

ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 3602-BULLZ6

Issue Date: December 1, 2020

Lafarge Canada Inc.
6509 Airport Road
Mississauga, Ontario
L4V 1S7

Site Location: McAdoo Quarry
Lots 26, 27 and 28, Concession IV
City of Kingston, County of Frontenac
K7L 4V4

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 sewage Works for the collection, transmission, treatment and disposal of up to 12,184 L/min of water (including precipitation, stormwater runoff, snowmelt and groundwater) accumulating within the confines of the existing 58.8 ha extraction area of the McAdoo Quarry, in the City of Kingston, discharging via an existing drainage ditch located in the low lying valley along the escarpment of Tuttle Hill and an existing eastern roadside ditch located along Perth Road to the Little Cataraqui Creek, consisting of the following:

- a dewatering sump located on the quarry floor, at the north-west corner of the quarry site and periodically relocated in the quarry floor as extraction operations advance, having a surface area of approximately 4,300 m², a storage volume of approximately 25,000 m³ and a depth of approximately 5.8 m, complete with an emergency overflow channel located at the north-west corner of the sump, the sump housing an appropriately sized pumping arrangement with a discharge rate not to exceed 12,184 L/min and controlled manually or by float switches, discharging to an existing approximately 1.6 m wide and 0.2 deep on-site drainage ditch located at the west boundary of the quarry site and complete with silt barriers and via an existing drainage ditch located in the low lying valley along the escarpment of Tuttle Hill and an existing eastern roadside ditch located along Perth Road to the Little Cataraqui Creek;
- all other controls, electrical equipment, instrumentation, piping, valves and appurtenances essential for the proper operation of the aforementioned sewage Works.

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

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

"Approval" means this entire document and any schedules attached to it, and the application;

"District Manager" means the District Manager of the Kingston District Office of the Ministry;

"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;

"EPA" means the *Environmental Protection Act*, R.S.O. 1990, c.E.19, as amended;

"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;

"Owner" means Lafarge Canada Inc. and its successors and assignees;

"OWRA" means the *Ontario Water Resources Act*, R.S.O. 1990, c. O.40, as amended; and

"Works" means the sewage works described in the Owner's application, this Approval and in the supporting documentation referred to herein, to the extent approved by 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 PROVISIONS

(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 A, 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.

(6) The issuance of, and compliance with the conditions of, this Approval does not:

- a) relieve any person of any obligation to comply with any provision of any applicable statute, regulation or other legal requirement, including, but not limited to, the obligation to obtain approval from the local conservation authority/MNRF necessary to construct or operate the sewage Works; or
- b) limit in any way the authority of the Ministry to require certain steps be taken to require the Owner to furnish any further information related to compliance with this Approval.

2. EXPIRY OF APPROVAL

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.

3. CHANGE OF OWNER

(1) The Owner shall notify the District Manager and the Director, in writing, of any of the following changes within 30 days of the change occurring:

- (a) change of Owner;
- (b) change of address of the Owner;
- (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.B17 shall be included in the notification to the District Manager; or
- (d) change of name of the corporation where the Owner is or at any time becomes a corporation, and a copy of the most current information filed under the Corporations Information Act, R.S.O. 1990, c. C39 shall be included in the notification to the District Manager.

(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 and the Director.

(3) The Owner shall ensure that all communications made pursuant to this condition will refer to this Approval's number.

