MAKE WAY
ENVIRONMENTAL TECHNOLOGIES INC.

Responses and Comments to the OBC Proposed Code Changes.

December 08, 2022

To whom it may concern,

My name is Bert Knip and I am president of Make-Way Environmental Technologies Inc. We have been distributing the Enviro-Septic System (now known as the System O)) in Ontario since September of 2008. System O)) is a combined treatment and dispersal system (CTD) and currently operates under a BMEC authorization. Our current authorization number is 18-05-386.

We support codifying combined and treatment dispersal (CTD) systems and the requirement for them to be tested and certified to the CAN/BNQ 3680-600 standard.

That said however, we find that some of the proposed changes are contrary to our BMEC authorization. These changes will severely restrict the way that CTDs have been successfully installed for the past 15 years.

We agree that CTDs are generally no longer innovative. They have been recognized in Ontario for 15 years, there are now three separate BMEC approvals and from our experience we know that CTDs can achieve the CAN/BNQ 3680-600 certification.

History,

BMEC authorization,

Regarding System O)), this is our third BMEC authorization. Every BMEC authorization has a five-year expiration date at which time we need to apply for a new authorization. Our first authorization was issued in September of 2008, authorization number 08-03-340. The second authorization was issued in September of 2013, authorization number 13-03-365 and our current BMEC authorization was issued in September of 2018, number 18-05-386.

CAN/BNQ 3680-600 certification,

The OBC has implemented the requirement that all advanced treatment systems in Ontario be certified to the CAN/BNQ 3680-600 standard. The System O)) has successfully achieved this certification in 2018.

Comments to proposed changes.

Change number B-08-07-09,

Proposal 8.7.9.1 (3) states that the contact area of the dispersal area shall be rectangular in shape with the long dimension parallel to the site contours etc.

It is true that most of our systems are installed in this manner. However, one of the innovative qualities of the System O)) is that the Advanced Enviro-Septic pipe can easily bend in a 90-degree angle without any reduction in treatment quality. This will allow us to install the Advanced Enviro-Septic pipe in a variety of configurations.

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For example, in a curve to follow the contours of a curved driveway or in a circular layout to accommodate an obstruction. Provided the system meets the minimum clearances as found in OBC table 8.2.1.6.B.

This drawing is a page taken from our current technical manual permitting the Advanced Enviro-Septic pipe to be curved and / or bent.

Section I - Special Configurations

Introduction Non-conventional system configurations may be used for difficult site conditions. They may take irregular shapes to accommodate site constraints.

Curved Bed Configuration Curved configurations work well around objects, setbacks, and slopes.

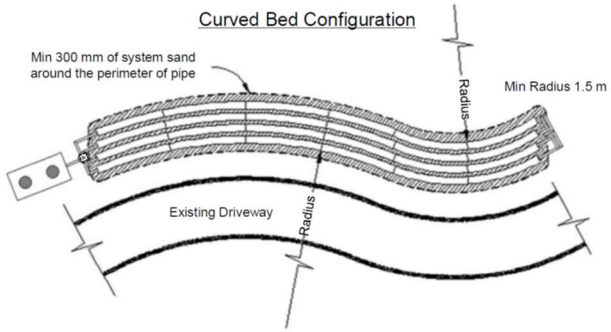


Figure 30

Angled Configuration Angular configurations can include one or more angles. Rows are angled by bending pipes. The shortest acceptable curve radius for Enviro-Septic® is obtained by bending a 3 m pipe length at a right angle.

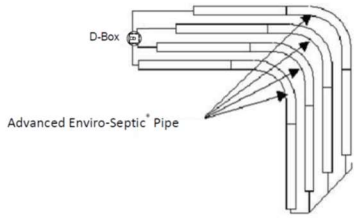


Figure 31

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Our concern is that by enforcing this code change will remove one of the reasons that makes the System O)) innovative and therefore it is contrary to our BMEC. We cannot support this proposed code change.

Change number B-08-07-09,

Proposal 8.7.9.1 (4) (b) states that a layer of sand with a minimum thickness of 300 mm is required directly beneath the treatment unit as is required for Type A beds (8.7.7.1 (4) (b)).

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The System O)) is not necessarily a *treatment unit* per say, it is combined treatment and dispersal system. Rather than dispersing the effluent into a much smaller stone layer as a treatment unit does, our system will evenly distribute the effluent over a much larger area and therefore allow the effluent to disperse throughout the entire contact area.

