



Municipality of Highlands East  
Building Department  
1032 Gooderham Street, Box 22  
Gooderham, Ontario, K0M 1R0  
Tel.: (705) 447-0051 Fax: (705) 447-0053  
Website: www.highlandseast.ca

# Instructions for an Application for a Sewage System Permit

## **This Package Contains:**

1. Ontario Building Code Application for a Permit to Construct or Demolish including Schedule 1 and Schedule 2
2. Proposed Sewage System Design & Calculation Sheet
3. Proposed Design Site Plan
4. Directions to the Property
5. Fixture Unit Calculation Sheet
6. Ontario Building Code and Guide Sheet

## **All forms provided in this package must be completed and returned to Building Department along with the following other required documentation:**

1. A Site Plan referenced to an up to date survey when available or to a drawing of the lot, **neatly and accurately drawn**, which shall indicate:
  - a) the dimensions of the lot (length, width);
  - b) the location and size of the proposed buildings & all existing buildings;
  - c) location of well, septic, easements (hydro, right of way etc.) & driveways;
  - d) the setbacks of proposed building or addition from all lot lines, the road and other buildings within 3 metres, the high water mark, and the well and septic system;
  - e) indicate any survey stakes that have been located, if not visible, a survey may be required.
  - f) the location and setbacks of the septic tank, leaching bed and any pump chamber;
  - g) the loading area and 15m mantle;
  - h) location of wells or water supply including neighbours;
  - i) eavestrough discharge;
  - j) topographical features including slope and direction of flow.
2. A copy of the building plans must accompany the application.
3. The required fees must accompany the application.
4. Any proposal for the use of a Class 4 treatment unit, other than a septic tanks, will require a copy of the B.M.E.C. approval for that system, and once completed will require submission of "as built" drawings and the maintenance agreement.
5. If the applicant is not the owner of the property, or there is more than one property owner, the owner(s) must provide a letter appointing the applicant as an authorized agent.

**Note: Incomplete applications will not be accepted or reviewed and may be returned to the owner.**



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# Proposed Sewage System Design & Calculation Sheet

Owner's Name: \_\_\_\_\_ Project Address: \_\_\_\_\_

## 1. Sewage Flow

a) Number of bedrooms up to 5 bedrooms: \_\_\_\_\_ = \_\_\_\_\_ Litres (1)

b) Each bedroom over 5 bedrooms: \_\_\_\_\_ **ADD** x 500 = \_\_\_\_\_ Litres (2)  
**OR**

c) Living Space: \_\_\_\_\_ m<sup>2</sup>  
 Each 10 m<sup>2</sup> (or part of it) over 200 m<sup>2</sup> up to 400 m<sup>2</sup>: \_\_\_\_\_ x 100 = \_\_\_\_\_ Litres  
 Each 10 m<sup>2</sup> (or part of it) over 400 m<sup>2</sup> up to 600 m<sup>2</sup>: \_\_\_\_\_ x 75 = \_\_\_\_\_ Litres  
 Each 10 m<sup>2</sup> (or part of it) over 600 m<sup>2</sup>: \_\_\_\_\_ x 50 = \_\_\_\_\_ Litres Total: \_\_\_\_\_ Litres (3)  
**OR** (whichever is the larger flow)

d) State the number of: Showers & Bathtubs  Hand Wash Basins  Laundry Units  Toilets  Kitchen Sinks  \* Water Treatment Units  \*Note: Do not drain water treatment devices into sewage system.

Total Fixture Units: \_\_\_\_\_  
 Each Fixture Unit over 20: \_\_\_\_\_ x 50 = \_\_\_\_\_ Litres (4)

**Total Sewage Flow: (Q)** (Add 1 + 2 or 3 or 4) \_\_\_\_\_ Litres

## 2. Septic Tank Size

Residential Occupancy: \_\_\_\_\_ Sewage Flow: \_\_\_\_\_ x 2 = \_\_\_\_\_ Litres (Minimum - 3600) Litres

## 3. Leaching Bed Size

Length of Pipe =  $\frac{\text{Sewage Flow} \times \text{Percolation Time}}{200}$

$L = \frac{QT}{200} = \frac{\quad \times \quad}{200} = \quad$  m. of trench  
**Rounded to:** \_\_\_\_\_ m. of trench

