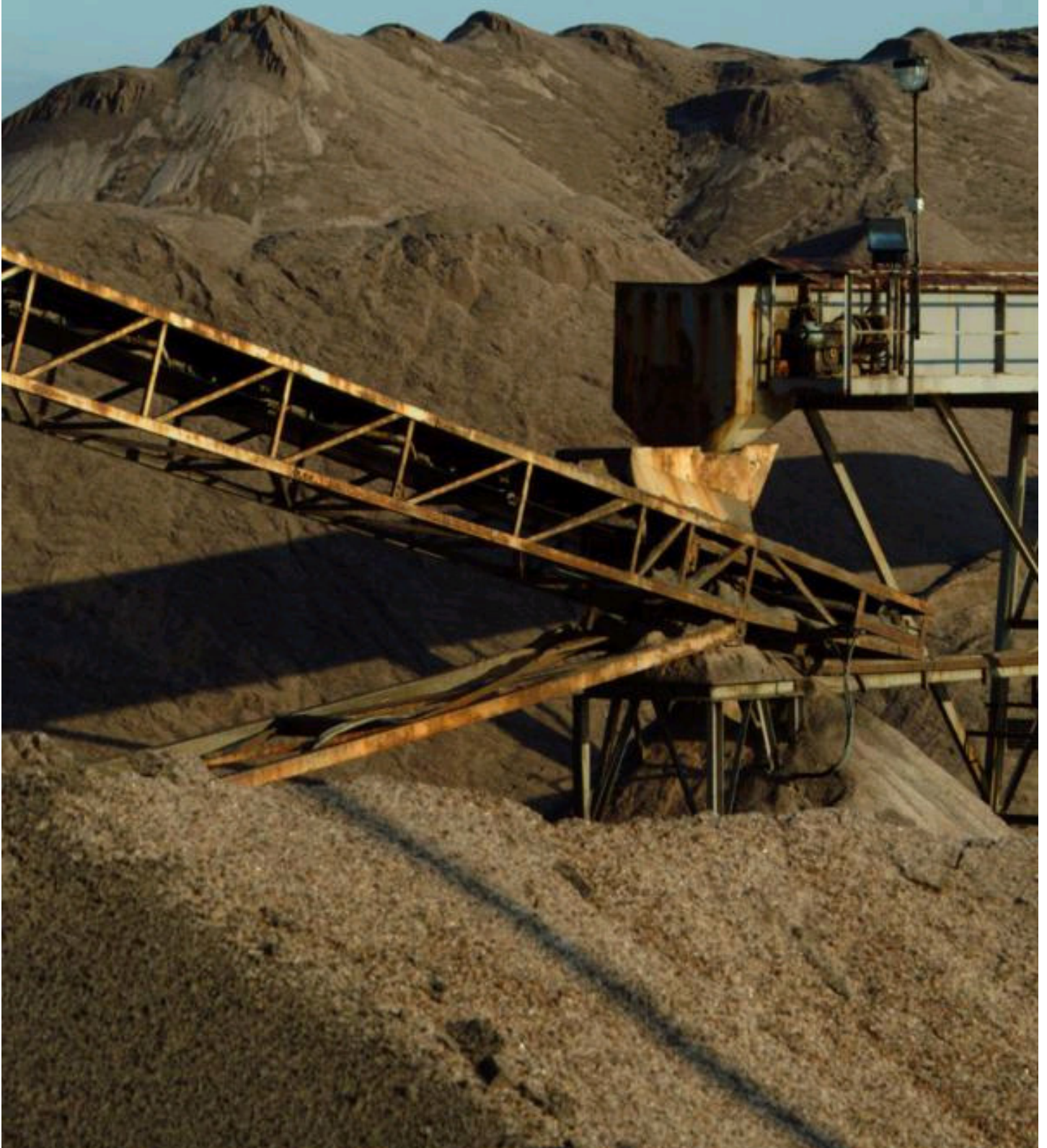


Gravel can be the pits!

Environmental Law Centre
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Who regulates gravel pits?

Alberta Environment regulates pits on private land (including municipal land)¹ that are equal to or larger than 12.5 acres in area (Class I pits). The size calculation includes infrastructure. These pits are regulated under the *Environmental Protection and Enhancement Act* and the *Code of Practice for Pits*². These pits require a registration under the Act and must comply with the Code. There are approximately 1052 pit registrations in Alberta.

