

PERMIT TO ALTER A BODY OF WATER

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

Date: **MARCH 07, 2024**

File No: **527**
Permit No: **ALT13527-2024**

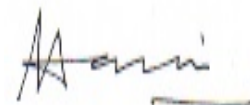
Permit Holder: **NL Hydro
P.O. Box 12400
500 Columbus Drive
St. John's NL A1B 4K7
leahfudge@nlh.nl.ca**

Attention: **Leah Fudge**

Re: **Labrador (unnamed streams across the 735 kV Transmission Line access road) -
Replacement of deteriorated culverts**

Permission is hereby given for : **the replacement of sixty (60) deteriorated culverts at 39 locations across the unnamed streams along the Right of Way (Row) of the 735 kV transmission line in Labrador for the purpose of carrying out repair, maintenance, and vegetation management, with reference to the application dated September 19, 2023 and additional information received on January 9, January 18 and March 7, 2024.**

- 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 Environment and Climate Change under Section 49 of the *Water Resources Act*.



(for) MINISTER

APPENDIX A
Terms and Conditions for Permit

Culvert Design

1. The crossing structure must provide adequate capacity to safely discharge flood flows without causing backwater effects upstream or increased flow velocity downstream.
2. To safely convey peak flows the culvert installation must be designed according to the following hydraulic criteria: Please refer to Appendix-E for culvert design details.

Culvert Installation

3. Drainage ditches must collect and transport surface runoff in a manner that does not cause flooding, erosion or sedimentation of adjacent land or receiving waters.
4. Inlet and outlet areas of culvert installations must be adequately protected from erosion by placing rip-rap, fitted stone, or concrete headwalls.
5. Culvert installations must follow the stream channel gradient to the maximum extent possible and placed in line with the direction of the main flow to minimize disturbance to the channel. Culverts must not disrupt the flow of water or cause ponding at the upstream side of the installation.
6. In multiple culvert installations, one culvert must be set a minimum of 150 mm lower than the others to provide adequate water depth and velocity for fish passage during low flow conditions. In addition, multiple culverts must be installed within 0.6 to 0.9 metres apart for maximum stability.
7. 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.
8. 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.
9. All work involving minor alteration to the stream channel to permit culvert placement must be carried out at a time of low flow, and in a manner that prevents downstream siltation and unnecessary alteration of the channel.
10. Grading and finishing of roadways or road embankments must not cause damage to culverts or allow road material to enter the watercourse.
11. Roadside embankments near the watercourse must be adequately protected from erosion by sodding, seeding or placing of rip-rap.
12. Culverts must be inspected regularly so that immediate action can be taken to clear blockages caused by ice or debris or to undertake repairs as required.

13. The inlet and outlet of culverts must be clearly marked so that operators of road grading and snow clearing equipment can avoid blocking culverts.
14. Any damage to culverts during installation or due to inadequate capacity and/or improper construction must be reported to this Department. Damaged culverts must be replaced immediately to prevent overtopping, erosion, or flooding.
15. If a culvert is installed in natural fish habitat it must be embedded a minimum of 150 mm below the natural streambed (up to a maximum of 1/3 of the culvert diameter).

General Alterations

16. Any work that must be performed below the high water mark must be carried out during a period of low water levels.
17. Any flowing or standing water must be diverted around work sites so that work is carried out in the dry.
18. 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*.
19. 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.
20. 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.
21. 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.
22. During the construction of concrete components, formwork must be properly constructed to prevent any fresh concrete from entering a body of water. Dumping of concrete or washing of tools and equipment in any body of water is prohibited.
23. Wood preservatives such as penta, CCA or other such chemicals must not be applied to timber near a body of water. All treated wood or timber must be thoroughly dry before being brought to any work site and installed.
24. 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.
25. 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.
26. All waste materials resulting from this project must be disposed of at a site approved by the Department of Digital Government and Service NL.
27. Periodic maintenance such as painting, resurfacing, clearing of debris, or minor repairs, must be carried out without causing any physical disruption of any watercourse. Care must be taken to prevent spillage of pollutants into the water.

28. The owners of structures are responsible for any environmental damage resulting from dislodgement caused by wind, wave, ice action, or structural failure.
29. 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.
30. 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.
31. The attached Completion Report (Appendix C) for Permit No. 13527 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.
32. 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.
33. The location of the work is highlighted on the Location Map for this Permit attached as Appendix D.
34. All work must be carried out within the Permit Holder's legal property boundaries.

