Ontario’s Building Code & Onsite Sewage Systems

Ontario Onsite Wastewater Association 2018 Convention

Building and Development Branch
Ministry of Municipal Affairs
April 2018
Purpose

• To provide information on the following:
  o Organizational Structure (as of April 2017)
  o Background on Ontario’s Building Code and its development process
  o A summary of relevant parts of the Building Code that pertain to onsite sewage systems (Part 8 of the Building Code)
  o A summary of recent amendments made to the Building Code Act
  o A summary of Part 8 proposals consulted on for proposed amendments to the Building Code

• Questions to follow after presentation
Organizational Structure
Two branches were created in April 2017. Together they are continuing to:
  - undertake policy development & technical analysis on building and development matters
  - deliver services and modernize service delivery to building practitioners

- **Building and Development Branch**: focus on policy development and technical analysis and advice

- **Building Services Transformation Branch**: focus on modernizing service delivery and providing existing programs such as Qualification and Registration and supporting Commissions and Councils
Building and Development Branch

**Leadership Team**

Hannah Evans, Director

Greg Zimmer, Manager

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Building Services Transformation Branch

**Leadership Team**

Brenda Lewis, Director

Chris Thompson, Manager

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Background on Building Code Development Process
Building Code Act and Regulation

• The Building Code Act, 1992 is the legislative framework governing the construction, renovation, change of use and demolition of buildings in Ontario.

• The Building Code is a regulation (O. Reg. 332/12) made under the Building Code Act, 1992 which sets out detailed administrative and technical requirements.
  - The Building Code is Ontario’s largest regulation and dates back to 1975.
  - Current version of the Code was approved in November 2012 and came into effect January 1, 2014.
  - The Code is used as a decision tool in the daily work of designers, building officials, builders and other practitioners.

• Enforcement of the BCA and Code is the responsibility of principal authorities:
  - Principal authorities include municipalities.
  - But in some areas of the province, boards of health and conservation authorities are responsible for onsite sewage system enforcement.
Building Code Structure


Building Code O. Reg. 332/12

Division A
Compliance, Objectives and Functional Statements

Part 1: Compliance and General
• Organization and application
• Compliance
• Interpretation
• Defined terms, symbols and abbreviations
• List of applicable law for the purposes of obtaining a permit under Sections 8 and 10 of the Act
Part 2: Objectives
Part 3: Functional Statements

Division B
Acceptable Solutions

Part 1: General
Part 2: Reserved
Part 3: Fire Protection, Occupant Safety and Accessibility
Part 4: Structural Design
Part 5: Environmental Separation
Part 6: Heating, Ventilating and Air-Conditioning
Part 7: Plumbing
Part 8: Sewage Systems
Part 9: Housing and Small Buildings
Part 10: Change of Use
Part 11: Renovation
Part 12: Resource Conservation

Division C
Administrative Provisions

Part 1: General
Part 2: Alternative Solutions, Disputes, Rulings and Interpretations
Part 3: Qualifications
Part 4: Transition, Revocation and Commencement

Other Technical Standards

SA-1: Attribution Tables
SB-1: Climatic and Seismic Data
SB-2: Fire Performance Ratings
SB-3: Fire and Sound Resistance of Building Assemblies
SB-4: Measures for Fire Safety in High Buildings
SB-5: Approved Sewage Treatment Units**
SB-6: Percolation Time and Soil Descriptions
SB-7: Construction Requirements for Guards
SB-8: Design, Construction and Installation of Anchorage Systems for Fixed Access Ladders
SB-9: Requirements for Soil Gas Control
SB-10: Energy Efficiency Supplement
SB-11: Construction of Farm Buildings
SB-12: Energy Efficiency of Housing
SB-13: Glass in Guards
SC-1: Code of Conduct for Registered Code Agencies

** No longer in effect as of January 1, 2017

• Approximately every 5 to 7 years, a new Building Code is issued. It is based largely on the existing code but integrates updates to provide the highest standards of building safety, support broader societal goals and objectives and clarify technical requirements
  o Interim amendments can also be made to the Building Code during the 5 year cycle as required