All pits that divert or use water are regulated under the Alberta *Water Act*, regardless of size or location. However, pit dewatering is normally exempted from the requirement to apply for a diversion licence. Moreover, groundwater use in gravel pits is specifically exempted from a groundwater assessment in many cases. All other water uses or diversions will be regulated using the approval or licence provisions in the *Water Act*. These authorizations are administered by Alberta Environment.

Alberta Sustainable Resource Development regulates pits on public land, not including provincial parks (meaning provincial Crown land, and including the beds and shores of permanent natural water bodies). They do this through surface mineral dispositions under the Public Lands Act.

Federal departments such as Parks Canada, Indian Affairs or Department of National Defence may authorize gravel pits on federal lands including Indian Reserves, National Parks, federal ports and Military land. The authorization required varies depending on the lands in question.

Transport Canada and the Federal Department of Fisheries and Oceans may need to authorize a gravel extraction project under federal legislation if it occurs in a waterway or damages fish habitat.

Municipal governments may regulate pits through specialized bylaws for pits, zoning bylaws, land use bylaws, municipal development plans and by issuing development permits. These will vary by municipality.

Who owns gravel?

The *Law of Property Act*, (s.58) indicates that sand and gravel are owned by the surface owner if it can be extracted from the surface. The *Mines and Minerals Act* defines gravel, sand and clay as minerals, but these operations are not usually "mined", but are instead extracted from the surface. In the latter case they are deemed not to be minerals by the *Mines and Minerals Act*.

How are gravel pits defined in law?

Gravel pits are regulated in a distinct manner from quarries and mines. Section 58 of the *Law of Property Act* deems gravel and sand operations not to be mines. The *Environmental Protection and Enhancement Act* s.1(xx) defines gravel "pits" as distinct from "quarries" for shale, quartz, sandstone etc. and mines.³

Small pits on private land

Small pits on private land will not be subject to the *Code of Practice* but are subject to the *Guidelines for the Environmental Management of Pits*, however these are non-binding and have not been updated since 1996.⁴ It is optional for a small pit to obtain a registration and comply with the code of practice. Small pits will still need Water Act authorizations unless they qualify for a licence exemption.

There are estimated to be 1,500 to 2,000 smaller pits on private land in Alberta

¹ Private land is intended to include all patented land, including Metis settlements and Provincial Parks

² Alberta Environment, *Code of practice for pits under the EPEA* (September 2004) <http://www.qp.alberta.ca/documents/codes/PITS.PDF> and see the guide to the code of practice for pits (October 2004) <http://environment.gov.ab.ca/info/library/5997.pdf>

³ s.1 (xx) "pit" means any opening in, excavation in or working of the surface or subsurface made for the purpose of removing sand, gravel, clay or marl and includes any associated infrastructure, but does not include a mine or quarry; The *Schedule of Activities* (s.5) lists the construction, operation or reclamation of (b) a mine, quarry, or pit as an activity.

⁴ <http://environment.gov.ab.ca/info/library/6870.pdf>

Large pits on private land

There are approximately one thousand of these registered in Alberta. Gravel, sand or clay pits greater than 12.5 acres on private land⁵ are "pits" for the purposes of registration under the *Environmental Protection and Enhancement Act (EPEA)* (s.3(3)(d) and Schedule 2 (b)) and are subject to the *Code of Practice for Pits*. However, a "pit" does not include:

- a. a borrow excavation (for example used in the construction of a road or dam)
- b. a pit on public land
- c. pits not disturbed since 1978
- d. pits containing with waste management facilities operating pursuant to a valid approval or registration.

A pit also does not include a quarry for shale, quartz, sandstone etc. or a mine.

The size calculation includes all associated infrastructure, buildings, roads etc.

