MIDDLE PENINSULA
PLANNING DISTRICT COMMISSION

VDH-D2PI SWAP
Low Income Qualified Residential Septic Repair/Replacement, Well Replacement, Abandonments, Sewer Connections, and Public Water Connections

Contractors:

The Middle Peninsula Planning District Commission Septic and Well Assistance Program is soliciting bids for the attached project. Projects are supported by a grant program funded by the Virginia Department Health (VDH) and administered by the Middle Peninsula Planning District Commission (MPPDC) Septic and Well Assistance Program.

Grant funds will be utilized to fund 100% of the approved amount. The attached project has already been qualified for grant funding and the next phase is to solicit bids from contractors.

Attached you will find an itemized bid sheet breaking out certain costs and acknowledgments that need to be captured, a scope of work, and existing permits. Awarded projects are to be completed in a timely manner. All work must be completed by September 15, 2026. Work is done for the MPPDC SWAP Program, who disperses payment. You will receive a Notice to Proceed if you are awarded the project.

The grant has a hard deadline, to be reimbursed by this program all work, associated paperwork, permits, invoices, and receipts must be dated prior to and received by the MPPDC SWAP Program Manager no later than September 15, 2026.

For additional information or assistance, please contact Denise Nelson, Grant Manager at (804) 363-7437 or dnadvising@gmail.com.

Saluda Professional Center ♦ 125 Bowden Street ♦ P.O. Box 286 ♦ Saluda, Virginia 23149
(Phone) 804 758-2311 ♦ (Fax) 804 758-3221 ♦ (Email) pdcinfo@mppdc.com
https://www.mppdc.com

Alternative Onsite Sewage System Installation Project (2022-ER-99D)
Address: 940 Indian Creek Rd, Chesapeake, VA 23322

Cost for Line Item #1 (include total cost for items A-L) These are known factors. Vendors must invoice for actual cost incurred as described in the attached scope of work and permits.

Total	
	Line 1 Total Bid Cost
Line Item # 1; The contractor shall furnish all labor, supervision, equipment, tools, parts, supplies and materials, as necessary, to perform the services as described in the scope of work:	$
Itemized Included in Line 1:	
	Itemized Bid Cost
A&B) Costs to construct and install an alternative onsite sewage system to specification in compliance with the attached Local Health Department Permit:	$
C) Costs of Septic Pump-out, 1 initial pumpout if deemed necessary to prevent sewage backup:	$
E1) Costs of Tree Removal per permit:	$
E2) Costs of Site Clearing per permit:	$
G) Costs to provide or subcontract O&M for 2 Years, unless it is included in the purchase price of the unit:	$
H) Costs of abandoning any unused component of the former onsite sewage system may include removing pipes, abandoning tank including pumping out of tank, demolising of tank, abandoning distribution boxes, as specified by permit:	$
I) Costs of stabilizing, seeding and grading the site after construction to return to the original state in compliance with code:	$
Additional Itemized Costs NOT Included In Line 1:	
C-2) Additional pumpout costs per pumpout if needed, for example to dry drainfield, overflows before completion etc. (not included in line 1 total):	$
Additional costs not included in line item 1:	$

Signature: _____ Date _____

Bid is good for _____days

The following are required. Please initial in agreement to perform the following and that any costs to perform these tasks are included in Line Item 1:	
	Initial on the lines below:
D) Check for and comply with any Special Requirements in the permit. For example have surveyor locate property line, install french drain, have service provider drop electrical wire.	_____
E) Provide, or subcontract with a licensed plumber and electrician to complete project per permits, scope of work, and code.	_____
I) Bidders shall comply with all requirements of DPOR for contracting and executing the contract with the MPPDC. Documentation of appropriate Licenseses provided to the MPPDC.	_____
J) Obtain a final installation inspection from the Local Health Department and assure that the onsite sewage system complies with the Regulations.	_____
K) Provide all required documentation to the Local County Health Department following completion of construction and obtain an Operation Permit for the onsite sewage system.	_____
L) Submit invoice to dnadvising@gmail.com once Local Health Department has issued the Operations Permit. Include a copy of the completion statement and Operations Permit.	_____

Alternative Onsite Sewage System Installation Project (2022-ER-99D)
Address: 940 Indian Creek Rd, Chesapeake, VA 23322

Scope of work:

The contractor shall furnish all labor, supervision, equipment, tools, parts, supplies and materials, as necessary, to perform the services as described herein:

Cost for Line Item #1 (include total cost for items A-K) These are known factors. Vendors must invoice for actual cost incurred as described herein

A) Construct an Alternative onsite sewage system that meets the location and construction specifications of the Virginia Sewage Handling and Disposal Regulations (12VAC5-610-10 et seq., the Regulations).

B) Construct the above Alternative onsite sewage disposal system in compliance with the **Chesapeake Health Department Construction Permit 550-STS-7441/234-26-029** at 940 Indian Creek Rd, Chesapeake, VA, 23322, in the location shown on the permit. The permit may contain additional conditions, notes, and information needed to construct the onsite sewage system.

C) Septic Pump-out Requirements: All bids shall include the cost to pumpout the contents of the existing septic tank by a properly licensed sewage hauler. To prevent sewage from backing into the home or erupting on property surface prior to the completion of the septic work, additional pumpouts of the contents of the existing septic tank by a properly licensed sewage hauler may be required on an as-needed basis. Bids should provide a cost breakdown per additional pumpout. If multiple pumpouts are needed preauthorization will need to occur to allow for a change order for additional, justifiable pumpouts. If the permit requires work within or under the existing drainfield (as indicated in the Permit) additional monitoring and pumping of the existing septic tank may be required in order to allow for the drying out of the drainfield. In these cases, for one week prior to the installation or repair of the onsite sewage system the effluent level of the septic tank must be monitored so that it does not discharge into the pump chamber or dispersal field. The contents of the existing septic tank shall be pumped by a properly licensed sewage hauler to prevent sewage from entering the drainfield for one week prior to installation

E) Tree Removal and Site Clearing: A pre-bid site visit is recommended to determine what if any tree removal or site clearing that may need to occur. Per the above referenced Permit, remove any trees and wood debris as described in the permit and haul away wood and debris unless notified otherwise. Costs of tree removal and site clearing should be included in initial bids. Any additional site clearing or tree removal required during installation must be submitted in writing to and approved by VDH in writing including an additional cost estimate. Some AOSS designs may call for special procedures when doing tree removal or site clearing as

will be referenced in the above referenced permit. Please pay attention to the following permit requirements.

F) Provide, or subcontract with a licensed plumber and electrician to provide plumbing and electrical required to convey the wastewater from the house to the onsite sewage system as required by the Regulations and the Virginia Uniform Statewide Building Code. This includes obtaining or assuring that the owner obtains all permits and inspections necessary by the local building authority in compliance with the Virginia Uniform Statewide Building Code.

G) Operation and Maintenance (O&M) Requirements: As the SWAP will fund two years of regulatory O&M for the Alternative Onsite Sewage System (AOSS) installed on this property, please provide or subcontract for two years of O&M unless the cost is included in the purchase price of the treatment unit. The O&M requirements can be found in the Regulations for Alternative Onsite Sewage Systems 12 VAC 5-613 and 12VAC5-640. The O&M agreement shall include the maintenance visits and any samples as required by the AOSS regulations. This funding is provided to assist the homeowner at meeting their first two years of O&M requirements per the Owner's Operation and Maintenance Manual and the Regulations for Alternative Onsite Sewage Systems (12VAC5-613-100 et seq.). The first two years of O&M listed in the agreement should be at no cost to the homeowner. **Contractor should provide a copy of the O&M agreement to the homeowner and provide a copy to Denise Nelson at dnadvising@gmail.com at MPPDC.**

H) Abandon any unused component of the former onsite sewage system as specified by the **Chesapeake Health Department Construction Permit 550-STS-7441/234-26-029**. Upon completion of the onsite sewage system repair, the existing septic tank shall be pumped by a properly licensed sewage hauler, the tank crushed in place, lime placed over the crushed tank, and the tank hole filled with clean backfill material and restoring the area to its original condition. Abandonment may also include removing unused sewer line and conveyance lines and crushing and filling the distribution box.

I) Follow all regulations and permitting pertaining to erosion and sediment control including stabilizing, seeding, and grading the site after construction to return to the original state. Control construction runoff with proper practices so as not to become a nuisance to the owner or to neighboring properties or cause sediment to be discharged into state waters and drainage ditches. Any construction debris must also be removed from the site and disposed of properly.

J) Bidders shall comply with all requirements of the Department of Professional and Occupational Regulations (DPOR) for contracting and executing the contract with the Virginia Department of Health. Must provide a copy of Class A or B contractor’s licenses from DPOR, with an Alternative Sewage Disposal System Contracting (ADS) specialty from DPOR, a Master Alternative Onsite Sewage System Installer license from DPOR, and proof of insurance.

Bidders contacted by Middle Peninsula Planning District Commission SWAP staff to provide any missing required documents, must provide the document within 24 business hours or their bid will be considered non-responsive.

K) Obtain a final installation inspection from the private OSE and assure that the onsite sewage system complies with the Regulations. Receive a completion/inspection report, as-built design from private OSE.

L) Provide all required documentation to the Chesapeake Health Department following completion of construction and obtain an Operation Permit for the onsite sewage system.

M) Submit invoice and required paperwork once the Chesapeake Health Department has issued the Operations Permit. Include a copy of the completion statement and operations permit. Final invoice a paperwork should be **submitted to Denise Nelson at dnadvising@gmail.com at MPPDC.**

Additional Services (If needed): Bidder must contact **Denise Nelson at 804-363-7437 or dnadvising@gmail.com** for written approval prior to any additional services performed. Middle Peninsula Planning District Commission SWAP staff will issue a change order for actual additional services rendered.

The contractor shall furnish all labor, supervision, equipment, tools, parts, supplies and materials, as necessary, to perform the services as described herein:

A. Additional materials
B. Additional labor and equipment.

Breakdown of Total Cost: When responding to solicitation Bidders must attach a document listing breakdown of total cost for line item 1. Bidders must attach a separate breakdown of cost for additional services.

Additional cost should not be included in line item 1 bid submission.

Optional site visit: To arrange a site visit prior to bidding, please contact: **Denise Nelson at dnadvising@gmail.com or 804-363-7437.**

Additional questions: Contact **Denise Nelson at dnadvising@gmail.com or 804-363-7437.**

Notice to Proceed: If Bidder is selected for award, the Bidder shall be required to provide a signed Notice to proceed form within 3 business days of notification. Middle Peninsula Planning District Commission SWAP staff will provide a form for signature.

