

## CONSTRUCTION OF SEWAGE DISPOSAL SYSTEM

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Install sewage disposal system in accordance with the requirements of the B.C. Sewage Disposal Regulation 411/85 and the conditions specified in the "Permit to Construct".

The sewage disposal system must be constructed as per the Permit to Construct and related application. Any changes must be approved by the PHI/EHO. There may be a re-inspection fee for each additional inspection if the installed system is rejected by the PHI/EHO.

Ensure the trenches or other parts of the sewage disposal system are not covered or backfilled until approved by the PHI/EHO.

For package treatment plants, pressure distribution, and alternate systems – consult your district PHI/EHO for assistance.

Plastic distribution pipe must have CSA 182.1 or ASTM d2729 designation.

### FINAL INSPECTION (FORM HLTH 136)

Complete an "Authorization to Operate a Sewage Disposal System" form and contact the Health Unit to arrange for a Final Inspection.

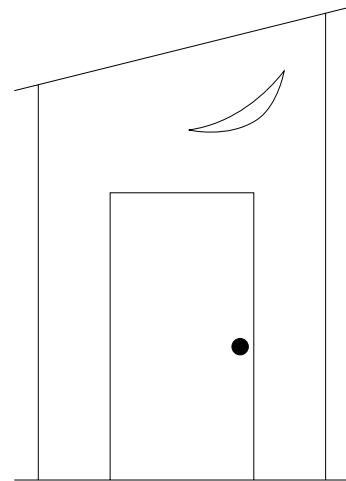
Backfilling and "Authorization to Operate a Sewage Disposal System" will be determined by the PHI/EHO in writing.

**NOTE:** It is illegal under the Sewage Disposal Regulation to put into use a sewage disposal system without written authorization.

# A Consumer's Guide

to filling out the  
British Columbia  
Ministry of Health's

## Sewage Disposal System Permit (HLTH 135)



Proper disposal of sewage wastes is an essential part of health protection and disease prevention. This information brochure is produced to assist you in investigating and choosing an appropriate system for your site. Use this package in conjunction with advice from your local Public Health Inspector (PHI)/ Environmental Health Officer (EHO) and qualified contractors who build and maintain sewage disposal systems. Make every effort to maintain the safest system you can. You and your family will benefit directly from your efforts.

Please read this brochure carefully before completing the Application Form.

Depending on site conditions, the steps outlined in this pamphlet may be insufficient to obtain a permit. In some cases an engineered design may be required.

## **APPLICATION PROCEDURE**

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*The sewage disposal system may be the determining factor in establishing the location and ground elevation of the dwelling or other buildings. Do not excavate or alter the site prior to approval.*

1. Determine whether specific covenants are registered against the property title affecting on-site sewage disposal or water supply. If so, attach copy of covenant to application.
2. Conduct site investigation and determine absorption field location.
3. Determine subsurface soil conditions.
4. Carry out percolation tests.
5. Complete the enclosed Application in full  
Note: If the applicant is a prospective purchaser, a copy of the *Agreement of Sale* must accompany the application.
6. Provide a plot plan drawn to scale on the application.
7. Prepare lot for inspection:
  - a) cover and flag all observation and percolation holes
  - b) mark corners of lot and property boundaries
  - c) post a lot identification marker
  - d) mark 4 corners of the disposal field
8. Sketch a map with directions to property if it is in a remote area.
9. Submit complete application with an attached cheque or money order for the required fee.

## **INITIAL SITE INVESTIGATION**

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Before applying for a permit the applicant shall determine the most suitable site for an absorption field by establishing subsurface soil conditions, the highest ground water table, and performing percolation tests.

## **ABSORPTION FIELD LOCATION CRITERIA**

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Locate the absorption field where the ground water table, impervious layer, or bedrock is 4 feet (1.2m) or greater below the natural ground surface. Sites with native soil depths less than 48 inches (122cm) may be considered for alternate (filled or raised) systems if conventional sites are not available. If applicable, property owners must utilize covenant areas intended for absorption fields.

