## Existing 2006 Building Code Provision(s)

**8.7.5.3. Construction Requirements**

1. Sentences 8.7.4.2.(1), (2) and (4) to (11) apply to the *construction* of a filter bed.

2. The lines of *distribution pipe* shall be evenly spaced over the surface of the filter medium to which the *sanitary sewage* is applied.

3. The filter medium shall have a minimum depth of 750 mm below the stone layer and shall be clean sand comprised of particles ranging in size between the limits of,
   - an effective size of 0.25 mm with a uniformity coefficient not less than 3.5,
   - an effective size of 2.5 mm with a uniformity coefficient not greater than 1.5, and
   - having a uniformity coefficient not greater than 4.5

4. The filter medium shall be unsaturated for its entire depth.

5. Where there is more than one filter bed in a *leaching bed*, the filter beds shall be separated by at least 5 m between the *distribution pipes* of the filter beds.

6. The base of the filter medium shall extend to a thickness of at least 250 mm over an area meeting the requirements of the formula $A = QT/850$.

7. The stone layer required by Clause 8.7.3.3.(1)(c) shall not be less than 900 mm above the *high ground water table*, rock or *soil* with a *percolation time* more than 50 minutes

## Proposed Code Change

Revise Article 8.7.5.3. as follows:

**8.7.5.3. Construction Requirements**

1. Sentences 8.7.4.2.(1), (2) and (4) to (11) *Article 8.7.4.2.* apply to the *construction* of a filter bed.

2. The lines of *distribution pipe* shall be evenly spaced over the surface of the filter medium to which the *sanitary sewage* is applied.

3. The filter medium shall have a minimum depth of 750 mm below the stone layer and shall be clean sand comprised of...
particles ranging in size between the limits of,
  (a) an effective size of 0.25 mm with a uniformity coefficient not less than 3.5,
  (b) an effective size of \(2.5 \leq 1.0\) mm with a uniformity coefficient not greater than \(1.5 \leq 2.0\), and
  (c) having a uniformity coefficient not greater than 4.5

(4) The filter medium shall be unsaturated for its entire depth,

(5) Where there is more than one filter bed in a leaching bed, the filter beds shall be separated by at least 5 m between the distribution pipes of the filter beds.

(6) The base of the filter medium shall extend to a thickness of at least 250 mm over an area meeting the requirements of the formula \(A = QT/850\).

(7) The stone layer required by Clause 8.7.3.3.(1)(c) shall not be less than 900 mm above the high ground water table, rock or soil with a percolation time more than 50 minutes

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**Rationale for Change**

**Problem / General Background**

The proponent states that the coarser grained fractions of sand used in 8.7.5. filter beds pass excessive fecal coli from through the filtration treatment unit to the soil, rock or groundwater beneath it.

**Justification / Explanation**

The proponent states that the filter bed design is based on the study performed by Chowdry. The sand specification is too broad to assure performance and needs to be narrowed down.

**Cost / Benefit Implications**

The new sand specification may increase costs however should guarantee better fecal removal.

**Enforcement Implications**

None.

**Who is Affected**

Designers, installers, manufacturers, building owners and operators, enforcement authorities.
Objective-Based Analysis

Unchanged

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