

AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 5503-DVZQ25
Issue Date: July 31, 2026

Big Rideau Enterprises Inc.
180 Kent St
Ottawa, Ontario
K1P 0B6

Site Location: 181 Enright Road - Aquaculture Research Facility
Tyendinaga Township, County of Hastings

You have applied under section 20.2 of Part II.1 of the Environmental Protection Act, R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:

the establishment of Works for the collection, transmission, treatment and disposal of approximately 1.528 cubic metres per day (1,528 L/day) of process wastewater from an aquaculture research facility (Pure Springs Research Facility) to a tributary of Parks Creek, located at the above Site address, operated by Big Rideau Enterprises Inc. producing up to 865 kilograms of fish annually, and consisting of the following:

PROPOSED WORKS

- A 9,000 L three-chamber settling tank providing approximately 5.9 days of retention time, equipped with an effluent filter, discharging effluent by gravity to the Waterloo WaterNOx-LS tank via a 100 mm diameter PVC pipe.
- A 4,800 L Waterloo WaterNOx-LS tank to treat nitrogen equipped with two chambers, the first chamber is filled with 2.1 m³ of denitrifying media (mixture of agricultural sulfur and limestone) and the second chamber consists of two baskets, each filled with 0.4 m³ of biofilter patented foam media. Treated effluent from Waterloo WaterNOx-LS tank discharges to a constructed pond/wetland by gravity via a 100 mm diameter underground PVC pipe.
- A 100 m² pond/wetland constructed with a filter bed consisting of 19 mm diameter clear limestone gravel and/or crushed shale placed over a non woven geotextile layer, complete with 150 mm diameter perforated distribution pipes embedded within the filter media, with a minimum of 250 mm of filter media above the pipes and 150 mm below them. The piping network consists of four perforated pipe runs, each at least 1.5 m in length and spaced at 1.0 m centre-to-centre to ensure uniform distribution of effluent across the wetland bed. The surface of the filter bed will be covered with a minimum 100 mm thick layer of sandy loam placed over the filter media. The pond/wetland will be planted with a diverse

mix of native species, including emergent vegetation along the perimeter and floating island plantings within the pond. These plantings are intended to enhance phosphorus uptake and provide additional nitrate reduction. Treated effluent from the pond/wetland will discharge to a vegetated swale, which will convey flow to a tributary of Parks Creek.

all other controls, electrical equipment, instrumentation, piping, pumps, valves and appurtenances essential for the proper operation of the aforementioned Works;

all in accordance with the submitted supporting documents listed in Schedule A.

For the purpose of this environmental compliance approval, the following definitions apply:

1. "Approval" means this entire document and any schedules attached to it, and the application;
2. "Director" means a person appointed by the Minister pursuant to section 5 of the EPA for the purposes of Part II.1 of the EPA;
3. "District Manager" means the District Manager of the appropriate local district office of the Ministry where the Works is geographically located;
4. "EPA" means the *Environmental Protection Act*, R.S.O. 1990, c.E.19, as amended;
5. "Grab Sample" means an individual sample of at least 1000 millilitres collected in an appropriate container at a randomly selected time over a period of time not exceeding 15 minutes;
6. "Licensed Engineering Practitioner" means a person who holds a licence, limited licence or temporary licence under the Professional Engineers Act, R.S.O. 1990, c. P.28;
7. "Ministry" means the ministry of the government of Ontario responsible for the EPA and OWRA and includes all officials, employees or other persons acting on its behalf;
8. "Owner" means Big Rideau Enterprises Inc. and its successors and assignees;
9. "OWRA" means the *Ontario Water Resources Act*, R.S.O. 1990, c. O.40, as amended
10. "Proposed Works" means those portions of the Works included in the Approval that are under construction or to be constructed;
11. "Source Protection Plan" means a drinking water source protection plan prepared under the *Clean Water Act, 2006*; and
12. "Works" means the approved sewage works, and includes Proposed Works, the sewage works described in the Owner's application, and this Approval.

