

PERMIT FOR DEVELOPMENT

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

Date: **AUGUST 16, 2022**

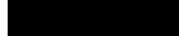
File No: **550-01-01-11-071**

Permit No: **PRO12603-2022**

Permit Holder: **Aguathuna Drafting and Consulting Company Ltd**



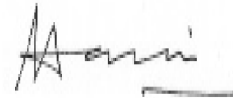
Attention:



Re: **Mainland - Caribou Brook PPWSA - Liner Replacement - ADC Engineering**

Permission is hereby given for : **the replacement of the existing reservoir liner with a NSF certified liner in the Caribou Brook Protected Public Water Supply Area (used by the LSD of Mainland) with reference to the application dated June 09, 2022.**

- This Permit does not release the Permit Holder from the obligation to obtain appropriate approvals from other concerned municipal, provincial and federal agencies.
- The Permit Holder must obtain the approval of the Crown Lands Administration Division if the project is being carried out on Crown Land.
- This Permit is subject to the terms and conditions indicated in Appendices A and B (attached).
- It should be noted that prior to any significant changes in the design or installation of the proposed works, or in event of changes in ownership or management of the project, an amendment to this Permit must be obtained from the Department of Environment and Climate Change under Section 49 of the *Water Resources Act*.



(for) MINISTER

APPENDIX A
Terms and Conditions for Permit

PPWSA General

1. 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.
2. 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.
3. 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.
4. The attached Completion Report (Appendix C) for Permit No. 12603 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.
5. An undisturbed (no cutting or ground disturbance) buffer zone of at least **150 metres** shall be maintained around Caribou Brook for a distance of 1 kilometer upstream and 100 metres downstream of the intake, at least **75 metres** along the remainder of Caribou Brook, at least **50 metres** along both sides of all streams and main tributaries running into Caribou Brook, 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. All buffer zones must be marked with signs or flagging tape to avoid encroachment into the buffer zones.
6. 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*.
7. 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.
8. 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.
9. Officials of the Department and the appropriate Municipal Authority, Operator, or Watershed Management Committee may visit the site to ensure compliance with this Permit.
10. Liaison is to be maintained with the appropriate Municipal Authority and Environmental Scientist. If there are any specific problems (ie sedimentation, fuel spill, other potential water quality impairment), the appropriate Town Manager/Clerk, Mayor, Chair of the Local Service District Committee, or Chair of the Water Supply Committee must be notified immediately at (709)642-5781. The Environmental Scientist must also be notified immediately at (709)637-2542.
11. 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.
12. Treated wood shall not be used in a water body or within buffer zones established in Condition #5 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.

13. 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)637-2542 and the appropriate Municipal Authority or Watershed Monitoring Committee at (709)642-5781.
14. The location of the work is highlighted on the Location Map for this Permit attached as Appendix D.
15. This Permit is valid for one (1) year from the date of issue. If required, an application for Permit renewal must be submitted prior to the expiry date.
16. 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.
17. All vehicles and equipment must be clean and in good working order with no leaking fuel, oil, or other harmful substances that could impair water quality.
18. 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.
19. 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.
20. 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.
21. Where permits, licences, approvals or authorizations are issued by multiple governments departments or agencies, in the case of similar conditions, the more stringent of 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.
22. 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, 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.

Fuel Storage

23. There shall be no bulk fuel storage associated with this project within the protected water supply area. Fuel shall be brought to the operating area in no more than two (2), 205 litre barrels or one (1) 500 litre slip tank. 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.
24. Contaminated snow and soil must be removed from the site and disposed of at an approved location outside the protected public water supply area, in accordance with the *Environmental Protection Act, SNL 2002 cE-14.2*.
25. Any spills of gasoline, fuel or oil, regardless of volume, shall be reported immediately to the Environmental Scientist and the appropriate Municipal Authority or Watershed Management Committee by calling (709)637-2542 and (709) 642-5781 respectively. Furthermore, all spills in excess of 70 litres shall be reported immediately to the 24 hour spill report line at 1-800-563-9089.

26. 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
27. Refueling sites shall be located at least 150 metres from any water body or wetland.

