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A Natural Attraction

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Planning & Development Services

Procedures for an Application for a Sewage System Permit

1. Application for a Sewage System Permit
2. Ontario Building Code Application for a Permit to Construct or Demolish
3. Proposed Sewage Disposal System Design Form
4. Calculation Sheet
5. Ontario Building Code and Guide Sheet

The following forms must be completed and returned to the City of Quinte West along with the appropriate fee to complete the application.

1. Application for a Sewage System Permit

   Note: Owner's signature must be provided or a letter from the owner appointing an Authorized Agent.

2. Ontario Building Code Application for a Permit to Construct or Demolish
3. Proposed Sewage Disposal System Design Form for sewage systems described in the Ontario Building Code. Other approved sewage systems (B.M.E.C. approved)

The Building Code Act does not allow the issuance of permits based on incomplete applications.

Building Inspectors can only provide comments based on complete applications and plans. Therefore incomplete applications will be returned to the Owner, or their Authorized Agent.

Once the completed application has been reviewed, an inspector will visit the property to inspect the test hole and site. The applicant will be either issued a permit to install the system or the reasons provided as to why a permit cannot be issued.

Information provided in this package is limited, and it is the responsibility of the applicant to ensure compliance with all applicable sections of the Ontario Building Code.

Building Services
Telephone: (613)392-2841
E-mail: building@quintewest.ca

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Application for a Sewage System Permit

OFFICE USE ONLY	
Application number:	Permit number (if different):
Date received:	Roll number:
Application submitted to: City of Quinte West (Name of municipality, upper-tier municipality, board of health or conservation authority)	

1. NAME OF OWNER: _____ TEL. NO.:_____

   MAILING ADDRESS: _____

2. PROPOSE TO: _____ A _____ OR _____
   Install or Repair | Holding Tank, Leaching Bed System, Filter Bed, Other Treatment Unit and/or System | Other (Privy, Greywater System). If other than a privy, specify make and model number

3. TYPE OF BUILDING: _____
   (Single Family Dwelling, Apartment Building, Motel, Etc.)

4. LOCATION:_____

5. STATE THE NUMBER OF:

☐	☐	☐	☐	☐	☐	☐	☐	☐
Bedrooms	Showers & Bathtubs	Wash Basins	Laundry Units	Toilets	Kitchen Sinks	Hot Tubs *	Swimming Pools*	Water Treatment Devices*

*NOTE: these items should not drain water to a sewage disposal system.

6. TOTAL AREA OF LIVING SPACE ON PROPERTY (includes guest cabins, bunkies, etc.): _____ m^2

7. WATER SUPPLY: ☐ Dug Well ☐ Municipal System ☐ Drilled Well (Depth of Steel Casing) _____Metres

   ☐ Other_____

   ☐ Proposed or ☐ Existing

IMPORTANT INFORMATION!

A. If the application is for holding tank, a signed pump-out agreement must be attached.
B. To determine the type and depth of soil in the proposed leaching bed, three test pits must be excavated to a MINIMUM DEPTH of 1.5 metres (or a least to rock or water) prior to inspection. Please advise when test pits are ready. It is suggested that a protective cover or fencing be placed over the hole.
C. Post the completed Lot Identification Card, at the roadside, where it can be seen form the point of access to your lot.
Note: Are the test pits ready? The inspection of the property will not be made until you notify us that the three test pits have been provided.

THE REVERSE SIDE OF THIS APPLICATION MUST BE COMPLETED!

DIRECTIONS TO PROPERTY

(Show Highway No., Secondary Road, Signs to Follow, Landmarks, 911 Address, Etc.)

