THE MUNICIPALITY OF PRINCE

BY-LAW NO. 70-7

WHEREAS authority has been provided in The Municipal Act, R.S.O. 1960, chapter 249 and section 31 of The Planning Act, R.S.O. 1960, chapter 296 to permit municipalities to pass by-laws relating to private sewage disposal systems and draining of lands;

NOW THEREFORE the Council of the Municipality of Prince ENACTS as follows:

By-law # 70-7 regulating the installation, operation and maintenance of privately owned septic tank sewage disposal systems.

EFFECTIVE DATE

This by-law takes effect on the day of its final passing.

PASSED in open Council this 14th day of July , 1970.

MAYOR (REEVE)

CLERK

First Reading: July 14, 1970

Second Reading: July 14, 1970

Third Reading: July 14, 1970

PART 7A

7A.1 DEFINITIONS

In this Part

.1 "Building Drain" means that part of the lowest horizontal piping of a drainage system which receives the discharge from soil, waste and other drainage pipes inside the walls of the building and conveys it to the lateral drain connection at a point three (3) feet outside the outer face of the building wall;

.2 "Public Health Inspector" means an inspector employed by the Algoma Health Unit;

.3 "Inspector" means the Medical Officer of Health or a Public Health Inspector.

.4 "Lateral Drain Connection" means any drainage works, pipe or other device to connect a building drain or other source of sewage to a public sewer;

.5 "Matter" includes any gaseous, liquid or solid substance or and combination thereof;

.6 "May" is permissive;

.7 "Medical Officer of Health" means the Medical Officer of Health for the Algoma Health Unit;

.8 "Natural Outlet" means any outlet into a watercourse, pond, ditch, lake or other body of surface or ground water;

.9 "Private Sewage Disposal" means a system consisting of septic tank and field tile for the purpose of private sewage disposal without pollution of ground water or appearance of sewage on the ground surface;

.10 "Sewage" means a combination of the water-carried wastes from residences, business buildings, institutions and industrial establishments, together with such ground, surface and storm waters as may be present;

.11 "Sewer, Sanitary" means a municipal sewer for the collection and transmission of domestic, commercial and industrial wastes not including land drainage or storm water runoff;

.12 "Sewer, Storm" means a municipal sewer for the collection and transmission of storm water runoff, land surface water and water from soil drainage not including any industrial wastes other than unpolluted cooling waters;

.13 "Sewer, Combined" means a municipal sewer for the collection and transmission of surface and ground waters and sewage;

.14 "Shall" is mandatory;

.15 Subject to the definitions specifically set out above words defined in the Ontario Water Resources Commission Act, the regulations made under section 47 thereof (Regulation 471) shall have the same meanings.

7A.2 MINIMUM REQUIREMENTS FOR PRIVATE SEWAGE DISPOSAL SYSTEMS

.1 Permits Required

(a) No person shall commence or continue the construction of a private sewage disposal system, privy vault, cesspool, septic tank, tile bed or reservoir into which a privy, water closet, toilet, stable, sink or tub is drained without having first obtained a permit therefor from the Building Inspector.
(insert Clerk, Building Inspector or other designated official)

(b) No person shall use or permit the use of any private sewage disposal system after its construction until the system as constructed has been approved by the Medical Officer of Health.

.2 Application for Permits

The application for a permit required by the section 8 shall

(a) Be in writing in the form prescribed and supplied by the Building Inspector;
(insert Clerk, Building Inspector or other designated official)

(b) Be signed by the applicant;

(c) Be accompanied by the fee prescribed by this By-law;

(d) Set forth in plan form, the dimensions and location of the property showing

(i) location, size and use of buildings on the said property;

(ii) the size and location of the septic tank, tile bed or other works for which the permit is sought;

(iii) the grade of the land; and

(iv) the nature of the soil in the land;

(e) Set forth the specifications, size, capacity, levels and grades of the septic tank, tile field or other works to be constructed;

(f) Set forth such additional relevant information as may be required by this by-law or the Medical Officer of Health;

(g) Be filed with the Building Inspector.
(insert Clerk, Building Inspector or other designated official)

.3 Issue of Permits

(a) The Building Inspector (insert Clerk, Building Inspector or other designated official) shall on behalf of and in the name of the Municipality issue permits required under this Part 7A when a satisfactory application has been filed with him therefor.

(b) No such permit shall be issued unless and until:

(i) all of the requirements of this by-law and all other relevant statutes and regulations have been complied with.