APPENDIX B
Special Terms and Conditions for Permit

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, as determined by this Department, the Minister may, without notice, 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: Ms. Paula Dawe, P.Eng.
Manager, Water Rights, Investigations and Modelling Section
Water Resources Management Division
Department of Environment and Climate Change
P.O. Box 8700
4th Floor, West Block, Confederation Building
St. John's, NL A1B 4J6
pauladawe@gov.nl.ca
- cc: Jeff Bannister (Western and Labrador)
Western and Labrador Regional Lands Manager
Crown Lands Administration Division
Department of Fisheries, Forestry and Agriculture
JeffBannister@gov.nl.ca
- cc: Fish and Fish Habitat Protection Program
Aquatic Ecosystems Branch
Fisheries and Oceans Canada
P.O. Box 5667
St. John's, NL A1C 5X1
dfo.fppnl-ppptnel.mpo@dfo-mpo.gc.ca



Appendix C - Completion Report

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

Date: **MARCH 07, 2024**

File No: 527
Permit No: ALT13527-2024

Permit Holder: **NL Hydro**
P.O. Box 12400
500 Columbus Drive
St. John's NL A1B 4K7
leahfudge@nlh.nl.ca

Attention: **Leah Fudge**

Re: **Labrador (unnamed streams across the 735 kV Transmission Line access road) -
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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 Environment and Climate Change and that the work was carried out in strict compliance with the terms and conditions of the Permit issued for this project.

