

THE CORPORATION OF THE MUNICIPALITY OF THAMES CENTRE

BY-LAW NO. 91-2021

A By-law to provide for the administration and enforcement of the Building Code Act, 1992, and swimming pool permits, and inspections within the Municipality of Thames Centre

BUILDING BY-LAW

WHEREAS Section 7 of the Building Code Act, S.O. 1992, c.23, as amended, empowers council to pass By-laws respecting permits for construction, demolition, occupancy, change of use, sewage systems and conditional permits and respecting inspections and the charging of permit fees and other related matters;

AND WHEREAS Subsection 7.1(1) of the Building Code Act, S.O. 1992, c.23, as amended, requires Council to establish and enforce a code of conduct for the Chief Building Officials and Inspectors;

AND WHEREAS under Subsection 10.(2) of the Municipal Act, 2001, S.O. 2001, c. 25, as amended, the Municipality of Thames Centre may pass by-laws respecting health, safety and well-being of persons, protection of persons and property, and structures, including fences and swimming pools;

NOW THEREFORE the Council of the Corporation of the Municipality of Thames Centre enacts as follows:

1. SHORT TITLE

1.1. This By-Law may be cited as the Building By-Law

2. INTERPRETATION

2.1. Definitions

Act means the Building Code Act, 1992, S.O. 1992. c. 23, as amended.

Applicant means the owner of a building or property who applies for a permit or any authorized agent to apply for a permit on the owner's behalf or any person or corporation empowered by statute to cause the construction or demolition of a building or buildings and anyone acting under the authority of that person or corporation.

Architect means the holder of a license. Certificate of practice or temporary license under the Architect's Act as defined in the Building Code.

Authorized Agent means a person(s) who has been authorized in writing to act on the owner's behalf for matters relating to an application for a permit.

Building means a building as defined in section 1(1) of the Act

Building Code means regulations made under section 34 of the Act.

Chief Building Official means the Chief Building Official appointed by a By-law of the Corporation for the purpose of enforcement of the Act

Construct means construct and Construction has a corresponding meaning as defined in subsection 1(1) of the Act.

Corporation means The Corporation of the Municipality of Thames Centre.

Demolish means demolish and Demolition has a corresponding meaning as defined in subsection 1(1) of the Act.

Fee By-Law means the current 'Fees and Charges By-Law' for the Corporation.

Inspector means an inspector appointed pursuant to subsection 3(2) of the Act and by by-law of the Corporation for the purposes of enforcement of the Act.

Owner means the registered owner of the land or property and includes a lessee, mortgagee in possession and the person in charge of the property.

Permit means permission or authorization in writing by the Chief Building Official to perform work, to change the use of a building or part thereof, or to occupy a building or part thereof, as regulated by the Act and the Building Code.

Permit Holder means the owner to whom the permit has been issued or where the permit has been transferred, the transferee, and shall be the person who assumes the primary responsibility for compliance with the Act and the Building Code.

Professional Engineer or Engineer means a person who holds a license or a temporary license under the Professional Engineer's Act, as defined in the Building Code.

Registered Code Agency means a registered code agency as defined in subsection 1(1) of the Act.

Sewage System means sewage system as defined in subsection 1(1) of the Act.

Municipal Engineer means the Professional Engineer or engineering firm retained by the Corporation or his/her designate.

Work means the construction or alteration, addition or demolition of a building or part thereof.

2.2. Additional Definitions

Any words, phrases or terms not defined in this By-Law, that is defined in the Act or Building Code shall have the meaning ascribed to it in the Act or the Building Code. Should a word or term not be defined in the Act or the Building Code, it shall have the meaning that is commonly assigned to it in the context in which it is used, taking into account the specialized use of terms by the various trades and professions to which the terminology applies.

3. CLASSES OF PERMITS

Classes of Permits with respect to the Construction, Demolition, Change of Use and Occupancy of a Building, or part of it, include the following:

3.1. Building Permit

This Permit is required under Subsection 8.(1) of the Act and may include Plumbing, heating, ventilation and air conditioning systems, Sewage Systems, Farm Buildings and Designated Structures as set out in Division A, Sentence 1.3.1.1.(1) of the Building Code and signs as set out in Division B, Section 3.15. of the Building Code.

