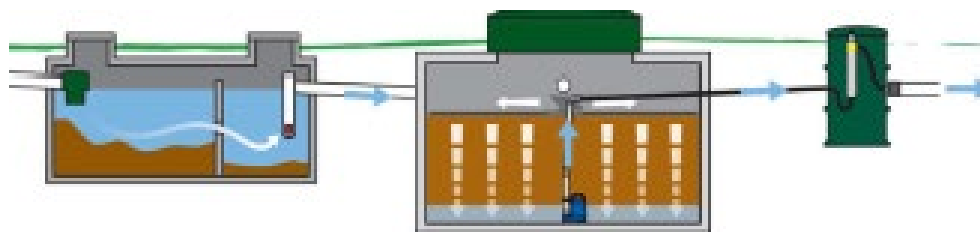
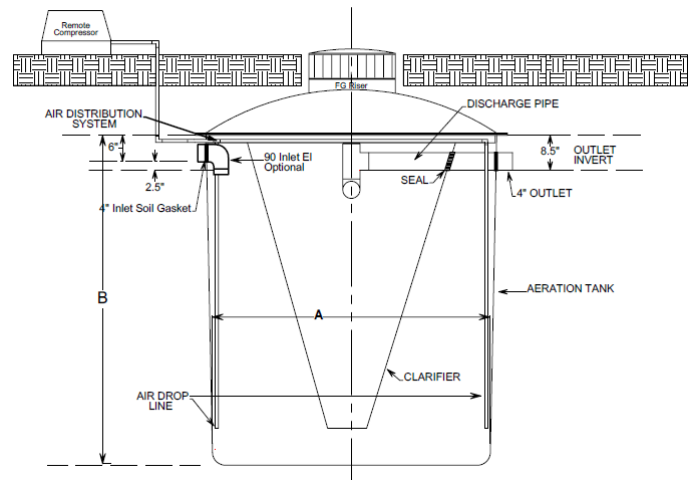




Department of Health

2019 ANNUAL REPORT of the

Sewage Treatment Systems Technical Advisory Committee



February 2020

Executive Summary

Section 3718.03 of the Ohio Revised Code (O.R.C.) creates the Sewage Treatment Systems (STS) Technical Advisory Committee (TAC), outlines its membership, identifies individuals granted the authority to appoint committee members, and provides guidelines concerning the committee's responsibilities and procedures. O.R.C. 3718.03(G) requires the chairperson of the committee to prepare an annual report concerning the activities of the committee and submit the report to the Ohio General Assembly. The purpose of this report is to fulfill that requirement.

TAC scheduled monthly meetings to review sewage treatment system product applications received in 2019. During 2019, TAC reviewed seven requests from four manufacturers of sewage treatment systems (STS) or components. Two of the requests were for modification of existing approvals of STS or components. Two of the requests were withdrawn by the manufacturer and later a revised product approval application was resubmitted for approval, and one additional application was recommended for denial.

Sewage treatment system review required by O.R.C. Chapter 3718 includes an evaluation of detailed system and component information including: product specific technical information, any limitations on use, performance information supporting the manufacturer's request, installation and sizing requirements, installation procedures, materials, and operation and maintenance information including estimates of operation costs and expected service life. In reviewing performance information, the TAC studies raw data and statistical analyses of the sample data (mean and standard deviation for normally distributed data and geometric mean and geometric standard deviation for microbial data) to determine the operational range of the product and its relationship to the documented performance standards. TAC reviews the environmental conditions of the collected data and related confidence intervals to determine if sufficient sample points have been submitted to conclude that the submitted data can be used to predict the products' operation in the range of environmental conditions the product will be exposed to across the state of Ohio.

The systems and components recommended for approval in 2019 by TAC have provided for the use of nutrient reductions, soil depth credits to reduce the thickness of soil required below a soil absorption system, meeting treatment standards for the discharging and spray irrigation of highly pretreated effluent, gray water recycling systems, pretreatment tank reconfigurations, and allowance for more design options to address varying site and operational issues across the state.

Other activities and actions of the committee included the continued development of updated product standards, guidelines, and procedures for data collection and submission. This included the creation of a standardized excel data sheet used for uniform data analysis to be submitted with product applications. The TAC also developed product renewal standards and guidelines for those manufacturers of STS products and components that wish to be considered for renewal in accordance with Ohio Administrative Code (O.A.C. 3701-29-13(D)).

TAC will continue to work with system manufacturers to review and recommend approval or disapproval of new technologies to the Director of Health, and will actively pursue the

research, development, and timely approval of innovative and cost-effective, alternative technologies as required under section 3718.03 (F)(4) of the Ohio Revised Code.

Sewage Treatment Systems Technical Advisory Committee Membership and Meetings

The Sewage Treatment Systems Technical Advisory Committee (TAC) membership and appointment authority is outlined in Section 3718.03 of the Ohio Revised Code.