• Code changes in a new Building Code are typically based on input received from three main sources:
  o Harmonization with model national codes - model National Building Code and model National Plumbing Code
  o Government Priorities (e.g. Climate Change Action Plan, LTAHS, AODA)
  o Proposals Received From Ontario Code Users
Next Edition of the Building Code – Code Changes

Obtain government approval to create a new Building Code

Harmonize with mNBC & mNPC

Government priorities

100s of individual code change proposals

Draft new Code with feedback

Receive government approval to issue a new Building Code regulation

Convene Technical Advisory Committee(s) with industry experts

Undertake Public/Stakeholder Consultations

Develop detailed code change proposals and consultation documents

Building Code is filed and comes into force 12-18 months later
Parts of the Building Code Pertaining to Onsite Sewage Systems
Onsite Sewage Systems Governed by the Building Code

• The Building Code Act and Building Code regulate onsite sewage systems that are:
  o designed for a daily flow of 10,000 L/day or less;
  o located wholly within the boundaries of the lot or parcel of land on which is located the residence or other building or facility served by the works; and
  o is not co-located with other systems on the same lot or parcel of land whose total design capacity exceeds 10,000 L/day

• Any onsite sewage system that does not satisfy the criteria above would be governed by the Ontario Water Resources Act and require an Environmental Compliance Approval from the Ministry of the Environment and Climate Change

• Requirements related to onsite sewage systems are unique to Ontario’s Building Code. No requirements are included in the model National Building Code.
Provisions Covering Onsite Sewage Systems

- The Building Code Act contains provisions for onsite sewage systems that allows the government to, among other things, develop regulations prescribing the design, operation and maintenance of onsite sewage systems.

- The majority of provisions for onsite sewage systems are contained in Part 8 of the Building Code which contains acceptable solutions for these systems:
  - 8.1. General Requirements – lists the classes of sewage systems
  - 8.2. Design Standards – provides design flows, clearance distances, design of tanks
  - 8.3. Class 1 System Requirements – privies
  - 8.4. Class 2 System Requirements – greywater systems
  - 8.5. Class 3 System Requirements – cesspools
  - 8.6. Class 4 System Requirements – septic tanks and treatment units
  - 8.7. Leaching Beds – requirements including piping, trench design
  - 8.8. Class 5 System Requirements – holding tanks
  - 8.9. Operation & Maintenance – general requirements such as ensuring systems do not discharge effluent on surface of ground, additional requirements for Class 4 systems and treatment unit sampling requirements
Section 8.6.2.2 - Other Treatment Units

8.6.2.2. Other Treatment Units

(1) Except as provided in Sentence (2), a treatment unit, other than a septic tank, shall be designed such that the effluent does not exceed, for the level of the treatment unit set out in Column 1 of Table 8.6.2.2., the maximum concentrations set out opposite it in Columns 2 and 3 of Table 8.6.2.2.

<table>
<thead>
<tr>
<th>Item</th>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Classification of Treatment Unit(1)</td>
<td>Suspended Solids(2)</td>
<td>CBOD₅(2)</td>
</tr>
<tr>
<td>1</td>
<td>Level II</td>
<td>30</td>
<td>25</td>
</tr>
<tr>
<td>2</td>
<td>Level III</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>3</td>
<td>Level IV</td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>

Notes to Table 8.6.2.2.:

(1) The classifications of treatment units specified in Column 1 correspond to the levels of treatment described in CAN/BNQ 3680-600, “Onsite Residential Wastewater Treatment Technologies”.

(2) Maximum concentration in mg/L based on a 30 day average.

(2) A treatment unit that is used in conjunction with a leaching bed constructed as a shallow buried trench, Type A dispersal bed or Type B dispersal bed shall be designed such that the effluent does not exceed the maximum concentrations set out opposite a Level IV treatment unit in Columns 2 and 3 of Table 8.6.2.2.

(3) All treatment units referred to in Sentences (1) and (2) that contain mechanical components shall be equipped with an audible and visual warning alarm so located to warn the occupants of the building served or the operator of the treatment unit of a malfunction in the operation of the treatment unit.

