

**PERMIT TO ALTER A BODY OF WATER**

Pursuant to the *Water Resources Act*, SNL 2002 cW-4.01, specifically Section(s) 39, 48

Date: **JANUARY 11, 2016**

File No: **526**  
Permit No: **ALT8442-2016**


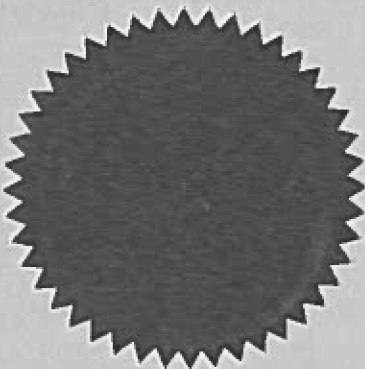
Permit Holder: **Town of McIvers  
PO Box 4375 RR# 2  
Corner Brook NL A2H 6B9**

Attention: **Gerri-Lynn Lovell**

Re: **McIvers Water Supply Improvements and Feeder Brook Pond Dam**

Permission is hereby given for : **the construction of the Feeder Brook Pond dam, upgrades to the existing McIvers Brook drinking water supply dam, construction of an access bridge, and associated activities inside the McIvers Brook Protected Public Water Supply Area (used by the Town of McIvers) as detailed in the application received from Atlantic Engineering Consultants Ltd. on December 21, 2015 and further information provided on or before January 7, 2016.**

- 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 Conservation 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. Reservoirs must be provided with a spillway of adequate capacity to safely discharge design flows at non-erosive velocities without causing flooding of the reservoir or damage to the spillway or section downstream channel.
2. The range of normal operating water levels in the reservoir shall be between elevations 101.2 metres and 101.8 metres.
3. The dam must provide a minimum freeboard of 0.6 metres between the highwater elevation and the crest of the dam to prevent overtopping.
4. Alteration of the natural minimum streamflow is not permitted in order to preserve aquatic life.
5. The dam and appurtenant structures shall be constructed at the following coordinates:

Name	Datum	Northing (m)	Easting (m)	Zone
Feeder Brook Pond Dam	NAD83	5,436,834	422,408	21

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

Name	Height/Elevation of Dam (m)	Elevation of Spillway (m)	Maximum Water Elevation (m)	Minimum Water Elevation (m)	Minimum Freeboard (m)
Feeder Brook Pond Dam	2.6/ 102.4	101.2	101.8	101.2	0.6

7. To safely convey peak flows the dam(s) must be designed according to the following hydraulic criteria:

Name	Design Return Period (years)	Minimum Flow Capacity (m <sup>3</sup> /s)
Feeder Brook Pond Dam	100	1.24

**General Alterations**

8. Any work that must be performed below the high water mark must be carried out during a period of low water levels.
9. Any flowing or standing water must be diverted around work sites so that work is carried out in the dry.
10. 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*.
11. 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.

12. 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.
13. 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.
14. 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.
15. 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.
16. 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 the Department.
17. 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.
18. All waste materials resulting from this project must be disposed of at a site approved by the Department of Service NL.
19. 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.
20. The owners of structures are responsible for any environmental damage resulting from dislodgement caused by wind, wave, ice action, or structural failure.
21. 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.
22. 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.
23. The attached Completion Report (Appendix C) for Permit No. 8442 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.
24. This Permit is valid for two years from the date of issue for all construction related work. Construction work must be completed by that date or the application and approval procedure must be repeated. The following term(s) are valid for the life cycle of the structure: 36.
25. The location of the work is highlighted on the Location Map for this Permit attached as Appendix D.

#### **Water Supply Area**

26. No fuels, chemicals, or other deleterious material shall be stored at the site.
27. The permit holder must take necessary measures to control dust that may impair the quality of any adjacent waterbody.
28. Equipment must not be serviced within the boundaries of protected watersheds.
29. The permit holder must obtain written permission from each community before commencing any work in their protected watershed area.
30. The permit holder is hereby informed that if there is any change in water quality in a protected watershed resulting directly from the project which causes sufficient changes in physical, chemical or bacteriological composition to render the water within the protected watershed unsuitable as a public water supply, then the permit holder must ensure that an alternate source of potable water is provided to the citizens until water quality returns to an acceptable level.
31. All persons working on this project must be informed that they are within a Protected Public Water Supply Area, and must be made aware of all conditions of this Permit. A copy of this Permit must be on site during operations.

32. Liaison is to be maintained with the Regional Environmental Scientist for all activities within the PWSA. If there are any problems, she may be reached at (709) 637-2542.
33. Forging is only permitted within the boundaries of Protected Water Supply Areas where conditions are conducive to forging (stable non-erodible stream channels, low approach grades etc.) and where forging sites are not in close proximity to water supply intakes.
34. All vegetation removal within 100 metres of a body of water or within the Protected Water Supply Area for the Town of McIver's must be carried out by hand operated equipment only.
35. A complete oil spill clean-up kit must be on site at all times when gasoline or fuel powered equipment is being used or refuelled. The kit must contain the following:
  - One hand operated fuel pump
  - One recovery container such an empty 205 litre drum
  - One shovel
  - One pick ax
  - Five metres of containment boom
  - Five absorbent pads
  - Twenty-five litres of loose absorbent material

#### **Dam Safety**

36. The dam has been conditionally classified in the LOW Consequence category based on the 2007 Canadian Dam Association (CDA) guidelines. A Dam Safety Review is not required for low-consequence dams. However, the consequences of failure should be reviewed periodically, since they may change with downstream development. If the classification increases, a Dam Safety Review is required at that time.