4. OPERATION AND MAINTENANCE

- (1) The Owner shall ensure that at all times, the Works and related equipment and appurtenances which are installed or used to achieve compliance with this Approval are properly operated and maintained. The Owner shall also ensure that all monitoring and visual inspection programs and maintenance schedules for the Works and related equipment are complied with.
- (2) The Owner shall make all necessary investigations, take all necessary steps and obtain all necessary approvals so as to ensure that the physical structure, siting and operations of the sewage Works do not constitute a safety or health hazard to the general public.
- (3) The Owner shall ensure that the maximum discharge rate from the Works does not exceed 12,184 L/min.
- (4) The Owner shall ensure that recyclable asphalt is not stored within 30 metres of a body of water or within two metres of the groundwater table, which shall include but not be limited to the dewatering sump and the on-site drainage ditch located at the west boundary of the quarry site.
- (5) The Owner shall ensure that in the event of a spill or other contaminant release which could cause any detrimental effects on the quality of water (including precipitation, stormwater runoff, snowmelt and groundwater) discharging from the site, any pumping activities are immediately ceased. Furthermore, the Owner shall ensure that any pumping activities are resumed only after an investigation of the incident is undertaken, remedial and preventive measures are taken (if necessary) and the effluent discharged from the site is deemed not to cause any impairment to the receiving groundwater or downstream receiving waters.
- (6) The Owner shall ensure that the design storage volume in the dewatering sump is maintained at all times.
- (7) During the period of discharge, the Owner shall undertake monthly visual inspections of the dewatering sump and the on-site drainage ditch located at the west boundary of the quarry site and have excess settled material cleaned-out, as necessary, with results recorded in a log book.
- (8) The Owner shall periodically measure the amount of sediment accumulating in the dewatering sump and remove the sediment, if necessary, to ensure continued suspended solids removal performance of the dewatering sump, with results recorded in a log book..
- (9) The Owner shall maintain a logbook to record the results of these inspections and any cleaning and maintenance operations undertaken, and shall keep the logbook at the site. The logbook shall include the following:
 - (a) the name of the works;
 - (b) the name of the inspector who conducted each inspection;
 - (c) the date and results of each inspection, description of maintenance and cleaning, including an

estimate of the quantity of any materials removed and method of clean-out of the Works; and

(d) upon request, make available the logbook for inspection and copying by Ministry personnel.

(10) 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 operation and maintenance activities required by this Approval.

(11) In furtherance of, but without limiting the generality of, the obligation imposed by subsection (1), the Owner shall ensure that equipment and material for the containment, clean-up and disposal of oil and fuel and materials contaminated with oil or fuel are kept on hand and in good repair for immediate use in the event of:

(a) loss of oil or fuel during refuelling or equipment maintenance;

(b) a spill within the meaning of Part X of the EPA; and /or

(c) the identification of an abnormal amount of oil or fuel in the dewatering sump and the on-site drainage ditch located at the west boundary of the quarry site.

(12) Within three (3) months of the issuance date of this Approval, the Owner shall prepare an operations manual for the operation of the Works that includes, but is not necessarily limited to, the following information:

(a) operating procedures for routine operation of the Works; including reduction or termination of discharge during major rain events, if necessary;

(b) inspection programs, including frequency of inspection for the Works and the methods or tests employed to detect when maintenance is necessary, as well as downstream receiving waters inspections for the occurrence of erosion and flooding;

(c) repair and maintenance programs, including the frequency of repair and maintenance for the Works;

(d) contingency plans and procedures for dealing with potential exceedance of the Effluent Limits. The contingency plan shall cover the entire operational life of the sewage Work;

(e) contingency plans and procedures for dealing with potential spill, bypasses and any other abnormal situations and for notifying the District Manager. The contingency plan shall cover the entire operational life of the sewage Work; and

(f) complaint procedures for receiving and responding to public complaints.

(13) The Owner shall maintain the operations manual up to date through revisions undertaken from time

to time and retain a copy at the location of the sewage Works. Upon request, the Owner shall make the manual available for inspection and copying by Ministry personnel.

5. EFFLUENT LIMITS

(1) The Owner shall design, construct, operate and maintain the Works such that the concentrations of the materials named below as effluent parameters are not exceeded in the effluent discharged from the dewatering sump:

Table 1 - Effluent Limits	
Effluent Parameters	Concentration Limits (milligrams per litre unless otherwise indicated)
<i>Column 1</i>	<i>Column 2</i>
Total Suspended Solid (TSS)	25
pH of the effluent maintained between 6.0 to 9.5, inclusive, at all times	

(2) For the purposes of determining compliance with and enforcing subsection (1), non-compliance with respect to the Total Suspended Solids concentration limit and pH limit is deemed to have occurred when any single grab sample analyzed for Total Suspended Solids is greater than 25 milligrams per litre, and any single measurement for pH is out of the 6.0 - 9.5 range.

6. EFFLUENT - VISUAL OBSERVATIONS

(1) Notwithstanding any other condition in this Approval, the Owner shall ensure that the effluent from the Works is essentially free of floating and settleable solids and does not contain oil or any other substance in amounts sufficient to create a visible film, sheen or foam on the receiving waters.

(2) Notwithstanding any other condition in this Approval, the Owner shall ensure that the effluent from the Works shall not cause flooding or erosion on the receiving waters.