VDH VIRGINIA DEPARTMENT OF HEALTH
To protect the health and promote the well-being of all people in Virginia

Chesapeake Health Department
748 Battlefield Boulevard North
Chesapeake, VA 23320
(757) 382-8672

Discharge Construction Permit Cover Letter

April 07, 2026

Alternative Discharging Sewage Treatment System Repair Construction Permit Letter

James Peery
940 Indian Creek Rd.
Chesapeake, VA 23322

RE: 940 Indian Creek Rd. Chesapeake, VA 23322
Tax Map/GPIN: 1080000000240 /
Permit ID: 550-STS-7441/234-26-029 **DEQ General Permit number: VAG403103**
System Capacity: Residential, 3.00 Bedrooms, 450.00 gallons per day
Approval Status: Generally Approved
Type of Discharge Point: Stream

Dear James Peery:

This letter and the attached drawings, specifications, and calculations dated 04/06/2026, constitute your permit to install an alternative discharging sewage treatment system on the property referenced above. Your application for a permit was submitted pursuant to §32.1 of the Code of Virginia, which authorizes the Health Department to supervise and regulate the construction, location, and operation of alternative discharging sewage treatment systems with flows less than or equal to 1,000 gallons per day for single family dwellings. VDH conducted the site evaluation or reviewed the site evaluation conducted by a licensed professional engineer, reviewed construction plans, and verified issuance of a General Permit from the Department of Environmental Quality prior to the issuance of this permit.

VDH hereby recognizes that the design submitted by Wayne Savage, PE complies with the requirements of the Code of Virginia and the Alternative Discharging Sewage Treatment Regulations for Single Family Home Dwellings and grants permission to install the system as designed and shown on the attached plans and specifications. This construction permit is null and void if any substantial physical change in the site conditions occurs where the alternative discharging sewage treatment system is to be located.

If modifications or revisions are necessary between now and when you construct your dwelling, please contact the PE who produced the design on which this permit is based. The PE is authorized to make minor adjustments in the location or design of the system at the time of construction provided adequate documentation in the form of a dimensioned site sketch is included in the system operation and maintenance manual provided to the local health district office.

The PE that submitted the certified design for this permit is required to conduct a final inspection of this alternative discharging sewage treatment system when it is installed and to submit an inspection report and completion statement. If your PE did not submit an Operation and Maintenance Manual with the plan package, then (s)he will be required to do so prior to issuance of an Operation Permit. The alternative discharging sewage treatment system may not be placed into operation, except for testing, until you have obtained an Operation Permit from your local health district office.

VDH may revoke or modify any permit if, at a later date, it finds that the conditions and/or design do not substantially comply with the Alternative Discharging Sewage Treatment Regulations for Single Family Home Dwellings, 12 VAC 5-640-5 et seq., or if the system would threaten public health or the environment.

This permit approval has been issued in accordance with applicable regulations based on the information and materials provided at the time of application. There may be other local, state, or federal laws or regulations that apply to the proposed construction of this alternative discharging sewage treatment system. The owner is responsible at all times for complying with

all applicable local, state, and federal laws and regulations. If you have any questions, please contact me.

This permit expires: 10/06/2027. This permit is not transferable to another owner or location except in accordance with 12 VAC 5-640-220.E.

Sincerely,

Adam Ferris

CC: Wayne Savage, PE

Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

www.deq.virginia.gov

David L. Bulova
Secretary of Natural and Historic Resources

Michael S. Rolband, PE, PWD, PWS Emeritus
Director

April 2, 2026

Mr. James Peery
940 Indian Creek Rd.
Chesapeake, VA 23322

RE: General VPDES Permit for Domestic Sewage Discharges ≤ 1,000 GPD
Permit No. VAG403103
Peery Residence
940 Indian Creek Rd., Chesapeake, VA 23322
Indian Creek, tributary to the Northwest River; 7Q10 <0.2 MGD; freshwater zone; non-shellfish water

Dear Mr. Peery:

We have reviewed your Combined Application received on March 10, 2026 and determined that this domestic sewage treatment facility is hereby covered under the referenced General VPDES Permit. The permit is enclosed.

Please read it carefully, because you are responsible for assuring that the treatment facility is operated and maintained in accordance with the limitations and conditions of the General Permit. Also enclosed is a form which may be used to request an ownership transfer for the General VPDES permit. This form can also be found on the DEQ's web page at the link provided below. If you wish to have the permit ownership transferred, please complete the form and return it to this office.

Approval for coverage under this general VPDES permit does not relieve any owner of the responsibility to comply with any other applicable federal, state or local statute, ordinance or regulation, including the Alternative Discharging Sewage Treatment Regulations for Individual Single Family Dwellings (12VAC5-640) of the Virginia Department of Health. The DEQ monitoring requirements are attached. The Virginia Department of Health regulations at 12VAC5-640-500 specify operation and maintenance (O&M) requirements for treatment works serving **individual single family dwellings**. No O&M information is needed by DEQ for these facilities. However, the VDH requires testing and O&M as described in 12VAC5-640-490 and 500. Under 12VAC5-640-510, testing, repairs, modifications, alterations, and expansions shall be reported electronically to the VDH by the 15th of the month following the month in which the activity occurred. In addition, when formal testing indicates that a discharge limit established in the General Permit is being exceeded or when informal testing indicates a discharging system

may be in violation of the General Permit requirements, the owner shall notify the maintenance provider and the VDH within 24 hours. The VDH regulations require that a licensed operator (a valid Class IV or higher wastewater works operator license or an alternative onsite sewage system operator license issued by the Board for Waterworks and Wastewater Works Operations and Onsite Sewage System Professionals) be engaged to ensure monitoring (unless a monitoring waiver has been granted prior to December 16, 2015) and operations and maintenance is occurring. Reporting in accordance with 12VAC5-640-510 is sufficient evidence that an owner has engaged a licensed operator.

Your current general permit expires on July 31, 2026. It will be eligible for automatic reissuance for the next permit cycle, covering August 1, 2026 through July 31, 2031.

If you have any questions, please contact Julie K. Gilliam at (757) 374-6546 or julie.k.gilliam@deq.virginia.gov.

Sincerely,

Noah M. Hill, VPDES Permits Manager
Virginia Department of Environmental Quality
(757) 373-9459
Noah.Hill@deq.virginia.gov
Tidewater Regional Office
5636 Southern Blvd.
Virginia Beach, VA 23462

Enclosures: Permit No. VAG403103
Change of Ownership Agreement Form
Monitoring requirements for the discharge from your residence

DEQ Web Site for General Permits:
Discharge to Surface Waters - Virginia Pollutant Discharge Elimination System | Virginia DEQ

VDH Alternative Sewage Treatment Regulations for Individual Single Family Dwellings:
http://law.lis.virginia.gov/admincode/title12/agency5/chapter640/

REVISION rec'd 2/25/26 pm.

COMBINED APPLICATION

Virginia Department of Health Discharging System Application
For Single Family Dwellings Discharging Sewage Less Than or Equal To 1,000 Gallons per Day
and
State Water Control Board Virginia Pollutant Discharge Elimination System
General Permit Registration Statement For
Domestic Sewage Discharges Less Than or Equal to 1,000 Gallons Per Day

PART A. General Information

Types of Application: _____ New, X Repair, _____ Modification, _____ Expansion

Chesapeake County or City Health Department Date: February 23, 2026

Name of Facility/Residence: Peery
Street Address 940 Indian Creek Road
City, State, Zip Chesapeake, VA 23322
Day Phone: _____ Cell: _____

Owner(s) of Facility/Residence: James Peery
Street Address 940 Indian Creek Road
City, State, Zip Chesapeake, VA 23322
Day Phone: (804) 758-8100 x 3005 (Taylor Ovide, MPPDC)

Agent (if applicable): Soils, Inc
Street Address 8331 W. Main Street
City, State, Zip Marshall, VA 20115
Day Phone: 540-364-1122 Cell: _____

Email Address: tovide@mppdc.com

Tax Map#: 1080000000240 Subdivision: _____ Sect/Block: _____ Lot #: _____
Size of Parcel: 1.5± Acres. _____ Proposed Use (# of bedrooms): 3 bedrooms
Proposed volume of discharge (gallons per day): 450 gpd _____

If the discharge is to a wetland, attach the statement from the Army Corps of Engineers confirming the wetland delineation.

		YES	NO
1.	Are central sewage facilities available to this site/facility? If yes, explain: _____	_____	X
2.	Does the residence/facility (existing or proposed) currently have an existing VPDES permit? If yes, please provide the VPDES permit number: _____	_____	X
3.	Will any pollutants other than domestic sewage be treated or discharged? If yes, please indicate what: _____	_____	X
4.	Is this application for a system to replace a failing septic system?	X	_____
5.	Discharge permits can only be issued to sites with no onsite solution in accordance with 12VAC5-640		

Attach a copy of the onsite sewage permit denial.

OSE/PE: Markham D. Smith Date of Denial: 2/17/2026 PE/OSE License #: 1940001392

I hereby give permission to the Health Department to enter onto the above referenced property for the purpose of processing this application. I certify that the property lines and the proposed location of the treatment system, discharge point, proposed structures, water supplies, utilities, easements, are clearly marked and the property is sufficiently clear to see the topography.

_____ _____
Signature of Property Owner Date

PART B. Site Evaluation

		YES	NO	N/A
6.	Will discharge be directly to a year-round, all-weather stream? If so Name of Proposed Receiving Stream: Indian Creek	X		
7.	If discharge is to an intermittent stream or to a dry ditch, how far will discharge flow before leaving this property? _____ ft.			
		YES	NO	N/A
8.	If discharge is to an intermittent stream, a dry ditch, or a wetland, and discharge will flow less than 500 feet on this property, can an easement be obtained in accordance with 12 VAC 5-640-370?			X
		YES	NO	
9.	If discharge is to an intermittent stream or to a dry ditch, is the slope≥ 1% for all of the fifty foot segments? N/A			
10.	Is the average slope ≥ 2%? N/A			
11.	In the first 500 feet will the path of wastewater flow within 100 feet of any well or domestic water supply?		X	
12.	Are there any springs used for human consumption within 1500 feet downstream, or 100 feet upstream of the discharge point?		X	
13.	Is there any public water supply intake within one mile downstream of the proposed discharge point?		X	
14.	Are there any public swimming areas designated for public use or prohibited discharge areas within one mile downstream from the proposed discharge point?		X	
15.	Is the receiving stream classified as, or does it discharge to, shellfish waters?		X	
16.	Are there any other existing or proposed VPDES discharges within 500 feet of this proposed discharge point along the flow path?		X	
17.	Will any part of the proposed treatment system (excluding the discharge pipe and any aeration steps) be located within the 100 year flood plain?		X	
18.	Will any part of the proposed treatment system (excluding the discharge pipe and any aeration steps) be located in a topographically low, wet, or swampy area?		X	
19.	Will the building served by this system be used intermittently, or be subject to frequent electrical power interruptions?		X	
20.	Provide verification that this proposed activity is consistent with all local ordinances adopted pursuant to Title 15.2 of the Code of Virginia including wetlands.	X		

21. How will the discharge be disinfected? Circle one: Chlorine; Ultraviolet radiation; Other _____

PART C. Site Sketch

PLEASE ATTACH A SITE SKETCH TO THIS APPLICATION SHOWING:

1) A survey plat with topographic contour, and the location of existing structures, easements, utilities, water supplies, and springs should be provided by the owner. Other information referenced in this application is to be plotted on the survey plat.