The *Code of practice for Pits* requires the following:

- Permission from registered owner of the property
- Reclamation security payment to Alberta Environment, based on an estimate (\$250/acre plus third party cost of reclamation)
- Final reclamation reporting
- An activities plan, including:
 - A wide variety of pit descriptions (size, material, soil conditions etc.)
 - cross section scale drawings of pit conditions (including groundwater)
 - Depth to groundwater from test holes
 - determination of whether gravel washing, salt, asphalt, hydrocarbons or wet excavation will be used.
 - mitigation measures for the above
 - discharge points for pit water
 - reclamation drawings including surface water bodies and groundwater
 - description of surface water bodies in reclaimed pit
 - Pit water monitoring for pH, suspended solids, hydrocarbons (including release limits)
 - Topsoil salvage
 - Contravention reporting to Alberta Environment
 - Five year report (general description of pit, size, layout etc.) no water monitoring reporting.

Registrations under *EPEA* are governed by the process in the *Approvals and Registrations Procedure Regulation*. This provides that among other items the application should include:

- the environmental impacts resulting from the activity, wastes produced and substances released
- Conservation and reclamation plans

These requirements may be enforced by Alberta Environment inspections and enforcement action under *EPEA*.

The Director at Alberta Environment has the power to order a public meeting or may request information from persons directly affected, but does not have to do so, or issue public notice. There is therefore no formal notice or statement of concern or appeal process for these registrations. The registration provisions do not provide for registration conditions beyond the code of practice.

Director may register the activity under Part 2 Division 2 of EPEA

- No requirements for approval/refusal other than application content requirements.
- No provision relating to conditions for registrations (approvals only)
- Director's discretion
- No environmental impact assessment
- Registrations are not subject to approval requirements! (Notice/Consultation/Appeal)
- Do not expect to see a public notice of application for registration or an opportunity to file a statement of concern.

⁵ see note 1

Note that the Director at Alberta Environment does have the discretion to convert the registration to an approval (s.66.1) in which case there would be public notice and consultation (statements of concern) and appeal rights triggered (s.72-73). The Minister also has discretion under s.64 to order that a registration is not in the public interest. There is no formal process for requesting these decisions from the Director or the Minister.

Water use and the *Water Act*

The use of water in gravel pits is potentially required for gravel washing, pit dewatering, pits in watercourses, culverts, bridges etc.

The *Water Act* requires an approval for activities and works and licences to divert water (use for any purpose). However, the *Water (Ministerial) Regulation* provides an exemption for a diversion of water for the purpose of dewatering a sand and gravel site or construction site if:

- (i) the water diverted as a result of the dewatering is
 - (A) moved into and retained in an on-site pit, without using the water, or
 - (B) diverted back into a water body without using the water, if the water is equal to or of the same quality as the water that was originally diverted,
- (ii) the dewatering site, the water body and the on-site pit referred to in subclause (i) are hydraulically connected,
- (iii) there is no adverse effect on the aquatic environment or on a household user, licensee or traditional agriculture user, and

The *Groundwater Evaluation Guideline* includes a policy on water diversions for sands and gravels adjacent to a waterbody, and this indicates that groundwater from pits will normally be treated as a surface diversion and will require a diversion licence if the exemption does not apply. However, no groundwater evaluation will be done unless the diversion licence exemption does not apply or where development of a spring will increase the groundwater flow rate.

A typical water act approval for a gravel operation does not contain strict water quality provisions or require groundwater monitoring.

Pits on public land

Pits on public lands, include only those pits that are on unpatented provincial Crown land. This does not include provincial parks. It does include the beds and shores of surface water bodies.⁶

These pits are regulated under the *Dispositions and Fees Regulation* (Part 7) and the process is described in the *Guide to Surface Materials Licences on Public Land*. This process is administered by the Sustainable Resource Development Land Management Branch.

Authorizations for pits on public land fall into three categories:

- a) Public Pit licences
- b) Surface Material Licences
- c) Surface Material Leases