(ii) The Medical Officer of Health has been able to perform soil percolation tests and other tests of the soil in respect of which the application is made unless the Medical Officer of Health is familiar with the property or for other good reason may deem that such tests are not necessary.

(iii) The application has been approved by the Medical Officer of Health.

.4 Permit Subject to Conditions

Every permit issued hereunder is subject to the following conditions:

(a) Construction of the septic tank, tile bed or other works is commenced within 6 months of the date of issue of the permit.

(b) Construction is carried out in accordance with this by-law, all other relevant by-laws, statutes and regulations, and the conditions and directions made by the Medical Officer of Health.

(c) Such further and other conditions as the Medical Officer of Health deems proper in the circumstances.

.5 Works to be Constructed in Accordance with By-law and Permit

No person shall construct any septic tank, tile bed or other work for which a permit is required by this by-law except in accordance with this by-law and the directions and conditions imposed by the Medical Officer of Health.

.6 Tests

Any person making application for a permit hereunder shall perform such soil, percolation and other tests as the Medical Officer of Health may require.

.7 Inspection

Every owner of property shall

(a) Give notice to the Medical Officer of Health when the work is ready for inspection.

(b) Not fill in excavations until the septic tank, distribution box, tile bed, connections, and other works have been inspected and approved by the Medical Officer of Health.

(c) Give notice to the Medical Officer of Health that the work has been completed and is ready for final approval before being put into use.

.8 Duties of Medical Officer of Health

The Medical Officer of Health

(a) Shall administer this Part 7A in conjunction with the Building Inspector ;
(insert Clerk, Building Inspector or other designated official)

(b) Shall within a reasonable time, perform such inspections, tests and studies as are necessary to fulfill his duties hereunder;

(c) May enter on property to perform such duties from time to time when so required;

(d) Shall refuse to approve a permit required by this Part 7A when in his opinion, having regard to the soil, percolation, grade, porosity, drainage, size and other characteristics of the land, the uses to be located thereon, and the public health, the land is not suitable for a private sewage disposal system;

(e) Shall attach such conditions to a permit issued hereunder as he deems proper in the circumstances.

.9 Mimimum Requirements for the Construction of Septic Tanks

Every septic tank shall be constructed so as to conform to the following minimum requirements:

(a) It has a minimum capacity of 400 imp. gallons;

(b) It has a baffled inlet and outlet;

(c) All septic tanks whether of concrete or other approved material shall be installed on a solid base made level with sand or coarse granular material;

(d) Every tank shall be constructed of such materials and to such standards as are prescribed by the Medical Officer of Health and without limiting the generality of the foregoing, septic tanks shall:

(1) The walls, top and bottom of any septic tank shall be of substantial water tight construction.

(2) If the tank is of steel construction, it shall be constructed of not less than 10 gauge iron tarred on the inside and outside, provided however, 14 gauge iron may be used if the Medical Officer of Health is satisfied that municipal sanitary sewers will be constructed to service the property within a reasonable period of time.

(3) Where the tank is constructed of concrete, the tank shall be:

(i) constructed of concrete having a minimum 28 day compressive strength of 3,000 pounds per square inch;

(ii) precast concrete having a minimum 28 day compressive strength of 3,000 pounds per square inch;

(iii) when construction on the site the bottom and the walls of the tank shall be poured all in one operation with the fittings in their correct position.

(iv) made smooth with a cement and sand plaster and coated with asphalt or tar;

(v) whenever the top is poured separately from the walls, the walls must be grouted to ensure a perfect water tight joint;

(vi) shall be formed inside and out. The earth may not be used for the outside form.

(4) Precast concrete septic tanks shall be reinforced with 6" x 6" #10 x #10 welded wire mesh or otherwise as is approved by the Medical Officer of Health.

(5) Where a septic tank is of precast concrete construction and is constructed in pieces, such pieces shall be joined together and sealed in the manner that is approved by the Medical Officer of Health.

(e) All pipes and fittings shall meet with the approval of the Medical Officer of Health;

(f) It is at least 5 feet from any foundation or dwelling wall;

(g) It is watertight.

(h) No septic tank shall be located within 50 feet of, or in such a position that it is liable to contaminate, any existing domestic water supply source.