Building Services
Telephone: (613)392-2841
Fax: (613)932-7151
E-mail: building@quintewest.ca

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PROPOSED SEWAGE DISPOSAL SYSTEM DESIGN

Owner of Property: _____

1) TOTAL DAILY DESIGN SEWAGE FLOW:_____ LITERS PER DAY

2) NATIVE SOIL PERCOLATION RATE:_____ MIN/CM (Provide lab test if under 50)

3) SEPTIC TANK SIZE:_____ LITERS

4) LEACHING BED DESIGN: **Complete A or B, C & D**

A. Absorption Trench System _____ metres of piping

Fill Required: Yes No (Circle) Depth of Fill: _____metres

Please indicate the depth of the bottom of the stone layer either above or below original grade:*

Bottom of Stone Layer _____ metres Below/Above Original Grade (please circle)

B. Filter Bed Size _____ m^2 Filter Sand Contact Area _____ metres

Fill Required: Yes No (Circle) Depth of Fill: _____metres

Please indicate the depth of the bottom of the stone layer either above or below original grade:*

Bottom of Stone Layer _____ metres Below/Above Original Grade (please circle)

C. Loading Rate Area _____ m^2

D. 15 metre constructed mantle required:

Yes No (Circle)

*NOTE: At least 900mm above the high ground water table, rock or soil with a percolation time greater than 50 minutes.

Side View Profile of Sewage System
NOTE: Show elevation above water table, bedrock or impermeable layer, existing grade etc.
Show elevation of finished grade with respect to original grade.

Proposed Design Site Plan
Indicate North Point and show the following required information:

1. Septic Tank and Leaching Bed
2. Pump Chamber
3. Loading Rate Area
4. 15 metre Mantle Area
5. Proposed Structure
6. Water Supplies (incl. neighbours)
7. Existing Sewage System
8. Driveways
9. Surface Waters
10. Property Lines
11. Foundation Drain
12. Eavestrough Discharge
13. Topographical Features (steep slopes, swamps etc.)
14. Direction of Slope
15. Direction of Surface and Ground Water Flow

Note: The loading rate area and the 15 metre mantle area are to be free of structures.

Building Services
Telephone: (613)392-841
Fax: (613)932-7151
E-mail: building@quintewest.ca

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Calculation Sheet

Ontario Building Code Proposed Requirements – Residential Sewage Disposal System

Name: _____

1. Sewage Flow

a) Number of bedrooms: _____ = _____ Litres (1)

b) Living space: _____ m^2 **ADD**
Each 10 m^2 over 200 m^2 up to 400 m^2: _____ x 100 = _____ Litres
Each 10 m^2 over 400 m^2 up to 600 m^2: _____ x 75 = _____ Litres

OR ADD (whichever is the larger flow) _____ Litres (2)

c) Total Fixture Units: _____
Each Fixture Unit over 20: _____ x 50 _____ Litres (3)

Total Sewage Flow: (Q) (Add 1 + 2 or 3) _____ Litres

2. Septic Tank Size

Residential Occupancy: Q Sewage Flow: _____ x 2 = _____ Litres (Minimum – 3600 Litres)
Commercial: Q Sewage Flow: _____ x 3 _____ Litres

3. Percolation rate from Test Hole Soil Conditions T Time = _____ min/cm
Or Lab **Test**

4. Leaching Bed Size
Length of Pipe = Q Sewage Flow x T Percolation Time

$L = \frac{QT}{200} = \frac{\text{\_\_\_\_\_ X \_\_\_\_\_}}{200}$ = _____ m. of pipe _____ ft. of pipe

5. Filter Bed Size
Q Sewage Flow ≤ 3000 Litres/Day: Q Sewage Flow ÷ 75 = m^2
_____ ÷ 75 = _____ m^2 of filter bed

Q Sewage Flow ≥ 3000 Litres/Day: Q Sewage Flow ÷ 50 = m^2
_____ ÷ 50 = _____ m^2 of filter bed

6. Filter Bed Contact Area of Filter Sand
Area = $\frac{\text{Q Sewage Flow x T Percolation Time}}{850}$ = _____ m^2 filter sand contact area

$A = \frac{QT}{850} = \frac{\text{\_\_\_\_\_ X \_\_\_\_\_}}{850}$ = _____ m^2 filter sand contact area

Expanded filter sand contact area is to be no less than the filter bed size.