3.2. Demolition Permit

This Permit is required under Subsection 8.(1) of the Act.

3.3. Conditional Permit

This Permit may be issued by the Chief Building Official in accordance with Subsection 8.(3) of the Act to authorize any stage of Construction, even though all of the requirements under Subsection 8.(2) of the Act have not been met.

3.4. Change of Use Permit

This Permit is required under Subsection 10.(1) of the Act when a change in use of a Building, or part of it, will result in an increase in hazard as determined under the Building Code even though no Construction is proposed.

3.5. Occupancy Permit

This Permit is required under Division C, Subsection 1.3.3. of the Building Code where all or part of a building will be occupied.

3.6. Private Swimming Pool Permit

This Permit is required to govern the installation/construction of private swimming pools, to ensure compliance with all By-Laws of the Municipality. Every person who intends to have a Pool or Hot Tub, and, if applicable, a Fence, installed, whether as an original or a replacement, shall, before such installation, obtain the applicable permit from the Corporation.

4. ADMINISTRATIVE PROCEDURES RELATING TO PERMITS

4.1. Revisions to Permits

Where a permit holder has made substantial changes to or has deviated from the plans, specifications, documents or other information filed and in respect of which a permit has been issued, the permit holder shall notify the Chief Building Official by filing the following:

- i. the prescribed application form entitled Application for a Permit to Construct or Demolish;
- ii. revised plans, specifications, documents and other information sufficient to enable the Chief Building Official to determine whether or not the revised construction, demolition, or change of use will conform to the Act, the Building Code and any other applicable law; and
- iii. the required fee(s) as contained in the Corporations current Fee By-Law

4.1.1. No person shall make a substantial change or cause a substantial change to be made to a plan, specification, document or other information on the basis of which a permit was issued without first obtaining the written authorization of the Chief Building Official.

4.1.2. The Chief Building Official, in his/her sole discretion, shall determine if there have been substantial changes to or the permit holder has deviated from the plans, specifications, documents or other information filed and in respect of which a permit has been issued.

4.2. Revocation of Permits

The Chief Building Official, subject to provisions outlined in Subsection 8.(10) of the Act, has the authority to revoke a Permit issued under the Act.

4.3. Transfer of Permit Applications and Permits

Where the ownership of land changes after a Permit application has been submitted and fees paid, or where a Permit has been issued, the Applicant for the Permit, the person to whom the Permit was issued or the new owner of the land, as the case may be, may submit a request to the Chief Building Official requesting a transfer of the Permit application and fees or the Permit as identified in Clause 7.(1)(h) of the Act by submitting the following information:

- i. the name and address of the person to whom the Permit application and fees or the Permit are to be transferred;
- ii. the name and address of any contractors that have changed from those listed on the Permit application or the Permit;
- iii. the name and address of Architect(s) and Professional Engineer(s) responsible for the design and field review of the Construction that have changed from those listed on the Permit application or the Permit;

- iv. the name and address of the person who paid the Permit fees; and
- v. where the transfer is being initiated on the initiative of the transferor, proof to the satisfaction of the Chief Building Official that the transferee has been provided with advance notice of same.

5. REQUIREMENTS FOR APPLICATIONS

Every application for a permit shall be submitted to the Chief Building Official and shall contain the following information:

5.1. Building, Demolition, Conditional, and Change of Use Permits

Where an application is made for a Building or Demolition Permit under Subsection 8.(1) of the Act, a Conditional Permit under Subsection 8.(3) of the Act, or a Change of Use Permit under Subsection 10.(1) of the Act, the application shall comply with Division C, Sentence 1.3.1.3.(5) of the Building Code and be complete with documents and other information as required in this by-law.

5.2. Sewage System Permits

Where an application is made for a sewage system Building Permit under Subsection 8.(1) of the Act, the application shall comply with Division C, Sentence 1.3.1.3.(5) of the Building Code and be complete with documents and as follows:

- i. Contain a site evaluation, and sewage design flows, as described with in the Building Code;
- ii. Sewage system design prepared by an engineer; or other approved qualified design, to the acceptance of the Chief Building Official; and
- iii. Any other information as required by this By-Law.

