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## NUNAVUT WATER BOARD NUNAVUT IMALIRIYIN KATIMAYINGI

### Supplemental Technical Information Required for Water Crossings (linear/bridge/culverts)

1. Waterbody name (English and Inuktitut) and location (Lat & Long): **63 1.5N, 92 10.5W, unnamed tributary to Meliadine Lake on Inuit Owned Land.**
2. Site photo, site map or air photo detailing location: **please see all in 2004 Golder report included on CD provided.**
3. Other Agencies contacted to date: **cc to Kivalliq Inuit Association and DFO Iqaluit.**
4. Need for the project and alternatives considered: **all-season 2.0 km road between camp and advanced exploration site. Alternative is helicopter services which are more costly and unreliable due to variable fall and early winter weather conditions.**
5. General condition of the site (s)
  - i. Slope of banks: **level**
  - ii. Description of substrate: **please see 2004 Golder report on CD provided as well as below.**
  - iii. Vegetation (on banks, in-stream, to be removed): **no vegetation to be removed.**
  - iv. Expected flow rates during time of construction: **winter construction with no flow.**
  - v. Channel meander pattern: **none; please see 2004 Golder report attached.**
6. Existing Habitat
  - i. Fish Community (species/common names) at and near the site: **ninespine stickleback; please see 2004 Golder report attached.**
  - ii. Use of impacted area as spawning, nursery, rearing, food supply or migration route: **please see 2004 Golder report.**
  - iii. Presence of sensitive habitat: **please see 2004 Golder report.**
  - iv. Assessment of impact to fish and fish habitat: **please see 2004 Golder report on CD provided. Site details are also provide below.**
7. Construction Details
  - i. In water work timing restriction for fishery: **winter construction; no in-stream construction required.**
  - ii. Proposed start date and completion date: **timber bridge components to be prefabricated off-site with placement over channel in April 2005.**
  - iii. Type of crossing: **timber bridge; please see sketch attached.**
  - iv. Method of installation: **remove snow by hand to certify location of stream and place bridge over channel with "cherry picker" crane or front-end loader.**
  - v. Dimensions of pipe or structure: **please see sketch attached.**
  - vi. Machinery to be used: **snow shovels and cherry picker**
  - vii. Construction sequence (timing restriction may need to be taken into account): **isolate crossing area; clear snow by hand; place prefabricated timber bridge; backfill aggregate ramp to bridge abutments.**
  - viii. Sedimentation and erosion control measures: **winter construction with no risk of sedimentation; no aggregate will be placed in snow on or near stream channel.**
  - ix. Monitoring during construction: **local DFO office in Rankin Inlet to be advised of construction schedule and dates.**
  - x. Other mitigation measures: **aggregates misplaced on/near channel will be removed by hand and placed on road bed.**
  - xi. Assessment of impact to fish and fish habitat: **none expected; please see 2004 Golder report attached.**
  - xii. Bank stabilization (size range of material): **none should be required as channel and flow will not be affected.**
  - xiii. Cumulative impacts to area: **no incremental developments at stream are foreseen.**
  - xiv. Contingency plan: **please see contingency plans that are included with original application.**

- xv. Revegetation proposed: **no disturbance to terrestrial or aquatic vegetation is required for stream crossing construction.**
- xvi. Proposed post-construction monitoring (photos taken of the site before construction, during construction and after construction; photographs should be taken from the same reference point for easy comparison): **winter photographs of site prior to clearing, after hand clearing, after bridge placement, after aggregate backfilling will be taken with follow-up photographs in the summer of 2005 to follow. Photographs will be filed with NWB, KIA, and DFO. These photos will complement those in the 2004 Golder report included on the CD provided.**

8. Bridge

- i. Bridge dimensions and type
- ii. Any structures (abutments, pilings, piers) that will be placed in the water, on a temporary or permanent basis: **none of the bridge structure will be placed in the stream channel**
- iii. Anticipated changes to the existing channel/shoreline morphology as a result of the proposed works: **no changes to the channel or flow are expected**
- iv. Activities or structures that may cause a temporary or permanent barrier to movement of fish or flow of water: **no impediment to the movements of fish are envisaged**
- v. Cofferdams, dewatering, temporary watercourse diversions, excavation and temporary crossings: **none required**
- vi. Total area of impact (m<sup>2</sup>): **no area of the stream bed, channel, or banks will be affected**
- vii. Stabilization method and materials used at bridge abutments(include details of material size range): **abutments and approach ramps will be natural aggregate from a nearby quarry**