## 4. Loading Rate for Fill-Based Absorption Trenches and Filter Beds

Percolation Time	Loading Rate (L/m <sup>2</sup> /day)	Sewage Flow ÷ Loading Rate = m <sup>2</sup> of Loading Rate Area
1-20	10	_____ ÷ _____ = _____ m <sup>2</sup> of loading rate area
20-35	8	
35-50	6	
> 50	4	

## 5. Filter Bed Size

Sewage Flow < 3000 Litres/Day: Sewage Flow ÷ 75 = m<sup>2</sup>  
 \_\_\_\_\_ ÷ 75 = \_\_\_\_\_ m<sup>2</sup> of filter bed

Sewage Flow > 3000 Litres/Day: Sewage Flow ÷ 50 = m<sup>2</sup>  
 \_\_\_\_\_ ÷ 50 = \_\_\_\_\_ m<sup>2</sup> of filter bed

## 6. Filter Bed Contact Area (Note: Contact area is to be no less than the filter bed size.)

Area =  $\frac{\text{Sewage Flow} \times \text{Percolation Rate}}{850} = \text{m}^2 \text{ contact area}$       $A = \frac{\quad \times \quad}{850} = \quad \text{m}^2 \text{ contact area}$

## 7. Water Supply For Property Is:

Existing  Proposed  Lake   
 Dug Well  Surface Water  Drilled Well  (Depth of steel casing \_\_\_\_\_ metres)

Note: We require the type and location of any well on neighbouring properties be provided on site plan as well.





# Application for a Permit to Construct or Demolish

This form is authorized under subsection 8(1.1) of the Building Code Act.

For use by Principal Authority			
Application number:	Permit number (if different):		
Date received:	Roll number:		
Application submitted to: _____ (Name of municipality, upper-tier municipality, board of health or conservation authority)			
A. Project information			
Building number, street name	Unit number	Lot/con.	
Municipality	Postal code	Plan number/other description	
Project value est. \$	Area of work (m <sup>2</sup> )		
B. Purpose of application			
<input type="checkbox"/> New construction <input type="checkbox"/> Addition to an existing building <input type="checkbox"/> Alteration/repair <input type="checkbox"/> Demolition <input type="checkbox"/> Conditional Permit			
Proposed use of building	Current use of building		
Description of proposed work			
C. Applicant			
Applicant is: <input type="checkbox"/> Owner   or <input type="checkbox"/> Authorized agent of owner			
Last name	First name	Corporation or partnership	
Street address	Unit number	Lot/con.	
Municipality	Postal code	Province	E-mail
Telephone number (    )	Fax (    )	Cell number (    )	
D. Owner (if different from applicant)			
Last name	First name	Corporation or partnership	
Street address	Unit number	Lot/con.	
Municipality	Postal code	Province	E-mail
Telephone number (    )	Fax (    )	Cell number (    )	

