

## PERMIT TO ALTER A BODY OF WATER

Pursuant to the *Water Resources Act*, SNL 2002 cW-4.01, specifically Section(s) 48

Date: **AUGUST 15, 2017**

File No: **534-02**  
Permit No: **ALT9305-2017**

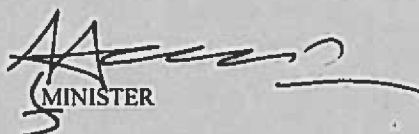
Permit Holder: **Iron Ore Company of Canada (IOC)**  
**2 Avalon Drive**  
**Labrador City, NL, A2V 2Y6**

Attention: **Jody Wentzell**

Re: **IOC - Luce Lake North Diversion Dam**

Permission is hereby given for: **the construction of a new earthfilled dam to assist with the diversion and dewatering of Luce Lake North, and associated appurtenances and activities as detailed in the application received from the Iron Ore Company of Canada on February 23, 2017 and additional documentation received on July 21, 2017 and August 11, 2017.**

- This Permit does not release the Permit Holder from the obligation to obtain appropriate approvals from other concerned municipal, provincial and federal agencies.
- The Permit Holder must obtain the approval of the Crown Lands Administration Division if the project is being carried out on Crown Land.
- This Permit is subject to the terms and conditions indicated in Appendices A and B (attached).
- It should be noted that prior to any significant changes in the design or installation of the proposed works, or in event of changes in ownership or management of the project, an amendment to this Permit must be obtained from the Department of Municipal Affairs and Environment under Section 49 of the *Water Resources Act*.
- Failure to comply with the terms and conditions will render this Permit null and void, place the Permit Holder and their agent (s) in violation of the *Water Resources Act* and make the Permit Holder responsible for taking any remedial measures as may be prescribed by this Department.



MINISTER

**APPENDIX A**  
**Terms and Conditions for Permit**

**Dam/Reservoir Design**

1. In the event of back water flooding from Luce Lake South to Luce Lake North, the dam shall be designed with appropriate erosion protection and geotechnical appurtenances to prevent failure of the structure.
2. The dam and appurtenant structures shall be constructed at the following coordinates:

Name	Datum	Northing (m)	Easting (m)	Zone
Luce Lake North Dam	NAD 27	5876609	639213	19

3. The dam(s) must have the following dimensions:

Name	Height/Elev of Dam (m)	Elev of Core (m)	Maximum Water Elevation (m)	Normal Water Elevation (m)	Minimum Freeboard (m)
Luce Lake North	1.2/589.1	588.6	588.6	588.2	0

**General Alterations**

4. Any work that must be performed below the high water mark must be carried out during a period of low water levels.
5. Any flowing or standing water must be diverted around work sites so that work is carried out in the dry.
6. Water pumped from excavations or work areas, or any runoff or effluent directed out of work sites, must have silt and turbidity removed by settling ponds, filtration, or other suitable treatment before discharging to a body of water. Effluent discharged into receiving waters must comply with the *Environmental Control Water and Sewage Regulations, 2003*.
7. All operations must be carried out in a manner that prevents damage to land, vegetation, and watercourses, and which prevents pollution of bodies of water.
8. The use of heavy equipment in streams or bodies of water is not permitted. The operation of heavy equipment must be confined to dry stable areas.
9. All vehicles and equipment must be clean and in good repair, free of mud and oil, or other harmful substances that could impair water quality.
10. Any areas adversely affected by this project must be restored to a state that resembles local natural conditions. Further remedial measures to mitigate environmental impacts on water resources can and will be specified, if considered necessary in the opinion of this Department.
11. The bed, banks and floodplains of watercourses, or other vulnerable areas affected by this project, must be adequately protected from erosion by seeding, sodding or placing of rip-rap.
12. All waste materials resulting from this project must be disposed of at a site approved by the Department of Service NL.
13. Care must be taken to prevent spillage of pollutants into the water.

14. The owners of structures are responsible for any environmental damage resulting from dislodgement caused by wind, wave, ice action, or structural failure.
15. Sediment and erosion control measures must be installed before starting work. All control measures must be inspected regularly and any necessary repairs made if damage is discovered.
16. Fill material must be of good quality, free of fines or other substances including metals, organics, or chemicals that may be harmful to the receiving waters.
17. The attached Completion Report (Appendix C) for Permit No. 9305 must be completed and returned to this Department upon completion of the approved works. Pictures must be submitted along with the completion report, showing the project site prior to and after development.
18. This Permit is valid for two years from the date of issue. Work must be completed by that date or the application and approval procedure must be repeated. The following terms are valid for the life cycle of the dam structure: 21, 24.
19. The location of the work is highlighted on the Location Map for this Permit attached as Appendix D.
20. All work must be carried out within the Permit Holder's legal property boundaries.