Soil with a percolation rate exceeding 30 minutes per inch may not be approved, but alternate methods of sewage disposal may be considered.

An absorption field shall NOT be located less than:

- 10 ft (3m) from a building
- 10 ft (3m) from a parcel boundary
- 10 ft (3m) from an interceptor drain
- 10 ft (3m) from a domestic water pipeline
- 50 ft (15.2m) from downslope breakout points
- 100 ft (30.5m) from a natural boundary of a lake or other body of non-tidal water
- 100 ft (30.5m) from a source of domestic water

An absorption field shall not be located under a roadway, paved area, or an area used/intended for parking motor vehicles.

Sites with slope exceeding 30% may not be approved. Sites with slopes exceeding 12% may not be approved for raised (filled) systems.

## **SEPTIC TANK LOCATION CRITERIA**

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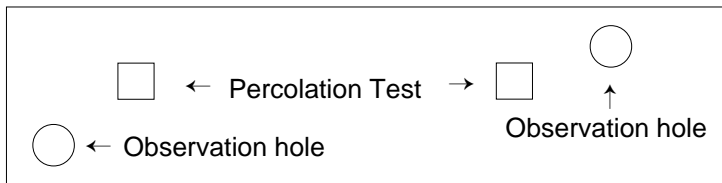
A septic tank shall be located not less than

- a) 15.24m (50 ft.) from a source of domestic water,
- b) 1m (3 ft.) from a parcel boundary,
- c) 1m (3 ft.) from a building, and
- d) 3m (10 ft.) from a domestic water pipeline.

# SUBSURFACE SOIL CONDITIONS

- Determine the subsurface soil conditions:
  - to establish the presence of bed rock, hard pan, water table, etc.
  - to establish soil texture and characteristics
- Dig or bore at least two holes to a minimum depth of 4 feet (1.2m) to display soil profile. Additional holes may be required by the PHI/EHO. Backhoe dug holes are recommended.
- Report the conditions found in the observation holes and leave the excavated material undisturbed beside the observation holes for an inspection. Cover and flag the location of the observation holes.

- Report:
- soils (loam, sand, gravel, clay, or combinations of these, colour & depth)
  - depth of root systems
  - depth to seasonal high water table, hardpan and bedrock



## PERCOLATION TEST

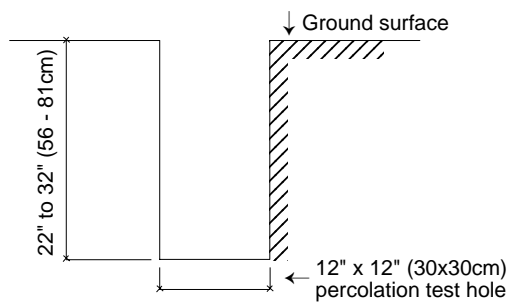
To determine the suitability of the soil to absorb sewage effluent.

### 1. Percolation test hole

- Dig a minimum of 2 percolation test holes 12" (30.5cm) square to a depth of the proposed disposal field (usually 22 - 32 inches or 56 - 81cm).
- Remove any smeared soil surfaces on the walls and bottom of the percolation test holes using a knife, sharp tool, etc.

### 2. Presoaking the percolation test hole

- If the soil contains silt and/or clay, keep the percolation test hole filled with water for a minimum of 4 hours
- Immediately proceed with the next step.

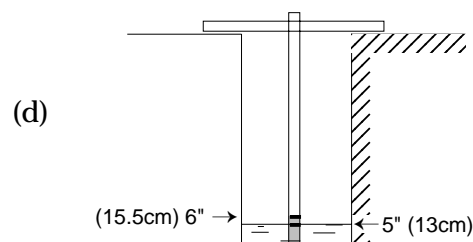
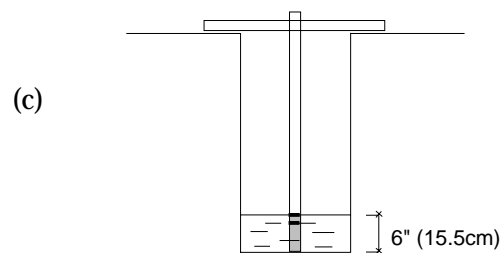
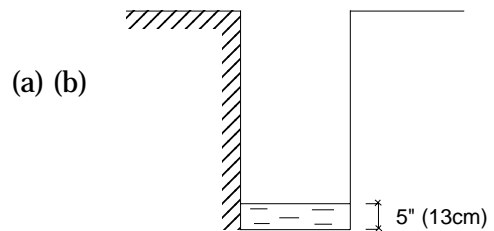


