

October 4th, 2017

Richard Janusz

Senior Fisheries Protection Biologist

Fisheries and Oceans Canada (DFO)

Fisheries Protection Program

501, University Crescent

Winnipeg, Manitoba R3T 2N6

CC : Heather Flynn, Fisheries and Oceans Canada

Subject: Iqaluit International Airport Improvement Project (IIAIP)

Fish habitat improvement measures

Work completion report

Department of fisheries and Oceans (DFO) file : 14-HCAA-00957

Mr. Janusz,

We submit the present notification to the DFO for purpose of information regarding the fish habitat improvement work completed as planned, in the overall scope of the IIAIP.

Firstly, background documentation for the improvement work consists of the following:

- DFO, letter dated June 23, 2017 approving Sintra's proposed work and improvement measures (Appendix A).
- Sintra, letter (by e-mail) dated June 22nd, 2017 informing DFO that the in-stream work was scheduled to begin on July 5th 2017 (Appendix B).
- Sintra, letter (by e-mail) dated January 10th, 2017 containing the following :
 - 2017 Iqaluit International Airport Improvement Project (IIAIP) fish habitat improvement measures and work schedule, DFO file 14-HCAA-00957.
 - Appendix A IIAIP 2017 Fish habitat improvement plan, DFO file 14-HCAA-00957.
 - Appendix B IIAIP 2015 Fish salvage summary report, DFO file 14-HCAA-00957.

1 HABITAT IMPROVEMENT COMPONENTS RECAP

1.1 CARNEY CREEK

The section consisting of first 115 m of the *Carney Creek* has been enhanced with the installation of boulder clusters in the streambed, the construction of two rifles and a channel pool. Overall, habitat quality of *Carney Creek's* lower reach area increased by 230 m².

1.2 WATERCOURSE A (WA-A)

WA-A is a larger stream than *Carney Creek* and is correspondingly a direct tributary to *Iqaluit* Ocean's inlet with a 13 km² watershed area. Near the confluence of *Carney Creek*, WA-A shows a braided shallow channel. Two side-channels were constructed, offering a more suitable rearing habitat than previously existing in the area.

The channels are 3 m wide, 1 m deep, and 50 m and 70 m in lengths. Boulder clusters were placed in the side-channels, in order to provide habitat cover for juvenile fishes. The two side-channels now provide 360 m² of suitable rearing habitat that encompasses pools and cover within an area where these types of features were lacking.

2 CONSTRUCTION DETAILS

2.1 TIME FRAME AND WORK PROGRESS

Table 1 summarizes the daily work progress and completion. All restricted limits for machinery operation were staked and identified on site, as well as for location and dimensioning (limits and elevations) for construction purposes.

2.2 MONITORING AND SURVEILLANCE

For all the duration of the construction activities and at all time during, an environmental representative from Sintra was present on site. An evaluation of conformity with the accepted plan was conducted daily.

2.3 CONFORMITY OF CONSTRUCTED COMPONENTS

The overall construction works went without significant issues, and the end results (components as constructed) correspond essentially to the exact design as planned. Minor interventions were conducted on July 23, after a 10 days settling period.

Photographs taken on September 29, 2017 (pages 5, 6 and 7) present the components as constructed.

3 CONCLUDING REMARKS





The Iqaluit International Airport Improvement Project is an important local and regional development infrastructure. Fish habitat loss in Carney Creek was found inevitable for this project's implementation. As a result, a net loss of 426 m² of habitat needed to be addressed. The compensation measures constructed will significantly improve habitat availability and quality over nearly 600 m².

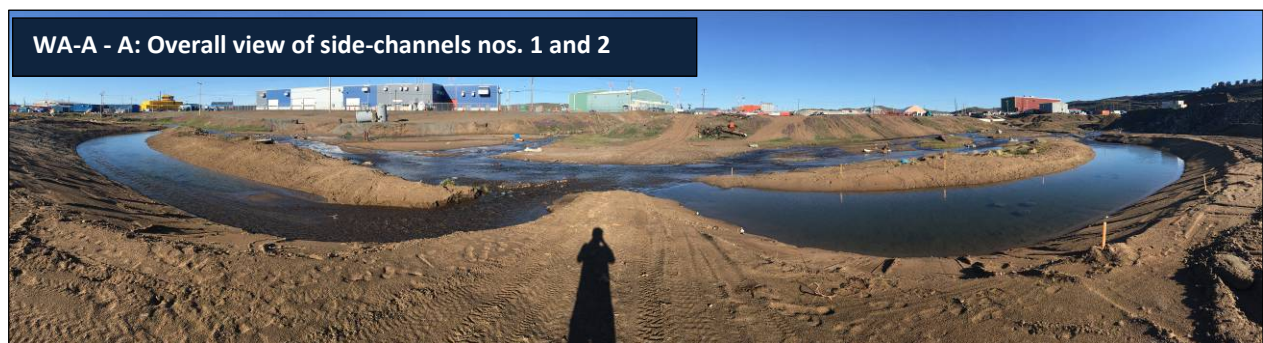


Steve Therrien, M.Sc.
Senior biologist
Biome environnement inc.

