



Township of Algonquin Highlands
Building Department
1123 North Shore Road
Algonquin Highlands, Ontario, K0M 1J1
Tel.: (705) 489-2379 Fax: (705) 489-3491
Website: www.algonquinhighlands.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. Ontario Building Code and Guide Sheet
3. Fixture Unit Calculation Sheet
4. Proposed Sewage System Design & Calculation Sheet
5. Proposed design site plan
6. Typical Drawing – Filter Bed
7. Zoning By-law requirements

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;
 - 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. 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.
3. 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.
4. The required fees must accompany the application in accordance with the Township of Algonquin Highlands Fees and Charges By-law.

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

Application for a Permit to Construct or Demolish

This form is authorized under subsection 8(1.1) of the *Building Code Act, 1992*

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 ²)		
B. Purpose of application				
New construction	Addition to an existing building	Alteration/repair	Demolition	Conditional Permit
Proposed use of building		Current use of building		
Description of proposed work				
C. Applicant				
		Applicant is:	Owner or	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	

E. Builder (optional)				
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
F. Tarion Warranty Corporation (Ontario New Home Warranty Program)				
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.			Yes	No
ii. Is registration required under the <i>Ontario New Home Warranties Plan Act</i> ?			Yes	No
iii. If yes to (ii) provide registration number(s): _____				
G. Required Schedules				
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.				
H. Completeness and compliance with applicable law				
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.			Yes	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> .			Yes	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.			Yes	No
iv) The proposed building, construction or demolition will not contravene any applicable law.			Yes	No
I. Declaration of applicant				
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.

A. Project Information			
Building number, street name	Unit no.	Lot/con.	
Municipality	Postal code	Plan number/ other description	
B. Individual who reviews and takes responsibility for design activities			
Name	Firm		
Street address	Unit no.	Lot/con.	
Municipality	Postal code	Province	E-mail
Telephone number	Fax number		Cell number
C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]			
House	HVAC – House	Building Structural	
Small Buildings	Building Services	Plumbing – House	
Large Buildings	Detection, Lighting and Power	Plumbing – All Buildings	
Complex Buildings	Fire Protection	On-site Sewage Systems	
Description of designer's work			
D. Declaration of Designer			
<p>I _____ declare that (choose one as appropriate):</p> <p style="text-align: center;">(print name)</p> <p>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.</p> <p>Individual BCIN: _____</p> <p>Firm BCIN: _____</p> <p>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.</p> <p>Individual BCIN: _____</p> <p>Basis for exemption from registration: _____</p> <p>The design work is exempt from the registration and qualification requirements of the Building Code.</p> <p>Basis for exemption from registration and qualification: _____</p> <p>I certify that:</p> <ol style="list-style-type: none"> 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. <p style="text-align: center;">_____</p> <p style="display: flex; justify-content: space-between;"> Date Signature of Designer </p>			

NOTE:

1. For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) (c) 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

A. Project Information			
Building number, street name		Unit number	Lot/con.
Municipality	Postal code	Plan number/ other description	
B. Sewage system installer			
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?			
Yes (Continue to Section C)		No (Continue to Section E)	
		Installer unknown at time of application (Continue to Section E)	
C. Registered installer information (where answer to B is "Yes")			
Name		BCIN	
Street address		Unit number	Lot/con.
Municipality	Postal code	Province	E-mail
Telephone number	Fax	Cell number	
D. Qualified supervisor information (where answer to section B is "Yes")			
Name of qualified supervisor(s)		Building Code Identification Number (BCIN)	
E. Declaration of Applicant:			
<p>I _____ declare that:</p> <p style="text-align: center;">(print name)</p> <p>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>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"> 1. The information contained in this schedule 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. <p>_____</p> <p style="display: flex; justify-content: space-between;"> Date Signature of applicant </p>			

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 m2 home with 22 fixture units from chart on left. 4 bedroom home >200m2 or >20 fixture units = 2,000 L/day Additional 35 m2 = 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 10m2 (or part thereof) over 200m2.....	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 = 10m2 Maximum area of filter medium = 50m2	Example 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 m2 Note: if area exceeds 50m2, 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	Example 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	Example 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	

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 SYSTEM:

- 1) Please direct any inquiries with respect to an application for a Sewage System Permit to the Building Department of the Municipality of Algonquin Highlands.
- 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.