You are hereby notified that this environmental compliance approval is issued to you subject to the terms and

conditions outlined below:

TERMS AND CONDITIONS

1. GENERAL CONDITION

1. The Owner shall ensure that any person authorized to carry out work on or operate any aspect of the Works is notified of this Approval and the conditions herein and shall take all reasonable measures to ensure any such person complies with the same.
2. Except as otherwise provided by these conditions, the Owner shall design, build, install, operate and maintain the Works in accordance with the description given in this Approval, and the application for approval of the Works.
3. Where there is a conflict between a provision of any document in the schedule referred to in this Approval and the conditions of this Approval, the Conditions in this Approval shall take precedence, and where there is a conflict between the documents in the schedule, the document bearing the most recent date shall prevail.
4. Where there is a conflict between the documents listed in the Schedule submitted documents, and the application, the application shall take precedence unless it is clear that the purpose of the document was to amend the application.
5. The Conditions of this Approval are severable. If any Condition of this Approval, or the application of any requirement of this Approval to any circumstance, is held invalid or unenforceable, the application of such condition to other circumstances and the remainder of this Approval shall not be affected thereby.

2. CHANGE OF OWNER

1. The Owner shall notify the District Manager and the Director, in writing, of any of the following changes within thirty (30) days of the change occurring:
 - a. change of Owner or operating authority, or both;
 - b. change of address of Owner or operating authority or address of new owner or operating authority;
 - c. change of partners where the Owner is or at any time becomes a partnership, and a copy of the most recent declaration filed under the *Business Names Act, R.S.O. 1990, c. B.17* shall be included in the notification;
 - d. change of name of the corporation and a copy of the most current information filed under the *Corporations Information Act, R.S.O. 1990, c. C.39* shall be included in the notification;

2. In the event of any change in ownership of the Works, the Owner shall notify in writing the succeeding owner of the existence of this Approval, and a copy of such notice shall be forwarded to the District Manager.
3. The Owner shall ensure that all communications made pursuant to this condition refer to the number of this Approval.

3. EXPIRY OF APPROVAL

1. This Approval will cease to apply to those parts of the Works which have not been constructed within **five (5) years** of the date of this Approval.
2. In the event that completion and commissioning of any portion of the Works is anticipated to be more than five (5) years, the Owner shall submit an application for extension at least **twelve (12) months** prior to the end of the five (5) years from the day of issuance of this Approval. The application shall include the reason(s) for the delay, whether there is any design change(s) and a review of whether the standards applicable at the time of Approval of the Works are still applicable at the time of request for extension, to ensure the ongoing protection of the environment.

4. CONSTRUCTION AND AS-BUILT DRAWING

1. The Owner shall ensure that the construction of the Works is supervised by a Licensed Engineering Practitioner.
2. The Owner shall ensure that the Waterloo WaterNOx-LS treatment system is installed in accordance with the manufacturer's installation manual.
3. Within **six (6) months** of the Works being Commissioned, the Owner shall prepare a statement, certified by a Licensed Engineering Practitioner that the Works are constructed in accordance with this Approval, and upon request, shall make the written statement available for inspection by Ministry staff.
4. Within **six (6) months** of the Works being Commissioned, the Owner shall prepare a set of as-built drawings showing the Works "as constructed". "As-built" drawings shall be kept up to date through revisions undertaken from time to time and a copy shall be retained at the site for the operational life of the Works and shall be made available for inspection by Ministry staff.

5. OPERATIONS AND MAINTENANCE

1. The Owner shall ensure that, at all times, the Works and the related equipment and appurtenances used to achieve compliance with this Approval are properly operated and maintained. Proper operation and maintenance shall include effective performance, adequate funding, adequate staffing and training, including training in all procedures and other requirements of this Approval and the OWRA and regulations, process controls and alarms

and the use of process chemicals and other substances used in the Works.