7. EFFLUENT QUALITY MONITORING AND RECORDING

The Owner shall, upon issuance of this Approval, 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 following sampling locations, at the sampling frequencies and using the sample type specified for each parameter listed:

Table 2 - Effluent Monitoring	
Sampling Location	Discharge Point (SW1) from the dewatering sump - the outlet forcemain of the appropriately sized pumping arrangement
Sampling Frequency	Three (3) times per year (spring, summer and fall) during periods of effluent discharge
Sampling Type	Grab
Sampling Parameters	<ul style="list-style-type: none"> - General chemistry including Alkalinity, Total Suspended Solids, Total Dissolved Solids, Total Phosphorus, Total Kjeldahl Nitrogen, Total Ammonia Nitrogen, Nitrite Nitrogen, Nitrate Nitrogen, Chloride, Conductivity, Sulphate, Carbonate, Bicarbonate, Phenols (4AAP); - Metals (Hardness, Al, As, Ba, Be, B, Cd, Ca, Co, Cr, Cu, Fe, Pb, Mg, Mn, Mo, Ni, Ag, Si, Hg, K, Na, Sr, Tl, Ti, V & Zn); - BOD₅, Chemical Oxygen Demand, Dissolved Inorganic Carbon, Dissolved Organic Carbon; - Petroleum Hydrocarbon Fraction F1 (C6-C10), Petroleum Hydrocarbon Fraction F2 (>C10-C16), Petroleum Hydrocarbon Fraction F3 (>C16-C34), Petroleum Hydrocarbon Fraction F4 (>C34); - Polycyclic Aromatic Hydrocarbons (PAHs); and - pH (field), Temperature (field)

Table 3 - Effluent Monitoring	
Sampling Location	Effluent discharged from the emergency overflow channel of the dewatering sump
Sampling Frequency	At the beginning of any emergency overflow event from the dewatering sump
Sampling Type	Grab
Polycyclic Aromatic Hydrocarbons (PAHs)	<ul style="list-style-type: none"> - General chemistry including Alkalinity, Total Suspended Solids, Total Dissolved Solids, Total Phosphorus, Total Kjeldahl Nitrogen, Total Ammonia Nitrogen, Nitrite Nitrogen, Nitrate Nitrogen, Chloride, Conductivity, Sulphate, Carbonate, Bicarbonate, Phenols (4AAP); - Metals (Hardness, Al, As, Ba, Be, B, Cd, Ca, Co, Cr, Cu, Fe, Pb, Mg, Mn, Mo, Ni, Ag, Si, Hg, K, Na, Sr, Tl, Ti, V & Zn); - BOD₅, Chemical Oxygen Demand, Dissolved Inorganic Carbon, Dissolved Organic Carbon; - Petroleum Hydrocarbon Fraction F1 (C6-C10), Petroleum Hydrocarbon Fraction F2 (>C10-C16), Petroleum Hydrocarbon Fraction F3 (>C16-C34), Petroleum Hydrocarbon Fraction F4 (>C34); - Polycyclic Aromatic Hydrocarbons (PAHs); and - pH (field), Temperature (field)

(3) Samples of groundwater shall be collected at the location and frequency specified below, by means of the specified sample type and analyzed for each parameter listed and all results recorded:

Table 4 - Groundwater Quality Monitoring	
Sampling Location	Monitoring well (18 MW-1) located at the north-west corner of the quarry site
Sampling Frequency	Three (3) times per year (spring, summer and fall)
Sampling Type	Grab
Sampling Parameters	Total Dissolved Solids, Nitrite Nitrogen, Nitrate Nitrogen, Chloride, Copper, Iron, Polycyclic Aromatic Hydrocarbons (PAHs), pH (field), Temperature (field), Conductivity (field)

(4) The methods and protocols for sampling, analysis and recording shall conform, in order of precedence, to the methods and protocols specified in the following:

- (a) the Ministry's Procedure F-10-1, "Procedures for Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works (Liquid Waste Streams Only), as amended from time to time by more recently published editions;

(b) 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

(c) the publication "Standard Methods for the Examination of Water and Wastewater" (21st edition), as amended from time to time by more recently published editions.

(5) The Owner shall measure, record and calculate the discharge rate and volume of water pumped from the quarry on a daily basis during the discharging period.

(6) The measurement frequencies specified in subsection (2) in respect of any parameter are minimum requirements which may, after one (1) year of monitoring in accordance with this Condition, be modified by the Director in writing from time to time.

(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.

