

Ontario Regulation 98/12 Environmental Compliance Approval Application for Vertical Closed Loop Ground Source Heat Pumps

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General Information and Instructions

General Information:

Information requested in this form is collected under the authority of the Environmental Protection Act (EPA) and Environmental Bill of Rights (EBR), and will be used to evaluate applications for Environmental Compliance Approvals (ECAs) issued under Part II.1 of the EPA. This application form should be **used solely for vertical closed loop ground source heat pumps**.

For all questions related to preparing or submitting this form or about the Ministry of the Environment's collection of information related to applying for an ECA, contact:

Environmental Approvals Access and Service Integration Branch

2 St. Clair Ave. West, Floor 12A
Toronto, Ontario M4V 1L5

Telephone outside Toronto 1-800-461-6290
or in Toronto 416-314-8001

This office can also provide you with copies of application forms and supporting documentation.

Instructions:

1. Applicants are responsible for ensuring that they complete the most recent application form. Application forms and information about the required supporting documentation and technical requirements are available from the **Environmental Approvals Access and Service Integration Branch** (the address and phone number are provided in the General Information on this page). As well, you can get this information from your local District Office of the Ministry of the Environment, and on the Resources section of the Ministry of the Environment website at: www.ene.gov.on.ca/environment/en/resources/index.htm.
2. A complete application consists of:
 - a completed and signed application form including complete checklist;
 - all required supporting documents and technical requirements identified in:
 - i. this form,
 - ii. Instructions to Completing an Application for an Environmental Compliance Approval - Vertical Closed Loop Ground Source Heat Pumps,
 - iii. Ontario Regulation 98/12 - Ground Source Heat Pumps, and
 - payment of the application fee (in Canadian funds) by certified cheque or

money order made payable to the Minister of Finance, or credit card payment.

The Ministry may return incomplete applications to the applicant. The Director may require additional information of any application initially accepted as complete.

3. Submit the complete application as follows:
 - one (1) paper copy and the fee to the **Director, Environmental Approvals Access and Service Integration Branch** at the address provided in the General Information on this page.

For Office Use Only			
Reference Number	Payment Received	Date (yyyy/mm/dd)	Initials
	\$		

Application Summary

Applicant Name

Project Name

Ontario Regulation 98/12: Application for Multi-site ECA for Installing Vertical Closed Loop Ground Source Heat Pumps

Project Description

Required Information

	Completed (yes or no)			
Project Name and Description	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Fee Summary:	
Section 1: Applicant Information	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Administrative Processing	\$200
Section 2: Project Information	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Review of EPA s. 9 activities	\$1,200
Section 3: Work Plan Requirements	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Total Fee	\$1,400
Section 4: Supporting Documentation	<input type="checkbox"/> Yes	<input type="checkbox"/> No		
Section 5: Payment Information	<input type="checkbox"/> Yes	<input type="checkbox"/> No		
Application Status	<input type="checkbox"/> Form Complete			

Supplemental Application Information

1 Applicant Information

1.1 Applicant Name

Applicant Name (legal name of individual or organization as evidenced by legal documents)	Business Number
<input type="text"/>	<input type="text"/>

Business Name <input type="checkbox"/> same as Applicant Name	Business Website Address
<input type="text"/>	<input type="text"/>

Applicant Type:

- | | |
|--|--|
| <input type="checkbox"/> Corporation | <input type="checkbox"/> Federal Government |
| <input type="checkbox"/> Individual | <input type="checkbox"/> Municipal Government |
| <input type="checkbox"/> Partnership | <input type="checkbox"/> Provincial Government |
| <input type="checkbox"/> Sole Proprietor | <input type="checkbox"/> Other (describe): |

1.2 Applicant Physical Address

Civic Address – Street Information (includes street number, name, type and direction)	Unit Identifier (suite or unit number)
<input type="text"/>	<input type="text"/>