5.3. Private Swimming Pools

Where an application is made under this By-Law for the installation of a private swimming pool, the application shall comply with this By-Law, the current Fencing By-Law, and be complete with information as required by this By-Law and the following information:

- i. A certified site grading plan by an engineer or Ontario Land Surveyor, showing existing elevations and new elevations, conforming to, current grading plans for the subdivision, and showing no negative impacts on neighbouring properties.

5.4. Prescribing Forms

The forms required for an application for a Permit, unless otherwise specified by the Chief Building Official, shall be those forms as set out in Schedule "A" of this by-law.

5.5. Plans and Specifications

5.5.1. Sufficient information shall be submitted with each application for a Permit to enable the Chief Building Official to determine whether or not the proposed Construction, Demolition or Change of Use will conform with the Act, the Building Code and any other applicable law.

5.5.2. Each application shall, in order to be deemed complete, and unless otherwise specified by the Chief Building Official, be accompanied by two complete sets of working drawings and information as set out in Schedule "B" of this by-law, or electronic drawings may be submitted, or may be required to be submitted, at the discretion of the Chief Building Official.

5.5.3. Plans shall be drawn to scale (min. 1:75 or 3/16"=1'-0") on paper, electronic media approved by the Chief Building Official, or other durable material approved by the Chief Building Official, and shall be legible. Free hand drawings are not permitted to be submitted.

5.5.4. A Plan of Survey certified by a licensed Ontario Land Surveyor shall be submitted to the Chief Building Official when required to demonstrate compliance with the Act, Building Code or any applicable law.

5.5.5. Any site plans submitted to the Chief Building Official shall demonstrate compliance with the Act, the Building Code or any applicable law and shall contain the following information:

- i. Lot size and the dimensions of property lines and setbacks to any existing or proposed buildings;
- ii. Existing and finished ground levels or grades;
- iii. On-Site Sewage Systems and private wells, for the property and neighbouring properties, as required;
- iv. Natural features including water courses, streams and topographic features, and setbacks from each;
- v. Public utilities location(s) and existing streets and street names;
- vi. Existing rights-of-way, easements and municipal services, including municipal drains;
- vii. Proposed fire access routes, and existing fire hydrant locations, if applicable. And any information or documentation required to determine compliance with fire access requirements of the Building Code and water supply requirements for fire suppression;
- viii. Scale bar; and
- ix. North marker indicated.

5.6. Alternative Solutions

Where a person proposes the use of an Alternative Solution as defined in Division A, Article 1.4.1.2. of the Building Code, the proposal shall:

- i. Include all documentation requirements as set out in Division C, Subsection 2.1.1. of the Building Code, and
- ii. Be submitted on the application form as set out in Schedule "B" of this by-law.

5.7. Inactive or Abandoned Permit Applications

5.7.1. Where an application for a Permit remains inactive for six months after it is submitted, the application may be deemed by the Chief Building Official to have been abandoned and notice thereof shall be given to the Applicant. Once an application is deemed to be abandoned, it may be cancelled and a new application will be required for the proposed work.

5.7.2. Where an application is deemed abandoned, all submitted plans, specifications and documents shall be disposed of, or upon the written request of the applicant, returned to the applicant.

5.8. Incomplete Application

5.8.1. Where the Chief Building Official determines that an application is incomplete, the Chief Building Official may refuse to accept the application or may commence to process the application if the applicant acknowledges in writing that the application is incomplete.

5.8.2. Where an applicant acknowledges that the application is incomplete, the Chief Building Official shall not be bound by the timelines prescribed by the Building Code within which a permit must be issued or refused, until such time as the application is deemed to be complete.

6. AS CONSTRUCTED PLANS

6.1. The Chief Building Official may require that a set of As Constructed Plans of a Building be filed with the Chief Building Official on completion of Construction under such conditions as may be prescribed in the Building Code or the Act.

