Fisheries and Oceans Canada | Pêches et Océans Canada

ABANDONMENT AND RESTORATION PLAN

DUVAL RIVER CROSSING

PANGNIRTUNG, NUNAVUT

JANUARY 2013

Canada

Fisheries and Oceans Canada
Pêches et Océans Canada

Small Craft Harbours
Central and Arctic Region
501 University Crescent
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January 17, 2013

Phyllis Beaulieu
Manager of Licensing
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0

Re: Duval River Crossing Abandonment and Restoration Plan
Licence No. 1BW-DUV1214

Dear Ms. Beaulieu:

Please find enclosed the Abandonment and Restoration Plan as required for the Water License submitted on behalf of Fisheries and Oceans Canada – Small Craft Harbours Branch. This Plan is intended to be a stand-alone document and meets all requirements for an Abandonment and Restoration Plan for the Duval River Crossing.

If you have any questions regarding this plan, please don't hesitate to contact me at adele.butcher@dfo-mpo.gc.ca or (204) 984-3962.

Sincerely,

Adele Butcher, P.Eng.
Regional Engineer

Canada

Table of Contents

1.0 INFORMATION OF THE LICENSEE

Small Craft Harbours Branch
Central and Arctic Region
Fisheries and Oceans Canada
501 University Crescent
Winnipeg, MB R3T 2N6

2.0 INFORMATION OF 24 HOUR CONTACT

Regional Engineer
Small Craft Harbours Branch
Fisheries and Oceans Canada
Central and Arctic Region
Office: (204) 984-3962
Cell: (204) 391-2116

3.0 EFFECTIVE DATES AND REVISIONS

Abandonment and Restoration Plan Effective Date:

1. January 17, 2013

Abandonment and Restoration Plan Revisions Date:

1. None

4.0 COMMUNITY INFORMATION

Pangnirtung is located on the Eastern side of Baffin Island, sitting on the southeast shore of the Pangnirtung Fiord not far from where the fiord merges with Cumberland Sound. Pangnirtung's coordinates are 66º 09' N and 65º 43' W. In relation to other communities, Pangnirtung approximately 300 km northeast of Iqaluit, Nunavut.

The community is located on a gently sloping beach at the bottom of a classic glaciated U-shaped valley known as the Pangnirtung Fiord. The Duval River flows through the northern portion of the community. The headwaters of the river are high above the settlement in the glaciated highlands between Pangnirtung Fiord and Kingnait Fiord. The bedrock found in this area is largely metamorphic, biotite-quartz-feldspar gneiss. Bedrock outcrops are common along the upper slopes of the fiord and in several places along the Duval River channel. The town site is situated on glacial till consisting primarily of silty sand which contains numerous boulders (Government of Nunavut, March 2007)

Pangnirtung receives an average of 16.2 cm of rainfall and 180.3 cm of snowfall per year. July mean high and low temperatures are 11.1ºC and 3.9ºC. January mean high and low temperatures are -25.5ºC and -37.8ºC (Government of Nunavut, March 2007).

The Duval River Crossing is located near the existing bridge crossing the Duval River. Fisheries and Oceans Canada in consultation with the Hamlet of Pangnirtung selected the site. Current photos of the river crossing can be found in Appendix C and an as-built drawing of the river crossing can be found in Appendix D.

5.0 GENERAL DESCRIPTION OF PROPERTY

The site for the Duval River Crossing is located in the area of:

Latitude: 66° 9' 2.61"N
Longitude: 65° 41' 28.54"W

See Appendix A for a site map.

6.0 DUVAL RIVER CROSSING DECOMMISSIONING

Once the river crossing is determined that it is no longer required, the decommissioning process will begin. The planned procedure for removing the culverts will consist of the following:

- Removing the fill covering the culverts with land based excavation equipment and disposing of the material off-site
- Removal of culverts for storage off-site
- Once all excess material has been removed from the site, the site can be returned to the natural state and all disturbed areas will be graded and restored to a pre-disturbed state.

Photos of the site conditions prior to installation of the river crossing are shown in Appendix B.

7.0 MONITORING MEASURES

The following monitoring and measures will be implemented during decommissioning:

- Digital photographic record before, during and after abandonment.
- Construct water quality sampling at Monitoring Program Stations DUV-1 and DUV-2:
    - At least once prior to decommissioning the crossing
    - Weekly during decommissioning activities
    - At least once following completion of decommissioning activities
- Analyze water samples for the following parameters:
    - pH
    - Conductivity
    - Temperature
    - Total Suspended Solids
    - Total Oil and Grease
- All sampling, sample preservation and analyses shall be conducted in accordance with methods prescribed in the current edition of *Standard Methods for the Examination of Water and Wastewater*.
- All analyses shall be performed in a laboratory accredited according to ISO/IEC Standard 17025.

8.0 SCHEDULE AND IMPLEMENTATION PLAN

It is anticipated that the river crossing will be decommissioned in early October 2013 after the harbour construction has been completed and prior to the final sealift of the season.

9.0 BIBLIOGRAPHY

Government of Nunavut. (March 2007). *Final Background report - Pangnirtung Community Plan and Zoning By-Law Update.* Cape Dorset, NU: Government of Nunavut.