<b>E. Builder (optional)</b>				
Last name		First name	Corporation or partnership (if applicable)	
Street address			Unit number	Lot/con.
Municipality		Postal code	Province	E-mail
Telephone number (     )		Fax (     )		Cell number (     )
<b>F. Tarion Warranty Corporation (Ontario New Home Warranty Program)</b>				
i. Is proposed construction for a new home as defined in the <i>Ontario New Home Warranties Plan Act</i> ? If no, go to section G.			<input type="checkbox"/> Yes	<input type="checkbox"/> No
ii. Is registration required under the <i>Ontario New Home Warranties Plan Act</i> ?			<input type="checkbox"/> Yes	<input type="checkbox"/> No
iii. If yes to (ii) provide registration number(s): _____				
<b>G. Required Schedules</b>				
i) Attach Schedule 1 for each individual who reviews and takes responsibility for design activities.				
ii) Attach Schedule 2 where application is to construct on-site, install or repair a sewage system.				
<b>H. Completeness and compliance with applicable law</b>				
i) This application meets all the requirements of clauses 1.3.1.3 (5) (a) to (d) of Division C of the Building Code (the application is made in the correct form and by the owner or authorized agent, all applicable fields have been completed on the application and required schedules, and all required schedules are submitted). Payment has been made of all fees that are required, under the applicable by-law, resolution or regulation made under clause 7(1)(c) of the <i>Building Code Act, 1992</i> , to be paid when the application is made.			<input type="checkbox"/> Yes	<input type="checkbox"/> No
ii) This application is accompanied by the plans and specifications prescribed by the applicable by-law, resolution or regulation made under clause 7(1)(b) of the <i>Building Code Act, 1992</i> .			<input type="checkbox"/> Yes	<input type="checkbox"/> No
iii) This application is accompanied by the information and documents prescribed by the applicable by-law, resolution or regulation made under clause 7(1)(b) of the <i>Building Code Act, 1992</i> which enable the chief building official to determine whether the proposed building, construction or demolition will contravene any applicable law.			<input type="checkbox"/> Yes	<input type="checkbox"/> No
iv) The proposed building, construction or demolition will not contravene any applicable law.			<input type="checkbox"/> Yes	<input type="checkbox"/> No
<b>I. Declaration of applicant</b>				
I _____ declare that:				
(print name)				
1. The information contained in this application, attached schedules, attached plans and specifications, and other attached documentation is true to the best of my knowledge.				
2. If the owner is a corporation or partnership, I have the authority to bind the corporation or partnership.				
_____		_____		
Date		Signature of applicant		

Personal information contained in this form and schedules is collected under the authority of subsection 8(1.1) of the *Building Code Act, 1992*, and will be used in the administration and enforcement of the *Building Code Act, 1992*. Questions about the collection of personal information may be addressed to: a) the Chief Building Official of the municipality or upper-tier municipality to which this application is being made, or, b) the inspector having the powers and duties of a chief building official in relation to sewage systems or plumbing for an upper-tier municipality, board of health or conservation authority to whom this application is made, or, c) Director, Building and Development Branch, Ministry of Municipal Affairs and Housing 777 Bay St., 2nd Floor. Toronto, M5G 2E5 (416) 585-6666.

## Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

<b>A. Project Information</b>			
Building number, street name	Unit no.	Lot/con.	
Municipality	Postal code	Plan number/ other description	
<b>B. Individual who reviews and takes responsibility for design activities</b>			
Name	Firm		
Street address	Unit no.	Lot/con.	
Municipality	Postal code	Province	E-mail
Telephone number (     )	Fax number (     )	Cell number (     )	
<b>C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]</b>			
<input type="checkbox"/> House	<input type="checkbox"/> HVAC – House	<input type="checkbox"/> Building Structural	
<input type="checkbox"/> Small Buildings	<input type="checkbox"/> Building Services	<input type="checkbox"/> Plumbing – House	
<input type="checkbox"/> Large Buildings	<input type="checkbox"/> Detection, Lighting and Power	<input type="checkbox"/> Plumbing – All Buildings	
<input type="checkbox"/> Complex Buildings	<input type="checkbox"/> Fire Protection	<input type="checkbox"/> On-site Sewage Systems	
Description of designer's work			
<b>D. Declaration of Designer</b>			
I _____ declare that (choose one as appropriate):			
(print name)			
<input type="checkbox"/> I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4. of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories. Individual BCIN: _____ Firm BCIN:            _____			
<input type="checkbox"/> I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5. of Division C, of the Building Code. Individual BCIN: _____ Basis for exemption from registration: _____			
<input type="checkbox"/> The design work is exempt from the registration and qualification requirements of the Building Code. Basis for exemption from registration and qualification: _____			
I certify that:			
1. The information contained in this schedule is true to the best of my knowledge. 2. I have submitted this application with the knowledge and consent of the firm.			
_____	_____		
Date	Signature of Designer		

**NOTE:**

1. For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d) of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
2. Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of practice, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