6.2. Upon completion of Construction of the foundation for single detached dwellings, semi-detached dwellings, duplexes or townhouses, a certificate from an Ontario Land Surveyor, Professional Engineer or Architect shall be submitted to the Chief Building Official confirming that the elevation of the foundation conforms to the Ontario Building Code and to the subdivision grading plan or lot grading plan approved by the Corporation.

6.3. Upon completion of Construction of the foundation for single detached dwellings, semi-detached dwellings, duplexes or townhouses, a survey from an Ontario Land Surveyor shall be submitted to the Chief Building Official confirming that the location of the building conforms to the current Zoning By-law.

7. PLANS PROPERTY OF THE CORPORATION

Plans and specifications submitted in accordance with the requirements of this By-law or otherwise required by the Act become the property of the Corporation and shall be retained or disposed of in accordance with the relevant legislation and the corporations By-Laws.

8. FEES

8.1. Fees Payable

Fees for a required permit, alternative solution, change of use, conditional permit, plan reexamination, or other administrative charge, shall be set out in the Corporations current Fee By-Law, and shall be calculated by the Chief Building Official for the work proposed.

8.2. Floor Area

8.2.1. Where fees are calculated based on floor area for a finished building, such as a dwelling or other finished space, floor area shall mean the total finished floor space of all stories subject to the application.

8.2.2. Where fees are calculated based on floor area for an unfinished building, such as garages or sheds, floor area shall mean the total gross floor area of the building.

8.3. Additional Fees

Any person who commences construction, demolition or changes the use of a building or part thereof prior to the issuance of a permit to construct, demolish or change the use of a building or part thereof shall, in addition to any other penalty imposed under the Act or Building Code, pay a non-refundable Construction without a Permit Fee, as follows:

Work Commenced/Completed Prior to Permit	Applicable Increase in Permit Fee
i. Footings/Foundations commenced	25%
ii. Structural Framing commenced	50%
iii. Structural Framing completed	75%
iv. Building is completed	100%
v. Any other work requiring a permit:	
a. if 25% of the scope of work is completed	25%
b. if 50% of the scope of work is completed	50%
c. if 75% of the scope of work is completed	75%
d. if 100% of the scope of work is completed	100%
vi. Demolition or partial demolition has commenced	100%

8.4. Additional Inspection Fee

In addition to the fees paid at the time of application, an additional inspection fee shall be payable prior to each inspection being undertaken of any building in the amount as set out in the Corporations Fee By-Law where, more than two inspections, for one stage of construction, are required due to construction being incomplete or not in compliance.

8.5. Permit Refunds

In the case of withdrawal or abandonment of an application for a Permit or abandonment of all or a portion of the work or the non-commencement of any project, the Chief Building Official shall, upon written request of the Owner or Applicant, determine the amount of paid Permit fees that may be refunded to the Owner or Applicant, if any, as follows:

- i. 80 percent (80%) if administrative functions only have been performed;
- ii. 70 percent (70%) if administrative and zoning functions only have been performed;
- iii. 50 percent (50%) if administrative, zoning and plans examination functions have been performed;
- iv. 35 percent (35%) if the Permit has been issued and no field inspections have been performed subsequent to Permit issuance;
- v. 5 percent (5%) shall additionally be deducted for each field inspection that has been performed after the Permit has been issued;
- vi. A refund will not be made on a Permit where the amount paid was less than \$200.00; and
- vii. No refund shall be made after two years following the date of Permit application where the Permit has not been issued or one year following the date of Permit issuance.

8.6. Annual Fee Adjustment

8.6.1. Council may adjust the building permit fees for any or all classes of permits in the Corporations current Fee By-Law once annually in accordance with the "Consumer Price Index as published by Statistics Canada. Such adjustment to the fees shall not require an amendment to this By-Law nor require a public meeting.

8.6.2. Council may adjust the building permit fees for any or all classes of permits in the Corporations current Fee By-Law, in the first two years of this By-Law as a phase in approach, to maintain cost recovery for staffing and as per the Corporations current fee analysis study. Such adjustment to the fees shall not require an amendment to this By-Law nor require a public meeting.