Survey Address

Lot	Concession	Part	Reference Plan
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Municipality/Unorganized Township or Territory	Upper Tier/District	Province/State	Country	Postal Code/ZIP Code
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Telephone Number (include area code & ext.)	Fax Number (include area code)	Mobile Number (include area code)	E-mail Address
<input type="text"/> ext.	<input type="text"/>	<input type="text"/>	<input type="text"/>

1.3 Applicant Mailing Address

Same as Applicant Physical Address? Yes No

Civic Address – Street Information (civic numbering and street information includes street number, name, type and direction)

Unit Identifier (suite or unit number)

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Delivery Designator

Delivery Identifier

Postal Station

--	--	--

Municipality/Unorganized Township or Territory

Province/State

Country

Postal Code/ZIP Code

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1.4 Statement of the Applicant

I am authorized to prepare and submit this application and to make this certification. I have reviewed the complete application and I have made all inquiries that are necessary to declare to the best of my knowledge, information and belief:

- The information contained in this application is complete and accurate.
- The Technical Contact(s) identified in this application has/have been authorized to prepare certain technical material, and act on behalf of the applicant to discuss this application with the Ministry of the Environment and to provide additional information about this application to the Ministry on request.
- The information provided to the Technical Contact(s) in relation to this application is complete and accurate.

Name of Signing Authority (please print)

Title

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Telephone Number (include area code & ext.)

Fax Number (include area code)

Mobile Number (include area code)

E-mail Address

ext.			
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Signature

Date (yyyy/mm/dd)

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2 Project Information

2.1 Reason for Application

- New ECA
 Amendment to existing ECA
 Revocation of existing ECA
 Administrative amendment to existing ECA

2.2 Technical Contact

Area of Responsibility	<input type="checkbox"/> Engineering	Registration/Licence Number	Governing Body
	<input type="checkbox"/> Geoscientist	Registration/Licence Number	Governing Body

Name of Technical Contact (please print)	Company

Telephone Number (include area code & ext.)	Fax Number (include area code)	Mobile Number (include area code)	E-mail Address
ext.			

Address Information:

Same as Applicant Mailing Address? Yes No (If no, please provide Technical Contact address information below.)

Civic Address – Street Information (includes street number, name, type and direction)	Unit Identifier (suite or unit number)

Delivery Designator	Delivery Identifier	Postal Station

Municipality/Unorganized Township or Territory	Province/State	Country	Postal Code/ZIP Code

3 Ontario Regulation 98/12: Work Plan Requirements

Please provide the following information about the licensed engineering practitioner or professional geoscientist who prepared the Work Plan.

Qualifications

Name	Registration Number

Contact Information

Please indicate if you have completed and provided all the required information in the following sections of the Work Plan.

<p>1. Qualifications and Discussion of Documents Considered</p> <ul style="list-style-type: none"> • Oil, Gas and Salt Resources Act • Ontario Regulation 245/97 (Exploration, Drilling and Production) made under the Oil, Gas and Salt Resources Act • Oil, Gas and Salt Resources of Ontario - Provincial Operating Standards, version 2.0, dated January 24, 2002 and published by the Ministry of Natural Resources • Annex A (Environmental Guidelines for Earth Energy Heat Pumps and Underground Thermal Energy Storage (UTES) Systems) of CAN/CSA-C448.1-02 (Design and Installation of Earth Energy Systems), dated October 2009 and published by the Canadian Standards Association • Water Supply Wells - Requirements and Best Management Practices, dated December 2009 and published by the Ministry 	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>2. Health and Safety Plan</p> <ul style="list-style-type: none"> • Procedures, practices, resources, key safety-related activities and monitoring measures to ensure the safety of the proposed work or activity • Means to comply with safety-related requirements of legislation such as the Occupational Health and Safety Act and its regulations • Safety measures identified through the hazard identification and risk evaluation process • Safety measures identified as part of a safety program needs assessment • Safety commitments made as part of drilling 	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>

