Government of Newfoundland and Labrador
Department of Municipal Affairs and Environment
Water Resources Management Division

PERMIT TO CONSTRUCT

Pursuant to the *Water Resources Act*, SNL 2002 cW-4.01, specifically Section(s) 37, 39, 61

Date: **AUGUST 31, 2020**

File No: **844.193.001**
Permit No: **WS11282-2020**

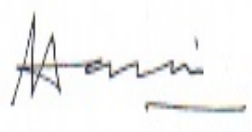
Permit Holder: **Town of Baine Harbour**
General Delivery
Baine Harbour, NL A0E 1A0
bhrtc@bellalinat.net
haroldkenway@eastlink.ca

Attention: **Harold Kenway**

Re: **Baine Harbour - Water Treatment and Chlorination Upgrades**

Permission is hereby given for : **development of a new water supply including the construction of a new concrete cistern with pumping components, installation of 425 m of 100 mm HDPE watermain, 250 m of 75 mm HDPE watermain, new electrical and mechanical components in existing chlorination building, new hypochlorination system, new flow meter chamber, and all related appurtenances as described in a specification and drawings titled, "Town of Baine Harbour Water Treatment and Chlorination Upgrades" as received from Innovative Engineering Project Management on June 1, 2020 and revised drawing on August 16, 2020; 17-RNC-20-00030.**

- 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*.



(for) MINISTER

File No: **844.193.001**
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APPENDIX A

Terms and Conditions for Permit

Water & Sewer General

1. 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*.

2. 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.

3. 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.

4. The works proposed must satisfy the requirements of the latest applicable codes and standards, and be consistent with or otherwise address the design criteria set out in the Department of Municipal Affairs and Environment publication *Guidelines for The Design, Construction, and Operation of Water and Sewerage Systems, 2005*, and as amended from time to time.

5. The work must be undertaken in strict compliance with the submitted documents and the latest version of the *Municipal Water, Sewer and Roads Master Construction Specifications*. A copy of all documents, including the *Municipal Water, Sewer and Roads Master Construction Specifications* must be available for viewing at the construction site office at all times.

6. Liaison is to be maintained with the Environmental Scientist representing the Drinking Water and Wastewater Section of this Department, during the construction and operation of the project. They shall be notified of the pre-construction and post-construction meetings so that they may attend, if deemed necessary. They can be reached at telephone (709) 729-2558.

7. Officials of this Department may visit the project from time to time to ensure that work is carried out within the provisions of this Permit, and is not creating any environmental hazard.

8. Any changes in the approved works, or works other than those specified in the application, must be submitted, in writing, to this Department, and approved, in the form of an Amendment to this Permit, prior to any work.

9. Copies of this Permit, as well as any subsequent Amendments, must be provided to the contractor(s) who will be carrying out these works, and to the engineer's site representative.

10. The attached Completion Report (Appendix C) for Permit No. 11282 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.

11. 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.

12. The drinking water and wastewater system shall be operated and maintained in accordance with the Permit to Operate issued by this Department.

13. Management of stormwater is the responsibility of the municipality or LSD. Stormwater management should focus on ensuring that the post-development stormwater runoff rate will be equal to or less than the pre-development runoff rate. Any stormwater runoff has the potential to contribute to flooding downstream which may have liability issues for the municipality or LSD if not managed properly.

14. The Owner must update any drawings maintained of the drinking water or wastewater system to reflect the modification or replacement of the works, where applicable.

Water Systems

15. Under no circumstances shall sewage be permitted to enter the waterline trench during or after construction.

16. All new waterlines and appurtenances shall be hydrostatically tested in accordance with the *Municipal Water, Sewer and Roads Specifications*.

17. All components, lubricants and chemicals provided shall be compatible for use with drinking water and shall meet the requirements of ANSI/NSF 60 Drinking Water Treatment Chemical Standard and ANSI/NSF 61 Drinking Water and System Component Standard and any other standard applicable to potable water.

18. Backflow prevention devices should/must be installed on service connections where there is a high risk of contamination of the potable water supply.

19. Drains in valve chambers shall be equipped with a backwater valve and screening to prevent the entry of insects, birds, and rodents.

20. All new lines and appurtenances must be disinfected by an approved method described in the latest edition of the AWWA C651 Standard for Disinfecting Watermains and using only chlorine products that meet the NSF 60 standard.