The members of TAC during 2019 were:

| 2019 TAC Member | Company | Representing | Appointed By |
|--------------------------|--------------------------------------|---|---------------------|
| Rachel Townsend, RS | Ohio Department of Health | Director of Health | Director of Health |
| Brian Hall, PE | Ohio Environmental Protection Agency | Engineer, Ohio EPA | Governor |
| Dr. Karen Mancl | The Ohio State University | Academia | Governor |
| Gary Salmon | Oxford Township, Butler County | Ohio Township Association | Governor |
| Christopher Schraff | Porter Wright | Public Member | Governor |
| Matt Lane | Ohio Department of Agriculture | Soil Scientist, Division of Soil and Water Conservation | Governor |
| Dan Lark, RS | Lake County General Health District | OEHA Sanitarian | House |
| Zak Sherman | Infiltrator Systems, Inc. | Manufacturer | House |
| Julianne Nesbit, RS, MPH | Clermont County Health District | AOHC Health Commissioner | House |
| Walt Sandefur, PE | Sandefur Consulting | Professional Engineer | House |
| Mark Adams RS, MPH* | Henry County Health Department | AOHC Health Commissioner | Senate |
| David Chronister | Onsite Design Solutions | Designer | Senate |
| Chas Kaiser | CDK Structures | System Installer | Senate |
| Chris Mandich (Chair) | Jet, Inc. | Manufacturer | Senate |

*Mr. Adams was formally appointed June 7, 2019 to fill Kim Cupp's vacancy.

TAC scheduled monthly meetings to review products in 2019. TAC held eleven regular monthly meetings in 2019. One meeting was canceled due to lack of products and applications to review.

A complete record of the meeting summaries and the recommended approvals that were made are located under the *Meetings and Minutes of the Sewage Treatment Systems Technical Advisory Committee* header on the Ohio Department of Health's (ODH) website at: <https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/sewage-treatment-systems/Resources-and-Education/>

2019 TAC Product Review Summary

| Manufacturer | Product | Approval Date (ODH Director) | Notes |
|--------------------------|--|--|--|
| Premier Tech Aqua | Ecoflo Coco Filter + DiUV | 5/20/2019 | Modification request to add DiUV unit to Ecoflo Coco filter to meet the standards for: <ul style="list-style-type: none"> • BOD/TSS reduction • <10,000 fecal coliform for 1-foot soil depth credit • <1,000 fecal coliform for 2-foot soil depth credit • <200 fecal coliform for restricted surface application • < 20 fecal coliform for unrestricted surface application |
| Ecological Tanks Inc. | Aqua Aire Models AA500-50 and AA500T-50 | 6/28/2019 | Modification request to include Aqua Aire Models AA500-50 and AA500T-50 as models with integrated pretreatment tanks and not requiring a separate pretreatment tank. |
| Tangent Company | 600 GPD Landsaver MBR | Manufacturer formally withdrew application and resubmitted as Landsaver MBR. | New product application seeking approval for: <ul style="list-style-type: none"> • BOD/TSS reduction • <10,000 fecal coliform for 1-foot soil depth credit • <1,000 fecal coliform for 2-foot soil depth credit • <200 fecal coliform for restricted surface application • < 20 fecal coliform for unrestricted surface application • Meeting the requirements for Continuous Flush Drip Distribution |
| Tangent Company | Landsaver MBR | 8/27/2019 | New Product application seeking approval for their plastic tank model rated for up to 360 gallons per day design capacity for: <ul style="list-style-type: none"> • BOD/TSS reduction • <10,000 fecal coliform for 1-foot soil depth credit • <1,000 fecal coliform for 2-foot soil depth credit • <200 fecal coliform for restricted surface application • < 20 fecal coliform for unrestricted surface application • Meeting the requirements for Continuous Flush Drip Distribution |

| | | | |
|------------------|---------------|---|---|
| Norweco, Inc. | Singulair R3 | Withdrew once; later approved 10/1/2019 | New product application seeking approval for: <ul style="list-style-type: none"> • NPDES Discharging System • Type 4 Gray Water Use |
| Tangent Company. | Landsaver MBR | Application denied 12/9/2019 | Modification to existing approval for their plastic tank model rated for up to 480 gallons per day design capacity for: <ul style="list-style-type: none"> • BOD/TSS reduction • <10,000 fecal coliform for 1-foot soil depth credit • <1,000 fecal coliform for 2-foot soil depth credit • <200 fecal coliform for restricted surface application • < 20 fecal coliform for unrestricted surface application • Meeting the requirements for Continuous Flush Drip Distribution |

Other TAC Activities and Actions

Standards, Guidelines, and Protocols for O.R.C. 3718.04

The Sewage Treatment Systems Technical Advisory Committee has been working to update the Standards, Guidelines, and Protocols for product review. Members of the TAC, most notably Walt Sandefur, worked with the Ohio Department of Health and the Ohio Environmental Protection Agency (EPA) to update the guidance in the Standards, Guidelines and Protocols for statistical analysis. Mr. Sandefur, along with statisticians from Ohio EPA and input from the Ohio Department of Health, developed a spreadsheet that can serve as a statistical instrument for the product standards, guidelines, protocols, and appendices. This should streamline the application process for manufacturers and provide consistency in how the required geometric mean and standard deviations that are needed in the product approval are calculated and assist in the calculation of confidence intervals for data that is submitted to support a product approval application.

Products reviewed and approved in accordance with O.R.C. 3718.04 since 2007 continue to be approved as outlined in O.A.C. 3701-29-13(D). O.A.C. 3701-29-13(D) also staggers the renewal periods for those products that have been approved since 2007. TAC members worked to develop general product renewal standards for STS treatment components and technologies. In addition to the general product renewal standards, products that were previously approved for and are seeking renewal for National Pollutant Discharge Elimination Systems (NPDES) must submit additional field data demonstrating that those products meet the current standards in household applications outlined in the Ohio EPA General Household NPDES Permit.