2. The Owner shall prepare an operations manual within **six (6) months** of the introduction of sewage to the Works, that includes, but not necessarily limited to, the following information:
 - a. operating procedures for routine operation of all the Works;
 - b. inspection programs, including frequency of inspection, for all the Works and the methods or tests employed to detect when maintenance is necessary;
 - c. repair and maintenance programs, including the frequency of repair and maintenance for all the Works; copies of maintenance contracts for any routine inspections and sludge pump-outs should be included for all the tanks and treatment units;
 - d. procedures for the inspection and calibration of monitoring equipment;
 - e. a spill prevention control and countermeasures plan, consisting of contingency plans and procedures for dealing with equipment breakdowns, potential spills and any other abnormal situations, including notification of the Spills Action Centre (SAC) and District Manager; and
 - f. procedures for receiving, responding and recording public complaints, including recording any follow-up actions taken.
3. The Owner shall maintain an up to date operations manual and make the manual readily accessible for reference at the Works for the operational life of the Works. Upon request, the Owner shall make the manual available to Ministry staff.
4. The Owner shall, upon completion of construction, prepare and make available for inspection by Ministry staff, a maintenance agreement with the manufacturer for the treatment process/technology or its authorized agent. The maintenance agreement must be retained at the site and kept current for the operational life of the Works.
5. The Owner shall employ for the overall operation of the Works a person who possesses the level of training and experience sufficient to allow safe and environmentally sound operation of the Works.
6. The Owner shall retain for a minimum of **five (5) years** from the date of their creation, all records and information related to or resulting from the operations and maintenance activities required by this Approval.

6. EFFLUENT OBJECTIVES

1. The Owner shall use best efforts to design, construct and operate the Works with the objective that the concentrations of the materials listed as effluent parameters under the

effluent objectives table in **Schedule B** are not exceeded in the effluent from the Works.

2. The Owner shall include in all reports a summary of the efforts made and results achieved under this Condition.

7. EFFLUENT LIMITS

1. The Owner shall design, construct and operate the Works such that the concentrations of the materials listed as effluent parameters under the effluent limits table in **Schedule B** are not exceeded in the effluent from the Works.
2. For the purposes of determining compliance with and enforcing subsection (1), non-compliance with respect to a Concentration Limit is deemed to have occurred when any single grab sample analyzed for a parameter named in Column 1 of the effluent limits table in **Schedule B** is greater than the corresponding maximum concentration set out in Column 2 of the effluent limits table in **Schedule B**.

8. SLUDGE MANAGEMENT

1. Solid waste materials accumulating in the treatment, settling tank and pond shall be periodically removed and disposed.
2. In the event that inadequate sludge storage capacity is available, additional capacity must be provided by the Owner or the excess sludge must be transported off-site for disposal through an approved waste management system.
3. The Owner may use other reasonable, practicable alternatives not described in subsections (1) and (2), but is presented in writing and found to be acceptable by the District Manager.

9. INFLUENT AND EFFLUENT MONITORING AND RECORDING

The Owner shall, upon commencement of operation of the sewage Works, carry out the following monitoring program:

1. All samples and measurements taken for the purposes of this Approval are to be taken at a time and in a location characteristic of the quality and quantity of the effluent stream over the time period being monitored.
2. Samples shall be collected and analyzed at the sampling point(s), at the sampling frequencies and using the sample type specified for each parameter listed in the effluent monitoring table included in **Schedule B**.
3. The methods and protocols for sampling, analysis, toxicity testing, and recording shall conform, in order of precedence, to the methods and protocols specified in the following:
 - a. the Ministry's publication "Protocol for the Sampling and Analysis of

Industrial/Municipal Wastewater" (January 1999), ISBN 0-7778-1880-9, as amended from time to time by more recently published editions; and,