#### **Special Conditions**

37. The dam and associated works shall be designed according to the Canadian Dam Association Dam Safety Guidelines and associated Bulletins (most recent edition).
38. 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.
39. Intake ports must be located above the bottom of the stream, lake or impoundment, but at sufficient depth to be kept submerged at low water levels and below ice level. The intake structure must not draw air. Adequate protection must be provided against clogging by sediment, debris, ice, frazil ice, wind, floatation and wave pressure.
40. Close cut clearing and disposal must be undertaken around the perimeter of the water supply reservoir to an elevation not less than 200 mm above the proposed high water mark. Special care should be exercised to minimize siltation and erosion problems at the new shore wash area.

#### **Dam Construction**

41. The finished upstream and downstream side of the earthen dam structure shall have a slope of 2 horizontal to 1 vertical.
42. 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.
43. 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.
44. The McIvers Brook dam length is to be extended into bedrock or undisturbed soil approximately 4.6 m on the south side and 2.7 m on the north side. The extensions shall overlay the existing concrete dam 0.6 m on the upstream side. All bedrock and concrete surfaces to be overlaid shall be hydro blasted to clean the surface prior to the application of concrete. A bonding agent shall be applied to the bedrock and concrete overlay.
45. The intake and bypass pipe at the Feeder Brook Pond dam shall consist of 55 metres of 300 mm DR18 PVC pipe and concrete intake support structure.
46. The downstream side of the Feeder Brook Pond dam overflow structure and bypass pipe outlet must be constructed with a facing of armour stone or rip-rap with a minimum size of 300 mm to prevent erosion of the river bed.

47. 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.
48. The upstream side of the Feeder Brook Pond dam must be constructed with a facing of armour stone or rip-rap with a minimum size of 200 mm to prevent erosion of the embankment.
49. The transportation of labour and materials to the site must be along existing access roads.
50. The dam and spillway must be inspected regularly to identify any indications of structural failure, leaking, erosion or other problem so that immediate action can be taken to rectify the problem.

**Small Bridges**

51. The use of creosote treated wood is strictly prohibited within 1.5 metres of all bodies of fresh water in the province.
52. The crossing structure must provide adequate capacity to safely discharge flood flows without causing backwater effects upstream or increased flow velocity downstream.
53. Bridge abutments must be set back 0.5 metres from the normal edge of a watercourse to prevent constriction during high flow conditions.
54. The natural course of any stream must not be altered.
55. Infilling must not cause increased water elevation upstream or increase flow velocity downstream of the site. Reduction of the natural cross sectional area of any watercourse is not permitted.
56. The upstream and downstream sides of abutments must be protected with rip-rap, concrete or heavy timber to prevent erosion and scouring.
57. 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.
58. 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.
59. Abutments and piers must be constructed in the dry and during times of low flow.
60. The bridge(s) must have the following minimum dimensions:

<b>Crossing Name / No.</b>	<b>Span (m)</b>	<b>Waterway Opening (m<sup>2</sup>)</b>	<b>Freeboard (m)</b>
Feeder Brook Bridge	5	3.2	0.3

**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: Ms. Paula Dawe, P.Eng.  
Manager, Drinking Water and Wastewater Section  
Water Resources Management Division  
Dept. of Environment and Conservation  
PO Box 8700  
St. John's, NL A1B 4J6
- cc: Mr. Chris Power, P. Eng.  
Department of Municipal and Intergovernmental Affairs  
PO Box 2006  
Corner Brook NL A2H 6J8
- cc: Fisheries Protection Division  
Ecosystem Management Branch  
Fisheries and Oceans Canada  
P.O. Box 5667  
St. John's NL A1C 5X1
- cc: Ms. Carla Hayes  
Environmental Scientist , Drinking Water & Wastewater Section  
Water Resources Management Division  
Dept. of Environment and Conservation  
P.O. Box 2006  
Corner Brook, NL  
A2H 6J8
- cc: Dr. Abdel-Zaher Kamal Abdel-Razek, Ph. D., P.Eng.  
Manager, Water Rights and Investigations Section  
Water Resources Management Division  
Department of Environment and Conservation  
P.O. Box 8700  
St. John's NL A1B 4J6
- cc: Mr. Mike Gorman, P.Eng.  
Atlantic Engineering Consultants Limited  
34 Main Street  
Corner Brook NL A2H 1C3

### Appendix C - Completion Report

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Pursuant to the *Water Resources Act*, SNL 2002 cW-4.01, specifically Section(s) 39, 48

Date: **JANUARY 11, 2016**

File No: **526**

Permit No: **ALT8442-2016**

Permit Holder: **Town of McIvers  
PO Box 4375 RR# 2  
Corner Brook NL A2H 6B9**

Attention: **Gerri-Lynn Lovell**

Re: **McIvers Water Supply Improvements and Feeder Brook Pond Dam**

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Permission was given for : the construction of the Feeder Brook Pond dam, upgrades to the existing McIvers Brook drinking water supply dam, construction of an access bridge, and associated activities inside the McIvers Brook Protected Public Water Supply Area (used by the Town of McIvers) as detailed in the application received from Atlantic Engineering Consultants Ltd. on December 21, 2015 and further information provided on or before January 7, 2016.

*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 Conservation 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 Conservation  
Water Resources Management Division  
PO Box 8700  
St. John's NL A1B 4J6



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

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