APPENDIX A: SITE LOCATION


Site Location
66° 9'2.61"N
65°41'28.54"W

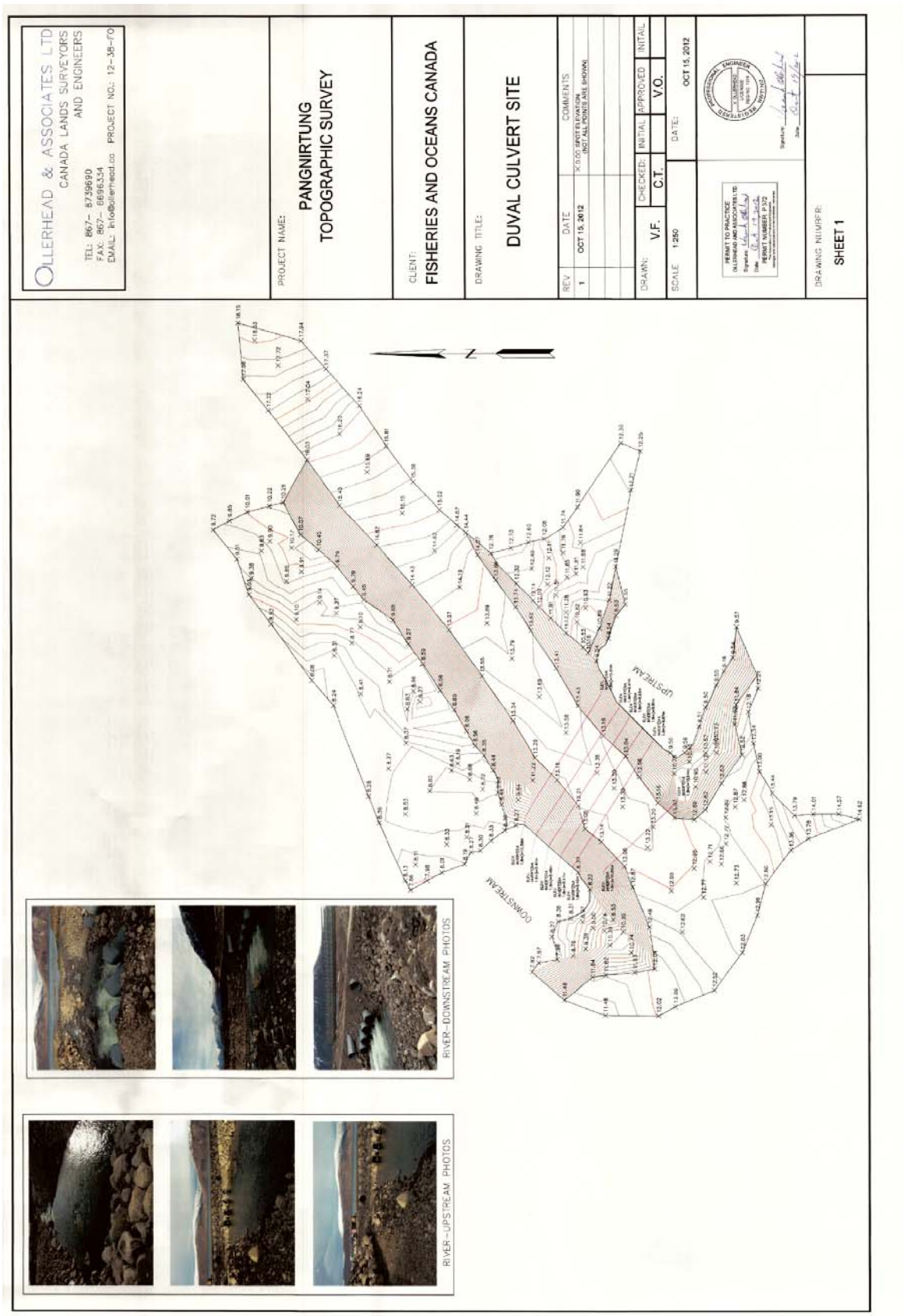
APPENDIX B: PRE-DISTURBED SITE CONDITIONS – 2009

APPENDIX C: CURRENT SITE CONDITIONS - 2012

Downstream:

Upstream:

APPENDIX D: CURRENT AS-BUILT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PROJECT NAME:
PANGNIRTUNG
TOPOGRAPHIC SURVEY
CLIENT:
FISHERIES AND OCEANS CANADA
DRAWING TITLE:
DUVAL CULVERT SITE
REV
DATE
COMMENTS
1
OCT 15, 2012
X 0.00 SPOT ELEVATION
(NOT ALL POINTS ARE SHOWN)
DRAWN:
V.F.
CHECKED:
C.T.
INITIAL
APPROVED
V.O.
INITIAL
SCALE: 1:250
DATE:
OCT 15, 2012
PERMIT TO PRACTICE
PERMIT NUMBER: P 320
DRAWING NUMBER:
SHEET 1
DOWNSTREAM
UPSTREAM
RIVER - DOWNSTREAM PHOTOS
RIVER - UPSTREAM PHOTOS