9. NOTICE REQUIREMENTS FOR INSPECTIONS

9.1. Prescribed Notices

The Applicant or an authorized agent shall notify the Chief Building Official, of the prescribed notices under Division C, Article 1.3.5.1. of the Building Code and every additional notice under Division C, Article 1.3.5.2. of the Building Code, at least one business day prior to each stage of Construction.

9.2. Notice Prior to Occupancy

The Applicant or an authorized agent shall notify the Chief Building Official, requesting an occupancy permit be issued, for certain buildings of residential occupancy in accordance with Article 1.3.3.4 of Division C of the Building Code.

9.3. Notice Deemed Effective

Notice pursuant to this By-law is not effective until the notice is actually received by the Chief Building Official or his/her designate by voice mail, by email or other means of electronic transfer deemed acceptable by the Corporation, or where the notice is given in person or orally, or in writing and is acknowledged by the Chief Building Official or his/her designate. Where notice is received by voice mail, by email or electronic transfer, the notice shall be deemed to be effective if received on a business day or on the first business day following a weekend or statutory holiday.

9.4. Time Period for Conducting Inspections

Upon receipt of proper notice, the Chief Building Official or an inspector shall undertake a site inspection of the building to which the notice relates in accordance with the prescribed time periods set out in Section 11 of the Act and Article 1.3.5.3 of Division C of the Building Code.

10. FENCING

10.1. Fencing of Construction and Demolition Sites

Construction fencing shall be provided around a demolition or construction site that presents a hazard to the public.

10.2. Fencing Requirements

Construction fencing shall comply with the Corporations current fence By-Law and:

- i. Create a continuous barrier to deter unauthorized entry;
- ii. Have a height of not less than 1.2 meters above grade;
- iii. Be maintained in a vertical plane in good repair; and
- iv. Have all openings closed when the site is unattended.

11. CODE OF CONDUCT

11.1. The Code of Conduct for the Chief Building Official and Inspectors, required under Subsection 7.1(1) of the Act, is set out in the Corporations current policy manual, and posted for the public on the Corporations website.

12. OFFENCES AND PENALTIES

Every person who contravenes any provision of this By-law is guilty of an offence and on conviction is liable to a fine as provided in section 36 of the Building Code Act, 1992, S.O. 1992, c.23, as amended.

13. SERVERABILITY

Where a court of competent jurisdiction declares any section or part of a section of this by-law to be invalid, or to be of no force and effect, it is the intention of the Corporation in enacting this by-law that the remainder of this bylaw shall continue in force and be applied and enforced in accordance with its terms to the fullest extent possible according to law.

14. EFFECTIVE DATE

This By-Law comes into force on the January 1, 2022.

15. REPEAL

By-Law No. 22-2015, as amended, of the Corporation of the Municipality of Thames Centre is hereby repealed at the effective date of this By-Law.

READ a **FIRST** and **SECOND** time this 13th day of December, 2021.

READ a **THIRD** time and **FINALLY PASSED** this 13th day of December, 2021.

Mayor, A. Warwick

Clerk, T. Michiels

Schedule A
By-Law 91-2021
Prescribed Forms

Pursuant to Section 5.4 of this By-Law, the following forms shall be those used for the administration and enforcement of the Act, Building Code and this By-Law:

- 1- Application for a Permit to Construct or Demolish
- 2- Schedule 1: Designer Information
- 3- Schedule 2: Sewage System Installer Information
- 4- Energy Efficiency Design Summary: Prescriptive Method
- 5- Energy Efficiency Design Summary: Performance & Other Acceptable Compliance Methods
- 6- SB-10 Energy efficiency design summary
- 7- Commitment to General Reviews by Architects and Engineers
- 8- Schedule C – Design Calculations for Class 2, 4, & 5, ON-SITE Sewage Systems
- 9- Prescribed Orders
 - a. Order to Comply
 - b. Order Not to Cover or Enclose
 - c. Order Requiring Tests and Samples
 - d. Stop Work Order
 - e. Order to Uncover
- 10-Application for Alternative Solution

Schedule B
By-Law 91-2021
Required Plans and Specifications

Pursuant to Subsection 5.5.2 of this By-Law, the following forms may be required to accompany applications for Permits according to the scope of work;