.10 Minimum Requirements for the Construction of Tile Fields

Every weeping tile field shall be so constructed in accordance with the following minimum requirements so that:

(a) There is a minimum of 300 lineal feet of weeping tile;

(b) Laterals are placed at not less than 6 foot centres;

(c) Laterals emanate from a distribution box;

(d) Trenches are not less than 18 inches nor more than 24 inches wide;

(e) No weeping tile lateral is closer than 5 feet to any property line;

(f) The slope of the tile is to be uniform and not exceeding 1 inch in 25 feet;

(g) Washed gravel or crushed stone ($\frac{1}{2}$" to 2$\frac{1}{2}$" size) shall be backfilled around the field tile. Minimum dimensions are: 6" below the bottom of the tile; 7" above the bottom of the tile and a total trench width of 18" as measured at the bottom. There shall be a minimum of 12" of ground cover over the gravel fill in the trenches.

(h) Such tile field is located as far as practicable from any dwelling.

(i) No tile field shall be located within 50 feet of or in such a position that it is liable to contaminate, any existing domestic water supply source.

(j) No tile field shall be located within 50 feet of the high water level of any natural water course.

.11 Septic Tank Construction Standards

(1) Capacity

Septic tanks of either "overflow" or syphonic discharge type shall be installed in accordance with the following table of dimensions.

DIMENSIONS OF SEPTIC TANKS

NUMBER OF BEDROOMS	SETTLING COMPARTMENTS (COMBINED CAPACITY) LENGTH A	WIDTH B	WATER DEPTH C	SYPHON CHAMBERS (IF REQUIRED) LENGTH D	WATER DEPTH E	MINIMUM CAPACITY (IMP. GAL.)
2 OR LESS	6'-0"	3'-0"	4'-0"	4'-6"	1'-3"	400
3	6'-9"	3'-0"	4'-0"	4'-6"	1'-3"	500
4	8'-0"	3'-0"	4'-0"	5'-6"	1'-3"	600
5	9'-0"	3'-0"	4'-0"	6'-0"	1'-3"	720

* MINIMUM SIZE OF TANK

NOTE: IF GARBAGE GRINDERS ARE USED TANK CAPACITY SHALL BE INCREASED BY 20%

Syphon Chamber dimensions are approximate but are suitable in normal circumstances. The water depth (E) is for a 3" bell syphon. The volume of sewage held should be 2/3 to 3/4 of the volume of the tiles in the disposal field. 100 feet of 4" tile will hold 55 gallons, therefore, an allowance of 40 gallons for every 100' of tile should be made in determining size of syphon chamber.

(2) Non Residential Uses

Septic tanks for other than private dwellings shall be of a size and to such standards as are satisfactory to the Medical Officer of Health and shall be based on the estimated water consumption.
Length of weeping tile shall be determined by a percolation test and shall be of a size satisfactory to the Medical Officer of Health.

(3) Design and Layout

Septic tanks are recommended but not required to have not less than two chambers: First chamber shall be twice the length of second chamber. Combined length shall equal length A. The effluent drain to the disposal bed shall be of water tight construction with not less than six inches of fall. Septic tank and tile bed shall conform to the attached construction details and general layout.

(4) Grading

Before any septic tank is installed the Inspector shall, if necessary, examine the area and shall require that the land be properly graded and drained. Wherever it is necessary to remove top soil to effect the necessary grading, the top soil shall be replaced to a depth of not less than four inches (4").

Where in the opinion of the Medical Officer of Health, it is necessary, he shall specify the exact location of the septic tank and tile bed and he may require any additional work he deems necessary be performed to ensure the proper operation of the septic tank. It shall be the responsibility of the owner to see that all work specified in this section is carried out.

.12 Tile Field Construction Standards

(1) Area Required for Weeping Tile

There shall be not less than 2,000 square feet of available space for the first 300 feet of weeping tile and this area shall be increased by 600 square feet for each additional 100 feet of tile or part thereof, being laid.

(2) Capacity of Tile Disposal Field

A percolation test as described in the brochure "Small Septic Tank System" prepared by the Ontario Department of Health shall be made to determine the required length of weeping tile. In no case shall any weeping tile bed be less than 300 lineal feet for a septic tank.

(3) Method of Laying Disposal Bed

Field drainage tiles shall be laid in trenches on a firm base of porous filtering material consisting of not less than six inches of minimum one-half to three-quarter inch broken stone or crushed gravel, that has been screened to remove finer particles. One-quarter inch spacing shall be left between the tiles and the upper half of the spacing shall be covered with four inch strips of tarred paper or equivalent. The trenches shall then be back filled with broken stone of a particle size from one-half to three-quarter inch to a point not less than two inches above the tile. The depth of earth cover over the stone shall not be less than twelve inches or greater than twenty-three inches. The trenches shall be not less than 18" wide and 6' apart.

(4) Weeping tile shall be laid at a small uniform grade away from the distribution chamber of not more than 1 inch in twenty-five feet.

