Ontario

Ruling No.: 24-12-1642
Application No.: S-2024-09

BUILDING CODE COMMISSION

IN THE MATTER OF Subsection 24(1) of the *Building Code Act*, S.O. 1992, c. 23, as amended.

AND IN THE MATTER OF Sentence 8.1.1.2.(1), Sentences 8.2.1.6.(1) and (2), Article 8.7.3.1 and Article 8.7.4.2.(11) of Division B of the Building Code.

AND IN THE MATTER OF an application by David Ballentine for the resolution of a dispute with the Chief Building Official of the Township of the Archipelago, to determine whether the proposal to install a new Class 4 sewage system, which will serve a seasonal cottage, provides sufficiency of compliance with Sentence 8.1.1.2.(1), 8.2.1.2.(1), Sentence 8.2.1.4.(2), Sentences 8.2.1.6.(1) and (2) and Article 8.7.3.1., and 8.7.4.2.(11) of Division B of the Building Code, at Island 472A, Township of the Archipelago, Ontario.

APPLICANT	David Ballentine and Nancy Regan Owners Nobel, Ontario
RESPONDENT	Robert Farrow Chief Building Official Township of the Archipelago Parry Sound, Ontario
PANEL	Judy Beauchamp, Chair Designate Michael Gooch Alexander Campbell
PLACE	via video conference
DATE OF HEARING	July 19, 2024
DATE OF RULING	July 19, 2024
APPEARANCES	Anne Egan R. J. Burnside and Associates Mississauga, Ontario **Agent for the Applicants**
	Robert Farrow Chief Building Official Township of the Archipelago Parry Sound, Ontario **The Respondent**

Mark Macfie
Deputy Chief Building Official
Township of The Archipelago
Parry Sound, Ontario
Designate for the Respondent

RULING

1. Particulars of Dispute

The Applicant submitted a building permit application to the Township of the Archipelago Building Department to install a Class 4 sewage system (Level IV Treatment unit discharging to a shallow buried trench leaching bed) to service a proposed 225 m^2 seasonal dwelling on an island located in a UNESCO site known as the Georgian Bay Biosphere, at Island 472A, Township of the Archipelago, Ontario.

The dispute between the parties concerns whether the new Class 4 sewage system, which will serve a seasonal cottage, provides sufficiency of compliance with Sentence 8.1.1.2.(1), 8.2.1.2.(1), Sentence 8.2.1.4.(2), Sentences 8.2.1.6.(1) and (2) and Article 8.7.3.1., and 8.7.4.2.(11) of Division B of the Building Code.

2. Provisions of the Building Code in Dispute

Division B, Sentence 8.1.1.2.(1)

In this Part,

Soil means in-situ, naturally occurring, unconsolidated mineral or organic material, at the earth's surface that is at least 100 mm thick and capable of supporting plant growth, and includes material compacted or cemented by soil forming processes but does not include displaced materials such as gravel dumps, mine spoils, or like deposits.

Division B, Sentence 8.2.1.2. (1) Site Evaluation

A site evaluation shall be conducted on every site where a new or replacement *sewage system* is to be installed. (See Appendix A.)

Appendix A-8.2.1.2.(1) Site Evaluation

The evaluation required in Sentence (1) usually includes at least the following and is required on permit application

(a) date the evaluation was done,
(b) name, address, telephone number, and signature of the person who prepared the evaluation,
(c) a scaled plan of the site showing
  (i) *the legal description of the property, property lines and easements,*
  (ii) *the location of items in Column 1 of Tables 8.2.1.6.A. and 8.2.1.6.B.,*
  (iii) *the proposed location of the sewage system,*
  (iv) the location of any unsuitable, disturbed or compacted areas, and
  (v) the access route for tank maintenance,
(d) depth to bedrock,
(e) evidence of high ground water,
(f) soil properties,
(g) soil conditions,
(h) utility corridors,
(i) permeability, and

Division B, Sentence 8.2.1.4.(2) Clearances

Unless it can be shown to be unnecessary, where the *percolation time* is less than 10 minutes, the clearances listed in Articles 8.2.1.5. and 8.2.1.6. for wells, lakes, ponds, reservoirs, rivers, springs or streams shall be increased to compensate for the lower *percolation time*.