Protected Miscellaneous

28. The Permit Holder is required to provide this Department with all documentation, information and data which may be requested or required in order to carry out the inspection or investigation.
29. Sawdust, bark, and logs must not be stored within undisturbed buffer zones of any body of water, and must be removed at regular intervals to prevent excessive accumulation at the site.
30. Wood and brush removed from the work site must not be stored within undisturbed buffer zones of any water body.
31. The Permit Holder is required to undertake a water quality monitoring program as outlined below, and all water quality data must be submitted to this Department, within 10 days of the samples being taken.
- Water samples shall be collected from the first user on the Caribou Brook distribution system.
 - A water sample shall be collected the after the work is completed and the Caribou Brook distribution system is back in use.before the drilling begins, once per week while the operation is ongoing, and approximately 10 days after the completion of the drilling project.
 - For a full list of parameters contact the Environmental Scientist at (709)637-2542.

Special Conditions

32. Temporary and permanent hazardous material storage areas are not permitted inside the Protected Public Water Supply Area.

Water & Sewer General

33. 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*.
34. 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 this Department's publication *Guidelines for the Design, Construction, and Operation of Water and Sewerage Systems, 2005*, and as amended from time to time.
35. 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.
36. 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) 709-637-2542 .
37. 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.

38. 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.
39. 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.
40. 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

41. All new waterlines and appurtenances shall be hydrostatically tested in accordance with the *Municipal Water, Sewer and Roads Specifications*.
42. 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.

Miscellaneous

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

General Alterations

44. Any work that must be performed below the high water mark must be carried out during a period of low water levels.
45. Any flowing or standing water must be diverted around work sites so that work is carried out in the dry.
46. 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.
47. 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.
48. 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.
49. 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.
50. 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.
51. All waste materials resulting from this project must be disposed of at a site approved by the Department of Digital Government and Service NL.
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. 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.

Dam Construction

57. The dam and appurtenant structures shall be constructed at the following coordinates:

Name	Latitude (N)	Longitude (E)
Mainland - Caribou Brook Dam	48.553917	59.186278

- 58. 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.
- 59. 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.
- 60. The inlet to the reservoir must be constructed with armour stone or rip-rap to provide adequate protection from erosion.
- 61. Work must be conducted in dry conditions.
- 62. The inlet structure flow shall not exceed the existing design flow for the existing reservoir.

Geoliners

- 63. The geomembrane installer should be a member of the International Association of Geosynthetic Installers Approved Installation Contractor Program. Installation will be carried out in accordance with the International Association of Geosynthetics Installers industry standards.
- 64. Selection of geomembrane should consider stresses during construction, field survivability, and workability.
- 65. The geomembrane shall be protected from mud, dirt, dust, puncture, cutting or any other damaging or deleterious conditions. Rolls shall be stored away from high traffic areas. Rolls should be stored on pallets off the ground. If extremely hot or cold temperatures are present, keep the panels inside at a moderate temperature. Continuously and uniformly support rolls on a smooth, level prepared surface.
- 66. Materials should be transported by the most direct method to site to minimize handling. Materials delivered to site should be off-loaded in a location where minimum handling steps will be required.
- 67. Leave the geomembranes packaged in UV protected wrap until the day that the panels are to be installed.
- 68. Geomembrane should not be installed in the presence of standing water, mud, vegetation, snow, frozen subgrade, excessive moisture, while precipitation is occurring, during excessive winds, or when material temperatures are outside 1-75 C.
- 69. Subgrade surfaces should be free of loose rock fragments (>10 mm), sticks, sharp objects, or debris of any kind. The surface should provide a smooth, flat, firm, unyielding foundation for the geomembrane with no sudden, sharp or abrupt changes or break in grade that can tear or damage the geomembrane.
- 70. If coarse grained material is encountered in the subgrade, appropriate bedding should be used to protect the geomembrane. This bedding should consist of compacted finer material with a depth of 150 mm minimum. Where bedding sand is not available, a non-woven cushion geotextile may be used if it is designed for puncture protection.