(5) Whenever the weeping tile are laid in coarse dry sand or gravel a lesser amount of stone may be required at the discretion of the Inspector.

(6) The maximum length of each individual row of weeping tile shall be sixty feet for private dwelling and one hundred feet for public or commercial buildings.

(7) Weeping Tile

Field drainage or weeping tile shall be not less than 3½ inches in inside diameter and to be made of red clay, concrete, bituminized fibre or concrete asbestos composition type having a crushing strength not less than 800 lbs. The Inspector may require satisfactory evidence from the manufacturer that the tile meet the aforementioned requirements.

.13 Minimum Lot Area Requirements for Private Sewage Disposal Systems

No lot shall have constructed thereon a private sewage disposal system to serve a residential dwelling thereon unless

(a) If the lot is served by the municipal water mains, the lot area is not less than 7,500 square feet;

(b) If the lot is not served by the municipal water mains, but is dependent upon a private well water supply, the lot area is not less than 15,000 square feet; and

(c) There is in such lot an area of not less than 2,000 square feet available and suitable for the weeping tile field.

.14 Filling in Tanks No Longer In Use

Where the use of a septic tank, privy vault, cesspool or other sewage system is discontinued, the contents thereof shall be removed or buried in a manner satisfactory to the Medical Officer of Health. Privies shall be dismantled and removed from the premises and where it is advisable for safety or health reasons in the opinion of the Medical Officer of Health, such septic tanks, privy vaults, cesspools or other similar sewage disposal devices shall be filled with earth.

.15 Permit Fees

For a permit issued under this section 8, a fee of Five dollars ($5.00) shall be first paid.

.16 General Regulations

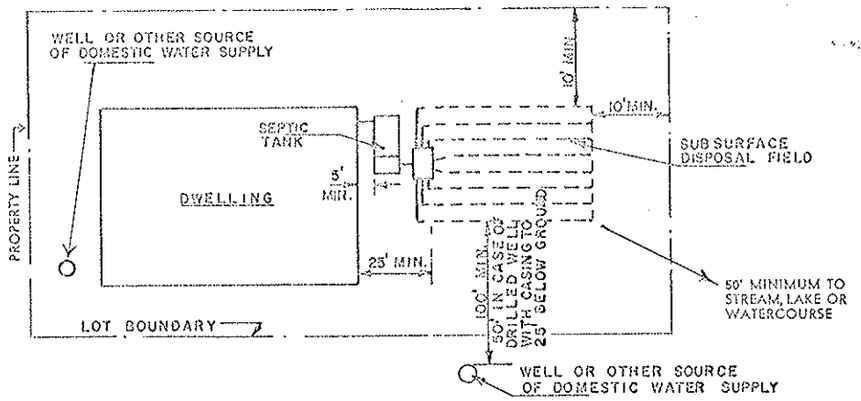
(1) No permit shall be granted to permit the construction or use of a private sewage disposal system to serve a structure that will front upon a street in which a sanitary or combined sewer exists.

(2) Where it can be shown to the satisfaction of the Medical Officer of Health that a structure can not normally be connected to sanitary or combined sewer even although such sewer is available in the street abutting the property, the owner may apply to the Municipality for permission to install and maintain a septic tank system, which permission if granted shall be by resolution of the Council.

(3) No structure shall be constructed or located over any septic tank or weeping tile bed without first removing or disconnecting and filling in the said septic tank or tile bed.

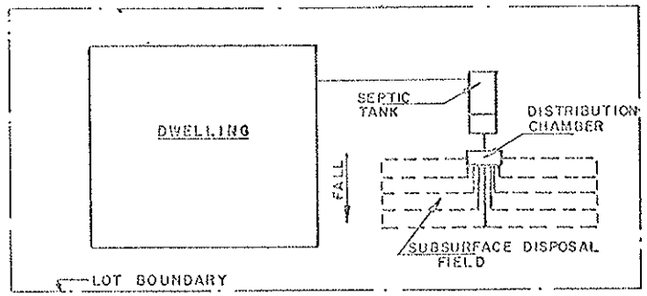
.17 Maintenance

Every person on whose property a private sewage disposal system or tile bed exists or is hereafter installed shall keep and maintain such system and tile bed in a proper operating condition so that the system or tile bed does not overflow and does not otherwise create an unsanitary condition. Where, in his opinion, it is proper so to do, the Medical Officer of Health may direct that any private sewage disposal system shall be emptied and cleaned.