9. Culvert Installation **n/a**

- i. Culvert dimensions (height and width or diameter, length)
- ii. Culvert type/material
- iii. Impact to fisheries ability to migrate through the culvert
- iv. Need to realign the channel?
- v. Open bottom or natural substrate inside?
- vi. Slope of culvert
- vii. Installation of baffles, rock weirs or other structures

### **Reach #1<sup>1</sup>**

#### **Coordinates**

**NAD27** UTM's are:

15V

541794E / 6988489N at the upstream end (source lake outlet) and 541786E / 6988500N at the downstream end (start of Reach #2).

**NAD83** the UTM's are:

15V

541790E / 6988722N upstream, and 541782 E / 6988733N downstream.

#### **Physical features:**

Maximum width of channel: 1.2 m

Minimum width of channel: 0.4 m

Mean width of channel: 7 m

Maximum depth: 0.20 m

Mean depth: 0.10 m

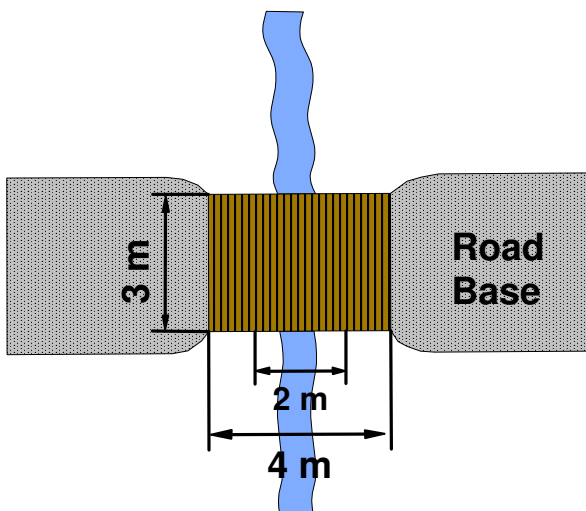
Approximate length of channel: 16 m



**Plate 2** 7 July 2004. Reach #1 was the only section of the stream where the entire flow passed through a single channel.

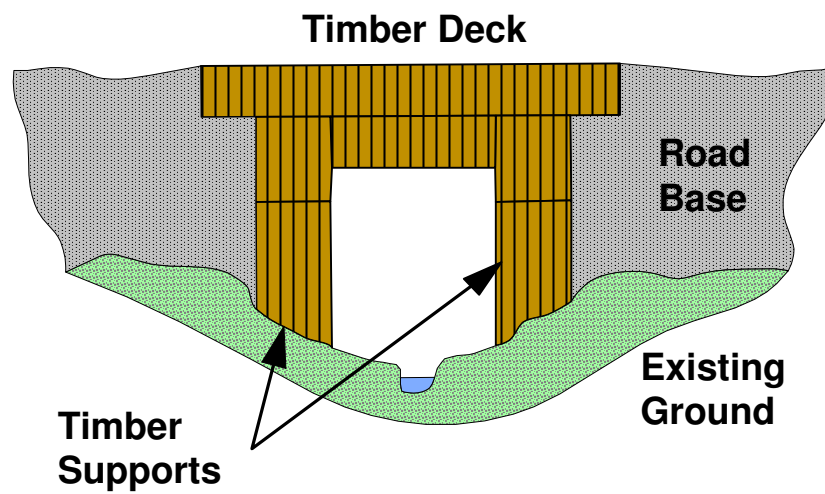
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<sup>1</sup> Golder Associates Ltd. 2004. Fish habitat assessment at a proposed road crossing near Meliadine West exploration camp.



**PLAN**

**SECTION**



**FIGURE 4: Meliadine Project  
Schematic Bridge Crossing**

**COMAPLEX**  
MINERALS CORP.