#### **Dam Safety**

21. The dam has been conditionally identified as a very small dam. However, the consequences of failure of the dam should be reviewed periodically, since they may change with upstream/downstream development. If the consequences of dam operation or failure are likely to be unacceptable to the public, the dam may be classified based on the 2007 Canadian Dam Association (CDA) guidelines and have to meet CDA best practice.

#### **Special Conditions**

22. The dam and associated works shall be designed according to best practice.
23. The dam and associated works must be designed and constructed under the direct supervision of an engineer eligible for membership with the Professional Engineers and Geoscientists of Newfoundland and Labrador (or equivalent Canadian organization) who is able to demonstrate competence in the design, construction, and surveillance of dams.
24. The Permit Holder is required to adhere to the Memorandum of Agreement as set forth by the Department of Environment and Conservation. This agreement relates to the operation of hydrometric and climate stations. The following monitoring stations must remain active for the life of the dam through the renewal of the Memorandum of Agreement with this Department: Luce Brook below Tinto Brook (03OA012), Wabush Lake at Dolomite Road (03OA019), Wabush Lake at Lake Outlet (03OA0017). The Department may require the setup of additional monitoring stations in the Memorandum of Agreement as per provisions of Section 31 of the Water Resources Act, SNL2002 Chapter W-4.01.

#### **Dam Construction**

25. The embankment shall consist of an approximately 30 m long impervious core of 4.0 m at the base and 2.0 m at the top. The core base shall be excavated approximately 1.0 m into the bottom of the existing channel and shall be comprised of low permeable soil.
26. Fill material must be obtained from an approved quarry site. It must not be taken from beaches or streams, and must not be dredged from a body of water.
27. Reservoir shorelines with moderately steep slopes or vulnerability to wave induced erosion, must be adequately protected with armour stone, rip-rap, or by other suitable measures.
28. The slopes of the dam core shall be lined with a sand filter with a slope of 1V:2H from the base of the impervious core to an elevation of 587.9 m at the bottom of the existing channel.
29. The dam shall have a top layer of D50=200mm rip rap with embankment slopes of 2H:1V. The rip rap layer shall be 0.7 m thick along the core crest and shall extend over the sand filter layer. The rip rap crest shall be 4 m wide. The extension of the rip rap embankment toe shall vary along the portions of the dam without the impervious core.

30. Where pumping is used to bypass flow, cofferdams must be installed both above and below areas of construction. The Permit Holder must provide pumps with sufficient capacity to prevent washout of cofferdams.
31. Cofferdams must be properly designed and constructed of suitable materials to prevent leakage and to resist loss of any material as a result of erosion. Cofferdams must be removed upon completion of their intended function. All material must be removed carefully to prevent disturbance of the water body and to prevent water quality degradation.
32. The area to be flooded by the reservoir must be prepared by removing timber, brush, and slash up to the maximum water elevation.
33. The transportation of labour and materials to the site must be along existing access roads.
34. The work must meet the requirements of the Environmental Protection Plan (latest approved version) for the project.

**APPENDIX B**  
**Special Terms and Conditions for Permit**

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1. The Permit Holder and its agent(s), subcontractor(s), and consultant(s) shall keep all systems and works in good condition and repair and in accordance with all laws, by-laws, directions, rules and regulations of any governmental authority. The Permit Holder or its agent(s), subcontractor(s), or consultant(s) shall immediately notify the Minister if any problem arises which may threaten the structural stability of the systems and works, endanger public safety and/or the environment or adversely affect others and/or any body of water either in or outside the said Project areas. The Permit Holder and its agent(s), subcontractor(s), and consultant(s) shall be responsible for all damages suffered by the Minister and Government resulting from any defect in the systems and works, operational deficiencies/inadequacies, or structural failure.
2. The Permit Holder and its agent(s), subcontractor(s), and consultant(s) shall operate the said Project and its systems and works in a manner which does not cause any water related and/or environmental problems, including but not limited to problems of erosion, deposition, flooding, and deterioration of water quality and groundwater depletion, in or outside the said Project areas. The Permit Holder and its agent(s), subcontractor(s), and consultant(s) shall be responsible for any and all damages associated with these problems caused as a result of changes, deficiencies, and inadequacies in the operational procedures by the Permit Holder or its agent(s), subcontractor(s), or consultant(s).
3. If the Permit Holder or its agent(s), subcontractor(s), or consultant(s) fails to perform, fulfil, or observe any of the terms and conditions, or provisions of this Permit and/or Ministerial orders and guidelines, as determined by this Department, the Minister may, after providing ten (10) day notice to the Permit Holder, amend, modify, suspend or cancel this Permit in accordance with the *Water Resources Act*.
4. The Permit Holder and its agent(s), subcontractor(s), and consultant(s) indemnify and hold the Minister and Government harmless against any and all liabilities, losses, claims, demands, damages or expenses including legal expenses of any nature whatsoever whether arising in tort, contract, statute, trust or otherwise resulting directly or indirectly from granting this Permit, systems and works in or outside the said Project areas, or any act or omission of the Permit Holder or its agent(s), subcontractor(s), or consultant(s) in or outside the said Project areas, or arising out of a breach or non-performance of any of the terms and conditions, or provisions of this Permit by the Permit Holder or its agent(s), subcontractor(s), or consultant(s).
5. This Permit is subject to all provisions of the *Water Resources Act* and any regulations in effect either at the date of this Permit or hereafter made pursuant thereto or any other relevant legislation enacted by the Province of Newfoundland and Labrador in the future.
6. This Permit shall be construed and interpreted in accordance with the laws of the Province of Newfoundland and Labrador.