Appendix A-8.2.1.4. Clearances

Where coarse natural soils exist, it may be necessary to require greater clearance distances to

wells or surface water than those listed in the Tables. This is of greater importance when applied to the shoreline properties of sensitive lakes, where it is desired to prevent phosphates from entering the lakes.

This Article sets required minimum distances between structures, property lines and water sources, and the various sewage systems. The intent of this Article is to limit the probability that the sewage is not properly treated or released into soil which could lead that a person in or near the building will be exposed to an unacceptable risk of illness due to unsanitary conditions caused by exposure to human or domestic waste, or the natural environment will be exposed to

an unacceptable risk of degradation.

Division B, Article 8.2.1.6. Clearances for a Class 4 or 5 Sewage System

(1) Except as provided in Sentences 8.2.1.4.(1) and (2), a treatment unit shall not be located closer than the minimum horizontal distances set out in Table 8.2.1.6.A.

Table 8.2.1.6.A.
Minimum Clearances for Treatment Units
Forming Part of Sentence 8.2.1.6.(1)

Object	Minimum Clearance, m
Structure	1.5
Well	15
Lake	15
Pond	15
Reservoir	15
River	15
Spring	15
Stream	15
Property Line	3
Column 1	2

(2) Except as provided in Sentences 8.2.1.4.(1) and (2), the centreline of a *distribution pipe* or *leaching chamber* shall not be located closer than the minimum horizontal distances set out in Table 8.2.1.6.B. and these distances shall be increased when required by Sentence 8.7.4.2.(11).

Table 8.2.1.6.B. Minimum Clearances for Distribution Piping and Leaching Chambers Forming Part of Sentence 8.2.1.6.(2)

Object	**Minimum Clearance, m**
Structure	5
Well with a watertight casing to a depth of at least 6 m	15
Any other well	30
Lake	15
Pond	15
Reservoir	15
River	15
Spring not used as a source of potable water	15
Stream	15
Property Line	3
Column 1	**2**

Division B, Article 8.7.3.1 Length of Distribution Pipe

(1) The total length of distribution pipe shall,
   (a) not be less than 30 m when constructed as a shallow buried trench, or
   (b) not be less than 40 m for any other absorption trench.

(2) Except as provided in Sentences (1), (3), and (4) every leaching bed constructed by means of absorption trenches shall have a total length of distribution pipe not less than the value determined by the formula,

$$L = \frac{QT}{200}$$

where,
   L = total length of distribution pipe in metres,
   Q = the total daily design sanitary sewage flow in litres, and
   T = the design percolation time.

(3) Except as provided in Sentence (1), where a leaching bed receives effluent from a Level II, Level III or Level IV treatment unit as described in Table 8.6.2.2., the leaching bed may have a total length of distribution pipe not less than the value determined by the formula,

$$L = \frac{QT}{300}$$

where,
   L = total length of distribution pipe in metres,
   Q = the total daily design sanitary sewage flow in litres, and
   T = the design percolation time.

(4) Except as provided in Sentence (1), where the leaching bed is constructed as a shallow buried trench, the total length of the distribution pipe shall not be less than the value determined by Table 8.7.3.1.

Table 8.7.3.1.
Length of Distribution Pipe in Shallow Buried Trench
Forming Part of Sentence 8.7.3.1.(4)

Percolation Time, (T) of *Soil*, min	Length of *Distribution Pipe*, m
1 < T ≤ 20	Q/75
20 < T ≤ 50	Q/50
50 < T < 125	Q/30
Column 1	2

where,

Q = the total daily design *sanitary sewage* flow in litres, and
T = the design *percolation time*.

(j) potential for flooding.

Division B, Sentences 8.7.4.2.(1) and (11) Construction requirements

(1) Except for a *shallow buried trench*, a *leaching bed* comprised of *absorption trenches* may be *constructed* in *leaching bed fill*, if unsaturated *soil* or *leaching bed fill* complying with Subclause 8.7.2.1.(1)(b)(ii) extends,
(a) to a depth of at least 250 mm over the area covered by the *leaching bed fill*, and
(b) for at least 15 m beyond the centrelines of the outer *distribution pipes* or *leaching chambers* in any direction in which the *effluent* entering the *soil* or *leaching bed fill* will move horizontally.

