

**Aggregate  
Resources  
of Ontario:**  
Technical  
Reports and  
Information  
Standards

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## Recommended References

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When applying for a licence, aggregate permit or wayside permit and depending on the location of the proposed site, the applicant may wish to pre-consult with agencies that will be circulated the application for review.

The following is a list of references that applicants may find useful when preparing the information described in the above standards:

- a. Provincial Policy Statement and associated technical guidance material (e.g. the natural heritage reference manual);
- b. *Endangered Species Act, 2007*
- c. *Federal Species at Risk Act*
- d. Federal Fisheries Act and Associated Guidelines;
- e. Oak Ridges Moraine Conservation Plan (e.g., Oak Ridges Moraine Conservation Plan and Technical Paper)
- f. The Greenbelt Plan, (e.g., Greenbelt Technical Paper)
- g. A Place to Grow: Growth Plan for the Greater Golden Horseshoe
- h. *Niagara Escarpment Planning and Development Act* and Niagara Escarpment Plan
- i. *Lake Simcoe Protection Act*, and Lake Simcoe Protection Plan
- j. Growth Plan for Northern Ontario
- k. Parkway Belt West Plan
- l. Central Pickering Development Plan
- m. Northern Ontario Growth Plan
- n. Zoning by-law(s);
- o. Official Plan(s);
- p. Crown Land Use Planning Atlas and associated land use direction/plans (e.g., Community Based Land Use Plans)
- q. Applicable Resource Management Plans (e.g., Forest Management Plans (FMP))
- r. *Ontario Heritage Act*, associated regulations, standards, guidelines and guidance documents

- s. Association of Professional Geoscientists of Ontario Professional Practices Guidelines for Groundwater Resources
- t. *Ontario Water Resources Act*;
- u. *Conservation Authorities Act*;
- v. *Clean Water Act, 2006*
- w. *Environmental Protection Act* and technical guidelines, including for noise, dust and blasting;
- x. *Environmental Assessment Act*

The above list serves only as a guide and should not be interpreted as all-inclusive

For additional information please visit Ontario's website

[Aggregate Resources](#)

Or

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## Aggregate Resources of Ontario: Technical Reports and Information Standards

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This Standard has two parts which must accompany all applications:

- 1) a summary statement, which can be authored by the applicant where the applicant possesses appropriate qualifications and experience, and
- 2) technical reports, which are to be authored by qualified individuals where specified.

All technical reports and information described below must be submitted electronically in PDF format.

An applicant for a licence must furnish information satisfactory to the Minister describing the zoning by-laws applicable to the site and adjacent lands.

### **For the purpose of this Standard:**

**“ground water table”** means

- a) for unconsolidated surficial deposits, the ground water table is the surface of an unconfined water-bearing zone at which the fluid pressure in the unconsolidated medium is atmospheric. Generally, the ground water table is the top of the saturated zone.
- b) for confined water bearing zones or consolidated bedrock materials, the ground water table, or potentiometric surface, is a level that represents the fluid pressure in the water bearing zone and is generally defined by the level to which water will rise in a well.

Note: The ground water table is not static and is expected to vary from location to location and over time.

**“maximum predicted water table”** means the maximum ground water elevation (metres above sea level) predicted by a qualified person who has considered conditions at the site and mean annual precipitation levels. For confined water bearing zones the ground water table is the level to which water will rise in a well.

**“mitigate”** means to alleviate, moderate or reduce the severity of impacts.

## Part 1.0: Summary Statement

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All applicants for a **Class A licence, Class B licence, aggregate permit or wayside permit** must complete and submit a summary statement that includes the name and title of the author and contains the following information:

- 1.1. The agricultural classification of the proposed site, using the Canada Land Inventory classes. For any lands being returned to agriculture use as part of rehabilitation, the proposed rehabilitation techniques must be identified.

Summary statements for applications for a **Class A licence, Class B licence or an aggregate permit** must include the following information:

- 1.2. Applicable planning and land use considerations that are relevant on or adjacent to where the proposed site will be located, such as provincial or Crown land plans/policies and municipal planning documents.
- 1.3. If the proposed site is in a source protection area under the *Clean Water Act*, identify activities proposed at the site that are drinking water threats set out in applicable source protection plans, and provide details of how relevant source water protection policies will be followed and associated mitigation measures that will be implemented.