## Schedule 2: Sewage System Installer Information

<b>A. Project Information</b>			
Building number, street name		Unit number	Lot/con.
Municipality	Postal code	Plan number/ other description	
<b>B. Sewage system installer</b>			
Is the installer of the sewage system engaged in the business of constructing on-site, installing, repairing, servicing, cleaning or emptying sewage systems, in accordance with Building Code Article 3.3.1.1, Division C?			
<input type="checkbox"/> Yes (Continue to Section C)		<input type="checkbox"/> No (Continue to Section E)	<input type="checkbox"/> Installer unknown at time of application (Continue to Section E)
<b>C. Registered installer information (where answer to B is "Yes")</b>			
Name		BCIN	
Street address		Unit number	Lot/con.
Municipality	Postal code	Province	E-mail
Telephone number (    )	Fax (    )	Cell number (    )	
<b>D. Qualified supervisor information (where answer to section B is "Yes")</b>			
Name of qualified supervisor(s)		Building Code Identification Number (BCIN)	
<b>E. Declaration of Applicant:</b>			
<p>I _____ declare that:</p> <p style="margin-left: 100px;">(print name)</p> <p><input type="checkbox"/> I am the applicant for the permit to construct the sewage system. If the installer is unknown at time of application, I shall submit a new Schedule 2 prior to construction when the installer is known;</p> <p><u>OR</u></p> <p><input type="checkbox"/> I am the holder of the permit to construct the sewage system, and am submitting a new Schedule 2, now that the installer is known.</p> <p>I certify that:</p> <ol style="list-style-type: none"> <li>1. The information contained in this schedule is true to the best of my knowledge.</li> <li>2. If the owner is a corporation or partnership, I have the authority to bind the corporation or partnership.</li> </ol> <p style="margin-top: 20px;">_____</p> <p style="display: flex; justify-content: space-between; width: 80%; margin-left: 20px;"> <span>Date</span> <span>Signature of applicant</span> </p>			



**Note: THAT IT IS AN OFFENCE UNDER THE ONTARIO BUILDING CODE ACT TO ALTER OR CONSTRUCT A SEWAGE SYSTEM OR AN ASSOCIATED DWELLING WITHOUT A BUILDING PERMIT**

PROCEDURE FOR CONSTRUCTING A SEWAGE SYETEM:

- 1) Please direct any inquiries with respect to an application for a Sewage System Permit to the Building Department of the Municipality of Highlands East.
- 2) Arrange for a pre-construction site inspection with the Building Inspector. Where percolation tests are to be conducted (minimum 3 pits) they must be reviewed and verified by the inspector. Permit and/or Inspection Fees must be paid prior to all inspections.
- 3) After your lot is inspected and if it is approved, A Sewage System Building Permit will be processed. If the proposal is determined to be unsuitable, alternatives must be discussed with the Inspector.
- 4) The sewage system shall be constructed by a licensed contractor as required under the Code. The permit lists the stages of construction at which the inspections are required. Prior to each stage being reached, contact the Building Inspector and arrange for the required inspection.

**NOTE THAT IT IS AN OFFENCE UNDER THE ONTARIO BUILDING CODE ACT TO USE A CLASS 2, 3, 4 OR 5 SEWAGE SYSTEM WITHOUT APPROVED FINAL INSPECTION.**

**IN ORDER TO PROCESS YOUR APPLICATION, THE FOLLOWING INFORMATION IS REQUIRED.**

Name of Owner: \_\_\_\_\_ Telephone No: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Concession: \_\_\_\_\_ Pt. Lot \_\_\_\_\_ Plan No: \_\_\_\_\_ Parcel: \_\_\_\_\_

Property Roll Number: 4601- \_\_\_\_\_

SECTION A---FOR PLUMBING

COMPLETE THE FOLLOWING TABLE

DESCRIPTION	TOTAL #	X	FIXTURE UNITS	=	TOTAL FIXTURE UNITS
WATER CLOSET WITH FLUSH TANK		X	4	=	
WASH BASIN		X	1.5	=	
BATHTUB AND OR SHOWER		X	1.5	=	
DISHWASHER		X	1.0	=	
CLOTHES WASHING A MACHINE		X	1.5	=	
SINGLE OR DOUBLE LAUNDRY TUB		X	1.5	=	
BATHROOM GROUP		X	6	=	
KITCHEN SINK		X		=	
TOTAL FIXTURE UNITS				=	

**THIS APPLICATION DOES NOT INCLUDE WATER PURIFER OR WATER SOFTENER**

**THE CHARTS PROVIDE BELOW ARE FOR GUIDANCE PURPOSES ONLY**

You should always refer to the Ontario Building Code for current construction requirements.