<p>3. General Provisions</p>	
<p>3(1) Hazardous Gas Monitoring and Detection Plan</p>	
<ul style="list-style-type: none"> • Description of the type(s) of gas detection and monitoring equipment and procedures that will be used to monitor for hazardous gas 	<input type="checkbox"/> Yes <input type="checkbox"/> No
<ul style="list-style-type: none"> • Description of the observations that will be made and the procedure(s) to be followed to monitor for hazardous gas 	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>3(2) Drilling Plan</p>	
<ul style="list-style-type: none"> • Step by step description of a drilling program, in sequence, to proceed and build a hole for a vertical closed loop ground source heat pump 	
<ul style="list-style-type: none"> - The type(s) of drilling machines that will be used to construct holes 	<input type="checkbox"/> Yes <input type="checkbox"/> No
<ul style="list-style-type: none"> - The types of drilling method or methods that will be used to construct holes 	<input type="checkbox"/> Yes <input type="checkbox"/> No
<ul style="list-style-type: none"> - The experience and qualifications as applicable of the person or persons who are responsible for operation of the drilling machines 	<input type="checkbox"/> Yes <input type="checkbox"/> No
<ul style="list-style-type: none"> - The types of drilling fluids that will be used during drilling such as air, water or drilling mud 	<input type="checkbox"/> Yes <input type="checkbox"/> No
<ul style="list-style-type: none"> • A general cross sectional diagram of a finished hole that will be into overburden and a second general cross sectional diagram of the hole filled with the heat transfer tubing and material that fills the remaining void space 	<input type="checkbox"/> Yes <input type="checkbox"/> No
<ul style="list-style-type: none"> • A general cross sectional diagram of a finished hole that will be into bedrock, including the casing being cement grouted into a depth of at least 15 metres from the top of competent bedrock, and a second general cross sectional diagram of the hole filled with the heat transfer tubing and material that fills the remaining void space 	<input type="checkbox"/> Yes <input type="checkbox"/> No
<ul style="list-style-type: none"> • Procedures to have the Drilling Plan on site at the time of installing the vertical closed loop ground source heat pump 	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>3(3) Standard Requirements for Drilling Overburden and Precambrian Systems</p>	
<ul style="list-style-type: none"> • Measures designed to prevent or reduce the likelihood of hazardous gas migration (including provisions for killing the hole or venting, dispersing, flaring of gas whichever is required under particular circumstances) 	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>3(4) Standard Requirements for Drilling Sedimentary Bedrock (of Cambrian age or younger) Systems</p>	
<ul style="list-style-type: none"> • Prescribed drilling methods, equipment and procedures that are to be followed when competent sedimentary bedrock is encountered, including but not limited to prescribed drilling methods, equipment and procedures designed to prevent or reduce the likelihood of the migration of hazardous gas 	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>3(5) Preparation for Gas Mitigation Contingency Plan</p>	
<ul style="list-style-type: none"> • Equipment and Materials 	
<ul style="list-style-type: none"> - Provisions for the use of a blow out prevention device 	<input type="checkbox"/> Yes <input type="checkbox"/> No