21. After final flushing and before the new water main is commissioned into service, bacteriological sampling must be conducted as per the latest edition of the AWWA C651 Standard for Disinfecting Watermains. Two acceptable options are available: (1) two consecutive sets of bacteriological samples, taken at least 16 hours apart, must be collected and tested for bacteriological quality, or (2) following a 16 hour rest period two consecutive sets of samples, taken 15 minutes apart, must be collected and tested for bacteriological quality. Sets of samples shall be collected for every 366 m of new water main including the end of the main line and the end of each branch line. These sampling locations shall be determined by the engineer. **A copy of test results must be submitted to this Department (Water Resources Management Division) before the new watermain is placed into service**. In the event of any bacteria detected in the sample results, flushing and re-sampling may be attempted or the disinfection process will need to be repeated until results for two consecutive sets of samples are bacteria free. Where necessary, this Department should be contacted to determine provisions for the disposal of heavily chlorinated water.

22. For the purpose of disinfecting new or upgraded watermains, connection may only be made to the existing watermain provided a valve is installed that maintains a water tight seal. This valve may be operated to flush the new water extension before disinfection and post disinfection provided adequate measures and procedures are followed to avoid a backflow and contamination of the existing system.

23. The existing watermain that is being taken out of service must be permanently disconnected so as not to create a cross-connection with the town's water distribution system.

Chlorination

24. A backflow prevention device, in this case a hose connection vacuum breaker, non removable, meeting or exceeding CSA 64.2, shall be attached to any hose bibb connection, to prevent the possibility of contaminants entering the potable water distribution system due to back-siphonage.

25. The upgrading of the existing chlorination facility must be carried out in such a way as there will be minimal interruption of the water supply and chlorination system. In this regard, water consumers and the Regional Office of Service NL shall be kept informed and appropriate action taken to address any potential or encountered problems.

26. The injector for the chlorination system shall be located as close as possible to the diffuser (preferably attached) in order to minimize the pressurized chlorine solution line. The chlorine injection lance shall be installed in the pipe so that the chlorine solution is being injected within the flow of water to ensure appropriate mixing.

27. The hypochlorination system shall be set-up such that chlorine is injected in the line from the source prior to any other connection to that line with the exception of the raw water sampling tap. Also, in this regard the chlorinated water shall enter one end of the chlorine contact tank and exit out of the opposite end to allow for maximum contact time and mixing and to avoid potential short circuiting.

28. A sample tap shall be provided so that water samples can be obtained from the raw water source and from an appropriate location after chlorination. Taps used shall be of the smooth-nosed type without interior or exterior threads and shall not have a screen, aerator or other such appurtenance.

29. An emergency shower and eye wash station that is in compliance with ANSI Z358.1-2014 and meets the requirements of the appropriate Materials Safety Data Sheet (MSDS) shall be installed in a convenient location (s) within each facility.

30. The sodium hypochlorite shall be stored in a dark cool area to minimize loss of strength of the solution. In this regard a storage cabinet should be provided and shall be located away from any direct heat and light sources.

31. Personal protective equipment such as goggles and rubber gloves suitable for handling sodium hypochlorite must be provided.

32. Portable equipment must be provided for measuring chlorine residuals. The equipment shall have digital display readout, enable measurement of chlorine residuals to the nearest 0.02 mg/L, and shall be of a type approved by this Department.

Miscellaneous

33. The Permit Holder must prevent erosion of drainage ditches, streams or other natural bodies of water by installing rip-rap and/or sodding.

34. All drains and vents shall be equipped with screens to prevent the entry of insects, birds and rodents.

35. The ends of drains and overflows shall be located so as to prevent erosion. Where necessary, concrete or similar splash plates shall be located below the end of the overflow, and the immediate surrounding area shall be filled to a depth of 10 cm with 19 mm minus stone to prevent ponding.

Development in WPWSA

36. All persons working on this project must be informed that they are within a Wellhead Protected Water Supply Area and must be made aware of all conditions of this Permit. A copy of this Permit must be on site during construction.

37. All equipment must be in good working order with no leaking fuel or oil. Refueling of heavy equipment is not allowed on site.

38. All operations must be carried out in a manner that minimizes damage to land, vegetation and water courses, and which prevents pollution of water bodies. Please note that groundwater aquifers are considered water bodies.

39. During construction and after the project is complete, the use and/or storage of fertilizers, pesticides, herbicides, petroleum solvents, chlorinated solvents, and preservatives is limited or restricted. Please contact the Environmental Scientist at (709)729-1671 for more information.