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

Loading Rates	Percolation Time	Loading Rate ($L.m^2/day$)
	1-20	10
	20-35	8
	35-50	6
	>50	4

Q Sewage Flow ÷ Loading Rate = m^2 of 250 mm of unsaturated soil or leaching bed fill

_____ ÷ _____ = _____ m^2 of 250 mm of unsaturated soil or leaching bed fill

TEST PIT CONDITIONS

Depth (metres)	Soil Types
0 ____	
0.5 ____	
1.0 ____	
1.5 ____	

Show Rock Elevation _____

Show Water Table Spring HWT

Ontario Building Code & Guides

Table 7.9.4.3.
Minimum Permitted Size of Fixture Outlet Pipe and Hydraulic Loads for Fixtures

Fixture	Min. Size of Fixture Outlet Pipe, in.	Hydraulic Load, fixture units
Autopsy table	1½	2
Bathroom group		
a) with flush tank		6
b) with direct flush valve		8
Bathtub (with or without shower)	1½	1½
Bathtub: foot, sitz, or slab	1½	1½
Bed pan washer	3	6
Beer cabinet	1½	1½
Bidet	1¼	1
Chinese range	1½	3
Clothes washer		
a) domestic	N/A	1½ with 2 in. trap
b) commercial	N/A	2 with 1½ in. trap
Dental unit or cuspidor	1¼	1
Dishwasher		½
a) domestic	1½	no load when connected to garbage grinder or domestic sink
b) commercial type	2	3
Drinking fountain	1¼	½
Fish tank or tray	1½	1½
Floor drain	2	2 with 2 in. trap 3 with 3 in. trap
Garbage grinder	2	3
Icebox	1¼	1
Laundry tray		
a) single or double units or 2 single units with common trap	1½	1½
b) 3 compartments	1½	2
Lavatory		
a) barber or beauty parlor	1½	1½
b) dental	1¼	1
c) domestic type single, or	1¼	1 with 1¼ in. trap
2 single with common trap	1¼	1½ with 1½ in. trap
d) multiple or industrial type	1½	3
Potato Peeler	2	3
Shower drain		
a) from 1 head	1½	1½
b) from 2 or 3 heads	2	3
c) from 4 to 6 heads	3	6
Sink		
a) domestic and other small type with or without garbage grinders, single, double, or 2 single with a common trap	1½	1½
b) other sinks	1½	1½ with 1½ in. trap 2 with 2 in. trap 3 with 3 in. trap
Urinal		
a) pedestal, siphon jet or blowout type	2	4
b) stall, washout type	2	2
c) wall		
i) washout type	1½	1½
ii) other types	2	3
Water closet		
a) with flush tank	3	4
b) with direct flush	3	6

Table 8.2.1.3.A.
Residential Occupancy

Residential Occupancy	(litres)
Apartments, Condominiums, Other Multi-family Dwellings - per person [1]	275
Boarding Houses	
a) Per person,	
i) with meals and laundry facilities, or,	200
ii) without meals or laundry facilities, and	150
b) Per non-resident staff per 8 hour shift	40
Boarding School - per person	300
Dwellings	
a) 1 Bedroom Dwelling	750
b) 2 Bedroom Dwelling	1100
c) 3 Bedroom Dwelling	1600
d) 4 Bedroom Dwelling	2000
e) 5 Bedroom Dwelling	2500
f) Additional flow for [2]	
i) each bedroom over 5,	500
ii) A) each 10 m^2 (or part thereof) over 200 m^2 up to 400 m^2 [3],	100
B) each 10 m^2 (or part thereof) over 400 m^2 up to 600 m^2 [3], and	75
C) each 10 m^2 (or part thereof) over 600 m^2 [3], or	50
iii) each fixture unit over 20 fixture units	50
Hotels and Motels (excluding bars and restaurants)	
a) Regular, per room	250
b) Resort hotel, cottage, per person	500
c) Self-service laundry, add per machine	2500
Work Camp/Construction Camp, semi-permanent per worker	250

