



ONSITE WASTEWATER NEWS BULLETIN

ISSUE #6 | October 14, 2017

In this issue

- 1.0.** ASTTBC updates regarding ROWP registrations.
- 2.0.** Practice Reminder regarding Combined Treatment and Dispersal Technologies.
- 3.0.** New Guidelines published by the Ministry of Health.

1.0. UPDATES.

Registrations Update

At August 23, 2017 ROWP registrations were as follows:

Planner	381
Installer	441
Maintenance Provider	114
Private Inspector	66
Total ROWPs	482 (most ROWPs hold multiple certification categories)

ASTTBC recently cancelled ROWP certification for 42 members for non-payment of annual dues. Health Authorities were notified accordingly.

2.0. PRACTICE REMINDER REGARDING COMBINED TREATMENT AND DISPERSAL TECHNOLOGIES.

We have received many enquiries recently regarding Combined Treatment and Dispersal Systems (CTDS). ROWPs should be aware that Manufacturer’s and suppliers can provide design guidelines and other advice, but purchasers of the CTDS products are obliged to ensure local regulatory compliance by referring to BC Regulations and standards. **Responsibility for compliance rests solely on the Practitioner.**

ROWPs are obliged to comply with all the following:

- ASTTBC Code of Ethics, Onsite Wastewater Certification Policy and ROWP Practice Guidelines.
- Public Health Act – Sewerage System Regulation (SSR).
- Sewerage System Standard Practice Manual (SPM).

Here are a few key points related to Combined Treatment and Dispersal Systems:

1. In BC, the products that are most commonly used as CTDS are as follows:
 - a. Eljen Geotextile Sand Filter System
 - b. Premier Tech Aqua Eco Flo BioFilter open bottom models
 - c. Presby Environmental Enviroseptic
2. Each of the products listed above is a CTDS as defined by the SPM. The SPM glossary provides the following definition:

A sewerage system that provides treatment to a Type 2 or 3 standard using media or through other processes in the same cell or unit that disperses the effluent to the soil.
3. All SPM standards and guidelines apply to CTDS. The SPM critical standards for vertical separation, hydraulic loading rates and linear loading rates are applicable to CTDS at and below the point of application (SPM II- 1.2.1).
4. Point of application is defined by the SPM glossary as follows:

The point of application is the point within a sewerage system where the wastewater quality consistently meets the quality level for the treatment method selected (Type 1, 2 or 3), typically the infiltrative surface. For CTDS, the point at which a CTDS produces effluent at the defined quality level (Type 2 or 3).
5. Manufacturer's establish the required minimum size and configuration above the point of application. ROWPs establish the minimum size and configuration at and below the point of application (SPM II- 1.2.1).
6. SPM II- 1.2.2 includes the following standard:

The point at the end of the treatment method and before the discharge area is referred to as, for the purposes of the SPM, the "point of application (POA)". It is at this point where the water quality must meet the treatment method water quality standards outlined in the SSR to the defined treatment method (for example, Type 2). It is up to the AP to decide the treatment method to be applied.
7. The SPM requires safe and effective provisions for effluent sampling to be incorporated in the design and construction of an onsite wastewater system (SPM II- 6.16.4 and II- 7.1.3).
8. The SPM requires that the Maintenance Provider must collect and test samples according to the maintenance plan and must confirm that each sample complies with the effluent quality standards in the Sewerage System Regulation (SPM II- 7.1.3).
9. In the case of CTDS, the point of application is below ground, typically below a layer of sand media specified by the manufacturer.

10. SPM standards for dispersal systems providing uniform distribution are substantially different than for non-uniform distribution systems. Examples of standards with those distinctions include the following:
 - a. Vertical Separation (SPM II-5.3.1),
 - b. Site Capability and System Selection (SPM II- 4.1.2)
 - c. Restrictions to gravity dispersal (SPM Table II- 5)
 - d. Key constraints for systems (SPM Table II- 6)
 - e. Soil constraints (SPM Table II- 7)
 - f. Dosing standards for uniform distribution systems (SPM II- 5.2.2)
11. CTDS systems may, or may not achieve uniform distribution. ROWPs are responsible to confirm the issue and apply the corresponding standards.
 - a. SPM II- 5.2.1 defines non-uniform distribution as either trickling gravity or dosed gravity, and defines uniform distribution as either pressure, drip or alternate methods.
 - b. SPM II- 5.2.1.1 provides the following standard for alternate uniform distribution systems:

A system which has been independently tested, following a scientifically defensible protocol, to demonstrate that distribution reliably results in no more than 20% variation in volume applied (per dose or per hour) between any two separate 0.5 square metre areas in the area of infiltrative surface. This uniformity is to be maintained for the life of the system, either by design or by provision for monitoring and adjustment.
12. ASTTBC Certification Policy section 2.2 states in part:

ROWPs are to follow the BC Sewerage System Standard Practice Manual (SPM).