8. REPORTING

(1) The Owner shall forthwith orally report to the District Manager or designate, any exceedence of any parameter specified in Condition 5, and in writing within seven (7) days of the exceedence, as defined in Condition 5(2).

(2) In addition to the obligations under Part X of the *Environmental Protection Act*, the Owner shall, within 10 working days of the occurrence of a reportable spill, bypass or loss of any product, by product, intermediate product, oils, solvents, waste material or any other polluting substance into the environment, submit a full written report of the occurrence to the District Manager describing the cause and discovery of the spill or loss, clean-up and recovery measures taken, preventative measures to be taken and schedule of implementation.

(3) 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 reports shall contain, but shall not be limited to, the following information:

(a) a summary and interpretation of all monitoring data collected pursuant to Condition 7 and a comparison to the Effluent Limits outlined in Condition 5 and the Provincial Water Quality Objective and/or Ontario Drinking Water Objective for the monitored parameter, including an overview of the success and adequacy of the Works;

(b) a tabulation of the total daily discharge rate and volume from the quarry;

(c) a summary and description of events when any pumping activities were ceased pursuant to Condition 4(4);

(d) an assessment of the impact of the quarry discharge on the receiving groundwater and downstream receiving waters;

- (e) a description of any operating problems encountered and corrective actions taken;
- (f) a summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the sewage Works;
- (g) a summary of any effluent quality assurance or control measures undertaken in the reporting period;
- (h) a summary of the calibration and maintenance carried out on all effluent monitoring equipment;
- (i) a summary of any complaints received during the reporting period and any steps taken to address the complaints;
- (j) a summary of any by-pass, spill or abnormal discharge events; and
- (k) any other information the District Manager requires from time to time.

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

1. Condition 1 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 is imposed 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.
3. Condition 3 is imposed to ensure that the Ministry records are kept accurate and current with respect to approved 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.
4. Condition 4 is imposed to ensure that a comprehensive operations manual governing all significant areas of operation, maintenance and repair is prepared, implemented and kept up-to-date by the Owner and made available to the Ministry. 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 Work. Furthermore, the condition is imposed to ensure that the Works are constructed, and may be operated and maintained such that the environment is protected and deterioration, loss, injury or damage to any person or property is prevented.

5. Conditions 5 and 6 are imposed to ensure that the effluent discharged from the Works meets the Ministry's effluent quality requirements thus minimizing environmental impact on the receiver.
6. Condition 7 is imposed to require the Owner to demonstrate on a continual basis that the quality of the effluent from the approved Works is consistent with the effluent limits specified in the Approval and that the approved Works do not cause any impairment to the receiving watercourse.
7. Condition 8 is imposed to provide a performance record for future references and to ensure that the Ministry is made aware of problems as they arise, so that the Ministry can work with the Owner in resolving the problems in a timely manner.

Schedule A forms part of this Approval and contains a list of supporting documentation/information received, reviewed and relied upon in the issuance of this Approval.

SCHEDULE A

1. Environmental Compliance Approval Application submitted by Anthony West, P.Eng., Senior Geo-Environmental Engineer/Department Manager, Morrison Hershfield Limited, dated October 11, 2019 and received October 16, 2019.
2. The design report titled "Engineering Report and Impact Assessment, Industrial Sewage Works for Discharge, Lafarge McAdoo Quarry, Lot 26, 27 and 28, Concession IV, Geographic Township of Kingston, Kingston, Ontario" dated October 10, 2019 and prepared by Morrison Hershfield Limited.
3. All other information and documentation provided by Morrison Hershfield Limited as it relates to this application.

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me, the Environmental Review 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 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.

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:

The Secretary*
Environmental Review Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5

AND

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

AND

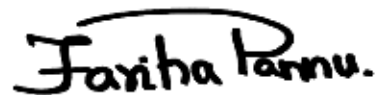
The Director appointed for the purposes of
Part II.1 of the Environmental Protection Act
Ministry of the Environment,
Conservation and Parks
135 St. Clair Avenue West, 1st Floor
Toronto, Ontario
M4V 1P5

*** Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 326-5370 or www.ert.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 1st day of December, 2020



Fariha Pannu, P.Eng.

Director

appointed for the purposes of Part II.1 of the
Environmental Protection Act

KC/

c: District Manager, MECP Kingston District Office

Anthony West, P.Eng., Senior Geo-Environmental Engineer/Department Manager, Morrison Hershfield
Limited