Table 8.2.1.5.
Clearance Distances for Sewage Systems

Clearance Distances for Class 1, 2 and 3 Sewage Systems

	Minimum horizontal distance in metres from a well with watertight casing to a depth of at least 6 m.	Minimum horizontal distance in metres from a spring used as a source of potable water or well other than a well with a watertight casing to a depth of at least 6 m.	Minimum horizontal distance in metres from a lake, river, pond, stream, reservoir, or a spring not used as as source of potable water.	Minimum horizontal distance in metres from a Property Line.
Earth Pit Privy	15	30	15	3
Privy Vault Pail Privy	10	15	10	3
Greywater System	10	15	15	3
Cesspool	30	60	15	3

Table 8.2.1.6.A. (Septic Tank)
Minimum Clearances for Treatment Units

Structure	15 m
Well	15 m
Lake	15 m
Pond	15 m
Reservoir	15 m
River	15 m
Spring	15 m
Stream	15 m
Property Line	3m

Table 8.2.1.6.B.
Minimum Clearances for Distribution Pipe

Structure	5m
Well with a watertight casing to a depth of 6 m	15 m
Any other well	30 m
Lake	15m
Pond	15m
Reservoir	15m
River	15 m
A spring not used as a source of potable water	15 m
Stream	15 m
Property Line	3 m

Table 8.2.1.6.C.
Minimum Clearance for Holding Tanks

Structure	1.5 m
Well with a watertight casing to a depth of at least 6 m	15 m
Any other well	15 m
A spring	15 m
Property Line	3 m

*NOTE:

1. All clearances are increased by twice the height that the leaching bed/filter bed is raised above the original ground.

2. Greywater systems must be maintained at least 5 metres form any structure.

Table 2.
Soil Percolation Rates

Soil Type (unified soil classification) Coarse Grained - More than 50% larger than #200	Coefficient of Permeability K - cm/sec.	Percolation Time - T mins/cm.	Comment
G.W. - Well graded gravels, gravel-sand mixtures, little or no fines.	10	<1	very permeable unacceptable
G.P. - Poorly graded gravels, gravel-sand mixtures, little or no fines.	10-1	<1	very permeable unacceptable
G.M. - Silty gravels, gravel sand-silt mixtures.	10^{-2}-10^{-4}	4-12	Permeable to medium permeable depending on amount of silt.
G.C. - Clayey gravels, gravel-sand-clay mixtures.	10^{-4}-10^{-6}	12-50	Important to estimate amount of silt and clay.
S.W. - Well-graded soils, gravelly sands, little or no fines.	10^{-1}-10^{-4}	2-12	medium permeability
S.P. - Poorly graded sands, gravelly sand, little or no fines.	10^{-1}-10^{-3}	2-8	medium permeability
S.M. - Silty sands, sand-silt mixtures.	10^{-3}-10^{-5}	8-20	medium to low permeability
S.C. - Clayey sands, permeability sand-clay mixtures.	10^{-4}-10^{-6}	12-50	medium to low (depends on amount of clay)

Table 3.
Approximate Relationship of Soil Types to Permeability and Percolation Time

Soil Type (unified soil classification) Coarse Grained - More than 50% larger than #200	Coefficient of Permeability K - cm/sec.	Percolation Time - T mins/cm.	Comment
M.L. - Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, clayey silts with slight plasticity.	10^{-5} - 10^{-6}	20 - 50	medium to low permeability
C.L. - Inorganic clays of low to medium plasticity gravelly clays, sandy clays, silty clays, lean clays.	10^{-6} and less	over 50	unacceptable
O.L. - Organic silts, organic silty clays of low depends plasticity; liquid limit less than 50	10^{-5} and less	20 - over 50	acceptable on clay content.
M.H - Ingoranic silts, micareaous or diatomageous fine sandy soil or silty soils, elastic silts	10^{-6} and les	over 50	unacceptable
C.H – Ingoranic clays of medium to high plasticity, organic silts	10^{-7} and less	over 50	unacceptable
O.H - organic clays of medium to high plasticity organic silt; liquid limit over 50	10^{-6} and less	over 50	unacceptable