(See Appendix A.)

…

(11) The distances set out in Column 2 of Table 8.2.1.6.B. shall be increased by twice the height that the *leaching bed* is raised above the original grade.

Appendix A-8.7.4.2. Fill Material

Any leaching bed fill added to meet the requirements of 8.7.4.2.(1) shall be regarded as part of the sewage system and this fill must be contained on the lot or parcel of land in which the sewage system is located.

3. Applicant's Position

The Agent for the Applicant submitted that the Island A 472 (also known as Double Island) in the Township of the Archipelago, Ontario is a residentially zoned property which is currently vacant, save for a small shed. The island is U-shaped with limited development area on one of the arms. The island has limited vegetation cover and limited soil cover.

The Agent advised that a 225 m^2, 3-bedroom cottage has been proposed on the larger of the island's 2 arms. In addition, a future bedroom outbuilding is proposed for the smaller of the island arms.

The Applicants maintained that as the island has been designated a residential lot, development of the island should be permitted. However, it is acknowledged that development must be

capable of being serviced by a sewage system meeting the minimum requirements of the Building Code. To this end the Applicant engaged the Agent to design a Class 4 sewage system for the property.

The Agent for the Applicant has proposed a Class 4 sewage system consisting of a CAN/BNQ certified Level IV treatment unit with effluent disposal to a shallow buried trench leaching bed. As the island has limited soil material in-situ the leaching bed will be installed in an area of leaching bed fill material.

The Agent acknowledges that the topography of the area is such that importation of the leaching bed fill with the existing contours of the island would not permit compliance with the Building Code requirements for clearance distances. Therefore, to address this the Agent proposes to recontour the leaching bed area in such a manner that all clearance distances can be met.

The Agent for the Applicant's submitted that a complete site evaluation was conducted and concluded that there was no area of the property that has sufficient in-situ soil for a leaching bed. However, the area did contain several pockets and small areas of in-situ soil which could be linked using leaching bed fill material. The Agent also provided evidence that all setbacks and clearances could be met through the removal of the rock knobs in the leaching bed area and reducing the overall height of the area. This area would also be sloped toward that part of the area which had the most in-situ soil and greatest amount of natural vegetation.

The Applicant's Agent submitted to the Commission that the sizing of the treatment unit and the leaching bed demonstrates that the Class 4 Sewage System as designed sufficiently complies with the requirements of the Building Code.

4. Respondent's Position

The Respondent indicated that the site evaluation conducted in accordance with OBC 8.2.1.2.(1) determined that the proposed location was unsuitable for the installation of a Class 4 sewage system.

The Respondent advised that the proposed location does not have adequate in-situ soil and that most of the island is exposed bedrock that slopes towards the water. In addition to the lack of in-situ soil, the Applicant proposes to blast the exposed bedrock prior to the placement of imported fill.

The Respondent submitted that it is his position that the use of leaching bed fill over rock does not meet the intent of the Building Code. The Respondent indicated that the proposed leaching bed cannot meet the required clearances due to the amount of fill material to be imported.

The Respondent submitted that although he agrees that there are pockets of soil material around the island, and some have a large amount of vegetation associated with them, these areas are not contiguous and may create a problem of breakout of sewage along the rock /fill interface.

The Respondent submitted that due to the lack of a contiguous soil cover on the island the permit application had been refused.

The Respondent submitted that the area where the leaching bed is to be located should have a cover of in situ soil material in order to comply with the Building Code's objective and functional statements, as the area in question has minimum in situ soil and therefore, does not comply with the Building Code.

5. Commission Ruling

It is the decision of the Building Code Commission that the proposal to install a new Class 4 sewage system to serve a seasonal cottage, provides sufficiency of compliance with Sentence 8.1.1.2.(1), 8.2.1.2.(1), Sentence 8.2.1.4.(2), Sentences 8.2.1.6.(1) and (2) and Article 8.7.3.1., and 8.7.4.2.(11) of Division B of the Building Code, at Island 472A, Township of the Archipelago, Ontario.