2) Directions to and boundaries of the property.

3) The specific location of the property including the county tax map number (where available), a copy of the United States Geological Survey 7.5 minute topographic map showing the discharge point and downstream for five miles.

4) The location and distance to any existing or proposed buildings, wells, sewage treatment systems, VPDES discharges, water sources, water lines, easements, or utilities within 600 feet of any part of the proposed sewage disposal system. Indicate the discharge point, property boundaries, limestone outcrops and wells within 500 feet.

5) The important topographic features of the site (drainways, sinkholes, ponds, lakes, streams) including the limits of the 100-year flood plain.

6) The path of wastewater flow to the receiving year-round stream.

7) A diagram of the existing or proposed sewage treatment system, including the location of the residence/facility and the individual sewage treatment units.

8) The elevation of the discharge point and the elevation and slope every 50 feet for 500 feet downstream along the discharge path. Also include the slope of the channel sides every 50 feet for 500 feet downstream along the discharge path.

9) The latitude and longitude of the proposed discharge point in degrees, minutes, and seconds.

Certification:

To the best of my knowledge the information provided on the site sketch and the site evaluation are accurate.

Site Summary: Discharge Point Type: ALL WEATHER STREAM

Easement Required? No

Site Evaluation and Site Sketch prepared by: Wayne A. Savage Date: 2/23/2026

VDH Site Evaluation Concurrence by: _____ Date: 3/10/26

PART C. Permissions

As the applicant for a construction permit on the above referenced property, I certify that, to the best of my knowledge, the above information and the attached site sketch and topographic map are true, correct, and complete. I understand that if the department finds a satisfactory site in response to this application that I will be required to submit construction permit application and plans and specifications for the treatment system prepared by an engineer and, certified copies of any necessary easements

Wayne A. Savage — 2/23/2026

Signature of Applicant — Date

As the applicant for an alternative discharging system construction and operations permit on the above referenced property, I hereby give permission to the Health Department, or their authorized agent, to enter onto the above referenced property for the purpose of inspecting the construction of and monitoring the operation and quality of effluent from my sewage treatment plant.

Wayne A. Savage — 2/23/2026

Signature of Applicant — Date

Department of Environmental Quality Certification

I hereby grant to duly authorized agents of the Department of Environmental Quality, upon presentation of credentials, permission to enter the property where the treatment works is located for the purpose of determining compliance with or the suitability of coverage under the General Permit. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

Wayne A. Savage — 2/23/2026

Signature of Applicant — Date

PART D. CERTIFICATION

I understand that I am responsible for contracting with a licensed operator to conduct all operation, maintenance, monitoring, and reporting for this permitted wastewater treatment system in accordance with 12VAC5-640. I certify that this system will be maintained by a licensed operator in accordance with 12VAC5-640.

Wayne A. Savage — 2/23/2026

Signature of Applicant — Date

SOILS INC.

SOIL SCIENTISTS • ENGINEERS • WASTE WATER PROFESSIONALS

MARKHAM D. SMITH, A.O.S.E., L.P.S.S.,
PRESIDENT

8331 WEST MAIN STREET, MARSHALL, VIRGINIA 20115 (540) 364-1122
10805 MAIN STREET, SUITE 700, FAIRFAX, VIRGINIA 22030 (703) 662-5398

F. (540) 364-2060 SOILS-INC.COM

Owner of record:	James Peery
Owner address:	940 Indian Creek Road Chesapeake, VA 23322
Bedrooms:	3
Water:	Existing well
Design flow:	150-gpd * 3-bedrooms = 450-gpd
Disposal method:	Surface Discharge

Executive Summary

The subject design is for a new point source discharge for an existing single-family residence in the City of Chesapeake. Current topographic and boundary information provided by field run survey prepared by others. The subject point source discharge design consists of an AX-20 pre-treatment unit with a 2,000 gallon tank, 1,250 gallon pump tank, Orenco AXUV disinfection unit and Bio-Microbics post aeration, two (2) inch force main, and rip-rap outlet protection. All information provided herein needs to be field verified and MISS Utility needs to be contacted a minimum of 72-hours prior to any land disturbance on the subject property.

Project Scope

Pursuant to the provision set forth under §32.1-12, §32.1-163 and §32.1-164 of the Code of Virginia, the State Board of Health is empowered to supervise and regulate the construction, location and operation of alternative discharging sewage treatment systems with flows less than or equal to 1,000 gallons per day on a yearly average for an individual single family dwelling within the Commonwealth when such a system is regulated by the Virginia State Water Control Board pursuant to a Virginia Pollutant Discharge Elimination System General Permit. The following summary highlights the requisite new construction information required for all new point source Discharge systems outside the Potomac Embayment Overlay District:

1. 12VAC5-640-240.D.1--Information gathered in the site review evaluation: Discharge permit number is pending.

2. 12VAC5-640-240.D.2-System components-Advantex AX-20 with treatment tank, UV disinfection, Bio-Microbics post aeration, pump tank, pump and telemetry control panel;
3. 12VAC5-640-240.D.3-location: City of Chesapeake, VA Also identified as parcel 77a-1-4
4. 12VAC5-640-240.D.4-Grades: existing grade information provided by field run survey prepared by others.
5. 12VAC5-640-240.D.5-Distances: distance between elevations have been provided within the package as required.
6. 12VAC5-640-240.D.6-Pumps: Orenco PFEF 4011-B
7. 12VAC5-640-240.D.7-Floodplain: No portion of the discharge is within the 100yr floodplain, except for the discharge pipe. A FEMA firm map has been provided for reference within the package.
8. 12VAC5-640-430-Performance Criteria: noted.
9. 12VAC5-640-432-Components: the AX-20 is generally approved as a TL-3 pretreatment unit.
10. 12VAC5-640-434-Reliability: This discharge design falls under Class 1 - The AX-20 shall provide TL-3 effluent. The VeriComm control panel with telemetry and the use of 2,000 gallon septic tank shall satisfy the reliability component of use telemetry and 24-hour storage of raw sewage. UV will provide disinfection. Please refer to cutsheets contained herein.
11. 12VAC5-640-440-Special Factors: Noted
12. 12VAC5-640-450-design criteria for dry ditches: Noted.
13. 12VAC5-640-460-UV & post aeration: UV and post aeration provided. Please refer to cutsheets contained herein.
14. 12VAC5-640-470-construction standards: noted.

The proposed point source Discharge system will Discharge into Indian Creek, an all-weather stream. This design does not propose a fence or any other type of obstructive device for the Discharge path due to the nature of the treatment unit and flow path.

Appurtenances Specifications

Component 1: Building Sewer

Materials:

The building sewer shall be 4" SCH. 40 PVC with a minimum slope ¼" per foot. The preferred depth is 18-inches. To be constructed in accordance with manufacturers specifications regarding preparation (sanding and primer) and gluing (chemical fusion) requirements. Joining of pipes of different sizes and or materials shall be accomplished using a manufactured adapter specifically designed for that purpose. Maintain the run as straight as possible. Elbows (if absolutely necessary) are not to exceed 45 degrees.

Cleanouts:

There shall be no bends greater than 45 degrees. Cleanouts on the building sewer shall be provided within 5-feet from the structure (residence), every 50-feet thereafter and within 10 feet of the treatment unit.

Bedding And Support:

The entire length of the sewer line is to be bedded uniformly on natural, in place soil or on rock/stone dust over in place soil to provide uniform support along the length. Where the line crosses filled areas, the lines are to be sleeved, firmly placed on solid, natural ground for 2-feet at either end.

Backfilling:

The trench is to be backfilled with suitable material free of large stones and clumps of earth. The fill is to be firmly tamped during the backfilling process to prevent movement of the sewer. Sewer lines passing within 50' of nonpublic water supply source are to meet special construction requirements as specified by the health department.

Component 2: Advantex AX-20

Tanks

Please refer to the cut sheets provided herein for the AX-20. All tanks shall be installed as shallow as possible, out of low areas, isolated from surface drainage including, drive, road and gutters and by methods to minimize and preferably eliminate water infiltration. Parge the inside and outside of the tank seam. Additional tarring and plastic wrapping on the outside may be indicated for additional protection. ("top seam" are required).

Component 3: Orenco AXUV

Please refer to the cut sheets provided herein for the Orenco AXUV Disinfection unit.

Component 4: Conveyance To Pump Tank

The gravity conveyance line is to be constructed, bedded, supported (as necessary), and back filled as outlined under component #1, building sewer.

Component 5: Pump Tank

Tanks

Please refer to the cut sheets provided herein for the pump tank. Said tank shall also have Orenco UV disinfection lamp, submersible pump and Bio-Microbics for post UV aeration. All tanks shall be installed as shallow as possible, out of low areas, isolated from surface drainage including, drive, road and gutters and by methods to minimize and preferably eliminate water infiltration. Parge the inside and outside of the tank seam. Additional tarring and plastic wrapping on the outside may be indicated for additional protection. ("top seam" are required).

Component 6: Post Aeration

Please refer to the cut sheets provided herein for the Bio-Microbics Post Aeration Unit model 740-RE/AERMCF0.5 - 500 GPD.

Component 7: Discharge Point

New Discharge Point

The treated effluent is to be conveyed initially via a 2" SCH. 40 PVC force main, converted to 4" Sch. 40 PVC for a minimum of 10' prior to discharge into an existing all-weather stream that runs adjacent to the parcel. Riprap is to be placed at the end of the discharge pipe to prevent erosion. A white sign with one-inch-high black text shall be placed within 3 feet of the discharge point. The sign shall be clearly visible from 25' and shall state, "This pipe carries treated sewage effluent and is not suitable for human consumption. This system is owned by (full name of permit holder) and is maintained by (name and phone number of maintenance provider in maintenance contract)".

Component 8: Conveyance Channel

The treated effluent is to be discharged into an existing all-weather stream at the northeast corner of the property.