- 1- Site plan / Survey
- 2- Lot grading plan
- 3- Floor plan
- 4- Foundation plan
- 5- Roof framing plan / roof truss layout plan
- 6- Detail roof truss plans
- 7- Reflected ceiling plan
- 8- Cross section plan / detail plan / section plan
- 9- Air barrier detail plan
- 10- Building elevations
- 11- Structural drawings
- 12- Architectural drawings
- 13- HVAC drawings
- 14- Electrical drawings
- 15- Mechanical drawings
- 16- Plumbing drawings
- 17- Fire alarm drawings
- 18- Sprinkler drawings
- 19- Travel distance / exit plans
- 20- Window and door schedules and details
- 21- Ontario building code matrix
- 22- Fire separation plans / fire separation specifications / fire separation details
- 23- On-Site sewage system design layout and specifications

The Chief Building Official may specify that not all the above mentioned plans are required to accompany an application for permit.

This information is in addition to any information specified in this By-Law.

Schedule C
By-Law 91-2021
Design Calculations For Class 2, 4, & 5 ON-SITE Sewage Systems

		SCHEDULE C Design Calculations For Class 2, 4, & 5 ON-SITE Sewage Systems.				
Owner/Address:		Designer:		Installer:		
		BCIN #:		BCIN #:		
STEP 1 - DAILY SEWAGE FLOW (Based on Hydraulic Loads for Fixtures, Floor Area, and Bedrooms)						
Plumbing Fixture Description	Existing # of Fixtures	Proposed # of Fixtures	Hydraulic Load	Fixture Units	All calculations as per Part 8 of Ontario Building Code Proposed(m ²): Proposed(ft ²): Existing(m ²): Existing(ft ²): Total Finished Floor Area Excluding Area of Finished Basement: m ² : ft ² :	
Bathroom group (toilet, sink, bathtub)			6			
Toilet			4			
Washbasin			1.5			
Bathtub or Shower			1.5			
Kitchen Sink(s)			1.5			
Bar Sink			1.5			
Dishwasher			1.5			
Washing Machine			1.5			
Bidet			1			
Laundry Tub			1.5			
Other:						
TOTAL FIXTURE UNITS						
Residential Occupancy						
Number of bedrooms	1	2	3	4	5	
Q (L/day)	750	1100	1600	2000	2500	
If you have more than 5 bedrooms, put 5 in the existing number of bedrooms and add additional bedrooms under additional flow for each bedroom over 5						
Existing Number of Bedrooms		Additional Bedrooms		Hydraulic Load, Q (L)		Calculation
Additional Flow For:			Existing	Proposed	Q (L/day)	Calculation
Each Bedroom over 5 OR*					500	
Floor space for each 10m ² over 200m ² up to 400m ²					100	
Floor space for each 10m ² over 400m ² up to 600m ²					75	
Floor Space for each 10m ² over 600m ² OR*					50	
Each fixture unit over 20 fixture units total					50	
TOTAL (L) =						
*NOTE: where you need to do multiple calculations, signified by the "OR" in the table, do the calculation for daily sewage flow based on bedrooms and floor space first, then fixture units, and use the larger of the two calculations.						
Other Occupancy (Table 8.2.1.3 (B))						
Establishment: (office, store, etc.)	Volume/Unit :	Occupant Load :	Volume (L) :			
EXPECTED DAILY DESIGN SEWAGE FLOW(Q):						

STEP 2 - PROPERTY SOIL PROFILE AND PERCOLATION RATE (T) DESCRIPTION

Percolation rate (T) is measured as minutes/centimetre, and measures the rate at which water drains into the soil. Please indicate the T-time of your site below as calculated by a qualified person.