## 3. Percolation test procedure

- Fill percolation test hole with water and allow the water to drain to within 5" (13cm) from the bottom of the hole.
- Refill the percolation test hole allowing the water to again drain to within 5" (13cm) from the bottom.
- Add enough water to the percolation test hole to raise the water level within the hole to just above 6" (15.5cm) from the bottom of the hole.
- When the water level reaches 6" (15.5cm) above the bottom of the hole - start timing until the water level goes down one inch (2.5cm) and reaches 5" (13cm) above the bottom of the hole. Record time.
- Repeat procedures (c) and (d) until the last two rates of fall do not vary by more than two minutes.

NOTE: To help you accurately measure the water level in the test holes as you do this procedure, make a measuring stick (as shown in the diagram) with marks at 5" (13cm) and 6" (15.5cm) from the bottom.

### Examples



#### 4. Percolation Rate

The percolation rate of the soil is determined by averaging the slowest rates recorded for each percolation hole tested. To determine the length of Absorption Field distribution pipe you will need, use the following table:

NUMBER OF BEDROOMS	ESTIMATED DAILY SEWAGE FLOW (Imperial gallons/Liters)	SEPTIC TANK VOLUME (Imperial gallons/Liters)	PERCOLATION RATE OF ABSORPTION FIELD (minutes per inch or per 2.5cm)						
			1	5	10	15	20	25	30
			Length of Absorption Field Distribution pipe (feet/meters)						
1 - 2	250/1136	500/2273	150/45	160/48	210/64	240/73	270/82	298/90	322/98
3	300/1363	600/2727	150/45	192/58	252/76	288/87	324/98	357/108	387/117
4	375/1705	750/3409	150/45	240/73	315/96	360/109	405/123	445/135	485/147
5	450/2045	900/4091	162/49	288/87	378/115	432/131	485/147	535/163	580/176
6	550/2500	1100/5000	198/60	352/107	462/140	528/160	595/181	655/200	710/216

#### 5. Cover the percolation test holes and flag location

## LOT PLAN REQUIREMENTS

Your application will not be processed unless a plot plan drawn to scale is submitted on the application form.

Show location and include dimensions of the following:

- Existing and potential building sites
- Property lines
- Observation holes (min. 2)
- Percolation test holes (min 2)
- Proposed location & design of sewage absorption field including distances to:
  - buildings; property lines; wells, water lines (including neighbours); water courses, creeks, lakes, oceans & other surface waters; existing & proposed drainage ditches (interceptor & curtain drainage).
- Proposed location of septic tank or package treatment plant
- Areas of slope exceeding 30%
- Direction and percent slope within proposed absorption field site
- Rock outcrops
- Existing & proposed roadways, easements, right-of-ways, & covenant areas
- Underground utilities (ie. hydro, gas, telephone)
- Potential break-out point

## INITIAL SITE INSPECTION

The PHI/EHO will conduct a site inspection to verify the information provided and to evaluate the suitability of the site for an on-site sewage disposal system.

A “Permit to Construct” will be issued if the proposed sewage disposal system and on-site conditions comply with the Sewage Disposal Regulations and Ministry Policies.

The PHI/EHO will contact the applicant in regards to the suitability of his/her proposed sewage disposal system. Applicants with unsuitable systems will receive a written Rejection Report. Applicants may appeal this decision to the Environmental Appeal Board within 30 days of the rejection. The 30 days appeal period also begins for neighbours and any other aggrieved persons once the permit has been approved. See Environmental Appeal Board brochure, available at your local Health Unit Department, for details.