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6. Reasons

i) **Sentence 8.1.1.2.(1) Definitions** of Division B of the Building Code states:

"In this part, soil means in-situ, naturally occurring, unconsolidated mineral or organic material, at the earth's surface that is at least 100 mm thick and capable of supporting plant growth, and includes material compacted or cemented by soil forming processes but does not include displaced materials such as gravel dumps, mine spoils or like deposits."

In this sentence the Commission finds that only a requirement for a depth of 100 mm is provided for in the definition and that the definition does not require the soil to have any minimum or maximum area extent. Furthermore, the Commission notes that within Part 8 of the Building Code there are no specific provisions for lateral or areal extent requirements for soil with respect to a Class 4 sewage system.

The Commission heard that a common practise is to require in-situ soil material over the extent of the sewage system leaching bed. However, no evidence was provided to the Commission that such a practice was compliant with the requirements of the Building Code.

ii) Evidence was provided by both parties which noted that the subject property did have pockets of soil material which had greater areal extent in some places over others. However, no evidence was provided that the areal extent of the site soils was insufficient with respect to the Building Code requirement for soil.

iii) **Sentence 8.2.1.2.(1), of Division B of the Building Code - Site Evaluation**

With regards to this Sentence, the Commission finds that no evidence was presented to dispute that a site evaluation was not completed. Evidence was present by the Applicant's Agent that a full site evaluation was completed, and the Respondent agreed that this work was done.

iv) **Sentence 8.2.1.4.(2), of Division B of the Building Code - Clearances** states:

"Unless it can be shown to be unnecessary, where the percolation time is less than 10 minutes, the clearances listed in Articles 8.2.1.5. and 8.2.1.6. for wells, lakes, ponds, reservoirs, rivers, springs or streams shall be increased to compensate for the lower percolation time".

The Commission heard evidence from the Applicant's Agent that the T-time would be greater than 10 minutes or greater given that the leaching bed would be constructed over rock and/or a layer of imported fill material with a T-time of greater than 10 mins/cm. In addition, the Respondent provided no contrary evidence to dispute this and agreed that the materials would have a percolation time greater than 10 minutes.

Therefore, the Commission deems that sufficiency of compliance is achieved on this issue.

v) **Sentences 8.2.1.6.(1) and (2), of Division B of the Building Code – Clearances**.

These Sentences set out the minimum clearance distances for treatment units and distribution piping used in a Class 4 Sewage System. The Commission heard evidence that all the minimum setbacks would be met.

vi) **Article 8.7.3.1 of Division B of the Building Code – Length of Distribution Pipe**

This point was not disputed by the parties at the hearing.

vii) **Sentence 8.7.4.2.(11), of Division B of the Building Code – Increased Setbacks**

This Sentence states:

"The distances set out in Column 2 of Table 8.2.1.6.B. shall be increased by twice the height that the leaching bed is raised above the original grade."

The Commission heard evidence from the Applicant's Agent that the setbacks were increased by twice the required amount based on the measurement of the original grade as required by this Sentence. The Applicant's Agent acknowledged that the existing topography of the area where the leaching bed is to be located is such that construction of the leaching bed atop the existing grade would not permit the required additional setbacks to be met. To address this, the area will have the rock blasted and removed to a point where the new grade will be approximately 1.7 m below the existing grade and the finished grade approximately 500 mm above the original grade requiring a total setback of approximately 16.5 m which is the maximum achievable.

The Commission heard evidence from the Respondent that they did not agree with this methodology and that an allowance for this is not in the Building Code. The Commission agrees with this statement however, it also notes that the Building Code does not prohibit this methodology either. The Commission finds that as the Building Code is silent on this methodology there is nothing to prohibit it from being used.

This decision and the reasons for this decision are based on the site-specific information related to this application. As such, this decision and reasons stated are not deemed to be precedent setting.

Dated at the City of Toronto this **19th** day in the month of **July** in the year **2024** for application number **S-2024-09**.

Judy Beauchamp, Chair Designate

Michael Gooch

Alexander Campbell