Installation procedure

1. Pre-construction meeting required between the Contractor and Engineer prior to construction, a minimum of 48-hours prior to work. The Engineer shall be notified a minimum of 72 hours prior to inspection of said drain field system. No system will be accepted by the health department without proper inspection. Contractor shall notify MISS Utility 48-hours prior to excavation.
2. Connect proposed gravity main to stub from house.
3. Set treatment tank, AX-20, and pump tank.
4. Mount VeriComm control panel.
5. Install UV unit, pump and Bio-Microbics post aeration unit within the pump vault.
6. Wire units with appurtenances to control panels.
7. Run force main and enlarge to 4" perforated gravity main to discharge point, daylight and place within gravel trench and place riprap at discharge point to prevent erosion.
8. Place discharge sign.

Material specifications

Control Panel

VeriComm AX20B1. Said panel shall control AX-20, recirculation pump, UV disinfection, and submersible pump. AX-20, UV disinfection and post aeration unit shall have a current meter to detect failures. A separate control panel will be provided by Bio-Microbics for the post aeration unit. Any failures will automatically alarm and notify homeowner and maintenance provider via telemetry settings.

Gravity Piping

All gravity piping shall be SCH. 40 perforated PVC as a minimum. Fittings shall be SCH. 40 PVC suitable for underground installation. All joints shall be solvent welded with the use of primer and PVC glue.

Pipe Bedding

In-ground piping shall be installed according to local codes. Freestanding piping shall be SCH. 40 PVC and assembled with retrained joints.

Outfall Protection

VDOT Class 1 Riprap

Inspection Schedule

A preconstruction meeting shall be held with the engineer and certified installer to discuss location, dispersal method, location of tanks and preparation.

Date of inspection:
Preconstruction attendees:

A startup meeting shall be held with the Engineer of record and installer. Installer shall have all components installed and uncovered for said inspection. Installer shall have water (via well or other temporary method such as pool truck) and power (via permanent power or generator) to check the entire system for leaks. Topsoil shall be onsite as well for inspection.

Date of inspection:
Startup attendees:

A programming meeting shall be held with the Engineer of record, maintenance provider, and installer to ensure the system is dosed as specified. It should be noted that if final grading for the entire lot, not just the discharge area, is complete the subsequent inspection may be waived.

Date of inspection:
Programming attendees:

A final grade inspection shall be held with the Engineer and Installer to ensure final grades preclude the ponding of water on and around the discharge and its components. It should be noted that the manual will be provided with the completion statement.

Date of inspection:
Final grade attendees:

SOILS INC.

OSE/PE Report For:

☐ Construction Permit ☑ Repair Permit ☐ Voluntary Upgrade Permit ☐ Certification Letter ☐ Minor Modification ☐ Subdivision Approval

Property Location:

911 Address ***940 Indian Creek Road*** City, State, Zip: ***Chesapeake, VA 23322***

Lot: _____ Section: _____ Subdivision: _____

GPIN or Tax Map #: ***1080000000240*** Health Dept. ID #: _____

Latitude: 36.60048 Longitude: -76.18639

Owner :

Name: ***James Peery c/o Middle Peninsula Planning District Commission***

Address: ***940 Indian Creek Road*** ***Chesapeake, VA 23322***

Prepared by:

OSE Name: ***Markham D. Smith*** License # ***1940001392***

Address: ***8331 West Main Street, Marshall, VA 20115***

PE Name: ***Wayne Savage*** License # ***402056830***

Address: ***8331 West Main Street, Marshall, VA 20115***

Date of Report: ***2/23/2026*** Date of Revision #1: _____

OSE/PE Job # ***T6304*** Date of Revision #2: _____

Contents/Index of this report:

1. OSE/PE Report & Application	***14. Soil Summary & Profiles***	
2. System Specs & Installation Notes	***15. 200' Sanitary Survey***	
3. Condition Asessment		
4-13. Engineer Design		

*****This pkg is being submitted under §32.1-163.6 of the Code of Virginia*****

Certification Statement

I hereby certify that the evaluations and/or designs contain herein were conducted in accordance with the *applicable provisions of the Sewage Handling & Disposal Regulations (12VAC5-610), the Private Well Regulations (12VAC5-630), the Regulations for Alternative Onsite Systems (12VAC5-613)* and all other applicable laws, regulations, and policies implemented by the Virginia Department of Health. I further certify that I currently posses any professional license required by the laws and regulations of the Commonwealth that have been duly issued by the applicable agency charged with licensure to perform the work contained herein. The potential for both conventional and alternative onsite sewage systems has been discussed with the owner/applicant.

☐ The work attached to this cover page has been conducted under an exemption to the practice of engineering, specifically the exemption in Code of Virginia Section 54.1-402.A.11

I recommend that a: ☐ Construction Permit ☐ Subdivision Approval be: ☑ ***Issued***

☐ Certification Letter ☑ Repair Permit ☐ Voluntary Upgrade ☐ ***Denied***

☐ Minor Modification

OSE/PE Signature: Wayne A. Savage Date: 2/23/2026

COMMONWEALTH OF VIRGINIA

VDH USE ONLY
Health Dept. ID#_____
Due Date:_____

Application for: ☑ Sewage System ☐ Water Supply

Owner: James Peery c/o Middle Peninsula Planning District Commission
Phone: (804) 768-8100 x 3005 (Taylor Ovide, MPPDC)

Mailing Address: 940 Indian Creek Road
Chesapeake, VA 23322
Fax: tovide@mppdc.com
Phone:

Agent: Soils Inc.
Phone: 540-364-1122

Mailing Address: 8331 W. Main Street Marshall, VA 20115
Fax:

Site Address: 940 Indian Creek Road
Chesapeake, VA 23322
Email: submissions@soils-inc.com

Directions to Property: *Take VA-168 S ~13 miles to exit 8A-Hillcrest Pkwy. Turn left and go 0.4 miles to right onto S Battlefield Pkwy (VA 168 BUS S). In 3.4 miles turn left onto Indian Creek Rd. Property on left in 2.1 miles*

Subdivision: _____ Section: _____ Block: _____ Lot: _____

Tax Map: 1080000000240 Other Property Info: _____ Acreage: 1.5± ac.

Sewage System

Type of Approval: Applicants for new construction are advised to apply for a certification letter to determine if the land is suitable for a sewage system and to apply for a construction permit (valid for 18 months) **only when ready to build.**

☐ Certification Letter ☐ Construction Permit ☑ Repair ☐ Voluntary Upgrade ☐ Minor Modification

Proposed Use:

Single Family Home **(Number of Bedrooms)** 3 Multifamily Home **(Total # of Bedrooms)** _____

Other (Describe): _____

Basement ☐ Yes ☑ No Walk-Out Basement? ☐ Yes ☑ No Fixtures in Basement? ☐ Yes ☑ No

Conditional Permit Desired? ☐ Yes ☑ No If yes, what type of conditions are desired?
☐ Reduced Water Flow ☐ Limited Occupancy ☐ Intermittent or seasonal use ☐ Temporary Use (1 yr. maximum)

Do you wish to apply for a betterment loan eligibility letter? ☐ Yes** ☑ No
**There is a $50 fee for determination of eligibility.

Water Supply

Will the water supply be ☐ Public or ☑ Private Is the water supply ☑ Existing or ☐ Proposed

If proposed, is this a replacement well? ☐ Yes ☐ No If yes, will the old well be abandoned' ☐ Yes ☐ No

Are any adjacent properties used for an agricultural operation? Yes ☐ No ☑

Well Type (e.g. domestic use, agricultural, irrigation, etc.) Domestic Use

All Applicants

Is the property intended to serve as your (the owners') principal place of residence? ☑ Yes ☐ No

All applications must be accompanied by private sector evaluations and designs, unless a petition for VDH services is approved. Is a Petition for Service form attached? ☐ Yes ☑ No

In order for VDH of process your application for a sewage system, you must attach a plat of the property and a site sketch. For water supplies, a plat of the property is recommenced and a site sketch is required. The site sketch should show your property lines, actual and/or proposed buildings, and the desired location of your well and/or sewage system. When the site evaluation is conducted, the property lines, building location and the proposed well and sewage sites must be clearly marked and the property sufficiently visible to see the topography. I give permission to the Virginia Department of Health to enter onto the property described during normal business hours for the purpose of processing this application and to perform quality assurance checks of evaluations and designs certified by a private sector Onsite Soil Evaluator or Professional Engineer as necessary until the sewage disposal system and/or private water supply has been constructed and approved.

Wayne A. Savage
Signature of Owner/Agent

2/23/2026
Date

This form contains personal information subject to disclosure under the Freedom of Information Act.

INSPECTION:

A PRE-CONSTRUCTION MEETING IS REQUIRED PRIOR TO INSTALLATION OF ANY OF THE SEPTIC COMPONENTS, UNLESS WAIVED BY OUR OFFICE. SOILS, INC. SHALL BE NOTIFIED AT LEAST 72-HOURS PRIOR TO THE PLANNED INSTALLATION DATE TO SCHEDULE THE PRE-CONSTRUCTION MEETING.

CONTRACTOR TO NOTIFY ENGINEER 24 HOURS AHEAD OF COMPLETION OF DRAINBED BASE PRIOR TO PLACING SAND OR AGGREGATE.

SYSTEM USE:

KEEP DAILY WASTEWATER FLOW WITHIN DESIGN PARAMETERS.

INTRODUCE ONLY NORMAL RESIDENTIAL WASTEWATER INTO THE SYSTEM:

- SOLVENTS, PAINTS, PHARMACEUTICALS, AGGRESSIVE CLEANING PRODUCTS, AND NON-BIODEGRADABLE ITEMS SHOULD NOT BE INTRODUCED INTO THE SYSTEM
- SOLIDS, SUCH AS, BUT NOT LIMITED TO, CIGARETTE BUTTS, DIAPERS, FEMININE HYGIENE PRODUCTS, CAT LITTER, AND PAPER TOWELS SHOULD NOT BE INTRODUCED INTO THE SYSTEM
- MAINTAIN LEAK-FREE DWELLINGHOLD PLUMBING FIXTURES, SUCH AS FAUCETS AND TOILETS
- DO NOT USE A GARBAGE DISPOSAL.
- DO NOT PUT FATS, OILS OR GREASE INTO THE SYSTEM
- FLOOR DRAINS FROM GARAGE AND WORKROOMS SHOULD BE DIVERTED AWAY FROM THE SEPTIC SYSTEM

SURFACE DRAINAGE:

- DIVERT DOWNSPOUTS, ROOF DRAINAGE, DRIVEWAY RUNOFF, AND SUMP PUMP DISCHARGE AWAY FROM THE DRAINFIELD.
- DO NOT INSTALL IRRIGATION SYSTEMS IN VICINITY OF DRAINFIELD OR TANKS.
- DO NOT DIG IN THE DRAINFIELD OR BUILD ANYTHING OVER IT.
- DO NOT DRIVE OVER ANY PORTION OF THE SYSTEM (TANK, PIPING, DRAINFIELD) EXCEPT FOR NORMAL YARD TRAFFIC, I.E., LAWN MOWERS.
- DO NOT PLANT TREES NEAR ANY PORTION OF YOUR SYSTEM.