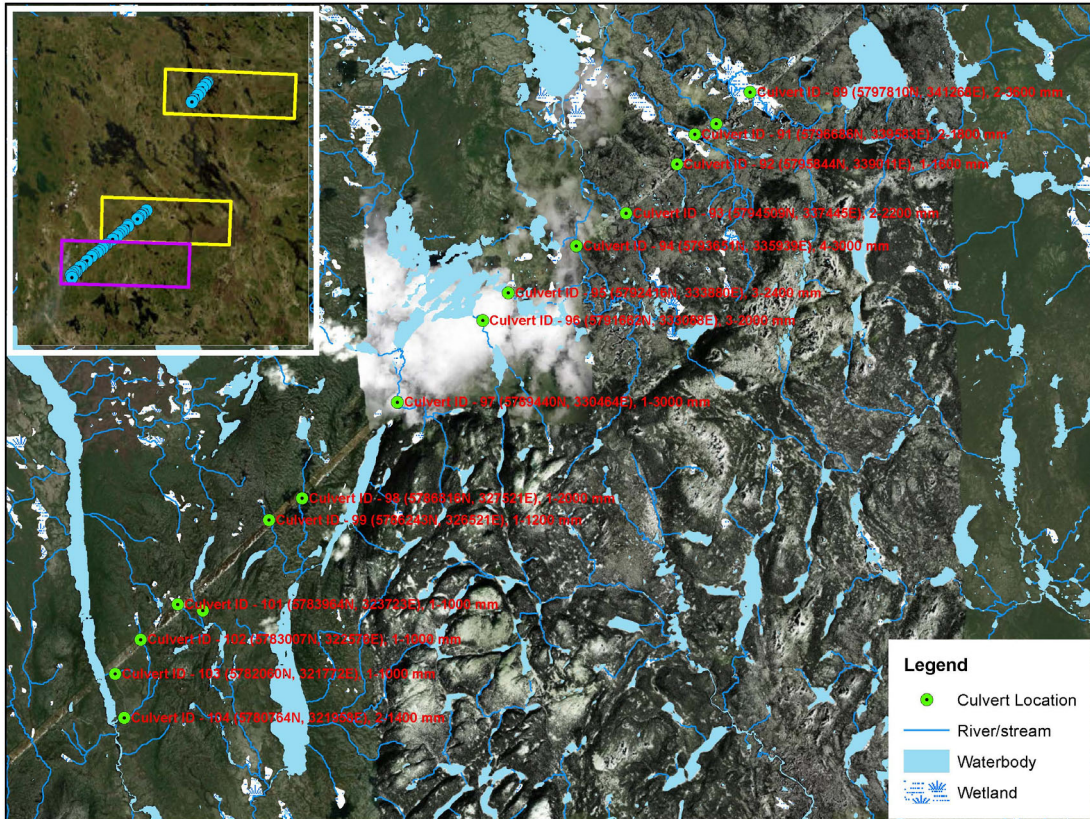
Date: _____ Signature: _____

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

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

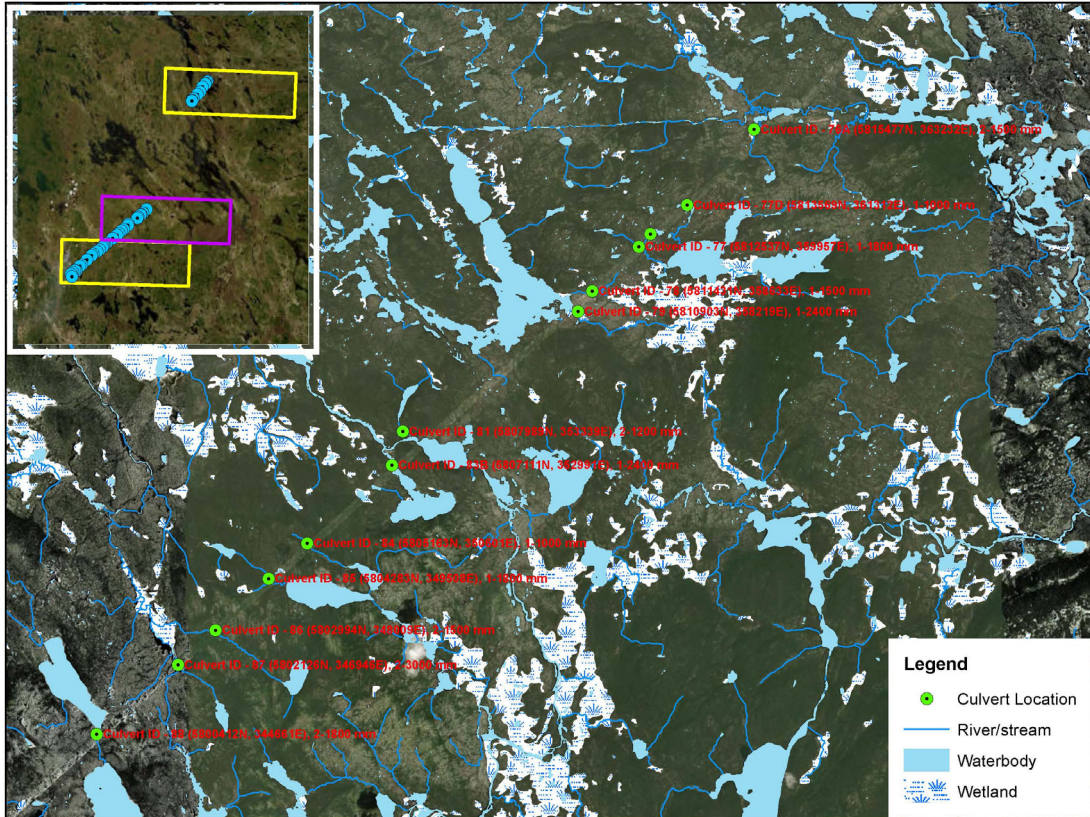
APPENDIX D
Location Map for Permit

Culverts replacement along the existing 735kV ROW in Labrador



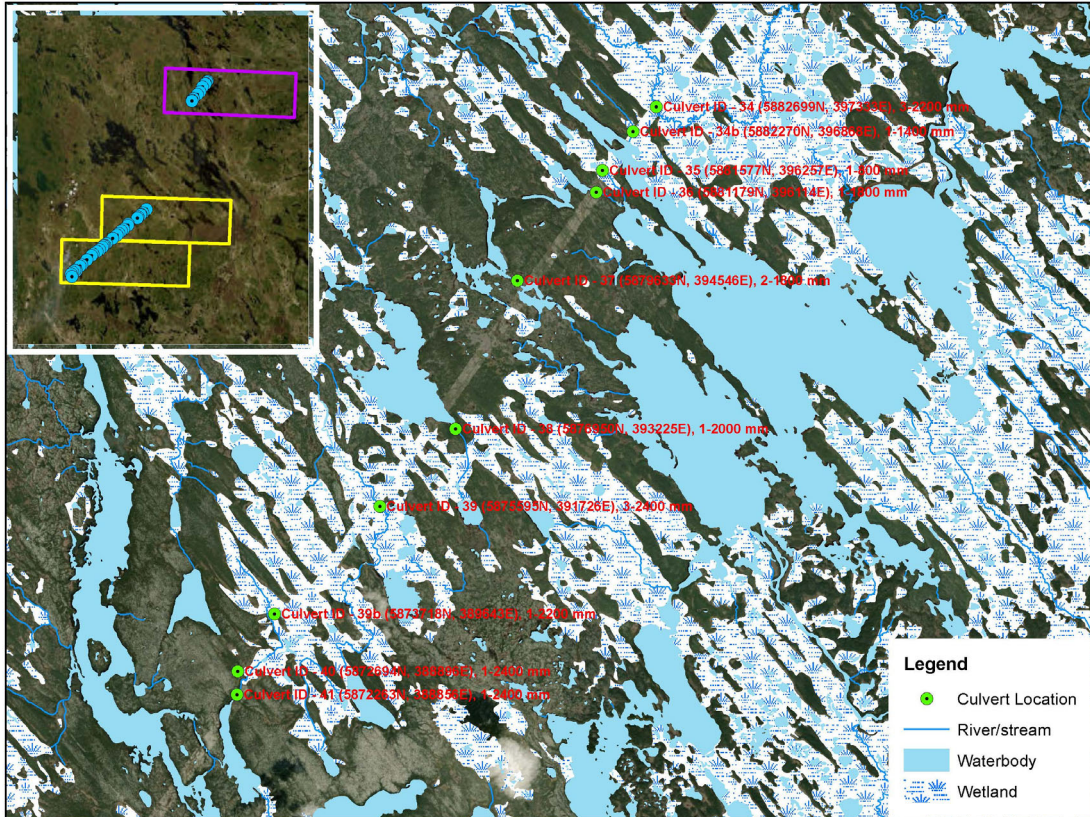
Second Attached Image File

Culverts replacement along the existing 735kV ROW in Labrador



Third Attached Image File

Culverts replacement along the existing 735kV ROW in Labrador



GOVERNMENT OF NEWFOUNDLAND AND LABRADOR
Department of Environment and Climate Change

File No: 527
Permit No: ALT13527-2024

APPENDIX E
Details of Culvert Design

Location ID	UTM Zone	Easting	Northing	Design return period (Year)	Design Flow (m ³ /sec)	Culvert size (mm) and number	Culvert Length (m)
34	20	397333	5882699	25	49.16	3-2200 mm	12.00
34b	20	396868	5882270	25	2.62	1-1400 mm	12.00
35	20	396257	5881577	25	0.46	1-800 mm	12.00
36	20	396114	5881179	25	5.21	1-1800 mm	12.00
37	20	394546	5879633	25	13.21	2-1800 mm	12.00
38	20	393225	5876950	25	8.92	1-2000 mm	12.00
39	20	391726	5875595	25	55.53	3-2400 mm	12.00
39b	20	389643	5873718	25	10.11	1-2200 mm	12.00
40	20	388896	5872694	25	13.01	1-2400 mm	12.00
41	20	388856	5872263	25	15.68	1-2400 mm	12.00