Summary statements for applications for a **Class A licence** must include the following information:

- 1.4. The quality and quantity of aggregate on site
- 1.5. The main haulage routes and proposed truck traffic to and from the site as well as, applicable entrance permits
- 1.6. The progressive and final rehabilitation and the suitability of the proposed rehabilitation having regard to adjacent lands

Summary statements for applications for a **wayside permit** must include the following information:

- 1.7. The identification of the alternative resources of supply for the required aggregate

- 1.8. The estimated cost of the aggregate for the project as compared with that from any alternative sources of supply
- 1.9. The main haulage routes and proposed truck traffic to and from the site



## Part 2.0 Technical Reports

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Applications for a **Class A licence, Class B licence, or an aggregate permit** must include the following technical reports as described in the following sections of this Standard:

- 2.1 Maximum Predicted Water Table Report
- 2.2 Natural Environment Report
- 2.3 Cultural Heritage Report
- 2.4 Agricultural Impact Assessment Report (subject to specified criteria)
- 2.5 Water Report, where proposing to extract below the maximum predicted water table
- 2.6 Blast Design Report, where proposing a quarry that will be blasting (subject to specified criteria)

**Applications for a Class A licence or for an aggregate permit that would authorize the extraction or removal of more than 20,000 tonnes of aggregate per year** must include the following technical report as described in section:

- 2.7 Noise Assessment Report (subject to specified criteria)

Applications for a **wayside permit** must include the following technical reports as described in the following sections of this Standard:

- 2.1 Maximum Predicted Water Table Report
- 2.2 Natural Environment Report
- 2.3 Cultural Heritage Report
- 2.5 Water Report, where proposing to extract below the maximum predicted water table

All assessments in technical reports must contain the following information:

- Methodology, the approach or the series of steps taken to make determinations
- Data that supports the conclusions in the report
- Mitigative measures to address potential impacts
- Proposed contingency and mitigative measures that will be implemented if unforeseen impacts occur

Unless otherwise specified, all technical report(s) must be prepared by a person with appropriate training and/or experience.

Each report must state the qualifications and experience of the individual(s) that have prepared the report(s).

Technical Reports involving the study of ground water must be prepared by a qualified person. A qualified person means a registered Professional Geoscientist or exempted Professional Engineer with appropriate training and experience in accordance with the *Professional Geoscientists Act, 2000*. When the qualified person cannot conclusively determine that impacts to surface water features will not occur, an appropriate qualified person with expertise in surface water impacts needs to be consulted.

## **2.1 Maximum Predicted Water Table Report**

A report must be prepared that details how the maximum predicted water table is identified in metres above sea level, relative to the proposed depth of excavation at the site.

The maximum predicted water table shall be determined by monitoring the ground water table at the site for a minimum of one (1) year to account for seasonal variations and influences due to precipitation, unless alternative information already exists (e.g. previous hydrogeological study, existing well data) to support a determination of the maximum predicted water table by a qualified person.

An alternative method may be used for sites determining the maximum water table in Precambrian rocks of the Canadian Shield where it is difficult to determine the elevation of the water table. In such cases, the maximum predicted water table may be assumed at an elevation (metres above sea level) that is a minimum of 2.5 metres below the deepest sump or pond on the site, provided a qualified person develops and oversees a drilling and monitoring program to determine if the ground water table would be intercepted at the assumed maximum predicted water table.

The number of drill holes and seasonal monitoring frequency shall be determined by a qualified person based on site conditions.

## **2.2. Natural Environment Report**

The report must identify any of the following natural heritage features and areas that exist on the site and within 120 metres of the site:

- a) significant wetlands
- b) other coastal wetlands in Ecoregions 5E, 6E and 7E,
- c) fish habitat,
- d) significant woodlands and significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River)
- e) habitat of endangered species and threatened species,
- f) significant wildlife habitat,
- g) significant areas of natural and scientific interest,
- h) Within the area of one or more provincial plan(s), any key natural heritage features not included in (a) through (g)

Where any of the above features or areas have been identified, the report must identify and evaluate any negative impacts on the natural features or areas, including their ecological functions, and identify any proposed preventative, mitigative or remedial measures. The report must also identify if the site or any of the features, included in (a) through (g), are located within a natural heritage system that has been identified by a municipality in ecoregions 6E and 7E or by the province as part of a provincial plan.

For the purposes of this section, "provincial plan" means any one of the following plans:

- Oak Ridges Moraine Conservation Plan
- Greenbelt Plan
- A Place to Grow: Growth Plan for the Greater Golden Horseshoe
- Niagara Escarpment Plan
- Lake Simcoe Protection Plan

## **2.3 Cultural Heritage Report**

The report must be consistent with provincial requirements under the *Ontario Heritage Act* and the Provincial Policy Statement.