40. The parking, storage, and maintenance of heavy equipment is prohibited.

41. Equipment storage and maintenance facilities associated with this project must not be located within the Wellhead Protected Water Supply Area, and all maintenance other than emergency repairs must be performed outside the Wellhead Protected Water Supply Area.

42. Bulk fuel storage, including home heating fuel, is prohibited.

43. The use and/or storage of fertilizers, pesticides, herbicides, petroleum solvents, chlorinated solvents, and preservatives are prohibited.

44. Fuel/gasoline storage is limited to one 23 litre (5 Imperial gallon) approved container during both the construction and occupation period of the property. Furthermore, every precaution shall be made to prevent spills, leaks, or other discharges while filling from the container.

45. Liaison must be maintained with the appropriate Municipal Authority and Department of Environment, Climate Change and Municipalities official. If there are any specific problems (i.e., fuel spill or other potential water quality impairment), the Town Manager/Clerk and/or Mayor must be notified immediately, as well as the Environmental Scientist at (709)729-1671.

46. Officials of the Department of Environment, Climate Change and Municipalities and the appropriate Municipal Authority, Operator, or Wellhead Protection Committee may visit the site from time to time to ensure compliance with this Permit.

47. Any areas adversely affected by this project must be restored to a state that resembles the local natural conditions or must be grass covered. Further remedial measures to mitigate environmental impacts on water resources can and will be specified, if necessary in the opinion of the Department of Environment, Climate Change and Municipalities.

48. The Department of Environment, Climate Change and Municipalities reserves the right to require the proponent to cover all costs incurred by the proponent or this department that is associated with any water quality monitoring program that may be ordered by the Minister for the purpose of ensuring that the water quality is maintained within acceptable guidelines.

49. A water quality monitoring program is not required at this time. However, the Department of Environment, Climate Change and Municipalities reserves the right to require that the proponent sample, analyze, and submit results of water quality tests, for the purpose of ensuring that the water quality of the surrounding aquifer(s), is maintained within acceptable guidelines. All analyses must be undertaken by a CALA accredited laboratory.

50. The permit holder, contractor, subcontractor or other persons associated with this project shall not cross, operate in, or disturb any body of water, either directly or by means of installing a bridge or culvert, without first obtaining a permit under Section 48 of the Water Resources Act SNL 2002 cW-4.01

51. Any significant changes in the permitted operations, developments or activities other than those specified in the application must be submitted in writing to the Department of Environment, Climate Change and Municipalities, and permitted in the form of an Amendment to this Permit, before they are undertaken.

52. Renewal of this permit shall require the submission of a written application, on the prescribed form, to the Department of Environment, Climate Change and Municipalities, and is subject to review by this Department and the appropriate Municipal Authority, Operator or Wellhead Protection Committee.

53. The well owner is responsible for compliance with this permit.

PPWSA General

54. 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.

55. All waste material is to be collected in refuse containers, and disposed of at an approved waste disposal site outside the Protected Public Water Supply Area in accordance with the *Environmental Protection Act, SNL 2002 cE-14.2*.

56. Equipment storage, maintenance facilities associated with this project, and all maintenance other than emergency repairs must not be located/carried out within the Protected Public Water Supply Area.

57. The felling or disposing of trees, parts of trees, sawdust, bark, logging debris or slash into a water body or upon the frozen surface of a water body is strictly prohibited.

58. Treated wood shall not be used in a water body or within 150m of Baine Harbour Pond measured from the high water mark. The use of creosote treated wood anywhere within the Protected Public Water Supply Area is strictly prohibited.

59. Any changes in water quality resulting directly from this project, rendering the water unsuitable as a public water supply, are the responsibility of the Permit Holder. The Minister may order the Permit Holder to provide an alternate source of potable water to the affected community until water quality returns to an accepted level.

60. All vehicles and equipment must be in good working order with no leaking fuel, oil, or other harmful substances that could impair water quality.

61. All stationary motorized equipment and associated fuel tanks shall have metal trays, absorbent pads or impervious liners under them to catch and contain in excess of 110 % of the aggregate volume of any fuel, lubricant and oil.

62. Drainage from roads and other disturbed areas into any body of water must first be discharged into a settling pond, a vegetated area or pass through a sedimentation fence where all suspended material can settle out before draining into any body of water.

63. For any clearing within 150m of Baine Harbour Pond: the Permit Holder is to ensure that the appropriate best practices are employed to prevent any detrimental effects that could impact water quality.