3.0. NEW GUIDELINES

A very productive collaboration by the Applied Science Technologists and Technicians of BC (ASTTBC), the Engineers and Geoscientists BC (EGBC) and the Ministry of Health has resulted in several important Guidelines. These initiatives are a positive step for ROWP practice. ROWPs should familiarize themselves with these critical interpretations for onsite wastewater practice.

Jurisdictional Flow Divide Interpretation Guideline

The Sewerage System Regulation (SSR) applies to onsite sewerage systems with maximum daily flows less than 22,700 L per day. The Municipal Wastewater Regulation (MWR) applies to onsite sewerage systems with maximum daily flows equal to or exceeding 22,700 L per day. Clearly, a single system with flow equal to or greater than 22,700 L/day falls under the MWR, and the SSR applies to smaller systems. But which regulation applies when a single parcel of land has multiple systems? For example, it could be unclear which regulation applies to a multi residential

development with many individual systems, each with flow volume much less than 22,700 L per day, but the sum of flows to all systems on the parcel exceeds 22,700 L per day. A typical mobile home park is one example.

The MWR includes requirements for environmental assessments, long term monitoring and other factors that generally result in a complex design process and increased cost. In general, SSR systems are less expensive. It could be impractical to repair or replace small systems under the MWR. Authorized Persons and Regulators need to determine – which regulation applies?

For ROWPs - it is also crucial to determine if the work falls within allowable scope of practice. ROWPs cannot design, install, maintain or inspect systems under the MWR (unless supervised by a Professional). Similarly, the SSR restricts ROWP practice to systems with daily design flow less than 9,100 L.

The Ministry of Health and the Ministry of Environment have jointly developed a guideline to clarify the issue. ASTTBC and APEGBC had a collaborative role and support the initiative.

Essentially, the Guideline indicates that when a parcel has multiple systems, each with daily flow less than 22,700 L, the SSR applies. ROWPs can provide services for a multi residential site, but only if each distinct system has daily flows of 9,100 L or less.

ASTTBC welcomes this important clarification and encourages ROWPs to familiarize themselves with this critical practice issue. As usual, details matter and conditions apply. The document provides considerable detail, with various scenarios to clarify the intent of the guideline. In all cases, the final decision is determined by the regulator.

Use the following link to view and download the document - The Sewerage System Regulation and Municipal Wastewater Regulation: Jurisdictional Flow Divide for Onsite Sewerage Systems https://www2.gov.bc.ca/assets/gov/environment/waste-management/sewage/onsite-sewage-systems/onsite_sewage_jurisdictional_flow_divide_interpretation_guideline.pdf

Please note other important guidelines and publications by the Ministry of Health at <http://www2.gov.bc.ca/gov/content/environment/waste-management/sewage/onsite-sewage-systems/sewage-system-standard-practice-manual>

Sewerage System Regulation: Standard Practice and Health Hazards

The SSR requires Authorized Persons (ROWPs and Professionals) to submit a Letter of Certification to the Health Authority after construction of an onsite wastewater system. Therein, the Authorized Person must declare that the system will not cause a health hazard.

See the SSR for additional detail. Note the specific provision of SSR 9(1)(v):

... if operated and maintained as set out in the maintenance plan, the sewerage system will not cause a health hazard.

There has been some concern about how this declaration could affect the potential liability of the ROWP or Professional. There could be many factors that contribute to a health hazard. A maintenance plan may or may not be adequate to effectively convey all relevant issues. The design of a system could be 'flawed' in a manner that contributes to health risks. Installation that fails to meet all specifications and standards could expose installers (and designers) to liability risks.

The Applied Science Technologists and Technicians of BC, the Engineers and Geoscientists BC, and the Ministry of Health collaborated to address this issue. The Ministry has developed a guideline to provide clarification. Essentially, the guideline indicates which factors are within the Authorized Person's control, and which are not. The document also confirms that the ROWP's maintenance plan for a particular system will satisfy the health hazard prevention requirements of the LoC provided the ROWP has followed the SPM and the ASTTBC ROWP Practice Guidelines.

ROWPs should familiarize themselves with this document and note the importance of limiting potential liability. The document provides important detail.

Use the following link to view and download the document - Sewerage System Regulation: Standard Practice and Health Hazards

http://www2.gov.bc.ca/assets/gov/environment/waste-management/sewage/onsite-sewage-systems/health_hazard_interpretation_guideline_2.pdf

Grey Water

Authorized Persons (ROWPs and Professionals) should note the following:

- Under the Sewerage System Regulation, grey water is considered sewage. All provisions of the SSR apply.
- The SPM does not have detailed guidance for design, construction or maintenance of these systems.
- To comply with the SSR, Authorized Persons should refer to the Ministry of Health's Manual of Composting Toilet and Greywater Practice as the source of 'standard practice.'

The Ministry has posted the Manual of Composting Toilet and Greywater Practice. It provides very detailed guidance for design and construction of these systems.