(4) All treatment units referred to in Sentences (1) and (2) shall permit the sampling of the effluent.

(5) A treatment unit is deemed to comply with Sentences (1) and (2) if it has been certified to CAN/BNQ 3680-600, “Onsite Residential Wastewater Treatment Technologies” using a temperature condition listed under option a) or b) of Clause 8.2.2. of that standard.

(6) Every operator of a treatment unit shall obtain, from the manufacturer or distributor of the treatment unit, literature that describes the unit in detail and provides complete instructions regarding the operation, servicing, and maintenance requirements of the unit and its related components necessary to ensure the continued proper operation in accordance with the original design and specifications.
Section 8.6.2.2 - Other Treatment Units

- Article 8.6.2.2 prescribes effluent criteria for treatment units other than septic tanks – effluent criteria are set out in Table 8.6.2.2.

- Prior to the 2012 Building Code, treatment units described in the Ministry’s SB-5 Supplementary Standard were “deemed to comply” with Sentences (1) and (2) of Article 8.6.2.2.

- For the 2012 edition, amendments were made to “phase out” SB-5 and replace it with the BNQ standard. As of January 1, 2017 only BNQ-certified units are “deemed to comply” with Sentences (1) and (2) of Article 8.6.2.2.

- Any non-BNQ certified treatment units for which a building permit is being sought would need to demonstrate by other means that they meet the requirements of Sentences (1) and (2) (unlike a BNQ-certified units which only require proof of certification as per Sentence (5)).

- Permitting non-BNQ certified treatment units will likely require a more thorough review of a range of documents by building officials to satisfy themselves that the unit complies with the effluent quality criteria in Table 8.6.2.2. in Ontario’s climate.
  - Documents can include but are not limited to engineers reports, testing procedures, standards, summary of climate conditions, manufacturer information

- Ministry of Municipal Affairs, in consultation with OOWA, is working on guidance for building practitioners on Article 8.6.2.2.
Other important sections of the Building Code for onsite sewage systems include:

- Division C, Part 1, Section 1.10. – Sewage System Maintenance Inspection Programs
  - Discretionary Maintenance Inspection Programs (e.g. those established by a principal authority)
  - Mandatory Maintenance Inspection Program (applies to certain areas in proximity to Lake Simcoe as well as areas identified in source protection areas where the system would be considered a significant drinking water threat (as per Clean Water Act and its regulations))

- Division C, Part 3 - Qualifications
  - 3.4 – Qualifications for persons engaged in constructing, maintaining… sewage systems
  - 3.5 – Class of Registration and Categories of Qualifications
Building Code Act – Recent Amendments
Recent Amendments to the Building Code Act

• On December 14, 2017, amendments to the Building Code Act received Royal Assent
• The amendments are primarily related to the recommendations from the Elliot Lake Commission of Inquiry into the Algo Mall collapse in 2012
• While none of the amendments affect existing provisions in the BCA related to sewage works, it is important to note the following:
  o There is authority under the BCA to establish Building Condition Evaluation Programs for prescribed classes of buildings**
  o There is authority to establish education, training or continuing development requirements for the building sector**
  o There is authority to provide building officials with the authority to impose administrative penalties for contraventions of the Building Code Act and the Building Code**
  o Municipalities now have the authority to establish administrative penalties for property standards by-law contraventions
  o In keeping with similar legislation, maximum penalties on corporations for an offence were increased to $500,000 (1st offence) and $1.5 million (subsequent offence)

** Amendments are enabling only and will require regulations to have effect.
May 2017 Interim Amendments to the Building Code
Proposals Related to Sewage Systems

A number of proposals for sewage systems were consulted on as interim amendments to the Building Code. These included:

- Requirements for gravel-less leaching chambers. NOTE: Gravel-less leaching chamber requirements were amended into the Building Code in May 2017 and took effect January 1, 2018.

- Mandatory periodic pump-outs of septic tanks (conventional only) – NOT PROCEEDING **

- Record keeping of certain maintenance activities (both conventional and enhanced treatment units) – NOT PROCEEDING **

** As indicated in letter from Minister to Heads of Council sent in 2017
Questions?