WATER TREATMENT EQUIPMENT:

BACK FLUSH FROM WATER TREATMENT SYSTEMS, HOT TUBS AND SWIMMING POOLS, ETC. SHOULD NOT BE DISCHARGED INTO THE SEWER SYSTEM LEADING TO THE SEPTIC TANK AND DRAINFIELD. THE DRAINFIELD IS NOT SIZED FOR THIS TYPE OF DISCHARGE.

SANITARY SURVEY STATEMENT:
THERE ARE NO WELLS OR SPRINGS THAT WOULD IMPACT THE LOCATION OF THE PROPOSED DRAINFIELD OR TREATMENT UNITS WITHIN THE DISTANCES REQUIRED BY THE VIRGINIA SEWAGE DISPOSAL & HANDLING REGULATIONS.

MISS UTILITY

BEFORE YOU DIG CALL
811 IN VIRGINIA OR
1-800-552-7001
PROTECT YOURSELF, GIVE THREE
WORKING DAYS NOTICE

Soils, Inc. makes no representation as to the existence or non-existence of any utilities at the construction site. Shown on these construction drawings are those utilities which have been identified. It is the responsibility of the landowners or operators and contractors to assure themselves that no hazard exists or damage will occur to utilities.

VICINITY MAP
SCALE: 1"= 2000'

TABLE OF CONTENTS

TREATMENT SYSTEM AND ABSORPTION AREA SHOWN HEREON ARE BASED ON THE TOPOGRAPHIC SURVEY BY PARKER DESIGN GROUP DATED FEBRUARY 10, 2026. CONTRACTOR TO CONFIRM LOCATION WITH ENGINEER PRIOR TO COMMENCING CONSTRUCTION.

APPROVED

APR - 7 2026

Chesapeake Health Department
Environmental Health

COMMONWEALTH OF VIRGINIA
Wayne A. Savage
WAYNE A. SAVAGE
Lic. No. 56830
02-23-2026
PROFESSIONAL ENGINEER

COVER SHEET

SOILS INC.
8331 WEST MAIN ST, MARSHALL, VA 20115
P.844.447.SOIL (7645) F.540.364.2060

PROJECT: 940 INDIAN CREEK ROAD
DATE: 02/23/2026 JOB #T6304
GPIN OR TM #: 1080000000240
COUNTY/STATE: CITY OF CHESAPEAKE, VA

PIN: 1090000000284
N/F WALTER CUFFEE
DB 9896 PG 1608

STATE PLANE NORTH NAD 83 (VA SOUTH)

RIPRAP OUTLET PROTECTION

CANAL

EXISTING CULVERT UNDER ROAD

OUTFALL SIGN

DISCHARGE POINT
ELEV = 2.75'
36°35'40.4" N
76°11'01.6" W

SHED

PP

TAX MAP#
1080000000240
1.5± AC.

APPROXIMATE LOCATION FEMA FLOOD ZONE (SEE NOTE 3)

242 L.F. 2" SCH 40 PVC FORCE MAIN (CONVERTED TO 4" SCH. 40 PVC FOR A MINIMUM OF 10' PRIOR TO DISCHARGE)

"JOHN ETHERIDGE ROAD" VARIABLE WIDTH R/W

SHED

ORENCO AXUV DISINFECTION

EXISTING DITCH

2,000 GAL. T/S TREATMENT TANK

CAMPER

FLOW METER

SHED

ZONE X (0.2%)
ZONE AE

PROPOSED 1,250 GAL. PUMP TANK W/POST AERATION

GRAVEL

FRAME DWELLING FFE=6.67'

APPROXIMATE LOCATION OF EXISTING DRAINFIELD TO BE ABANDONED IN PLACE

AX-20 (SEE CUTSHEET)

PROPOSED 4" SCH 40 PVC TIE INTO EXISTING SEWER LINE

EXISTING WELL

100.0'

50.0'

100.0'

EXISTING WELL

EXISTING SEPTIC TANK TO BE REMOVED OR CRUSHED AND FILLED

"INDIAN CREEK ROAD" VARIABLE WIDTH R/W

PIN: 1090000000260
N/F NORMAN L & SHERRY A MORRIS
DB 6167 PG 1

EXISTING WELL

100.0'

IPF @ 7.36'

IPF

PP

0 40 80 120

SCALE: 1" = 40'

NOTES:

1. MAINTAIN 10' MIN. SEPARATION BETWEEN TREATMENT SYSTEM, WATER LINE AND BUILDINGS.
2. MAINTAIN MIN 50' SEPARATION BETWEEN WELL AND TREATMENT SYSTEM AND FORCEMAIN.
3. MAINTAIN 10' MIN. SEPARATION BETWEEN TREATMENT SYSTEM AND PROPERTY LINES.
4. INSTALL DURING DRY WEATHER CONDITIONS.
5. THE LOCATION OF ALL EXISTING UTILITIES MAY OR MAY NOT BE SHOWN; ALL LOCATIONS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL EXISTING UTILITIES TO HIS SATISFACTION PRIOR TO EXCAVATION. THE CONTRACTOR SHALL PROVIDE PROPER NOTIFICATION TO "MISS UTILITY" (800-552-7001) PRIOR TO COMMENCEMENT OF CONSTRUCTION.

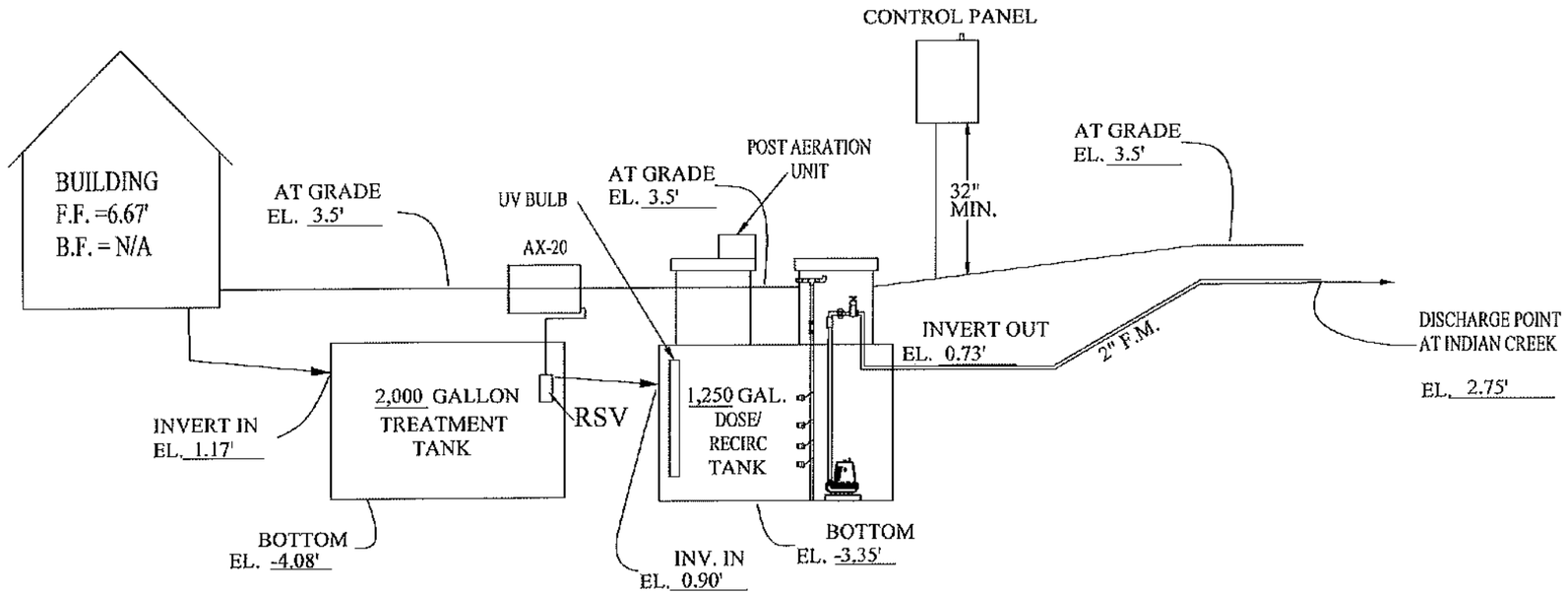
COMMONWEALTH OF VIRGINIA
Wayne A. Savage
WAYNE A. SAVAGE
Lic. No. 56830
02-23-2026
PROFESSIONAL ENGINEER

PROPOSED LAYOUT

PAGE 2

SOILS INC.
8331 WEST MAIN ST, MARSHALL, VA 20115
P.844.447.SOIL (7645) F.540.364.2060

PROJECT: 940 INDIAN CREEK ROAD	
DATE: 02/23/2026	JOB #T6304
GPIN OR TM #: 1080000000240	
COUNTY/STATE: CITY OF CHESAPEAKE, VA	



COMMONWEALTH OF VIRGINIA
Wayne A. Savage
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02-23-2026
PROFESSIONAL ENGINEER