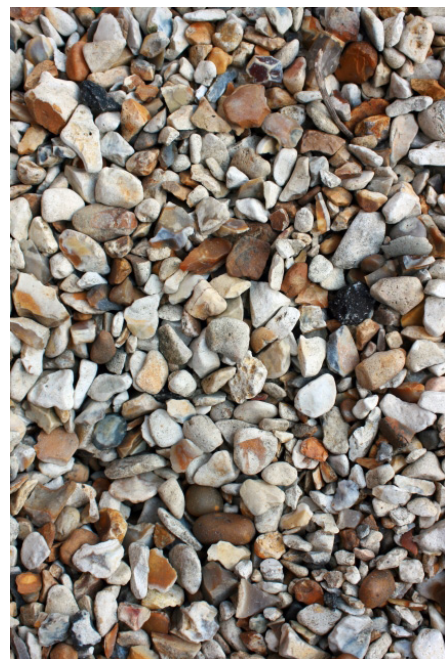


Image: Simon Howden / FreeDigitalPhotos.net

⁶ Aquifers are not treated as “public lands” under the Act. The term “water body” is not defined in the *Public Lands Act*, but there is no indication in that Act that it was intended to include aquifers. The inclusion of aquifers in this definition would be highly problematic from a *Law of Property Act* perspective, because it would conflict with any provisions of that Act that deal with subsurface material. Accordingly, the province owns the water under the *Water Act* but not the physical aquifer.

These are subject to the Alberta Aggregate Allocation Policy. A Public Pit licence application results in "instant approval" for specific volumes, and is for lands set aside by SRD for this purpose. A surface material licence applies to a small volume for up to one year and can be obtained easily. A surface material lease is for large projects (large in area, for long periods of time). These are subject to more requirements as well as a reclamation certificate.

Surface material licences and leases are only provided when there is "adequate" environmental protection and the issuance fits with regional land management objectives. The applicant can appeal a refusal to issue on the grounds that it can address environmental concerns. This appeal is internal to SRD.

A surface material licence or lease may contain various conditions, including environmental conditions.

These are subject to reclamation requirements under the *Environmental Protection and Enhancement Act*. A conservation and reclamation plan is required on public lands where the pit is within a floodplain, or environmentally sensitive area, or if it is over five acres. Site assessments and buffer zones are usually required for pits on public lands and are described in the Guide.

Reporting does not include particulate matter or other monitoring parameters used in EPEA Code of Practice.

There is a misperception among some members of the public that pits are prohibited on public lands. Note that the prohibitions on entry, waste, etc. on public lands are subject to authorizations by the Director and any dispositions, such as those listed above.

Municipal processes

Jurisdiction

The *Municipal Government Act* provides that a council may pass bylaws for municipal purposes including the following matters:

- (a) the safety, health and welfare of people and the protection of people and property;
- (c) nuisances, including unsightly property;
- (d) transport and transportation systems;
- (e) businesses, business activities and persons engaged in business;

Municipal bylaws passed under any of these headings can regulate or prohibit, or deal with different activities or industries in different ways. They can also require licences, permits or approvals that may prohibit any development, activity, industry, business or thing until a licence has been granted and providing terms and conditions for licences.

Municipalities also have the control and management of rivers, streams, watercourses, lakes and other natural bodies of water within the municipality, including above and below (not including minerals).⁷

Municipal bylaws must be consistent with provincial laws, but the existence of another provincial law dealing with the same issue does not make the bylaw "inconsistent" unless it is impossible to comply with both.

All of the above are potentially applicable to the regulation of gravel pit operations. "Inconsistency" means only an operational conflict, which usually must amount to the impossibility of complying with both the bylaw and the provincial law. Moreover, municipalities have full powers to regulate waterways.

⁷ See *Municipal Government Act* s.60(1). Under the *Mines and Minerals Act*, "minerals" includes gravel, sand, clay and marl, but does not include them where they are accessible from the surface and owned by the surface owner under the *Law of Property Act*. Accordingly, gravel is not a "mineral" for the purpose of s.60(2).

Bylaws

Under s.181 of the *Municipal Government Act*, there must be a public meeting for the passing of a bylaw, resolution or committee resolution. Each bylaw has three distinct readings. Amendment process is the same as passing the bylaw.

Participation in meetings

Members of the public have a right to be present at council meetings under s.198. Public meetings must be advertised and everyone is entitled to attend (s.227).

Public hearings are required before the second reading of a bylaw or before a resolution is voted on and must take place at a special council meeting. At a public hearing council must hear any person, group of persons, or representative who claims to be affected. This is subject to the process set out in any bylaws for public hearings (s.230).

Municipal Development Plans

Municipalities with more than 3500 persons require a development plan which must address future land uses within the municipality. MDPs may address environmental matters within a municipality. (s.632) The municipality must allow representations for any person who may be affected by the plan and notify the public of plan preparations (s.636). The adoption of the plan does not obligate a municipality to undertake projects in it. A public hearing is required before it is adopted. (s.692).