- cc: Amir Ali Khan, Ph.D., P.Eng.  
Manager, Water Rights, Investigations and Modelling Section  
Water Resources Management Division  
Department of Municipal Affairs and Environment  
4th Floor, Confederation Building, West Block  
P.O. Box 8700, St. John's NL Canada A1B4J6  
akhan@gov.nl.ca
- cc: Clare Bustin  
Senior Analyst  
Indigenous Affairs  
clarebustin@gov.nl.ca
- cc: File Copy for Binder
- cc: Ms. Paula Dawe, P.Eng.  
Manager, Drinking Water and Wastewater Section  
Water Resources Management Division  
Department of Municipal Affairs and Environment  
P.O. Box 8700  
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pauladawe@gov.nl.ca
- cc: Ms. Renee Paterson  
Senior Environmental Scientist, Water Agreements Section  
Water Resources Management Division  
Department of Environment and Conservation  
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4th Floor, West Block, Confederation Building  
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reenepaterson@gov.nl.ca
- cc: Fisheries Protection Division  
Ecosystem Management Branch  
Fisheries and Oceans Canada  
P.O. Box 5667  
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- cc: Chef Tshani Ambroise  
Conseil de la Nation Innu Matimekush-Lac John  
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Tshani.Ambroise@gmail.com; DGMatimekush@gmail.com
- cc: Chief Mike McKenzie  
Conseil Innu Takuaikan, Uashat mak Mani-Utenam  
265, boulevard des Montagnais, C.P. 8000  
Sept-Îles (Québec) G4R 4L9  
mike.mckenzie@itum.qc.ca
- cc: Chief Noah Swappie  
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1009 Naskapi Road  
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kawawa@naskapi.ca

cc: Grand Chief Anastasia Qupee  
Innu Nation  
P.O. Box 119  
Sheshatshiu, NL A0P 1M0  
aqupee@innu.ca

cc: Mr. George Russell Jr.  
Natural Resources Manager  
NunatuKavut Community Council Inc.  
PO Box 460, Station C  
Happy Valley-Goose Bay, NL A0P 1C0  
grussell@nunatukavut.ca



### Appendix C - Completion Report

Pursuant to the *Water Resources Act*, SNL 2002 cW-4.01, specifically Section(s) 48

Date: **AUGUST 15, 2017**

File No: **534-02**  
Permit No: **ALT9305-2017**

Permit Holder: **Iron Ore Company of Canada (IOC)**  
**2 Avalon Drive**  
**Labrador City, NL, A2V 2Y6**

Attention: **Jody Wentzell**

Re: **IOC - Luce Lake North Diversion Dam**

Permission was given for : **the construction of a new earthfilled dam to assist with the diversion and dewatering of Luce Lake North, and associated appurtenances and activities as detailed in the application received from the Iron Ore Company of Canada on February 23, 2017 and additional documentation received on July 21, 2017 and August 11, 2017.**

*I (the Permit Holder named above or agent authorized to represent the Permit Holder) do hereby certify that the project described above was completed in accordance with the plans and specifications submitted to the Department of Municipal Affairs and Environment and that the work was carried out in strict compliance with the terms and conditions of the Permit issued for this project.*

Date: \_\_\_\_\_ Signature: \_\_\_\_\_

This completion report must be completed and forwarded to the following address upon completion of the approved work.

Department of Municipal Affairs and Environment  
Water Resources Management Division  
PO Box 8700  
St. John's NL A1B 4J6



**APPENDIX D**  
**Location Map for Permit**