Soil Type	(1) Coarse Gravel, no fines	(2) Gravel, some small rocks	(3) Gravel, sand mix, some fines	(4) Sand, fairly uniform, some fines	(5) Sandy, Loam mix	(6) Silty, Loam, almost clay	(7) Clay, smears well, rolls into ribbon
T-time (min/cm)	0 to 1	1 to 5	5 to 10	10 to 15	15 to 25	25 to 50	> 50

ON_SITE PROFILE (SUBTRACT USEABLE DEPTH OF SOIL FROM 1.5m FOR DEPTH OF IMPORTED FILL)

Select largest percolation rate (T) for appropriate soil type and insert below

Soil Depth (m)	Percolation Rate T	Soil Type	
0.2			Fill in the following:
0.4			
0.6			Depth of Soil / Impervious Soil / Groundwater Table(m):
0.8			
1.0			
1.2			
1.4			
1.6			

Fill in the following information on your soil

	Depth (m)	Depth (ft)	Rate (min/cm)
Topsoil to be removed:			
Usable Existing Soil:			
Imported Fill:			
Percolation Rate (T):			
Excavation of existing soil:			

CONTACT AREA CALCULATION

If you do not have a minimum of 250mm of useable soil on the property, you will need to import the mantle or contact area. Choose T and, divide Q by Loading Rate for T

Percolation Time (T) of soil (min/cm)	Loading Rate (L/m ² /day)
1 < T ≤ 20	10
20 < T ≤ 35	8
35 < T ≤ 50	6
T > 50	4

DAILY SEWAGE FLOW (Q):	÷	Loading Rate (L/m²/day)	=	CONTACT AREA (m²)
	÷		=	

STEP 3 - A) SEPTIC TANK SIZE CALCULATION

To calculate the minimum capacity of your septic tank, use the following formulas. Minimum tank size is 3600L.

Residential:	Q=	2XQ=	Tank Size:
Other Occupants:	Q=	3XQ=	Tank Size:

B) LEACHING BED LENGTH CALCULATION (conventional)

Length (m)= (Q X T)/200		Length of Pipe (ft)=	
Number of Runs (m):	D-BOX (Y/N):	Header (Y/N):	

C) FILTER BED - Where you may not have sufficient area on your property to install a leaching bed, you may install a filter bed for your distribution system

FILTER BED CALCULATION - If your daily sewage flow is less than 3000L/day, perform calculation 1), or if your daily sewage flow exceeds 3000L/day, perform calculation 2).

Calculation 1) - Filter Bed Surface Area

Surface Area (m²) = Q ÷ 75

Q = _____
SA = _____

FILTER BED SURFACE AREA (m²)
=
FILTER BED SURFACE AREA (ft²)
=

Calculation 2) - Filter Bed Surface Area

Surface Area (m²) = Q ÷ 50

Q = _____
SA = _____

FILTER BED SURFACE AREA (m²)
=
FILTER BED SURFACE AREA (ft²)
=

Select a desired length for the filter bed

Filter Bed Loading Area (m²):		Length (m):		Width (m):	
Filter Bed Loading Area (ft²):		Length (ft):		Width (ft):	

EXTENDED CONTACT AREA - T>11.5

Contact Area = (QXT)/850

Q = _____
T = _____

EXTENDED CONTACT AREA (m²)
=
EXTENDED CONTACT AREA (ft²)
=

DESIGN CALCULATIONS FOR A CLASS 2 SEWAGE SYSTEM

Refer to Sizing a Grey Water System located at the end of the description for a Class 2 - Leaching Pit system located on the APH website at www.algomapublichealth.com

D) GREYWATER SYSTEM -CLASS 2

1) How much Grey Water Waste?

Do you have pressurized(P) or non-pressurized(N) water? (P/N)			
Type of System	Number of Fixture Units	Volume/Unit (L)	Grey Water Waste, Q (L)

IF Grey Water Waste(Q) is greater than 1000L, a grey water system cannot be used.

2) Loading Rate (LR)

Loading Rate = $400/T$

T = _____

LOADING RATE (L/m²/day)

=

Loading Rate = _____

3) Size of System

Size of System = Q / LR

Q = _____

SIZE OF SYSTEM (m²)

=

LR = _____

DESIGN CALCULATIONS FOR A CLASS 5 SEWAGE SYSTEM

E) Holding Tank - Class 5

In order to calculate the capacity of your proposed holding tank, you must perform the following two calculations, and install a holding tank(s) with a capacity of the greater volume

Minimum Holding Tank Capacity (L) =	9000
Seven(7) X Daily Sewage Flow, Q (L) =	
MINIMUM HOLDING TANK CAPACITY (L)=	