76A	20	363232	5815477	25	9.23	2-1500 mm	12.00
77D	20	361312	5813569	25	0.55	1-1000 mm	12.00
77C	20	360284	5812859	25	4.49	1-1500 mm	12.00
77	20	359957	5812537	25	4.73	1-1800 mm	12.00
78	20	358633	5811431	25	4.47	1-1500 mm	12.00
79	20	358219	5810903	25	15.31	1-2400 mm	12.00
81	20	353339	5807989	25	6.27	2-1200 mm	12.00
83B	20	352991	5807111	25	15.54	1-2400 mm	12.00
84	20	350601	5805163	25	1.23	1-1000 mm	12.00
85	20	349508	5804283	25	8.95	1-1800 mm	12.00
86	20	348009	5802994	25	13.61	2-1500 mm	12.00
87	20	346946	5802126	25	73.43	2-3000 mm	12.00
88	20	344661	5800412	25	26.5	2-1800 mm	12.00
89	20	341268	5797810	25	111.28	2-3600 mm	12.00
90	20	340227	5796944	25	5.26	1-1600 mm	12.00
91	20	339583	5796686	25	32.98	2-1800 mm	12.00
92	20	339011	5795844	25	4.07	1-1600 mm	12.00
93	20	337445	5794509	25	32.17	2-2200 mm	12.00
94	20	335939	5793651	25	217.77	4-3000 mm	12.00
95	20	333880	5792416	25	132.56	3-2400 mm	12.00
96	20	333088	5791662	25	28.13	3-2000 mm	12.00
97	20	330464	5789440	25	25.75	1-3000 mm	12.00
98	20	327521	5786816	25	9.69	1-2000 mm	12.00
99	20	326521	5786243	25	1.83	1-1200 mm	12.00
100	20	324438	5783736	25	7.34	1-1800 mm	12.00
101	20	323723	5783964	25	1.26	1-1000 mm	12.00
102	20	322576	5783007	25	2.10	1-1000 mm	12.00
103	20	321772	5782060	25	0.92	1-1000 mm	12.00
104	20	321958	5780764	25	9.26	2-1400 mm	12.00