SECTION A---FOR PLUMBING					
COMPLETE THE FOLLOWING TABLE					
DESCRIPTION	TOTAL #	X	FIXTURE UNITS	=	TOTAL FIXTURE UNITS
WATER CLOSET WITH FLUSH TANK		X	4	=	
EACH SINK OR 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	=	
OTHER		X		=	
TOTAL FIXTURE UNITS				=	

THIS APPLICATION DOES NOT INCLUDE WATER PURIFER OR WATER SOFTENER



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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: _____ m²
 Each 10 m² (or part of it) over 200 m² up to 400 m²: _____ x 100 = _____ Litres
 Each 10 m² (or part of it) over 400 m² up to 600 m²: _____ x 75 = _____ Litres
 Each 10 m² (or part of it) over 600 m²: _____ x 50 = _____ Litres Total: _____ Litres (3)
OR (whichever is the larger flow)

d) State the number of: Showers & Bathubs 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 ² /day)	Sewage Flow ÷ Loading Rate = m ² of Loading Rate Area
1-20	10	
20-35	8	_____ ÷ _____ = _____ m ² of loading rate area
35-50	6	
> 50	4	

5. Filter Bed Size

Sewage Flow < 3000 Litres/Day: Sewage Flow ÷ 75 = m²
 _____ ÷ 75 = _____ m² of filter bed

Sewage Flow > 3000 Litres/Day: Sewage Flow ÷ 50 = m²
 _____ ÷ 50 = _____ m² 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.



TYPICAL DRAWING—FILTER BED

PLEASE COMPLETE THE BLANKS

PLAN VIEW

Is mantle required?