71. The subgrade surface needs to be sufficiently compacted before installation of geomembrane.
72. The geomembrane shall not be allowed to bridge over voids or low areas in the subgrade. The geomembrane shall rest in intimate contact with the subgrade.
73. In general, seams shall be oriented parallel to the line of the maximum slope. In corners and odd shaped geometric locations, the total length of field seams shall be minimized. Seams shall not be located at low points in the subgrade unless geometry requires seaming at such locations.
74. Care should be taken when covering the geomembrane to prevent any damage. At no time will construction equipment be allowed to operate or drive directly on the geomembranes. No vehicular traffic shall travel on the geomembrane other than an approved low ground pressure vehicle or equivalent.
75. Sandbags or equivalent ballast shall be used as necessary to temporarily hold the geomembrane material in position under the foreseeable and reasonably expected wind conditions. Sand bag material shall be sufficiently close-knit to prevent soil fines from working through the bags and discharging on the geomembrane.
76. All seaming, patching, other welding operations, and testing shall be performed by qualified technicians employed by the geomembrane installer that are a member of the International Association of Geosynthetic Installers Certified Welding Technician Program.
77. The panels shall be overlapped prior to seaming to whatever extent is necessary to affect a good weld and allow for proper testing, generally 300mm or more in the case of high flow. In no case shall this overlap be less than 75 mm.
78. Once the geomembrane is properly placed, the material should be seamed as soon as practical. Only material that is to be welded during that work-day should be deployed.
79. The cover material shall be placed as soon as practical, in conjunction with or upon completion of the geomembrane installation or as the installation progresses to minimize traffic on the geomembrane and damage. Only geomembrane that can be covered during that work-day should be placed.
80. Cover material shall consist of 12 mm minus particles, clean rounded soils or gravels free of sharp edges, sticks, metal, rubbish, and debris or foreign materials. If suitable cover material is not available, a protection geotextile layer may be installed between the geomembrane and the cover materials.
81. Cover material should be dumped and leveled over the geomembrane and not pushed from one end to the other to minimize rolling and wrinkling of the geomembrane beneath the material. Cover material should always be placed from the bottom to the top of slopes to avoid stressing the geomembrane and slope stability problems.
82. Cover material should be placed in lifts of a maximum of 150mm and be sufficiently compacted.
83. For critical structures, if the geosynthetic is damaged, the damaged section should be removed entirely and replaced. For lower risk structures, new geosynthetic can be placed over the damaged area with an overlap equal to the minimum overlap required for adjacent rolls.
84. The geomembrane shall be secured/anchored to the bedrock foundation, concrete plinth, toe of embankment with riprap, or by other sufficient means to form a hydraulic barrier.
85. The geomembrane shall be anchored in a trench, or by other sufficient means, at the dam crest to form a hydraulic barrier.

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: Shabnam Mostofi, Ph.D., P.Eng.
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Water Resources Management Division
Dept of Environment and Climate Change
ShabnamMostofi@gov.nl.ca
- cc: Local Service District of Mainland
Ms. Taunya Murchison
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mainlandlsdclerk@hotmail.com
- cc: Ms. Deneen Spracklin, P.Eng.
Environmental Engineer, Drinking Water and Wastewater Section
Water Resources Management Division
Department of Environment and Climate Change
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- cc: Mr. Chris Blanchard, B.Tech.(Env), AScT
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Department of Environment and Climate Change
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Water Resources Management Division
Department of Environment and Climate Change
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Regional Engineer, Western Regional Office
Department of Transportation and Infrastructure
6th Floor, Sir Richard Squires Building

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cc: Fisheries Protection Division
Ecosystem Management Branch
Fisheries and Oceans Canada
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FPP-NL@dfp-mpo.gc.ca

cc: Mr. Jeff Pickett (Western and Labrador)
Director
Digital Government and Service NL
Sir Richard Squires Building
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Corner Brook NL A2H 6J8
jeffpickett@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: **AUGUST 16, 2022**

File No: **550-01-01-11-071**

Permit No: **PRO12603-2022**

Permit Holder: **Aguathuna Drafting and Consulting Company Ltd**



Attention:



Re: **Mainland - Caribou Brook PPWSA - Liner Replacement - ADC Engineering**

Permission was given for : **the replacement of the existing reservoir liner with a NSF certified liner in the Caribou Brook Protected Public Water Supply Area (used by the LSD of Mainland) with reference to the application dated June 09, 2022.**

I (the Permit Holder named above or agent authorized to represent the Permit Holder) do hereby certify that the project described above was completed in accordance with the plans and specifications submitted to the Department of Environment and Climate Change and that the work was carried out in strict compliance with the terms and conditions of the Permit issued for this project.

Date: _____ Signature: _____

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

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

APPENDIX D
Location Map for Permit

PRO12603-2022



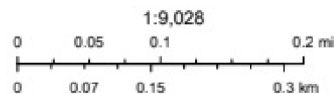
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Intakes / Wellheads

+ Intakes

Public Water Supplies

▨ Protected



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ArcGIS Web AppBuilder
Maxar | <http://open.canada.ca/en/open-government-licence-canada> | Esri Community Maps Contributors, Esri Canada, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, NRCAN, Parks Canada |