Land use bylaw

Every municipality must have a land use bylaw (s.639). This bylaw will set out the method for decisions on development permits including the types of permits, application processing, conditions that may be in a permit. A land use bylaw may also provide for the excavation and filling of land. This includes the power to regulate land within a specified distance of a water body, and any non-conforming development permits. Public hearings and notice (s.606) are required before land use bylaws can be adopted (s.692).

Development permits

Under s.683 unless the land use bylaw indicates otherwise, a person may not commence any development without a development permit issued under the land use bylaw. Municipalities have only 40 days before there is a deemed refusal of the application.

A person applying for a permit or a person affected by it may appeal to the subdivision and development appeals board (s.685). However, no appeal lies for a permitted use unless the land use bylaw was relaxed, varied or misinterpreted. Notice of appeal must be filed within 14 days. A hearing must be held within 30 days. The process for development permits varies between municipalities according to the land use bylaw.

Appendix – Important Case Comments

An early municipal jurisdiction case over gravel pits was *Uxbridge Township v. Timber Brothers Sand and Gravel Ltd.*,⁸ in that case the *Ontario Planning Act* explicitly provided for the power for municipalities to make bylaws prohibiting pits and quarries in certain areas. Uxbridge Township had imposed a bylaw providing land uses and residential setbacks for pits and quarries. A further bylaw regulated the operation of pits including rehabilitation and safety requirements.

The court interpreted this to allow only the prohibition of new pits, not the regulation of existing ones. The court considered that the *Municipal Act* in Ontario provided the power to regulate the “operation” of pits and quarries. The operator challenged an Uxbridge Township bylaw on (among other grounds) the basis that the province already regulated quarry rehabilitation and setbacks. The court found that the Municipality could provide additional setbacks:

The provincial legislation does no more than set the minimum set-back requirements or standards and in no way attempts to restrict the right of a municipality to enhance these standards. This the municipality may do provided it acts within its delegated legislative powers and does not enact provisions in by-laws which are inconsistent with statutory provisions.

The court held that municipal setbacks that were less than those provided for in provincial legislation were invalid. The court allowed an injunction against the pit based on the other portions of the gravel regulation bylaw.

This case was referenced by the Supreme Court of Canada in *Spraytech*⁹ specifically for the proposition that municipalities may regulate the environment more than the province does.

The SCC went on to hold that general welfare provisions in municipal statutes, including in Alberta, authorize environmental regulation within a municipality relating to pesticides, notwithstanding the existence of provincial laws relating to the same subject.

⁸ [1975] O.R. (2d) 484 (Ont. C.A.) Leave to appeal to Supreme Court of Canada Dismissed.

⁹ 114957 Canada Ltée (Spraytech, Société d'arrosage) v. Hudson (Town), [2001] 2 S.C.R. 241, 2001 SCC 40



Appendix – Cumulative Effects Issues

The cumulative effect of a large number of aggregate extraction projects in an area as they relate to the hydrological functions of the watershed need to be assessed to fully understand the impact of an aggregate proposal or series of proposals. These can consist of:

- modifications to the hydrologic cycle locally
- change in aquifer water levels and redistribution from aquifers to surface water
- changes in groundwater flow paths
- poor quality groundwater flow downwards after dewatering
- contamination of groundwater due to surface exposure
- removal of filter material in aquifer

The aquatic impacts of an aggregate extraction project will vary depending on the proximity to surface water features, scale, operation and location within groundwater flow features, the nature of the groundwater flow features (example, karst features), groundwater recharge issues (such as return flow of poorer quality groundwater) and discharge of groundwater with too many suspended solids, etc.

In-stream operations and operations which disturb karst features and groundwater recharge areas are likely to have the most impacts.

Alberta Environment's treatment of cumulative effects issues in *Water Act* applications has been criticized by the Environmental Appeals Board.

In *Court v. Director*¹⁰ the appellant challenged a gravel approval on the basis that the application was not complete and that the approval failed to account for cumulative effects on air quality, among other issues. The EAB stated that it would not consider cumulative effects in determining whether Ms. Court had standing. It did however, go on to criticize the Director for failing to consider cumulative effects.

