

PERMIT TO CONSTRUCT

Pursuant to the *Water Resources Act*, SNL 2002 cW-4.01, specifically Section(s) 37, 39, 48

Date: **FEBRUARY 26, 2019**

File No: **844.133.003**
Permit No: **WS10130-2019**

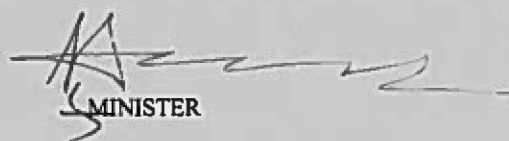
Permit Holder: **LSD of Hickman's Harbour-Robinson's Bight
PO Box 64
Hickman's Harbour NL A0C 1P0**

Attention: **Ms. Elizabeth Marsh, Chairperson**

Re: **Hickman's Harbour-Robinson's Bight - Water System Improvements**

Permission is hereby given for : the installation of a new 100 mm PVC screened water supply intake, a new 100 mm PVC swab launch and retrieval point, new chlorination building to include booster pumps, flow meter, duplex strainer and related appurtenances as described in a specification and drawings titled, "Water System Improvements Local Service District of Hickman's Harbour/Robinson's Bight" (17-SCF-19-00113) as received from Meridian Engineering Inc. on January 21, 2019.

- 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*.



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 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) 729-2558.
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. 10130 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 system shall be operated and maintained in accordance with the Permit to Operate issued by this Department.
14. 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.
15. The Owner must update any drawings maintained of the drinking water system to reflect the modification or replacement of the works, where applicable.

Water Systems

16. Under no circumstances shall sewage be permitted to enter the waterline trench during or after construction.
17. All new waterlines and appurtenances shall be hydrostatically tested in accordance with the *Municipal Water, Sewer and Roads Specifications*.

18. 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.
19. Backflow prevention devices should/must be installed on service connections where there is a high risk of contamination of the potable water supply.
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.
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. Storage tank and pressure tank drain lines and overflows shall not be directly connected to the building floor drain, but shall be separated from the floor drain by an appropriately sized air gap. Drain lines from the storage tank and pressure tanks shall be protected from back-siphonage or back-pressure by an appropriate backflow prevention device.
29. 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.
30. 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.
31. 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.
32. Personal protective equipment such as goggles and rubber gloves suitable for handling sodium hypochlorite must be provided.
33. 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

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

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

Intake

36. A water supply intake may be placed in Big Loss Pound Pond as part of the water supply system for the Town of Hickman's Harbour-Robinson Bight .

37. The intake structure shall consist of an untreated birch timber cribwork, a 100 mm PVC T-shaped intake pipe extending 1.8 m, and intake screens at each end of T-shaped intake pipe.

38. Pipe zone cutoff walls or other means must be installed to prevent lowering of the water table due to groundwater flow through the porous pipe zone material.

39. 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.

40. 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.

41. 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.

42. The intake must be fitted with a removable mesh screen or a trash rack.

43. 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.

44. Adequate protection must be provided against clogging by sediment, debris, ice, frazil ice, wind, floatation and wave pressure.

General Alterations

45. Any work that must be performed below the high water mark must be carried out during a period of low water levels.

46. Any flowing or standing water must be diverted around work sites so that work is carried out in the dry.

47. 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.

48. 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.

49. 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.

50. 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.

51. 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.

52. 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.

53. The owners of structures are responsible for any environmental damage resulting from dislodgement caused by wind, wave, ice action, or structural failure.

54. 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.

55. 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.

56. The location of the work is highlighted on the Location Map for this Permit attached as Appendix D.

57. All work must be carried out within the Permit Holder's legal property boundaries.

PPWSA General

58. 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.
59. An undisturbed (no cutting or ground disturbance) buffer zone of at least **150 metres** shall be maintained around Big Loss Pound Pond, at least **50 metres** along both sides of all streams and main tributaries running into Big Loss Pound Pond, and at least **30 metres** around all ponds and along both sides of all other water bodies. Activity or development within these buffer zones is prohibited, with the exception of the area to be cleared for the new building and the intake upgrade only. Only the minimum area the size of the intake area and building is permitted to be altered. All buffer zones must be marked with signs or flagging tape to avoid encroachment into the buffer zones.
60. 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.
61. 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.
62. Motorized vehicles, including snowmobiles and ATVs, shall not be used to cross the frozen surface of the intake pond within the Protected Public Water Supply Area.
63. Treated wood shall not be used in a water body or within established buffer zones as specified in Condition #64 of the high water mark of any water body. The use of creosote treated wood anywhere within the Protected Public Water Supply Area is strictly prohibited.
64. 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 (709)729-4817 and the appropriate Municipal Authority or Watershed Monitoring Committee.
65. 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.
66. All stationary motorized equipment and fuel tanks shall have metal trays, absorbent pads or impervious liners under them to catch any leaking fuel or oil.
67. Any streams not visible on a 1:50,000 scale map (including field identified streams) shall require a minimum buffer of 30 m.
68. 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.
69. Any plans to install temporary pumping and treatment systems to provide water services to the Town of Hickman's Harbour - Robinson Bight must be approved by the Department prior to start of construction.
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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.
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- cc: File Copy for Binder
- 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
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dspracklin@gov.nl.ca
- cc: Frank Norman (Eastern)
Land Management Specialist
Crown Lands Administration
Howley Building
St. John's
franknorman@gov.nl.ca
- cc: Fisheries Protection Division
Ecosystem Management Branch
Fisheries and Oceans Canada
P.O. Box 5667
St. John's, NL A1C 5X1
FPP-NL@dfo-mpo.gc.ca
- 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
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4th Floor, West Block, Confederation Building
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akhan@gov.nl.ca
- cc: Mr. Stephen Locke, P. Eng.
Meridian Engineering Inc.
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Clarenville, NL A5A 1Y9
slocke@meridianengineering.ca
- cc: Mr. Michael Duke
Manager (Clarenville)
Service NL
8 Myers Ave
Clarenville, NL A5A 1T5
michaelduke@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

Appendix C - Completion Report

Pursuant to the *Water Resources Act*, SNL 2002 cW-4.01, specifically Section(s) 37, 39, 48

Date: **FEBRUARY 26, 2019**

File No: **844.133.003**
Permit No: **WS10130-2019**

Permit Holder: **LSD of Hickman's Harbour-Robinson's Bight
PO Box 64
Hickman's Harbour NL A0C 1P0**

Attention: **Ms. Elizabeth Marsh, Chairperson**

Re: **Hickman's Harbour-Robinson's Bight - Water System Improvements**

Permission was given for : the installation of a new 100 mm PVC screened water supply intake, a new 100 mm PVC swab launch and retrieval point, new chlorination building to include booster pumps, flow meter, duplex strainer and related appurtenances as described in a specification and drawings titled, "Water System Improvements Local Service District of Hickman's Harbour/Robinson's Bight" (17-SCF-19-00113) as received from Meridian Engineering Inc. on January 21, 2019.

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