YES

NO

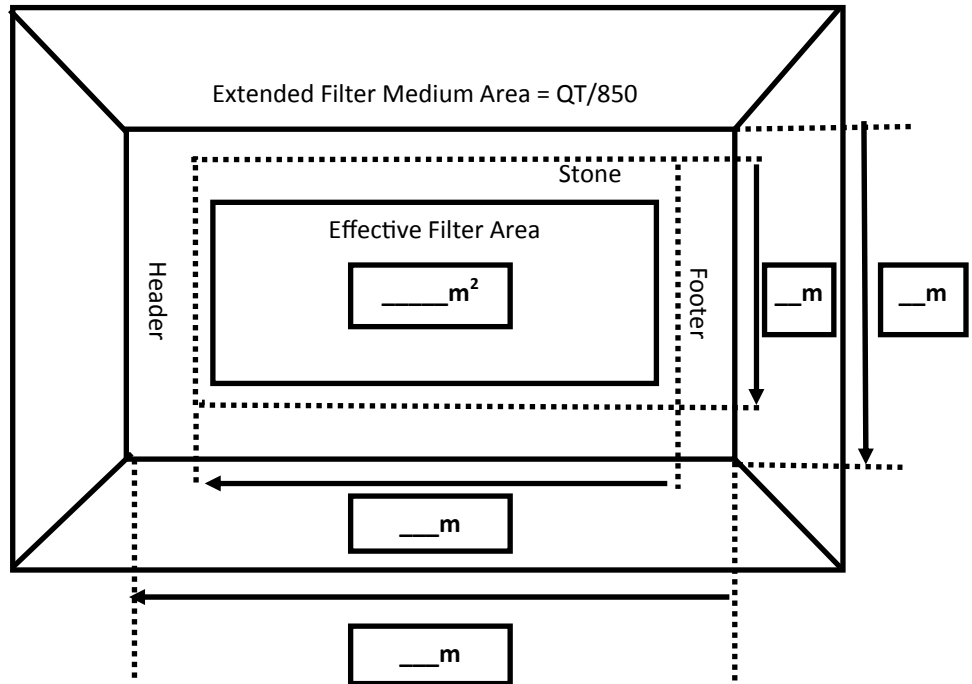
Direction _____

Total Mantle

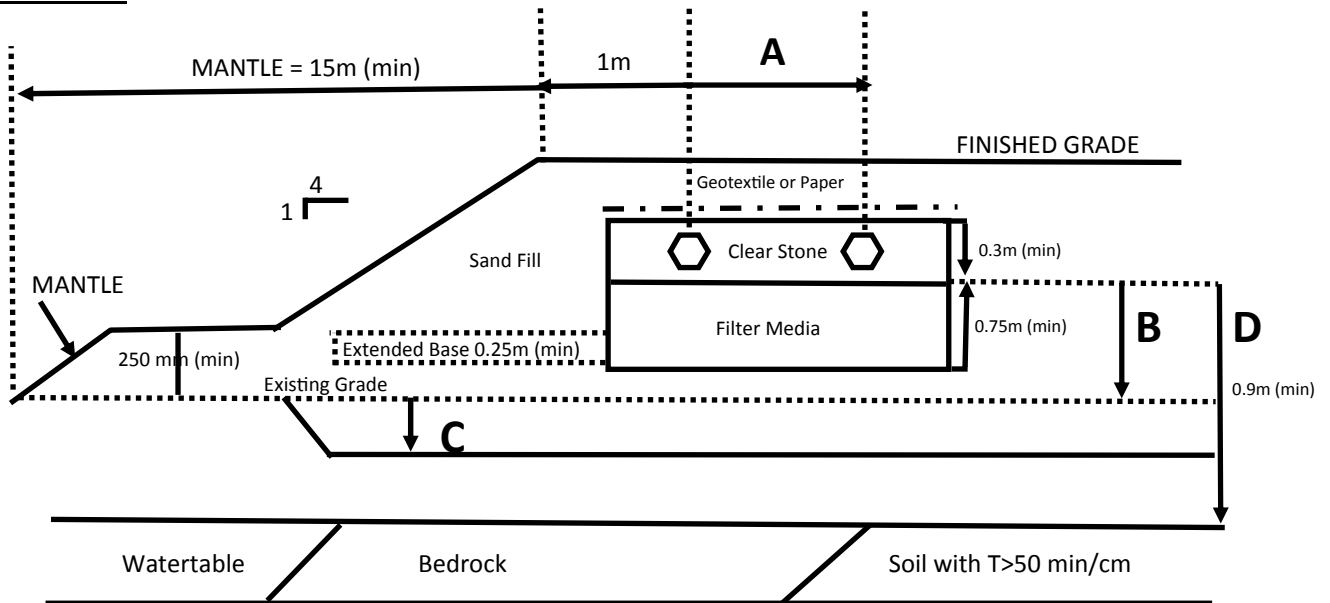
Area (m²) _____

Extended Filter Medium

Area (m²) _____



CROSS SECTION



A - Proposed Horizontal Offset Distance Between Tile Runs _____ m

B - Proposed Height of Stone Layer Above Existing Grade _____ m

C - Proposed Depth of Excavation for Partially Raised Field _____ m

D - Proposed Depth of Excavation to Water Table/Bedrock _____ m



Zoning By-law 2003-22 Requirements

- 1) Lot coverage _____
- 2) Principal building front yard setback _____
- 3) Principal building side yard setback _____
- 4) Principal building rear yard setback _____
- 5) Principal building setback from high-water mark _____
- 6) Accessory building setback from high-water mark _____
- 7) Accessory building rear yard setback _____
- 8) Accessory building side yard setback _____

Buildings located less than 20 meters from the high-water mark will require proof the shore road allowance has been purchased.

Buildings located less than 30 meters from the high-water mark may require a minor variance to increase the size of the building.

A detailed site plan illustrating all setbacks must accompany the building/septic permit application.

Signature Owner/Agent

Date