**TOTAL DAILY DESIGN FLOW RATES FOR RESIDENTIAL OCCUPANCY**

Dwellings	Litres/day	Example of how to determine flow rate:
(a) 1 bedroom dwelling	750	Using a 4 bedroom, 235 m <sup>2</sup> home with 22 fixture units from chart on left. 4 bedroom home >200m <sup>2</sup> or >20 fixture units = 2,000 L/day Additional 35 m <sup>2</sup> = 400L/day (additional 2 fix. Units = 100L/day)  Q (total design flow rate) = 2400 Litres/day. If, as in the example above, there is a choice in arriving at the flow rate (e.g. fixture units vs. floor area) use the one calculation that provides the greatest daily flow rate.
(b) 2 bedroom dwelling	1100	
(c) 3 bedroom dwelling	1600	
(d) 4 bedroom dwelling	2000	
(e) 5 bedroom dwelling	2500	
(f) Additional flow for		
(1) Each bedroom over 5.....	500	
(2) Each 10m <sup>2</sup> (or part thereof) over 200m <sup>2</sup> .....	100	
(3) Each fixture unit over 20 .....	50	

**APPROXIMATE SOIL PERCOLATION RATES**

The following are estimated typical ranges of "T" times. On-site conditions may significantly alter actual "T" times

SOIL TYPE	CLEAN MED-COARSE SAND	MIXED CLAYEY SANDY GARVELS	MIXED SILTY SANDS & SANDY SILTS	MIXED SANDY CLAYS & CLAYEY SANDS OR ORGANIC SILTS	SILTY CLAY	CLAY
"T"(min/cm)	1 3 6	8	10 16 20	25 29 33 38	44	50

**SIZING FORMULAS FOR COMPONENTS OF SEPTIC SYSTEMS BASED ON TOTAL DAILY DESIGN FLOW RATES**

Class 4 filter bed (surface area of filter bed medium in sq. meters)	If daily flow rate is <3,000 L/day /75 If daily flow rate is >3,000 L/day/50 Minimum area of filter medium = 10m <sup>2</sup> Maximum area of filter medium = 50m <sup>2</sup>	<b>Example</b> using the total flow rate above: Flow rate = 2,400 L/day (which is <3,000 L/day) A (area of bed) + 2400/75= 32 m <sup>2</sup> Note: if area exceeds 50m <sup>2</sup> , 2 beds are required.
Class 4 trench bed (total length of distribution pipe in meters)	Formula for conventional beds without Secondary treatment units: L=QT where L is total length of pipe Q is the total daily design flow rate T is the soil percolation rate Minimum length of pipe is 40 meters	<b>Example</b> using the total flow rate above: Q= 2400 T= 6 min/cm ( typical med-coarse sand) L (total length of distribution pipe) Q/T/200 L= (2400 x6/200)=72 meters
Septic tank (litres)	Tanks must have a minimum working capacity of 2 X's the daily design flow rate. Minimum tank size = 3600 litres	<b>Example</b> using the total flow rate from above of 2,400 L/day then the minimum tank size would be: Total working capacity 2x2400 = 4800 litres.

**CLEARANCE DISTANCES FROM COMPONENTS OF SEWAGE SYSTEMS (METERS)**

If bed is raised add 2 meters for every 1 Meter of rise	WELLS (with 6m Casing)	WELLS (NOT 6 M CASING)	SPRINGS POTABLE	SPRING NOT POTABLE	SURFACE WATER (lake, river, etc)	PROPERTY LINES	DWELLINGS STRUCTURES
Class 4 distribution Pipe	15M	30M	30M	15M	15M	3M	5M
Class 4 septic tank	15M	15M	15M	15M	15M	3M	1.5M
Class 5 holding tank	15M	15M	15M	15M		3M	1.5M
Class 1 privy	15M	30M	30M	15M	15M	3M	
Class 2 greywater pit	10M	15M	15M	15M	15M	3M	

**DIRECTIONS TO PROPERTY**

(Show Highway &/or Secondary Roads, Signs to follow, Landmarks, 911 Address, Roll Number etc.)

A large, empty rectangular box with a black border, intended for drawing directions to the property. The box is currently blank.