HYDRAULIC PROFILE

PAGE 3

SOILS INC.
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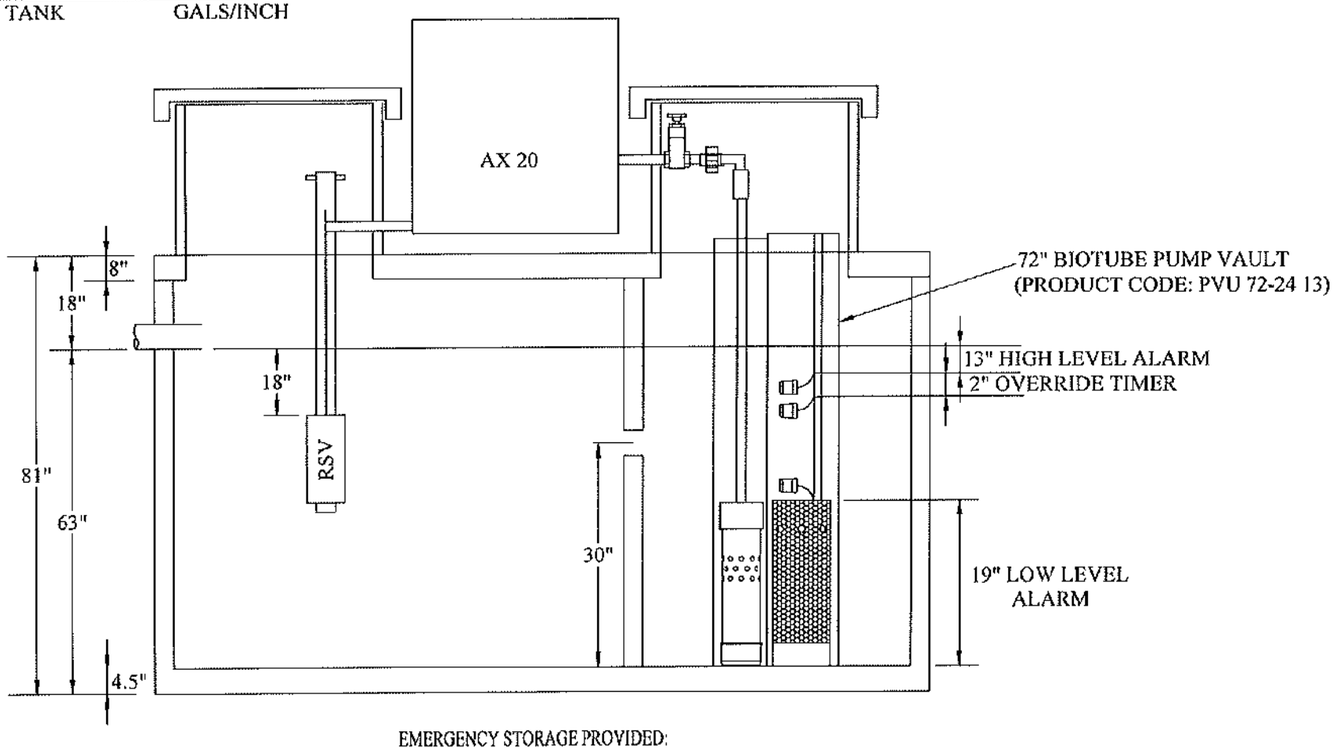
PROJECT: 940 INDIAN CREEK ROAD
DATE: 02/23/2026 JOB #T6304
GPIN OR TM #: 1080000000240
COUNTY/STATE: CITY OF CHESAPEAKE, VA

ANY APPROVED PRECAST TOP SEAM
TANK MANUFACTURER

2,000 GALLON TREATMENT TANK TANK 36.36 GALS/INCH



EMERGENCY STORAGE PROVIDED:
HIGH LEVEL ALARM TO TANK INLET IS 13".
13" * 36.36 GPI = 472.7 GAL OF EMERGENCY STORAGE.

COMMONWEALTH OF VIRGINIA
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02-23-2026
PROFESSIONAL ENGINEER

TREATMENT TANK DETAIL

PAGE 4

SOILS INC.
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PROJECT: 940 INDIAN CREEK ROAD
DATE: 02/23/2026 JOB #T6304
GPIN OR TM #: 1080000000240
COUNTY/STATE: CITY OF CHESAPEAKE, VA

Orenco WATER *Technical Data Sheet*

AdvanTex® AX20 Textile Filter

Applications

Orenco's AdvanTex AX20 Treatment System is an innovative technology for onsite treatment. The heart of the system is the modular AdvanTex AX20 filter, a sturdy, watertight basin filled with an engineered textile material. This lightweight, highly absorbent textile material treats a tremendous amount of wastewater in a small space.

AdvanTex AX20 Textile Filter

Features/Specifications

To specify this product, require the following:

- Non-skid lid surface
- Easily removable and serviceable fixed-film textile media (a polyester plastic), operated in an unsaturated condition
- Consistent media quality
- Completely serviceable manifold
- Watertight construction and corrosion-proof materials
- Multiple inlet and vent locations available for flexible orientation of the unit
- Foam-core lid with insulation value of R-6 (RSI-1.1)

Product Code Diagram

AX 20 - ☐ - ☐

- Application options: Blank = Residential (includes AX-VENT only); COM = Commercial (includes antibuoyancy flanges only)
- Lid color options: Blank = Green; B = Brown
- 20ft² (1.9m²) nominal treatment area
- AdvanTex® Treatment System

Related Information

See *AdvanTex Air Vents Technical Data Sheet*, NTD-ATX-VENT-1 for information on air vents.

Physical Specifications*

Filter basin length, in (mm)	91 (2311)
Width, in (mm)	40 (1016)
Height, in (mm)	31 (787)
Area (footprint), ft² (m²)	20 (1.85)
Filter dry weight, lb (kg)	383 (174)

** Nominal values provided. See AdvanTex Treatment System drawings for exact dimensions.*

NSF *AdvanTex Treatment Systems are listed to NSF/ANSI Standards 40 and 245 for Class I Systems.*

COMMONWEALTH OF VIRGINIA
Wayne A. Savage
WAYNE A. SAVAGE
Lic. No. 56830
02-23-2026
PROFESSIONAL ENGINEER

All product and performance assertions are based on proper design, installation, operation, and maintenance according to Orenco's current published documentation.

ADVANTEX AX20 SPECIFICATION SHEETS
PAGE 5

SOILS INC.
8331 WEST MAIN ST, MARSHALL, VA 20115
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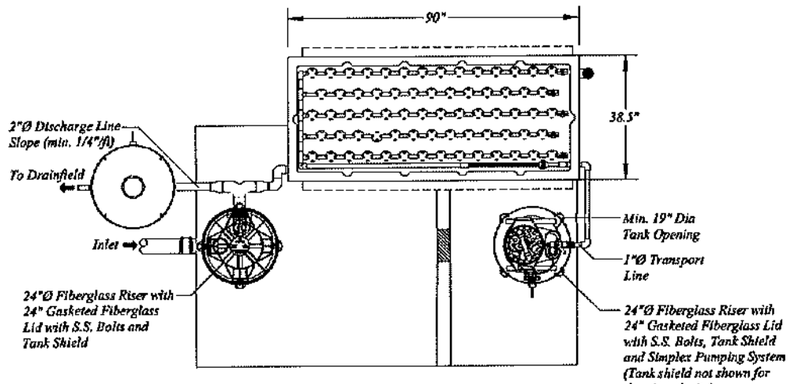
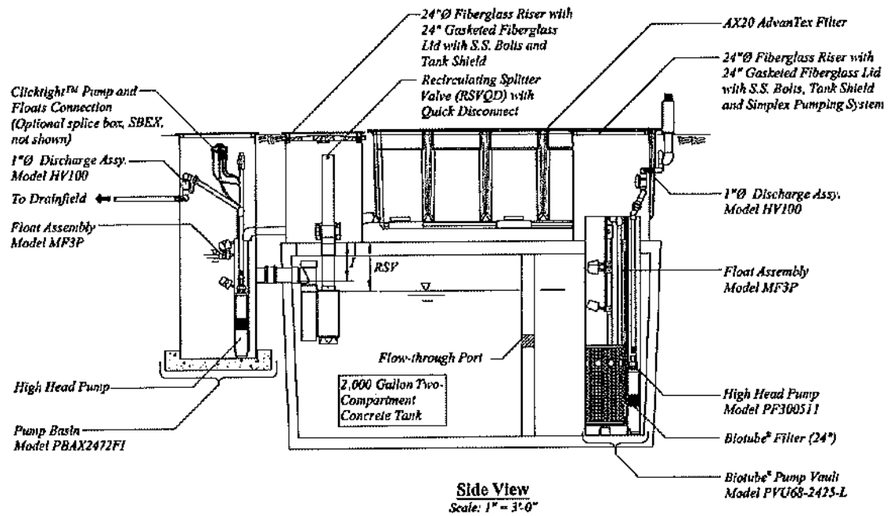
PROJECT: 940 INDIAN CREEK ROAD
DATE: 02/23/2026 JOB #T6304
GPIN OR TM #: 1080000000240
COUNTY/STATE: CITY OF CHESAPEAKE, VA

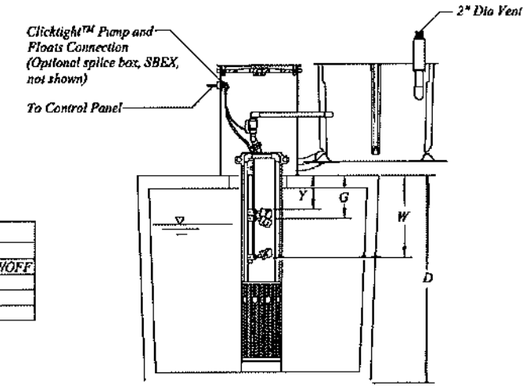
AdvanTex® AX20 Mode 3B



Top View
Scale: 1" = 3'-0"



Side View
Scale: 1" = 3'-0"



Float Functions	
Y	High Level Alarm
G	Override Timer ON/OFF
W	LLA/RO
B	Pump On
R	Pump Off

End View
Scale: 1" = 3'-0"

Design Notes

For residential strength waste up to 4 bedrooms.

Installation to be performed by an AdvanTex Authorized Installer only.

Start-up and service to be performed by an AdvanTex Authorized Service Provider only.

COMMONWEALTH OF VIRGINIA
Wayne A. Savage
WAYNE A. SAVAGE
Lic. No. 56830
02-23-2026
PROFESSIONAL ENGINEER

Orenco SYSTEMS

Disclaimer: This Proposed System Configuration Drawing is provided solely as a design aid and illustrates one possible configuration of a system that would comply with Orenco's design criteria for the requirements and/or specifications that have been communicated to Orenco (based on third-party standards, testing protocols and performance reports, as applicable). Design decisions, including the actual layout and configuration of the system and its viability for the project, are at the sole discretion of the system's designer.

AX20 Mode 3B	Drawn By: BAS	Scale: 1" = 3'-0"	
	Reviewed By:	Sheet: 1 OF 1	
Design Aid	File Name: NDW-ATX-BNDR-6.DWG	Rev: 6.0	Date: 9/23/2022

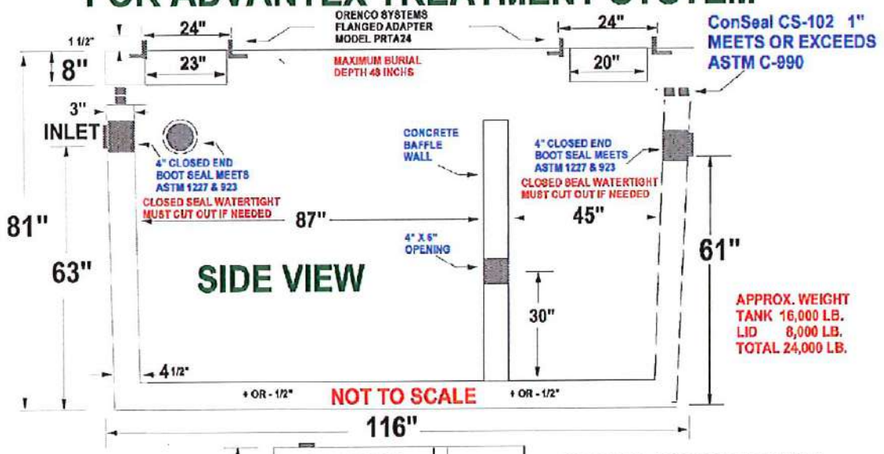
ADVANTEX AX20 SPECIFICATION SHEETS
PAGE 6

SOILS INC.
8331 WEST MAIN ST, MARSHALL, VA 20115
P.844.447.SOIL (7645) F.540.364.2060

PROJECT: 940 INDIAN CREEK ROAD
DATE: 02/23/2026 JOB #T6304
GPIN OR TM #: 1080000000240
COUNTY/STATE: CITY OF CHESAPEAKE, VA

Hanover PRECAST

2000 GALLON TOP SEAM BAFFLED TANK
FOR ADVANTEX TREATMENT SYSTEM

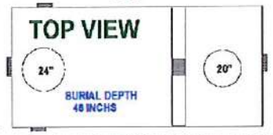


ConSeal CS-102 1"
MEETS OR EXCEEDS
ASTM C-990

APPROX. WEIGHT
TANK 16,000 LB.
LID 8,000 LB.
TOTAL 24,000 LB.