64. Where permits, licences, approvals or authorizations are issued by multiple governments departments or agencies, in the case of similar conditions, the more stringent of the those shall prevail; in the case of conflicting conditions, the Permit Holder shall seek clarification and direction in writing from each of the respective departments or agencies.

65. The Permit Holder is required to ensure that adequate sanitary (bathroom) facilities are available or provided on site. This may be in the form of a portable toilet, chemical toilet, pit privy (outhouse), sub-surface disposal system, or municipal sewer system. If a portable toilet or chemical toilet is used, the waste water must be disposed of in a septic disposal system approved by Service NL, or at an approved waste disposal site, outside the Protected Public Water Supply Area in accordance with the Environmental Protection Act, SNL 2002 cE-14.2. If a pit privy (outhouse) or sub-surface disposal system is used, it must be located outside the required buffers, and be subject to Service NL standards, requirements and approval.

Fuel Storage

66. There shall be no bulk fuel storage associated with this project within the protected water supply area. Refueling sites shall be located at least 150 metres from any water body or wetland. The Permit Holder is hereby informed that fuel storage and handling requires a separate approval under the *Storage and Handling of Gasoline and Associated Products Regulations*, CNR 775/96.

67. Any spills of gasoline, fuel or oil, regardless of volume, shall be reported immediately to the WRMD Environmental Scientists by calling (709) 729-1671 and (709)729-4817. Furthermore, all spills in excess of 70 litres shall be reported immediately to the 24 hour spill report line at 1-800-563-9089.

68. 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 axe
    - Five metres of containment boom
    - Five absorbent pads
    - Twenty-five litres of loose absorbent material

Power Lines

69. Wood and brush removed from the work site must not be stored within 150m of Baine Harbour Pond or within 50m of any body of water.

70. The use of creosote or pentachlorophenol (PCP) treated utility poles and/or anchor boxes is strictly prohibited.

71. All poles and/or anchor boxes within 150m metres of Baine Harbour Pond or within 30 metres of any water body must be of untreated wood, metal or concrete.

72. The **Policy Guidelines for Utility Poles in Water Supply Areas (WR 93-01)** must be strictly adhered to.

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: Jelissa Brien
Innovative Engineering and Project Management
PO Box 787
170 McGettigan Blvd.
Marystwon NL A0E 2M0
jbrien@innovativenl.ca

cc: Angela Buchanan
Groundwater
Water Resources Management
Municipal Affairs and Environment
P.O. Box 8700
St. John's, NL
A1B 4J6
angelabuchanan@gov.nl.ca

cc: Christa Skinner (E)
Environmental Scientist, Drinking Water and Wastewater Section
Water Resources Management Division
Department of Municipal Affairs and Environment
P.O. Box 8700
4th Floor, West Block, Confederation
St. John's, NL A1B 4J6
christavskinner@gov.nl.ca

cc: Ms. Deneen Spracklin, P.Eng.
Environmental Engineer, Drinking Water and Wastewater Section
Water Resources Management Division
Department of Municipal Affairs and Environment
P.O. Box 8700
4th Floor, West Block, Confederation Building
St. John's, NL A1B 4J6
dspracklin@gov.nl.ca

cc: Mr. Inayat Rehman, P.Eng.
District Engineer
Department of Municipal Affairs and Environment
Main Floor, West Block, Confederation Bldg.
P.O. Box 8700
St. John's, NL A1B 4J6
inayatrehman@gov.nl.ca

cc: Mr. Michael Duke (Clarenville - Eastern)
Manager
Service NL
8 Myers Ave
Clarenville, NL A5A 1T5
michaelduke@gov.nl.ca

Government of Newfoundland and Labrador
Department of Municipal Affairs and Environment
Water Resources Management Division

Appendix C - Completion Report

Pursuant to the *Water Resources Act*, SNL 2002 cW-4.01, specifically Section(s) 37, 39, 61

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Attention: **Harold Kenway**

Re: **Baine Harbour - Water Treatment and Chlorination Upgrades**

Permission was given for : **development of a new water supply including the construction of a new concrete cistern with pumping components, installation of 425 m of 100 mm HDPE watermain, 250 m of 75 mm HDPE watermain, new electrical and mechanical components in existing chlorination building, new hypochlorination system, new flow meter chamber, and all related appurtenances as described in a specification and drawings titled, "Town of Baine Harbour Water Treatment and Chlorination Upgrades" as received from Innovative Engineering Project Management on June 1, 2020 and revised drawing on August 16, 2020; 17-RNC-20-00030.**

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