- b. the publication "Standard Methods for the Examination of Water and Wastewater" (21st edition) as amended from time to time by more recently published editions.
4. The Owner shall record the daily volume of influent flow with an accuracy of +/-10%.
5. After two (2) years, the District Manager may alter the frequencies and locations of sampling and parameters for analysis required by the Approval if he/she considers it necessary for proper assessment of the quality of the effluent or if he/she is requested to do so in writing by the operating authority and considers it acceptable by the evidence of information submitted in support of the request.
6. The Owner shall keep a log book of operations of the Works. This book shall contain, but not be limited to the following:
 - a. the frequency of cleaning of the settling facilities;
 - b. dates of cleaning the settling tanks, ponds or rearing tanks;
 - c. the results of all analytical and flow monitoring including sample collection dates;
 - d. operational problems and corrective measures taken by the operating authority that had a bearing on effluent quality; and
 - e. sludge volumes generated.
7. The Owner shall retain for a minimum of five (5) years from the date of their creation, all records and information related to or resulting from the monitoring activities required by this Approval.

10. REPORTING

1. One (1) week prior to the start up of the operation of the Works, the Owner shall notify the District Manager (in writing) of the pending start up date.
2. The Owner shall report to the District Manager or designate, any exceedance of any parameter specified in **Condition 7** orally, as soon as reasonably possible, and in writing within seven (7) days of the exceedance.
3. In addition to the obligations under Part X of the EPA and O. Reg. 675/98 (Classification and Exemption of Spills and Reporting of Discharges) made under the EPA, the Owner shall, within fifteen (15) days of the occurrence of any reportable spill as provided in Part X of the EPA and O. Reg. 675/98, submit a full written report of the occurrence to the District Manager describing the cause and discovery of the spill, clean-up and recovery measures

taken, preventative measures to be taken and a schedule of implementation.

4. The Owner shall prepare and submit a performance report to the District Manager on an annual basis within **ninety (90) days** following the end of the period being reported upon. The first such report shall cover the first annual period following the commencement of operation of the Works and subsequent reports shall be submitted to cover successive annual periods following thereafter. The reports shall contain, but shall not be limited to, the following information:
 - a. a summary of weight or numbers of fish for each species handled during the period reported upon. In addition, the amount of fish food used during the period and during peak months shall be reported;
 - b. a summary and interpretation of the water quality monitoring results and a discussion of the results of the investigations for each reported exceedance related to **Condition 6 and 7**. A statement shall also be included in this section to indicate the measures the operating authority proposes to take to prevent any future exceedance of the compliance limits, if applicable. A schedule of implementation shall also be reported;
 - c. assessment of the effectiveness of cleaning and maintenance operations to improve or maintain the desirable effluent quality;
 - d. sludge volume generated;
 - e. operational problems and corrective measures taken by the operating authority that had a bearing on effluent quality;
 - f. proposals for other structural or operational changes and proposed time frame for implementation. It should be noted that major changes may require a new application for approval to be filed with the Ministry;
 - g. any other operational aspects relating to waste quality or quantity (such as type and quantity of feed on a monthly basis; chemicals used for algae and disease control, etc); and
 - h. a copy of the log referred to in Condition 9 shall be submitted as an appendix to the annual report each year.
5. After two (2) years, the reporting programs under this section may be altered on the written authorization of the District Manager.

11. CONTINGENCY MEASURES

1. If the concentrations of the final effluent monitored at Sampling Point SP3 exceed any of the effluent objectives specified in Schedule B for six (6) consecutive months, while remaining below the corresponding effluent limits, the Owner shall notify the District Office and

consult with the Director and the District Manager regarding the implementation of appropriate contingency measures such as upgrades or modifications to the treatment system to achieve compliance with the effluent objectives.

2. Where contingency measures are implemented as approved by the Director, and subsequently demonstrate satisfactory performance for two (2) consecutive months, the Owner shall submit an application to amend this Approval to incorporate the approved contingency measures into the treatment works.
3. If the concentrations of the final effluent monitored at Sampling Point SP3 exceed any of the effluent limits specified in Schedule B for three (3) consecutive months, discharge of effluent to the environment shall cease immediately. The Owner shall arrange for the off-site hauling and disposal of the effluent at a facility authorized to receive such waste until the treatment system has been restored to compliance and written authorization to resume discharge has been obtained from the Director.
4. Compliance with subsection 3 of Condition 11 shall commence three (3) months after the commissioning of the Works to allow for the initialization and stabilization of the treatment system.