Use the following link to access the Manual of Composting Toilet and Greywater Practice.

http://www2.gov.bc.ca/assets/gov/environment/waste-management/sewage/onsite-sewage-systems/mctgp_r0_s.pdf

In addition, the Ministry has posted a document titled Health Information: Grey Water Re-Use. This document was developed in response to local governments and health authorities, where questions were arising about whether greywater can be used for lawn irrigation, gardens, etc. It can also serve to address general questions from Authorized Persons and the public.

Use the following link to access the Health Information: Grey Water Re-Use document.

http://www2.gov.bc.ca/assets/gov/environment/waste-management/sewage/onsite-sewerage-systems/what_is_grey_water.pdf

Maintenance of Type 3 Systems

This issue was also the subject of collaborations between the Applied Science Technologists and Technicians of BC, the Engineers and Geoscientists BC and the Ministry of Health. We outlined the initiative at the February 2017 WCOWMA conference in Abbotsford. It became clear that considerable confusion exists regarding allowable scope of practice for ROWPs.

The SSR restricts ROWP practice to maintenance of type 1 and type 2 systems only, unless supervised by a Professional as per the following SSR section:

SSR

Restriction on construction and maintenance

- 6** (1) A person must not construct or maintain a sewerage system that uses a treatment method classified as Type 1 or Type 2 unless the person is
- (a) qualified as an authorized person, or
 - (b) an owner constructing or maintaining a sewerage system on his or her own land under the supervision of an authorized person.
- (2) If the registration certificate of a registered onsite wastewater practitioner contains any restrictions or conditions, a registered onsite wastewater practitioner who constructs or maintains a sewerage system must comply with those restrictions or conditions.
- (3) Unless supervised by a professional, a person must not construct or maintain a sewerage system
- (a) that uses a treatment method classified as Type 3, or
 - (b) designed for an estimated minimum daily domestic sewage flow of more than 9 100 litres

Please note that this restriction was not created by ASTTBC. It is enacted within the SSR – a government regulation. ASTTBC has lobbied government to reduce limitations to ROWP practice, including this specific issue regarding maintenance of type 3 systems. Our hope was that ROWP MPs could perform maintenance of type 3 systems without supervision by a professional. Unfortunately, establishing that practice would require a revision to the SSR, which is not supported by government at this time.

Some confusion ensues from ASTTBC Certification Policy which provides an optional type 3 endorsement category for Maintenance Providers. That category is intended only for highly experienced Maintenance Providers and requires experience performing type 3 maintenance under the oversight of a Professional. It was never intended to 'allow' ROWP Maintenance Providers to perform maintenance of type 3 systems without Professional oversight. The type 3 endorsement is intended only to acknowledge the advanced competency of the ROWP, as an indicator to Professionals that the ROWP MP has suitable competency to work with the Professional on type 3 systems. The SSR applies to all persons. SSR section 6(3) is clear - ROWPs cannot maintain a type 3 unless "supervised by a professional."

Any ROWP can provide services for type 3 systems ... but only with Professional oversight. Any ROWP that works on type 3 systems without professional oversight is in violation of ASTTBC Certification Policy and ROWP Practice Guidelines. This may be considered a significant breach of ASTTBC Code of Ethics Principle 2 (<https://asttbc.org/wp-content/uploads/2015/10/ASTTBC-Code-of-Ethics-Practice-Guidelines.pdf>)

Promoting maintenance is a goal shared by the Applied Science Technologists and Technicians of BC, the Engineers and Geoscientists BC and the Ministry of Health. Clearly, property owners are reluctant to incur significant costs for Professional oversight of ROWP Maintenance Providers. This poses an additional obstacle or dis-incentive for type 3 maintenance.

This is concerning, especially since type 3 systems are often used on sites with very significant site constraints and potential risks to health and the environment. A malfunctioning type 3 system poses greater risks than a type 1 or type 2 system due to smaller dispersal systems and other factors. In many cases, type 3 treatment is specified to mitigate risks to drinking water sources, including circumstances where the horizontal separation to wells is reduced.

Accordingly, ASTTBC has collaborated with EGBC and the Ministry of Health to establish a practice whereby a Professional's Maintenance Plan could specifically prescribe the scope of supervision by a Professional. The Professional has the option of requiring his or her attendance at the site, or not. For example, the Professional could 'allow' a ROWP MP to perform maintenance and routine repairs without direct 'hands on' supervision by the Professional. The



ROWP could simply provide the Professional with a report describing the findings and the services provided.

EGBC has agreed to revise their Professional Practice Guidelines for Onsite Sewerage Systems. The revisions will include acceptable methods by which the Professional can comply with the SSR requirements for professional supervision without hindering the ability of a ROWP MP to provide affordable services. Essentially, the revised guideline would 'allow' a Professional to provide supervision of type 3 maintenance by specific provisions in the maintenance plan or by subsequent written advice and direction to the ROWP. Once again ... details matter and conditions apply. EGBC's revisions are underway and will be posted on the EGBC web site.

CONCLUSION.

Please note, earlier ROWP Bulletins are available on our website at,
<https://owrp.asttbc.org/news-updates/>

Those bulletins include important information regarding ROWP Practice.

If you have any questions or require any further information please do not hesitate to contact:

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