INLET 4" CLOSED END BOOT SEAL
MEETS OR EXCEEDS ASTM 1227
(10 PSI) AND ASTM 923 (13 PSI)

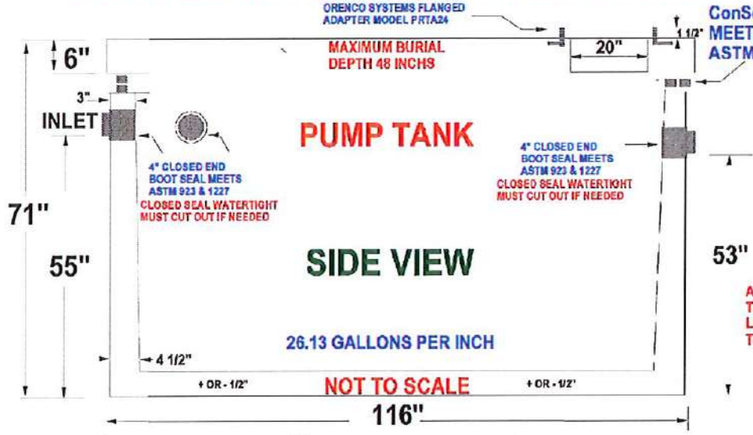
72"



5 REBAR 12" O/C B/W BOTTOM
AND SIDES. TOP HAS #8 REBAR
5000 PSI CONCRETE WITH FIBER
FOR SECONDARY REINFORCMENT

Hanover PRECAST

1250 GALLON TOP SEAM PUMP TANK
FOR ADVANTEX TREATMENT SYSTEM

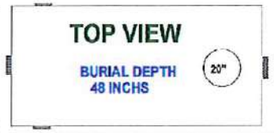


ConSeal CS-102 1"
MEETS OR EXCEEDS
ASTM C-990

APPROX. WEIGHT
TANK 10,000 LB.
LID 3,250 LB.
TOTAL 13,250 LB.

INLET & OUTLET HAVE 4 INCH
CLOSED END BOOT SEALS
MEETS OR EXCEEDS ASTM 1227
(10 PSI) & ASTM 923 (13 PSI)

63"



4 REBAR 12" O/C B/W BOTTOM
AND SIDES. TOP HAS #5 REBAR
5000 PSI CONCRETE WITH FIBER
FOR SECONDARY REINFORCMENT

TANK DETAILS

PAGE 7

SOILS INC.
8331 WEST MAIN ST, MARSHALL, VA 20115
P.844.447.SOIL (7645) F.540.364.2060

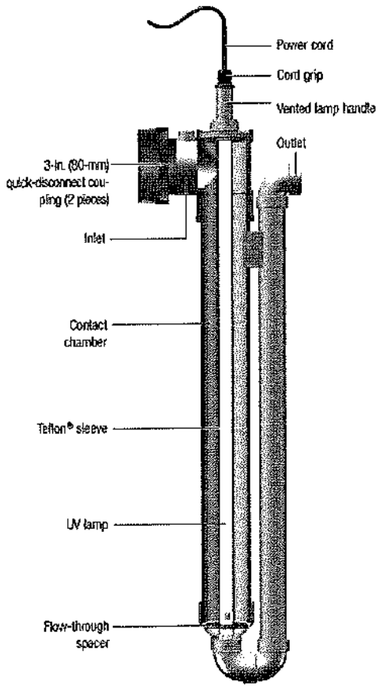
PROJECT: 940 INDIAN CREEK ROAD	
DATE: 02/23/2026	JOB #T6304
GPIN OR TM #: 1080000000240	
COUNTY/STATE: CITY OF CHESAPEAKE, VA	

Orenco SYSTEMS *Technical Data Sheet*

Orenco® AXUV Disinfection Unit

Applications

The Orenco® AXUV Disinfection Unit is designed for use in residential applications after advanced secondary treatment (10 mg/L $cBOD_5$/TSS) by an AdvanTex® Treatment System when disinfection is required before dispersal. It requires installation inside a pump or gravity discharge basin or in a separate tank following an AdvanTex Treatment System. AXUV units can be also be mounted in the AX20-RT Treatment System.



AXUV Disinfection Unit, Cutaway View

c UL us *UL-recognized*

General

Treated effluent flows by gravity through the contact chamber and around the UV lamp where it is disinfected in a 360-degree contact zone. The unit uses no chemicals and has no moving parts. It requires annual cleaning and lamp replacement.

In side-by-side NSF® testing, the AXUV reduced bacteria by 99.999% (5 logs), meeting or exceeding the performance of other residential UV disinfection units.

For protection, the power ballast and lamp current sensor for the AXUV disinfection unit are housed in either an Orenco MVP™ digital control panel or a VeriComm™ remote telemetry control panel. These panels prevent discharge of non-disinfected effluent due to lamp failure or control panel failure. The current sensor monitors lamp function and, in the event of lamp failure, the discharge pump is automatically disabled. With MVP-equipped systems, an audible and visible alarm is activated. With VeriComm-equipped systems, an e-mail alert is sent to the Service Provider.

Features/Specifications

- UL-recognized for US and Canada
- Bacteria reduced by 99.999% (5 logs)
- Flow path designed for maximum contact time between effluent and lamp
- Teflon sleeve to protect lamp and minimize buildup and service intervals
- Quick-disconnect fitting for easy inspection and unit cleaning
- Power ballast and lamp current sensor housed in a control panel (not a tank or riser) to minimize corrosion and failure due to environmental exposure
- Components designed to work together with AdvanTex Treatment Systems — no piecemeal disinfection assemblies and wiring

Standard Model

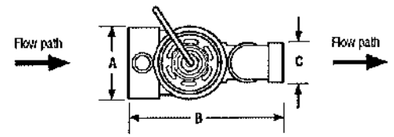
AXUV-125/31

Product Code Diagram

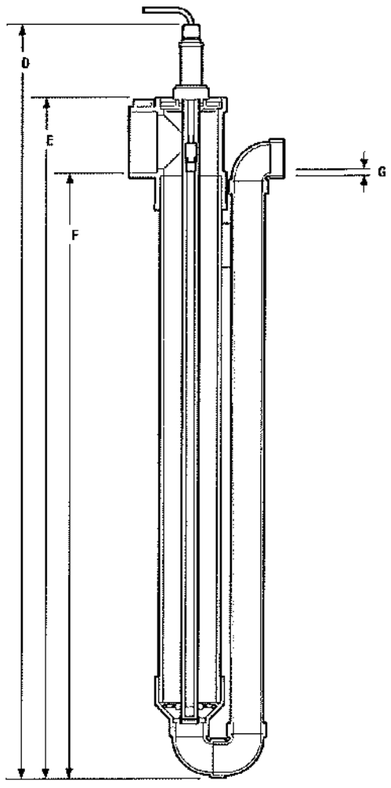
AXUV - 125/31 - ☐

- AXUV = AdvanTex™ UV disinfection unit
- 125 = Lamp output at 1 meter: 125 = 125 µW/cm²
- 31 = Lamp length: 31 = 31 in. (787 mm)
- Power cord length: Blank = 25 ft (7.62 m); 50 = 50 ft (15.2 m)

Orenco SYSTEMS *Technical Data Sheet*



AXUV Disinfection Unit, Top View



AXUV Disinfection Unit, Side Cutaway View

Materials of Construction

Cord grip	Nylon
Contact chamber	3-in. (80-mm) diameter Sch 40 black ABS
Inlet tee	3-in. (80-mm) Sch 40 black ABS
Other fittings	Black ABS
Quick-disconnect coupling	Black ABS
1½-in. IPS outlet	Black ABS
Lamp assembly seal	EPDM rubber
Lamp sleeve	Teflon®

Specifications

UV Unit Dimensions, in. (mm)	
A	5.63 (143)
B	10.06 (256)
C	1.50 IPS (40 DN)
D	42.25 (1073)
E	38.56 (979)
F	34.50 (876)
G, inlet-to-outlet fall	0.50 (13)
UV Unit Performance	
Typical contact chamber UV dose (65% transmittance, 20% lamp degradation)	270,000 µW-s/cm² at 1 gpm (0.06 L/sec) 55,000 µW-s/cm² at 5 gpm (0.32 L/sec) 28,000 µW-s/cm² at 10 gpm (0.63 L/sec)
Minimum target dose	30,000-38,000 µW-s/cm²
Lamp	31 inches (787 mm), 92 VAC, 50 or 60 Hz, 425 mA, 38 W; 254 nm UVC intensity at 1m is 125 µW/cm²
Power cord	600V, 18/2 UL Type TC
Cord plug	UL listed four-pin connector, lampholder, electric discharge, 1000 V or less
Ballast	120V, AC, 50 or 60 Hz, located in UL listed Orenco® control panel