Schedule A

1. Application for Environmental Compliance Approval submitted signed and submitted by Connor Elliott, Research Scientist, Big Rideau Enterprises Inc. on December 13, 2024, and received on September 11, 2025 for the approval of the proposed sewage works, including design report, final plans and specifications.

Schedule B

Effluent Objectives Table

(measured at the discharge outlet of the Pond/Wetland, identified as monitoring location SP3 on Site Plan Drawing C-101, included in the Design Brief prepared by Groundwork Engineering dated October 2024 (PDF page 12))

Effluent Parameter	Concentration Objective (milligrams per litre unless otherwise indicated)
Total Suspended Solids	8
Total Phosphorous	0.10
pH (all inclusive)	6.5-8.5

Effluent Limits Table

(measured at the discharge outlet of the Pond/Wetland, identified as monitoring location SP3 on Site Plan Drawing C-101, included in the Design Brief prepared by Groundwork Engineering dated October 2024 (PDF page 12))

Effluent Parameter	Concentration Limit (milligrams per litre unless otherwise indicated)
Total Suspended Solids	10
Total Phosphorous	0.15
pH (all inclusive)	6.0-9.5

Influent Monitoring Table*

Sampling Location	upstream of the Treatment System
Frequency	Monthly
Sample Type	Grab
Parameters	BOD5 Total Suspended Solids (TSS) Total Kjeldahl Nitrogen (TKN) Total Phosphorus (TP)

* The sampling frequency and parameters may be modified in accordance with Condition 9.5 of this Approval after two (2) years of monitoring.

Effluent Monitoring Table*

Sampling Location	measured at the discharge outlet of the Pond/Wetland, identified as monitoring location SP3 on Site Plan Drawing C-101, included in the Design Brief prepared by Groundwork Engineering dated October 2024 (PDF page 12)
Frequency	Monthly
Sample Type	Grab
Parameters	CBOD ₅ Total Suspended Solids (TSS) Total Phosphorus (TP) Total Ammonia Nitrogen (TAN) Nitrate Nitrogen Nitrite Nitrogen Total Kjeldhal Nitrogen (TKN) pH (field and lab) Temperature (field) Un-ionized ammonia**

*The sampling frequency and parameters may be modified in accordance with Condition 9.5 of this Approval after two (2) years of monitoring.

**the concentration of un-ionized ammonia shall be calculated using the total ammonia nitrogen (TAN) concentration, field pH and field temperature using the methodology stipulated in "Ontario's Provincial Water Quality Objectives" dated July 1994, as amended.

The reasons for the imposition of these terms and conditions are as follows:

1. Condition 1 regarding general provisions is imposed to ensure that the Works are built and operated in the manner in which they were described for review and upon which approval was granted. This condition is also included to emphasize the precedence of Conditions in the Approval and the practice that the Approval is based on the most current document, if several conflicting documents are submitted for review.
2. Condition 2 regarding change of Owner and Operating Agency is included to ensure that the Ministry records are kept accurate and current with respect to ownership and Operating Agency of the Works and to ensure that subsequent owners of the Works are made aware of the Approval and continue to operate the Works in compliance with it.
3. Condition 3 regarding expiry of approval is included to ensure that, when the Works are constructed, the Works will meet the standards that apply at the time of construction to ensure the ongoing protection of the environment.
4. Condition 4 regarding construction of proposed works/record drawings is included to ensure that the Works are constructed in accordance with the Approval and that record drawings of the Works

"as-built" are updated and maintained for future references.