The System O)) has successfully been used in Ontario for 15 years using 300mm of system sand below the Advanced Enviro-Septic pipe. Our system consistently meets the Level IV effluent quality criteria as found in Table 8.6.2.2. of the OBC, not to mention that we have achieved the CAN/BNQ 3680-600 certification using the 300mm of system sand.

Adding an additional 300mm layer of sand is unjustified and does not have any documentation to back up the necessity of the proposed change. Also, it is redundant, very costly to the homeowner, labor intensive, having more trucks on the road to deliver the sand, contrary to our BMEC approval and will dramatically restrict the way that our system is currently installed.

We have significant number of documentations showing that 300mm of system sand below the Advanced Enviro-Septic pipe is more than adequate to meet the Level IV effluent quality criteria as found in Table 8.6.2.2. There is no added benefit to this proposed code change, quite simply the way our system is laid out and installed allows for the even distribution of effluent over the entire contact area and disperse into the under lying soil.

One final point is that there seems to be a scarcity for good quality sand needed for sewage systems in Ontario. By adding another 300mm layer of sand will result in good quality sand become even more scarce.

For the above reasons we cannot support this proposed code change.

Change number B-08-07-09,

Proposal 8.7.9.1 (4) (d) states that the bottom of the treatment unit shall be at least 600 mm above a limiting layer. This is in contrary to our BMEC authorization and how the System O)) have been installed for 15 years.

Our requirements have been different:

- 600 mm if T is less than or equal to 6 min. or greater than 50 min.
- 450 mm if T is greater than 6 min., or less than or equal to 50 min.

CTDs already uses significantly more sand compared to treatment units using the Type A bed. There is no documented justification for the increase of vertical separation for CTDs. The System O)) is a CTD system where the effluent is evenly distributed over a much larger area and therefore has an inherit safety factor in protecting the environment.

There is no added benefit in increasing the vertical separation for CTDs and it will add to the cost of the System O)) for the homeowner and it is contrary to our BMEC authorization.

For the above reasons we cannot support this proposed code change.

Additional comments and concerns.

We are very concerned with the approach taken that CTDs are considered like treatment units. This is not the case at all. There are distinct differences between the two types of systems and they should not be all categorized as treatment units. I consider a treatment unit to be a "black box" treatment system where the treatment takes place in a specified unit and then the effluent is discharged into a type of subsurface dispersal system as found in the OBC.

The System O)) is a combined treatment and dispersal system where the treatment takes place within the Advanced Enviro-Septic pipe and then the treated effluent is evenly dispersed throughout the entire contact area.

The System O)) has been successfully used in Ontario as a CTD for 15 years. We have successfully obtained three BMEC approvals and also have the CAN/BNQ 3680-600 certification. System O)) is a CTD and not a treatment unit.

Using QT/850

As stated throughout this document the System O)) has all the same approvals and meets all the same requirements as the treatment unit does. Our success shows that the System O)) is a very good option as an advanced sewage treatment system for Ontario.

That said, even though we meet all the approvals and requirements we do not have access to the QT/850 formula when the percolation rate of the native soil is ≤ 15 cm/min. I consider this to be discriminatory.

System O)) without question meets the Level IV effluent quality criteria as found in Table 8.6.2.2. of the OBC and we have achieved the CAN/BNQ 3680-600 certification. Therefore, we should have access to the QT/850 formula where permitted. At this time, we must continue to use the QT/400 regardless of the percolation rate of the native soil. This does put us at a disadvantage with other systems being used in Ontario. In most cases when the percolation rate of the native soil is ≤ 15 cm/min our contact area is twice as large as the systems being able to use the QT/850. Again, this puts us at a disadvantage and is discriminatory.

Final observation,

System O)) is being used quite successfully in Ontario and have been for the past 15 years. It offers the homeowner a very good option for an advanced sewage treatment system. Our current BMEC allows the system to be competitively priced with the other systems currently being used.

System O)) is a passive system that most often does not require electricity to operate. There are no moving parts and no mechanical component to the system. We are finding more homeowners wanting to be 'off the grid' or using alternative electricity using solar or wind. Therefore, it is critically important to them to find an approved sewage system that does not require electricity.

By implementing the proposed code changes will be contrary to our BMEC approval, will add additional cost to the homeowner, will reduce quality sand that is already becoming scare and unnecessarily restricts the way CTDs are currently being installed.

System O)) has proven itself for the past 15 years as a viable CTD and meets the CAN/BNQ 3680-600 certification as required by the OBC.

Thank you for considering my comments to the proposed code changes.

If you have any questions regarding my comments, please contact me either on my cell, 519-709-0681 or by email to bert@makeway.ca.



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