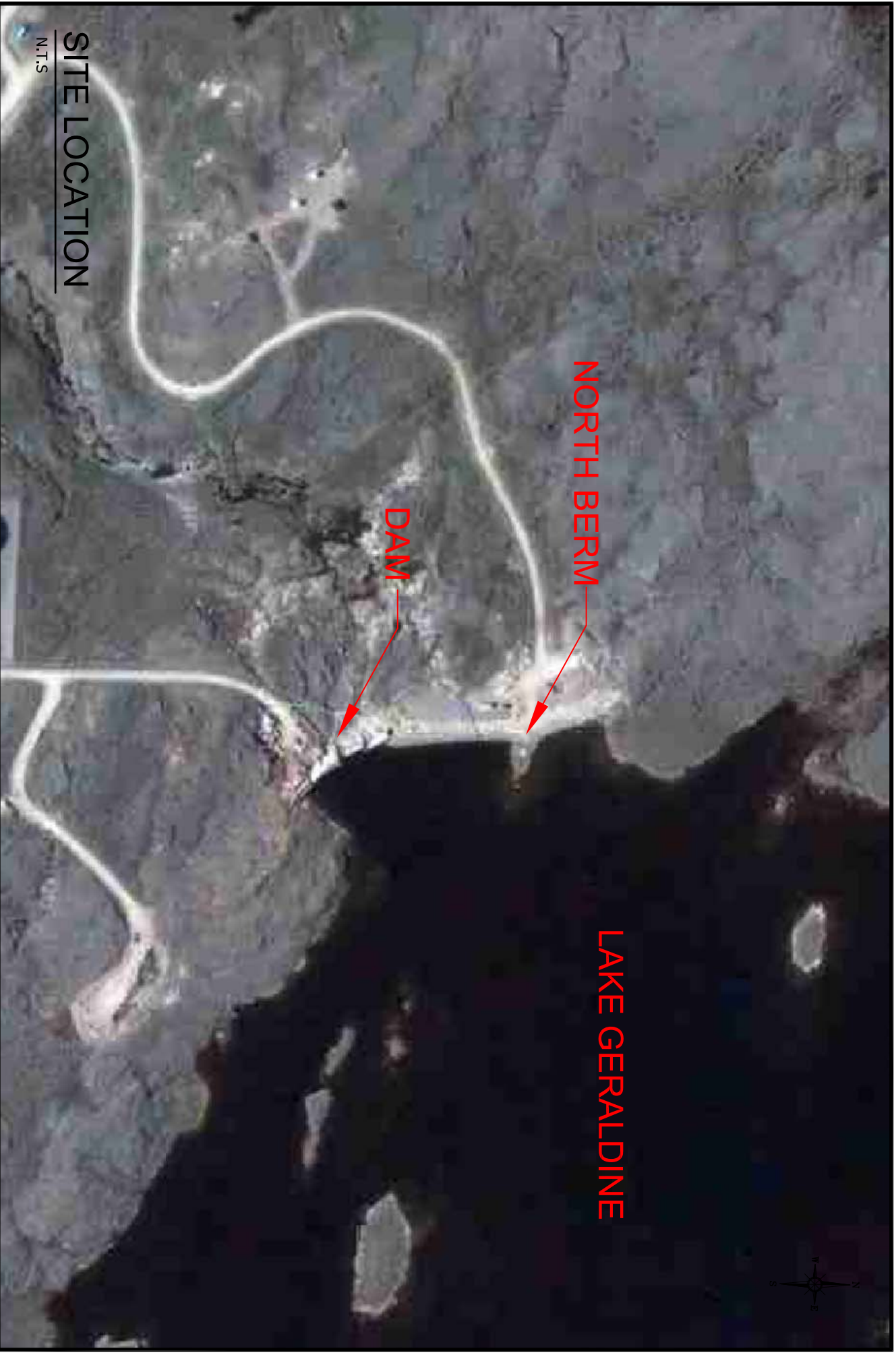
CLIENT NAME: CITY OF IQUALUIT
PROJECT ADDRESS: LAKE GERALDINE, IQUALUIT, NUNAVUT

PROJECT NAME: REPAIR TO LAKE GERALDINE DAM & NORTH BERM
DRAWING TITLE: SITE LOCATION

DESIGN: C.Y
DRAWN: C.Y
DATE: 03/22
FILE NO: 10-3171

SHEET No.

FIG 1



SITE LOCATION

N.T.S



OTTAWA 1-866-919-4530
LONDON 1-866-919-4531
IQUALUIT 1-866-919-4533

CLIENT NAME:

CITY OF IQUALUIT

PROJECT ADDRESS:

LAKE GERALDINE, IQUALUIT, NUUNAVUT

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REPAIR TO LAKE GERALDINE DAM & NORTH BERM

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FIG 2