<ul style="list-style-type: none"> - Using drilling fluids with additives to counterbalance the formation pressure - The types of drilling fluids, with weighted additives, and the volume of drilling fluids needed to “kill” the hole - Plan to have sufficient drilling fluids (e.g. bentonite or cement grout) with additives (e.g. barite) on-site to counterbalance the formation pressure to “kill” the hole at the vertical closed loop ground source heat pump site - Plan to have the equipment on site to “kill” the hole at the vertical closed loop ground source heat pump site or equipment available to safely vent gases if the hole cannot be vented • Training and Qualifications (including training on: equipment, materials, techniques and procedures for drilling, hazardous gas monitoring, implementing mitigation measures, operating blow out prevention equipment) • Notification Contact List <p>3(6) Installation under Buildings and Structures</p> <ul style="list-style-type: none"> • Procedures to consider risks associated with potential migration of hazardous gas where the hole is underneath buildings and structures <p>3(7) Standard Completion Report</p> <ul style="list-style-type: none"> • Provisions for the report to be provided by the installer to the owner of the vertical closed loop ground source heat pump 	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>4. Preliminary Site Preparations</p> <ul style="list-style-type: none"> • Review of available area geological reports and records • Provisions to have the following information made available to persons who will be doing work at the site: completed notification form, preliminary site assessment and geological prognosis results, a diagram of the location of all holes to be drilled, site specific drilling program 	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>5. Gas Mitigation Contingency Plan</p> <p>5(1) Immediate Gas Mitigation Measures</p> <ul style="list-style-type: none"> • Require that immediate ceasing of drilling • The use of measures described in section 3(5) General Provision, Preparation for Gas Mitigation Contingency Plan • Applying sufficient drilling fluids with additives to counterbalance the formation pressure and kill the hole • Venting , dispersing or flaring the gas in a safe manner or otherwise safely controlling the flow of gas in the well <p>5(2) Notifying the individuals identified on the Notification Contact List</p> <p>5(3) Permanent Gas Mitigation Measures</p> <ul style="list-style-type: none"> • Procedures for Proper installation 	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>

<ul style="list-style-type: none">• Procedures for Proper Decommissioning	<input type="checkbox"/> Yes <input type="checkbox"/> No
5(4) Any other recommendation to comply with section 3(3) of Ontario Regulation 98/12	<input type="checkbox"/> Yes <input type="checkbox"/> No
5(5) Mitigation Completion Report	
<ul style="list-style-type: none">• Documentation of the measures and safeguards that have been fully implemented to effectively install or decommission the ground source heat pump system	<input type="checkbox"/> Yes <input type="checkbox"/> No
<ul style="list-style-type: none">• Provisions to make the report available to the persons identified in the notification contact list and the local district or area office of the Ministry of the Environment	<input type="checkbox"/> Yes <input type="checkbox"/> No

4 Supporting Documentation

Please list all additional documentation that are submitted with this application.

Title	Attached	Confidential* (√)
(e.g. Proof of legal name)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>
	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>
	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>
	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>
	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>
	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>
	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>
	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>
	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>

4.1 Other Attachments

If there is not enough space to list all of the attachments included in this application package, please include an additional listing of these attachments.

Title	Reference	Confidential* (√)
		<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>

Are you attaching an additional list of attachments? Yes No

* Please note: The collection of personal information in this application is necessary to administer the Ministry's approvals program, which is authorized pursuant to the Environmental Protection Act. The personal information collected in this application will be used to administer the program, including for the purposes of the Ministry's compliance and enforcement activities under the aforementioned act, and for the purposes of making information in respect of Environmental Compliance Approvals available to the public with the exception of payment information. Questions about the collection of the information can be directed to a Client Service Representative, Environmental Approvals Access and Service Integration Branch, 2 St. Clair Avenue West, Floor 12A, Toronto Ontario M4V 1L5; telephone outside Toronto 1-800-461-6290 or in Toronto 416-314-8001 or fax 416-314-8452.

5 Payment Information: Application for an Environmental Compliance Approval

Please Note:

1. All fees should be paid in Canadian funds, payable to the Minister of Finance.
2. If you are paying by certified cheque or money order, please staple your payment to this page.
3. The information collected in this section of the form is considered confidential and will only be used to process your application fee.

Do not include this page in the copies of your application that are being provided to the local Ministry District Office.

Amount Enclosed	Method of Payment				
\$1,400	<input type="checkbox"/> Certified Cheque	<input type="checkbox"/> Money Order	<input type="checkbox"/> VISA	<input type="checkbox"/> MasterCard	<input type="checkbox"/> American Express

Credit Card Information (if paying by VISA, MasterCard or American Express)

Name on Card (please print)	Credit Card Number	Expiry Date (mm/yyyy)

Cardholder Signature	Date (yyyy/mm/dd)

If paying by certified cheque or money order, please attach it here.