CC: Mr. Michel Boulianne, Sintra

Table 1. Summary of work progress in Carney Creek and Watercourse A from July 5 to July 23, 2017.

Date (July)	Mitigation measures	In-stream work	
Carney Creek			
5	Fish net installation (barrier to fish during in-stream work) Installation of in-stream curtains for erosion and sediment control.	Excavation of channel pool. Rip-rap placement over the pool side-walls (banks).	 
6		Construction of rifles. Rip-rap placement over the rifles side-walls (banks). Boulder placement on stream bed (channel and channel pool).	
Watercourse A			
9	Excavation of side-channels was conducted from inward progressing towards the extremities of each channel, hence keeping the work off steam. Extremities were excavated lastly.	Excavation of side-channel no. 1.	 
10		Side-channel no.1 profiling and shaping of bed and banks. Boulder placement on side-channel no. 1 bed.	
11		Excavation of side-channel no. 2.	
12		Side-channel no.2 profiling and shaping of bed and banks Boulder placement on side-channel no. 2 bed.	
23		Minor adjustments after a 10 days settling period.	



WA-A - A: Side-channel no. 1 - Inlet



WA-A - A: Side-channel no. 1 - Mid-section



WA-A - A: Side-channel no. 1 - Outlet



WA-A - A: Side-channel no. 2 - Inlet



WA-A - A: Side-channel no. 2 - Mid-section



WA-A - A: Side-channel no. 2 - Outlet



Appendix A

**DFO, letter dated of June 23, 2017 approving Sintra's proposed
works and improvement measures**



Fisheries and Oceans
Canada

Pêches et Océans
Canada

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Central and Arctic Region
501 University Crescent.
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Programme pour la Protection des Pêches
Région du centre et de l'arctique
501 University Crescent
Winnipeg (Manitoba)
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June 23, 2017

Your file Votre référence

Our file Notre référence
14-HCAA-00957

Michel Boulianne, M.Sc.
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Brossard (Quebec) J4Z 3V6
Phone : 1-866-708-1803 # 222-510
E-mail: michel.boulianne@sintra.ca

Dear Mr. Boulianne,

Subject: 2017 Iqaluit International Airport Improvement Project (IIAIP) fish habitat improvement measures and work schedule

The Fisheries Protection Program (the Program) of Fisheries and Oceans Canada (DFO) received the following documents related to the Iqaluit International Airport Improvement Project on January 10, 2017:

- IIAIP Fish Habitat Improvement Measures and Work Schedule 2017,
- Appendix A IIAIP 2017 Fish Habitat Improvement Measures Plan,
- Appendix B IIAIP 2015 Fish Salvage Summary Report

The proposal and information were reviewed and were found to conform to what was previously proposed which resulted in a letter of advice from DFO. However, these works are only acceptable if they do not interfere with fish passage, constrict the channel width, or reduce flows. The Proponent is also reminded to implement the required mitigation measures for the project works, and follows the guidance available on the DFO website at <http://www.dfo-mpo.gc.ca/pnw-ppe/measures/index-eng.html>. Please provide notification to DFO of the date of proposed start date for works 10 days in advance. Based on our understanding of the information provided, the Program is of the view that the proposal should not result in serious harm to fish or have contravened sections 32, 33 or 58 of the *Species at Risk Act*.

Sincerely,

Richard Janusz
Senior Fisheries Protection Biologist
Fisheries Protection Program

Cc: J. Thomas, Fisheries and Oceans Canada
H. Flynn, Fisheries and Oceans Canada

Canada

Appendix B

Sintra, letter (E-mail) dated of June 22, 2017 informing DFO that the in-stream work was scheduled to begin on July 5th, 2017

Objet: TR: 2017 Iqaluit International Airport Improvement Project - DFO Contact

Importance: Haute

De : BOULIANNE, Michel (SSMTL)

Envoyé : 22 juin 2017 16:07

À : Flynn, Heather <Heather.Flynn@dfo-mpo.gc.ca>

Cc : 'info@dfo-mpo.gc.ca' <info@dfo-mpo.gc.ca>; ROZON, Jean-Claude (DIVOU) <jeanclaudio.rozon@sintra.ca>;

RICHARD, Patrice (DIVOU) <patrice.richard@sintra.ca>; BHINDWALE, Anil (DIVOU) <anil.bhindwale@sintra.ca>;

LECUREUR, Geoffroy (DIVOU) <geoffroy.lecureur@sintra.ca>

Objet : RE: 2017 Iqaluit International Airport Improvement Project - DFO Contact

Importance : Haute

Hi Heather,

We would like to advise DFO that Sintra will start the in-water works on July 5th 2017 in Iqaluit.

The work will be completed as presented in January. A final report will be sent to DFO as soon as available.

Best regard,

Michel



Michel Boulianne M. Sc
Responsable Environnement Div.
Ouest

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