[218] ... in the Board's view, the Director, in deciding whether or not to issue and approval, is required to take into account the environmental circumstances in which the proposed activity is to take place. This requirement is consistent with the purposes of EPEA found in section 2 where it speaks of the integrity of ecosystems and the principles of sustainable development... and with section 6 of the *Approvals and Registration Procedure Regulation* where it requires consideration of the impacts of the activity on the environment and the consideration of site suitability.

...[221] In the Board's opinion, it is important for the decision maker to consider whether a "standard procedure" is appropriate in a given circumstance. When a statutory decision-maker, such as the Director, makes a decision, she can certainly refer to a standard policy... to assist her in making that decision. However, she cannot just summarily defer to that policy....

[229] During the hearing, the Board was presented with a number of different "permissible standards" for the various emissions and sound levels. The Board notes that Alberta does not have guidelines for gravel operations, however, the Board is of the view that the Director should be able to tell potential approval holders, as well as the public, what levels she will use to determine the feasibility of a project.... the Board believes the Director should know the permitted levels in the province, otherwise it would appear virtually impossible for the Director to make an informed and fair, decision.

However because the applicant was not directly affected the appeal was dismissed.

¹⁰ <http://www.eab.gov.ab.ca/dec/01-096-D.pdf>

In a judicial review of that decision the Court of Queen's Bench set aside the EAB's order as being patently unreasonable. The Court decisions are important because they indicate that cumulative effects issues in gravel operations have legal significance. Unfortunately for the particular application, the appeal against Lafarge was withdrawn. The final approval for that facility does not contain any cumulative air quality conditions and can be viewed online.¹¹

Since the process has been moved to registrations and exempted from various Water Act licences there is no longer the same opportunity to express concerns and appeal, nor the same opportunity to impose conditions that may mitigate those concerns about cumulative effects.

¹¹ <http://envext02.env.gov.ab.ca/pdf/00150612-00-00.pdf>

Appendix – Gravel Pit Information Sources

Environmental

Alberta Geological Survey, Aggregate Resources by Region

Maps including active pits and deposits for municipal areas

<http://www.ags.gov.ab.ca/publications/pubs.aspx?series=map>

Groundwater reports and data

http://www.ags.gov.ab.ca/publications/abstracts/OFR_2009_02.html

Groundwater Information Centre

<http://www.envinfo.gov.ab.ca/GroundWater/>

Gravel Watch

<http://www.gravelwatch.org>

Ontario Sand and Gravel Association – Gravel and Groundwater

<http://www.ontariossga.com/Downloads/publicationsPFDs/Groundwater2010.pdf>

Cumulative Effects and Aggregate best practices for Groundwater

http://www.grandriver.ca/policyplanningregulations/Aggregatebestpractices_April2009.pdf

Ontario Ministry of Natural Resources – Aggregate and Groundwater

http://www.mnr.gov.on.ca/stdprodconsume/groups/lr/%40mnr/%40aggregates/documents/document/mnr_e000024.pdf

Pembina Institute – Rebalancing the Load, aggregate extraction policy in Ontario

<http://pubs.pembina.org/reports/Aggregatesfinal-web2.pdf>

US policy on gravel extraction

<http://swr.nmfs.noaa.gov/hcd/gravelsw.htm>

Legal

All Pits:

[Water Act](#)

[Water \(Ministerial\) Regulation](#) – Schedule 3

[Groundwater evaluation Guideline](#) – Appendix C “Policy on water diversions from sand and gravel adjacent to a water body”

[Administrative guide to approvals to protect surface water bodies](#)

[Code of practice for watercourse crossings](#)

[Guide to code of practice for watercourse crossings](#)

[Conservation and Reclamation Regulation](#)

Large pits on private land only:

[Environmental Protection and Enhancement Act](#)

[Activities Designation Regulation](#)

[Approvals and Registrations Procedure Regulation](#)

[Code of Practice for Pits](#)

[Guide to Code of Practice for Pits](#)

Code of practice for Pit Reclamation

Small pits on private land:

[Guidelines for Environmental Protection](#)

Pits of any size on public lands:

[Public Lands Act](#)

[Dispositions and fees Regulation](#) – Part 7 Surface

Materials Disposition

[Guide to Surface Materials Applications on Public Land](#)

(*Alberta Aggregate Allocation Policy*)

[Guidelines for Environmental Protection](#)

ENVIRONMENTAL LAW CENTRE



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