A completed screening checklist evaluating the potential for archaeological resources with supporting documentation is required. If the checklist identifies archaeological potential, an archaeological assessment report(s) must be completed by a licensed archaeologist. If an archaeological assessment is completed, letter(s) from the Ministry of Heritage, Sport, Tourism and Culture Industries must be obtained. If applicable, temporary avoidance and protection must be confirmed in the letter.

A completed screening checklist evaluating the potential for built heritage resources and cultural heritage landscapes with supporting documentation is required. If the checklist identifies the potential for built heritage resources and/or cultural heritage landscapes, a Cultural Heritage Evaluation Report is required and must be prepared by a person with appropriate experience and expertise. If the evaluation confirms one or more built heritage resources or cultural heritage landscapes, a Heritage Impact Assessment must be completed. If the application is on Crown Land or an unorganized territory, letter(s) from the Ministry of Heritage, Sport, Tourism and Culture Industries must be obtained.

## **2.4. Agricultural Impact Assessment Report**

An Agricultural Impact Assessment must be completed in accordance with provincial guidance where a provincial plan requires such an assessment for aggregate applications proposed in "prime agricultural areas".

For the purposes of this section, "provincial plan" means any one of the following plans:

- Oak Ridges Moraine Conservation Plan
- Greenbelt Plan
- A Place to Grow: Growth Plan for the Greater Golden Horseshoe
- Niagara Escarpment Plan

## 2.5. Water Report

Excavation at a pit proposed above the water table may not occur within 1.5 metres above the maximum predicted water table. Excavation at a quarry proposed above the water table may not occur within 2 metres above the maximum predicted water table.

Applications proposing to excavate below the maximum predicted water table must complete the following:

### **Water Report Level 1:**

Determine the potential for impacts to ground water and surface water resources and their uses (e.g. water wells, ground water aquifers, surface water courses and bodies, springs, discharge areas) and identify if the proposed site is in a Wellhead Protection Area for Quantity (WHPA-Q) set out in an applicable source water protection plan under the *Clean Water Act*. If so, identify applicable source water protection policies and mitigation measures that will be implemented at the site.

### **Water Report Level 2:**

Where the results of Level 1 have identified a potential for impacts from the aggregate site on ground water and/or surface water resources and their uses, an impact assessment is required. The assessment is to determine the significance of the effect and the potential for mitigation.

The assessment must address the potential effects of the operation on any ground water and surface water features located within the zone of influence, including but not limited to:

- a) water wells (includes all types e.g. municipal, private, industrial, commercial, geothermal and agricultural)
- b) springs (e.g., place where ground water flows out of the ground)
- c) ground water aquifers;
- d) surface water courses and bodies (e.g., lakes, rivers, brooks)

e) wetlands

The assessment must include but not be limited to the following:

- f) a description of the physical setting including local geology, hydrogeology, and surface water systems;
- g) proposed water diversion, discharge, storage and drainage facilities;
- h) water budget (e.g. how water is managed on-site);
- i) the possible positive or negative impacts that the proposed site may have on the water regime;

The Level 2 water report must also contain:

- j) monitoring plan(s); and
- k) technical support data in the form of tables, graphs and figures, usually appended to the report.

**For Aggregate Permits in a remote area:** Notwithstanding the requirements described above, a Level 1 and Level 2 Water Report is only required if the excavation limit of the proposed site is within 500 metres of a coldwater stream, 1000 metres of a water well (whether dug or drilled), or 5 kilometres of a sensitive receptor.

## 2.6. Blast Design Report

Applications for a Class A licence or for an aggregate permit, for a quarry that would authorize the extraction or removal of more than 20,000 tonnes of aggregate per year must complete the following:

A blast design report is required if a sensitive receptor is within 500 metres of the limit of excavation to demonstrate that provincial guidelines for blast overpressure and ground vibration can be satisfied.

## **2.7. Noise Assessment Report**

A noise assessment report is required if proposed excavation and/or processing facilities are:

- a) within 150 metres of a sensitive receptor, for a pit operation; or
- b) within 500 metres of a sensitive receptor, for a quarry operation.

The noise assessment report must determine if provincial noise guidelines for Stationary and Transportation Sources can be satisfied if the pit or quarry operation is carried out as proposed in the application.