

## **THE ISSUE OF QUARRY FLY ROCK**

**June 2021**

### **ADVISORY TO REGISTERED PROFESSIONAL PLANNERS** ***Prepared by Mark L. Dorfman, RPP, and George McKibbin, RPP***

On January 1, 2022, Rule 22 of subsection 0.13 in Ontario Regulation 244/97 of the *Aggregate Resources Act*, comes into effect. It stipulates that the licensee of an aggregate quarry shall ensure that the quarry is in compliance with the Rule as follows:

a licensee shall take all reasonable measures to prevent fly rock from leaving the site during blasting if a sensitive receptor is located within 500 metres of the boundary of the site.

Fly Rock discharge from quarry blasting is a contaminant as determined by the Supreme Court of Canada. It is likely to cause an adverse effect under the *Environmental Protection Act*.

Members of OPPI are advised to also consider the directions provided under Policy 1.2.6 under Provincial Policy Statement 2020 to establish the appropriate municipal planning policies as a preventative measure to achieve land use compatibility between quarries that undertake blasting and sensitive land uses.

### **Aggregates Resources Act and O. Reg. 244/97**

The issue of blasting rock in a quarry is addressed by the Ministry of Natural Resources and Forestry ("MNR") in consideration of applications for a licence under the Act. As of **April 21, 2021**, Ontario Regulation 244/97 under the *Aggregate Resources Act*, was amended to provide the following licence conditions and standards:

#### Licence Conditions

- No blasting on a holiday, or between 6 p.m. and 8 a.m.
- The Licensee shall monitor all blasts for ground vibration and blast overpressure.
- The Licensee shall prepare blast monitoring reports according to provincial guidelines on limits of blast overpressure and ground vibration for blasting operations.
- The Licensee shall retain blast monitoring reports for a period of seven years after each blast.

The MNRF Standards require the following for applications:

### **Blast Design Report**

In the application for a licence to extract or remove more than 20,000 tonnes of aggregate annually, a Blast Design Report is required to be submitted by the applicant if a sensitive receptor is located within 500 metres of the limit of extraction. The Report must demonstrate that provincial guideline, NPC-119-blasting, for blast overpressure and ground vibration can be satisfied.

### **Site Operations Plan**

The applicant's Operations Plan must:

- (a) provide details about the frequency and timing of blasts;
- (b) provide the number of sensitive receptors that are located within 500 metres of the boundary of the site and the distance from this boundary to each sensitive receptor. A sensitive receptor is defined as a school, childcare centre, or any residence or facility at which at least one person sleeps.

### **Land Use Compatibility - Provincial Policy Statement 2020**

Section 1.2.6 sets out provincial policies with respect to Land Use Compatibility. In particular, Section 1.2.6.1 applies to the consideration by MNRF and municipalities of proposed quarries as a defined "Major Facility", as follows:

*Major facilities and sensitive land uses shall be planned and developed to avoid, or if avoidance is not possible, minimize and mitigate any potential adverse effects from odour, noise and other contaminants, minimize risk to public health and safety, and to ensure the long-term operational and economic viability of major facilities in accordance with provincial guidelines, standards and procedures.*

This policy is mandatory and it is to be considered by the ministries and the municipalities.

Conversely, where sensitive land uses are proposed in the vicinity of an existing or planned quarry (major facility), the Province directs the municipalities to apply the following provincial policy 1.2.6.2:

Where avoidance is not possible in accordance with policy 1.2.6.1, planning authorities shall protect the long-term viability of existing or planned industrial, manufacturing or other uses that are vulnerable to encroachment by ensuring that the planning and *development* of proposed adjacent *sensitive land uses* are only permitted if the following are demonstrated in accordance with provincial guidelines, standards and procedures:

- a) there is an identified need for the proposed use;
- b) alternative locations for the proposed use have been evaluated and there are no reasonable alternative locations;
- c) *adverse effects* to the proposed *sensitive land use* are minimized and mitigated; and
- d) potential impacts to industrial, manufacturing or other uses are minimized and mitigated.

### **The Legal Obligations**

The Supreme Court of Canada considered an appeal by Castonguay Blasting Ltd. and dismissed the appeal in favour of the Province of Ontario. The Court decided (October 17, 2013) that "Castonguay was required to report the discharge of fly-rock forthwith to the Ministry of the Environment" (Paragraph 40). In its decision, the Court stated the following relevant reasons:

Applying these elements to this case, s. 15(1) was clearly engaged. Castonguay "discharged" fly-rock, large pieces of rock created by the force of a blast, into the "natural environment". There is also no doubt that fly-rock meets the definition of "contaminant". The discharge in this case was "out of the normal course of events" - it was an accidental consequence of Castonguay's blasting operation. Had the blast been conducted routinely, the fly-rock would not have been thrust into the air. (Paragraph 37).

The adverse effects were not trivial. The force of the blast, and the rocks it produced, were so powerful they caused extensive and significant property damage, penetrating the roof of a residence and landing in the kitchen. A vehicle was also seriously damaged. The fly-rock could easily have seriously injured or killed someone. (Paragraph 39).

The *Environmental Protection Act* is preventive with respect to the discharge of contaminants. The Act and the Regulations apply to prevent the accidental impact of fly rock. Since the licensee is required to keep fly rock on the site during blasting, any discharge of fly rock beyond the controlled blast environment that is not a normal event, ie. it would have been prevented, must be reported forthwith to the MECP if the contaminant may likely cause an adverse effect. The Ministry may issue an order for remediation and preventive measures.

### **Analysis**

The only provision for regulating and managing fly rock at a quarry site is contained in Ontario Regulation 244/97 under the *Aggregate Resources Act*. New quarries that are licenced after January 1, 2022, are required:

"to take all reasonable measures to prevent fly rock from leaving the site during blasting if a sensitive receptor is located within 500 metres of the boundary of the site".

These following observations should be considered by Planners:

- There are no provincial government guidelines that indicate how the licensee is to keep fly rock within the quarry site when blasting.
- The Act and/or the Regulation do not indicate how the proponent is to take all reasonable measures to demonstrate that fly rock can be contained within the quarry site during blasting.
- At least one existing sensitive receptor must be located within 500 metres of the licenced boundary. There is no obligation if a new sensitive receptor is located within 500 metres after the quarry is operational.
- If there are vacant lots that are designated and/or zoned for sensitive receptors, these are not recognized by this obligation.
- If during blasting, fly rock discharges off the site within the 500 metre area, the municipality should be aware of the obligation to report this contamination forthwith to MECP.
- If there are other features such as roads, railways, infrastructure, outdoor recreation areas, waterways, that are located within 500 metres of the boundary of the quarry site, there is no obligation to keep fly rock within the quarry site during blasting if there are no sensitive receptors identified.

Blasting is referred to in section 49 of O. Reg. 419/05 "Air Pollution - Local Air Quality". There is a prohibition on the emission of any contamination beyond the limits of the property upon which blasting is being carried out.

*This Advisory was prepared by Mark L. Dorfman, RPP, and George McKibbin, RPP. The views expressed within the Advisory are their own based on research of existing legislation, policies and court records.*

*This is not legal advice. Members should rely on relevant laws, standards, by-laws, regulations and legislation that govern this issue.*