

INFO-MEMO

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Installation of Aeration and Additive Devices in Type 1 (Septic Tank) Systems

Background

Devices marketed for the augmentation of the function of a septic tank and/or for "restoration" of distribution area by aeration and/or additives to be installed into Type 1 systems have recently become available in British Columbia.

These devices typically utilize forced air and may require the addition of "specialized" bacteria.

The key claim by the proponents for the use of these systems is that they will rejuvenate or remediate a failed distribution area.

These devices are typically not connected to the septic tank's outlet fitting but are placed on the floor of the septic tank next to or close to the septic tank's outlet fitting.

This technical memo is provided to clarify proper installation and use under the Sewerage System Regulation and sewerage System Standard Practice Manual.

BC Sewerage System Regulation

Under the regulation only Authorized Persons (Registered Practitioner or Professional) may "construct" a Sewerage System.

The definition of "construct" includes:

- (a) to plan or conduct a site assessment in respect of a sewerage system,*
- (b) to install, repair or alter a sewerage system, and*
- (c) in the case of a professional, to supervise the doing of any matter listed in paragraphs (a) and (b).*

Aeration and or additive devices require installation and proper placement within a septic tank with subsequent exposure to sewage and potential inadvertent damage to other system components. Type 1 systems and older systems installed under previous regulations typically are not designed with access ports for addition of augmentation components.

The aeration and/or additive device is specifically designed to change the function of the "treatment method" as defined in the regulation. (see section below on accreditation)

Type 1 Treatment Method (septic tank) use quiescent chambers to allow for the separation of liquid and solids. The addition of aeration devices into the tank disturbs the intended operation of the tank altering the system processes. Therefore the alteration of the system and its function must be under the care and control of an Authorized Person.

Section 8 of the Sewerage System Regulation – regarding the filing of documentation with the health authority will be required. . The filing will require that the authorized person certify that the SPM has been followed and that the system will not create a health hazard.

The filing needs to be completed and accepted prior to the installation and alteration..

Additionally, Section 10 of the Sewerage System Regulation requires that an authorized person amend the maintenance plan where the maintenance plan originally submitted is no longer sufficient. (see below maintenance and monitoring)

Sewerage System Standard Practice Manual Version 2.0

Section 1.2.9 of the Sewerage System Standard Practice Manual confirms that a "significant" repair requires a filing to be complete pursuant to the Regulation.

These devices are not connected to the septic tank's outlet fitting and significantly alter the function of the septic tank. The device has components that need significant maintenance and attention as part of its operation and function. The use of an electro-mechanical air blower and/or the requirement to add bacteria annually are significant alterations to a Type 1 treatment method (septic tank) to affect a repair to a discharge area.

Accreditation

The Standard Practice Manual recommends that the Authorized Person confirm that the device has meet a standard as prescribed by an agency recognized by the Standards Council of Canada such as, but not limited to, CSA, BNQ or NSF International. At this time none of the devices currently marketed as aeration and additive devices meet these standards.

Additionally, these devices alter the function of the treatment method, however, there is no accreditation as to the system meeting Type 1, Type 2 or Type 3 performance standards.

Maintenance & Monitoring

These devices require a level of maintenance for the air blower and for the exchange/addition of the bacteria. Work Safe practices in handling the bacteria must be considered.

It is recommended that the Maintenance Plan provide for a reasonable and appropriate level of monitoring of operation and function and that Registered Maintenance Provider carry out any work required

Summary

1. Only Authorized Persons are to assess the site, install and maintain these devices pursuant to the Regulation.
2. A filing as described in the Regulation is completed and submitted to the health authority.
3. A Maintenance Plan is to be provided to the owner/user and filed with the health authority.
4. An Authorized Person must ensure that the device is properly accredited.