5. Condition 5 regarding operation and maintenance is included to require that the Works be properly operated, maintained, funded, staffed and equipped such that the environment is protected and deterioration, loss, injury or damage to any person or property is prevented. As well, the inclusion of a comprehensive operations manual governing all significant areas of operation, maintenance and repair is prepared, implemented and kept up-to-date by the Owner. Such a manual is an integral part of the operation of the Works. Its compilation and use should assist the Owner in staff training, in proper plant operation and in identifying and planning for contingencies during possible abnormal conditions. The manual will also act as a benchmark for Ministry staff when reviewing the Owner's operation of the Works.
6. Condition 6 regarding design objectives is imposed to establish non-enforceable design objectives to be used as a mechanism to trigger corrective action proactively and voluntarily before environmental impairment occurs.
7. Condition 7 regarding compliance limits is imposed to ensure that the Final Effluent discharged from the Works to the environment meets the Ministry's effluent quality requirements.
8. Condition 8 regarding sludge management is included to ensure that any sludge generated by the Works is properly managed, handled, and disposed of in a manner that protects human health and the natural environment.
9. Condition 9 regarding monitoring and recording is included to enable the Owner to evaluate and demonstrate the performance of the Works, on a continual basis, so that the Works are properly operated and maintained at a level which is consistent with the design objectives and compliance limits.
10. Condition 10 regarding reporting is included to provide a performance record for future references, to ensure that the Ministry is made aware of problems as they arise, and to provide a compliance record for this Approval.
11. Condition 11 regarding contingency measures is included to ensure that appropriate contingency measures are implemented in a timely manner in the event of treatment performance issues, thereby minimizing the potential for adverse environmental impacts and protecting the natural environment.

Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s). 4-087-85-006 issued on December 10, 1985

In accordance with Section 139 of the *Environmental Protection Act*, you may by written notice served upon me, the Ontario Land Tribunal and in accordance with Section 47 of the *Environmental Bill of Rights*, 1993, the Minister of the Environment, Conservation and Parks, within 15 days after receipt of this notice, require a hearing by the Tribunal. The Minister of the Environment, Conservation and Parks will place notice of your appeal on the Environmental Registry. Section 142 of the *Environmental Protection Act* provides that the notice

requiring the hearing ("the Notice") shall state:

- a. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
- b. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

Pursuant to subsection 139(3) of the *Environmental Protection Act*, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

1. The name of the appellant;
2. The address of the appellant;
3. The environmental compliance approval number;
4. The date of the environmental compliance approval;
5. The name of the Director, and;
6. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

Registrar*
Ontario Land Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5
OLT.Registrar@ontario.ca

and

The Minister of the Environment,
Conservation and Parks
777 Bay Street, 5th.Floor
Toronto, Ontario
M7A 2J3

and

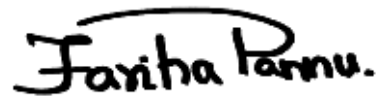
The Director appointed for the purposes of
Part II.1 of the *Environmental Protection Act*
Ministry of the Environment,
Conservation and Parks
40 St. Clair Avenue West, 2nd Floor
Toronto, Ontario
M4V 1M2

*** Further information on the Ontario Land Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349 or 1 (866) 448-2248, or www.olt.gov.on.ca**

This instrument is subject to Section 38 of the *Environmental Bill of Rights*, 1993, that allows residents of Ontario to seek leave to appeal the decision on this instrument. Residents of Ontario may seek leave to appeal within 15 days from the date this decision is placed on the Environmental Registry. By accessing the Environmental Registry at <https://ero.ontario.ca/>, you can determine when the leave to appeal period ends.

The above noted activity is approved under s.20.3 of Part II.1 of the *Environmental Protection Act*.

DATED AT TORONTO this 31st day of July, 2026



Fariha Pannu, P.Eng.
Director
appointed for the purposes of Part II.1 of the
Environmental Protection Act

MK/

c: Area Manager, MECP Belleville

c: District Manager, MECP Kingston - District
Martin Burger, Groundwork Engineering Limited