TYPICAL LAYOUT OF SEPTIC TANK AND TILE FIELD

(GROUND FAIRLY LEVEL)

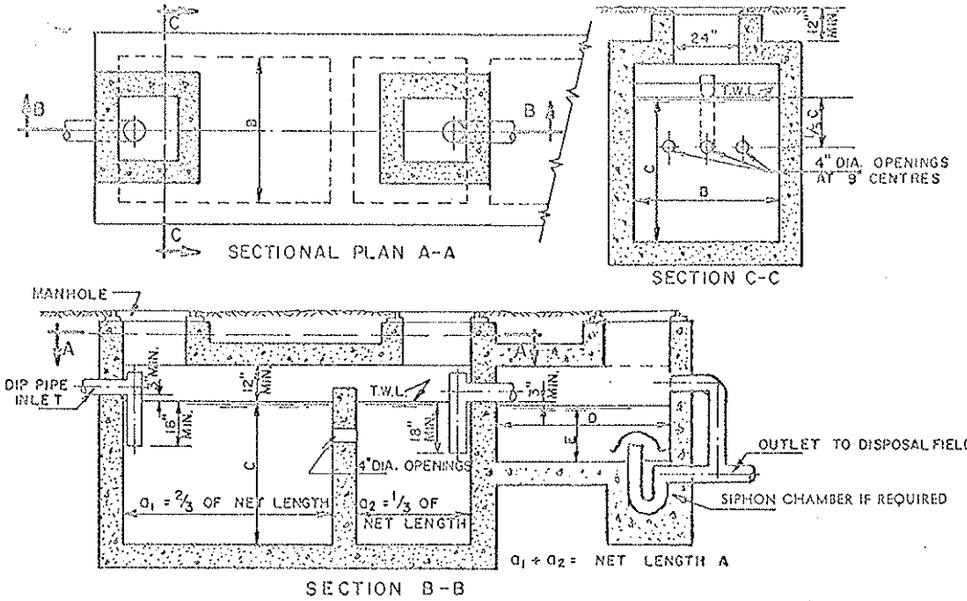


ALTERNATE LAYOUT OF SEPTIC TANK AND TILE FIELD

NOTES:

1. The above layouts are suitable for well drained soil as determined by percolation tests. For other soils, alternative methods of disposal of the septic tank effluent may be necessary.
2. Location of tank and tile field to be on lower ground than adjacent wells, etc. if possible.
3. Internal plumbing and main drainage outlet should be designed with a view to connecting to possible future sanitary sewers.
4. Roof water, surface water, discharge from footing drains, etc. to be excluded from entry to septic tank.
5. Tile fields not to be located in swampy ground or in ground liable to flooding.
6. Inspect tanks annually. Clean the tank when combined depth of sludge and scum layers is ⅓ the depth C (see drawing 2).
7. Method of sludge disposal to be approved by the M.O.H.

SEPTIC TANK SYSTEMS
GENERAL LAYOUT
NOT TO SCALE



TWO COMPARTMENT SEPTIC TANK AND SIPHON CHAMBER PLAN AND SECTIONS

NOTES:

1. Performance of tanks is usually improved if divided into two compartments as shown. Total capacity remains the same as for a single compartment tank.
2. Manhole access should be provided to each compartment.
3. Baffles may be used at inlet and outlet of tank instead of dip-pipes. These should extend the full width of the tank, top edge not less than 6" above T.W.L. and bottom edge not less than 18" below T.W.L. See alternative details.
4. Inlet pipe may enter side wall of tank if convenient, but centre-line of pipe must not be more than 6" from inlet end wall.
5. The slope of the inlet pipe should be such that inlet velocity does not exceed 3 feet per second (1" in 6 ft. for 4" dia. pipe; 1" in 12 ft. for 6" dia. pipe).
6. Provision should be made for not less than 12" of cover to tank (this may be raised above general ground level when available fall to distribution system is limited).
7. A siphon chamber should be included where 500 feet of tile trench or over are required. This chamber should contain enough sewage to fill the tiles ⅔ to ¾ full. A chamber of 20-25% of total tank capacity will normally meet this requirement.
8. Dimension E given as guide only. See also manufacturer's requirements.
9. Add 12" to dimension C for total internal depth.
10. For dimensions A, B, C, D and E see Tables Nos. 2 and 3.

Attention is also drawn to the construction details shown on Plan No. A259-8039 published by Ontario Dept. of Agriculture in their "Canadian Farm Building Plan Service".

SEPTIC TANK SYSTEMS
CONSTRUCTION DETAILS
NOT TO SCALE