

PERMIT TO CONSTRUCT

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

Date: **SEPTEMBER 24, 2020**

File No: **843.068.2**
Permit No: **WS11337-2020**

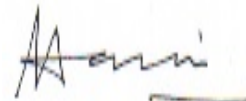
Permit Holder: **Town of Greenspond
PO Box 100
77 Main Street
Greenspond NL A0G 2N0
greenspond@eastlink.ca**

Attention: **Mr. Clyde Bragg**

Re: **Greenspond - Chlorination System Replacement**

Permission is hereby given for : **removal of the existing gas chlorination equipment and the installation of a new gas chlorination system, a new soda ash pH adjustment system and all related works and appurtenances as described in a specification titled "Town of Greenspond, Chlorination System Replacement" as well as a set of revised drawings numbered 20222 (DMAE no. 17-GI-21-00085), sheets A1, A2, M1 and E1 as received from Cecon Limited on September 18, 2020.**


- 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

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. All waste materials resulting from this project must be disposed of outside of the Protected Public Water Supply Area at a site approved by the Department of Service NL.
5. 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.
6. 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.
7. 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) 637-2034 .
8. 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.
9. 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.
10. 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.
11. The attached Completion Report (Appendix C) for Permit No. 11337 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.
12. 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.

13. The drinking water and wastewater system shall be operated and maintained in accordance with the Permit to Operate issued by this Department.
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. All new waterlines and appurtenances shall be hydrostatically tested in accordance with the *Municipal Water, Sewer and Roads Specifications*.
16. Backflow prevention devices should/must be installed on service connections where there is a high risk of contamination of the potable water supply.
17. 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.

Chlorination

18. 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.
19. The door of the chlorination room must open outward, and must be equipped with approved panic hardware. This door shall have mounted on its exterior, a sign **warning** of the presence of chlorine gas.
20. The chlorination room/building/storage area must be equipped with a chlorine leak detection device. The device shall control an audible alarm, and an alarm light located above the entrance door to the chlorine room.
21. The exhaust fan in the chlorine room must be capable of providing one complete air exchange per minute, and the air intake duct shall extend to within 150 mm of the floor. A manual control switch for the fan shall be provided at the entrance and in an adjoining room.
22. The chlorination room and the adjoining room(s) shall be separated by an air tight wall in order to protect personnel and equipment in the adjoining room in the event of a chlorine gas leak. A clear air tight viewing window shall be installed in this wall to allow for visual inspection of the chlorine room and chlorine storage room.
23. Self-contained breathing apparatus or respiratory air-pac protection equipment shall be provided. The equipment shall be stored in convenient locations, but not inside any room where chlorine is used or stored. The unit shall use compressed air, have at least 30 minute capacity, and be compatible with the units used by the regional fire department.
24. The breathing apparatus must be wall mounted in a convenient location in the pump/screen room. The Town of Greenspond shall ensure that the air cylinder is purged and refilled on a regular basis to ensure its safe operation, and shall ensure that the operator(s) is trained in the use of the breathing apparatus.
25. A Chlorine Institute 'Kit A' should be provided in order that emergency leak repairs may be made to the chlorine cylinders when necessary. The Kit should be stored near the emergency breathing apparatus, and not in the same room as the chlorine cylinders.
26. The vacuum regulator vents must be vented to a safe location where personnel will not be endangered from the escaping gas. They shall not under any circumstance be vented in the vicinity of an exit door or through an unheated space (ie. attic).

27. 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.
28. 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.
29. Floor drains in the chlorine equipment room or the chlorine gas cylinder storage room must discharge to a separate sump outside the building and shall not be connected to other internal or external drainage systems.
30. 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.
31. The chlorinator and chlorine vacuum lines shall not be located on an outside wall to prevent exposure to low temperatures.

Water Treatment

32. There shall be adequate storage handling facilities for 30 days of dry chemical supply.
33. All drains and vents shall be equipped with screens to prevent the entry of insects, birds and rodents.
34. 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.
35. 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.
36. Chemical mixing tanks shall be located as near as possible to the point of application to minimize the length of feed lines.
37. 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.
38. The owner shall ensure that all chemicals used in the treatment process and all materials contacting the water are of Food Grade quality and meet both the American Water Works Association (AWWA) quality criteria as set out in AWWA standards and the American National Standards Institute (ANSI) and the National Sanitation Foundation (NSF) safety criteria as set out in ANSI/NSF 60 or ANSI/NSF 61 standards and any other applicable standards.
39. All chemical tanks shall have liquid level indicators and overflows connected to a drain line.

PPWSA General

40. 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.
41. An undisturbed (no cutting or ground disturbance) buffer zone of at least **150 metres** shall be maintained around Shambler's Cove Pond, at least **50 metres** along both sides of all streams and main tributaries running into Shambler's Cove Pond, and at least **30 metres** around all ponds and along both sides of all other water bodies. Additional development within these buffer zones is prohibited.

42. 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.
43. The Department reserves the right to require that the Permit Holder follow, and cover all costs incurred by the Permit Holder or this department, 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.
44. Officials of the Department and the appropriate Municipal Authority, Operator, or Watershed Management Committee may visit the site to ensure compliance with this Permit.
45. Treated wood shall not be used in a water body or within buffer zones established in Condition 44 of any water body measured from the high water mark. The use of creosote treated wood anywhere within the Protected Public Water Supply Area is strictly prohibited.
46. The Permit Holder must inspect the site daily, and any water quality impairment related problems are to be reported immediately to the Environmental Scientist at 637-2034.
47. 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.
48. All vehicles and equipment must be in good working order with no leaking fuel, oil, or other harmful substances that could impair water quality.
49. 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.
50. Any streams not visible on a 1:50,000 scale map (including field identified streams) shall require a minimum buffer of 30 m.
51. For any clearing inside buffer zones: no ground disturbance (no disturbance to the root mat, no grubbing, or removal of soil) shall take place in the buffer zones. The Permit Holder is to ensure that the appropriate best practices are employed to prevent any detrimental effects that could impact water quality. Where possible, work in buffer zones shall be completed when the ground is frozen.
52. 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.
53. The issuance of this permit does not guarantee, nor set precedent, that additional or similar permits or amendments will be issued in this or any other Protected Public Water Supply Area for additional or similar activity or development.
54. Any activity within a freshwater body (including wetlands and flood risk areas), requires a Permit under Section 48 of the Water Resources Act, 2002. This Permit refers to Section 39 of the Water Resources Act, 2002 and does not grant permission for the above stated work including fording and/or culvert or bridge installation.

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: Mr. Barry Thomson, P. Eng.
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Service NL
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Appendix C - Completion Report

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

Date: **SEPTEMBER 24, 2020**

File No: **843.068.2**
Permit No: **WS11337-2020**

Permit Holder: **Town of Greenspond
PO Box 100
77 Main Street
Greenspond NL A0G 2N0
greenspond@eastlink.ca**

Attention: **Mr. Clyde Bragg**

Re: **Greenspond - Chlorination System Replacement**

Permission was given for : **removal of the existing gas chlorination equipment and the installation of a new gas chlorination system, a new soda ash pH adjustment system and all related works and appurtenances as described in a specification titled "Town of Greenspond, Chlorination System Replacement" as well as a set of revised drawings numbered 20222 (DMAE no. 17-GI-21-00085), sheets A1, A2, M1 and E1 as received from Cecon Limited on September 18, 2020.**

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