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UV DETAILS
PAGE 8

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PROJECT: 940 INDIAN CREEK ROAD
DATE: 02/23/2026 JOB #T6304
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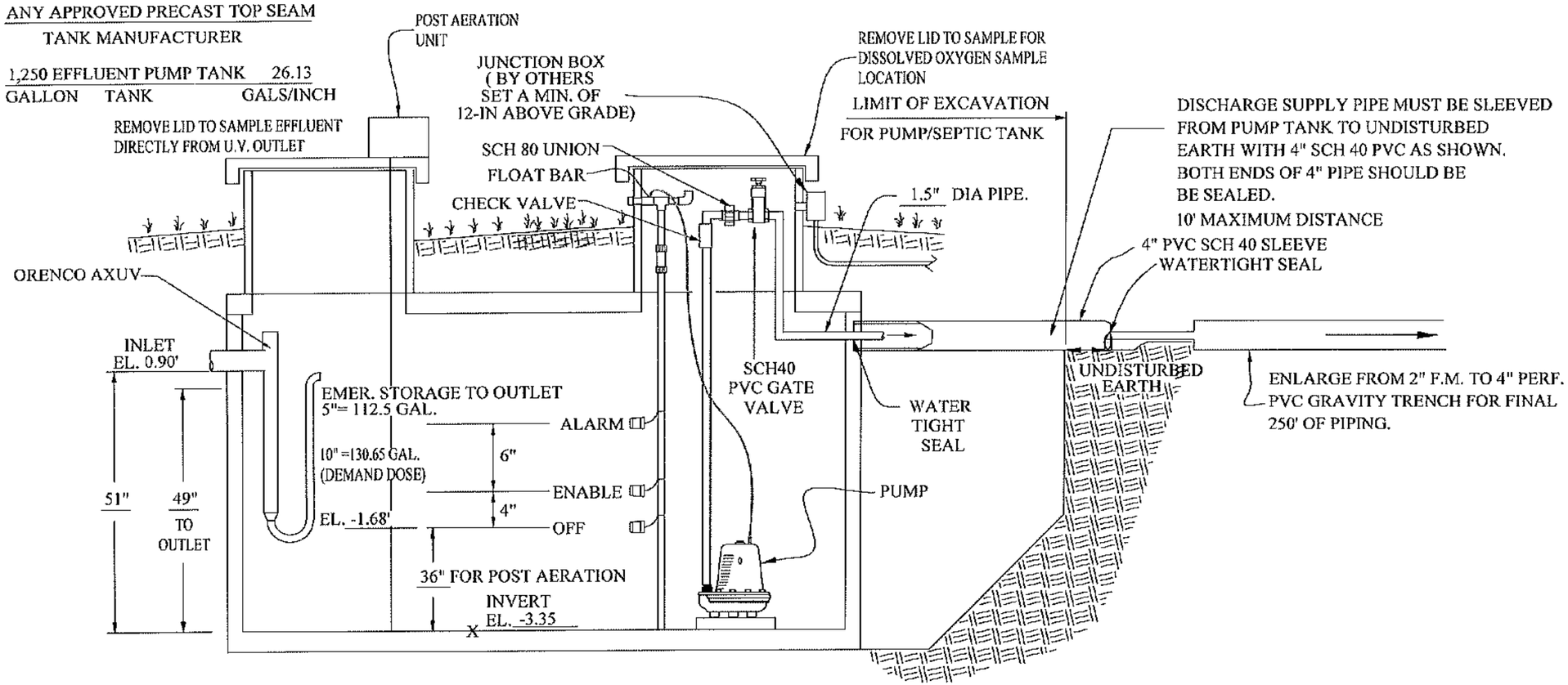
COUNTY/STATE: CITY OF CHESAPEAKE, VA



DEMAND DOSING REQUIREMENTS
PUMP - ORENCO PFEF 4011-B - MIN 21.0 GPM @ TDH OF 14.5' (DOSING)

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PUMP TANK DETAIL

PAGE 9

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Orenco SYSTEMS *Technical Data Sheet*

PFEF Submersible Effluent Pumps

Applications

PFEF Effluent Pumps are used primarily for pumping effluent to low-pressure (gravity) dispersal areas. They can handle solids up to ¾-inch (19-mm) in diameter, and their corrosion-resistant construction makes them highly durable in wastewater applications. All PFEF units are CSA and UL listed. Manufactured by Franklin Electric.

PFEF4011-B

PFEF4012

PFEF5011-B and PFEF10012-B

Powered by Franklin Electric

Features/Specifications

To specify this product, require the following:

- Ability to handle liquids and solid waste materials up to ¾-inch (19-mm) in diameter
- Cast iron pump housing and cover with epoxy coating for corrosion resistance
- Oil-filled motor housing for lifetime lubrication and rapid heat dissipation
- Stainless steel screws, bolts, handle, and seal assembly
- Mechanical seals made of corrosion-resistant materials including stainless steel springs, nitrile parts, and carbon and ceramic faces
- Thermal overload protection for motor
- Rated for continuous duty
- Three-year warranty from date of manufacture

Standard Models

PFEF4011-B, PFEF4012, PFEF5011-B, PFEF5012-B, PFEF10012-B

(Additional configurations available.)

Product Code Diagram

PFEF 40 1 1 - B

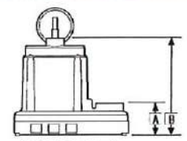
- Pump model revision: Blank = original pump; B = updated pump
- Voltage, nameplate: 1 = 115*; 2 = 230
- Frequency: 1 = single-phase 60 Hz
- Horsepower (kW): 40 = 0.4 (0.3); 50 = 0.5 (0.37); 100 = 1.0 (0.75)
- Pump, PFEF Series

* available for 0.4-hp pumps only

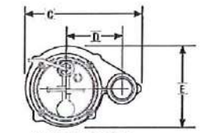
Materials of Construction

Component	PFEF4011-B	PFEF4012	PFEF50XX-B	PFEF10012-B
Motor Housing	Epoxy-coated cast iron	Epoxy-coated cast iron	Epoxy-coated cast iron	Epoxy-coated cast iron
Impeller	Thermoplastic elastomer	Polycarbonate	Epoxy-coated cast iron	Epoxy-coated cast iron
Volute	Epoxy-coated cast iron	ABS	Epoxy-coated cast iron	Epoxy-coated cast iron
Power cord	18/3, SJTW	16/3, SJTW	14/3, SJOOW	16/3, SJOOW
Mechanical shaft seal	Carbon/ceramic-faced nitrile	Carbon/ceramic-faced nitrile	Carbon/ceramic-faced nitrile	Carbon/ceramic-faced nitrile
Upper bearings	Sintered sleeve	Sintered sleeve	Ball	Ball
Lower bearings	Ball	Ball	Ball	Ball
Shaft	High-strength steel	416 stainless steel	416 stainless steel	416 stainless steel
Fasteners	Stainless steel	Stainless steel	Stainless steel	Stainless steel

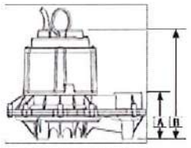
Orenco SYSTEMS *Technical Data Sheet*



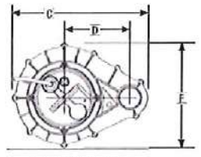
PFEF4011-B, side view



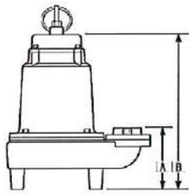
PFEF4011-B, top view



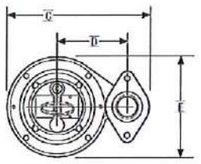
PFEF4012, side view



PFEF4012, top view



PFEF5011-B and PFEF10012-B, side view



PFEF5011-B and PFEF10012-B, top view

Specifications

Dimensions, in. (mm)	PFEF4011-B	PFEF4012	PFEF5011-B	PFEF5012-B	PFEF10012-B
A	2.9 (73)	3.9 (99)	3.8 (97)	3.8 (97)	3.8 (97)
B	9.2 (234)	9.3 (236)	13.8 (351)	13.8 (351)	13.8 (351)
C	9.6 (244)	11.7 (297)	12.3 (312)	12.3 (312)	12.3 (312)
D	4.6 (117)	5.7 (145)	5.8 (147)	5.8 (147)	5.8 (147)
E	6.8 (173)	9.0 (229)	9.5 (241)	9.5 (241)	9.5 (241)
Discharge size*	1¼-inch FNPT	1¼-inch FNPT	2-inch FNPT	2-inch FNPT	2-inch FNPT
Cord length, ft (m)	20.0 (6.1)	20.0 (6.1)	20.0 (6.1)	20.0 (6.1)	20.0 (6.1)
Weight, lb (kg)	26.5 (12.0)	24.0 (10.9)	56.0 (25.4)	56.0 (25.4)	57.0 (25.8)

* Discharge is female NPT threaded, U.S. nominal size, to accommodate Orenco® discharge hose and valve assemblies. Consult your Orenco Distributor about fittings to connect discharge assemblies to metric-sized piping.

Pump Selection for a Non-Pressurized System - Single Family Residence Project

940 Indian Creek

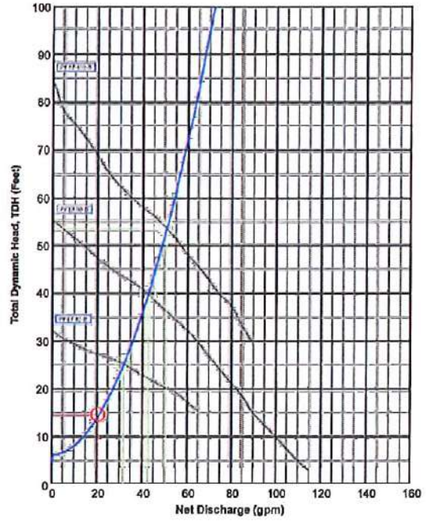
Parameters		
Discharge Assembly Size	1.60	inches
Transport Length	250	feet
Transport Pipe Class	40	
Transport Line Size	2.00	inches
Distributing Valve Model	None	
Max Elevation Lift	5	feet
Design Flow Rate	21	gpm
Flow Meter	1.5	inches
'Add-on' Friction Losses	5	feet

Calculations		
Transport Velocity	2.0	fps

Frictional Head Losses		
Loss through Discharge	1.3	feet
Loss in Transport	2.0	feet
Loss through Valve	0.0	feet
Loss through Flowmeter	1.2	feet
'Add-on' Friction Losses	5.0	feet

Pipe Volumes		
Vol of Transport Line	43.6	gals

Minimum Pump Requirements		
Design Flow Rate	21.0	gpm
Total Dynamic Head	14.5	feet



PumpData

PFEF50 Effluent Pump
1/2HP, 115/230V 1Ø

PFEF40 Effluent Pump
4/10HP, 115/230V 1Ø

PFEF100 Effluent Pump
1HP, 230V 1Ø

Legend

- System Curve:
- Pump Curve:
- Pump Optimal Range:
- Operating Point:
- Design Point:

Orenco SYSTEMS *Technical Data Sheet*

Performance

	PFEF4011-B	PFEF4012	PFEF5011-B	PFEF5012-B	PFEF10012-B
Horsepower (kW)	0.4 (0.30)	0.4 (0.30)	0.5 (0.37)	0.5 (0.37)	1.0 (0.75)
Nameplate voltage	115	230	115	230	230
Maximum amps	8.1	7.2	14.7	10.8	15.1
Minimum liquid level, in. (mm)	9.0 (230)	9.0 (230)	13.8 (351)	13.8 (351)	13.8 (351)
Maximum starts per day	100	100	100	100	100
Minimum off-time, minutes	1	1	1	1	1
Impeller type	Non-clog	Closed vane	Non-clog	Non-clog	Non-clog

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PUMP DETAILS
PAGE 10

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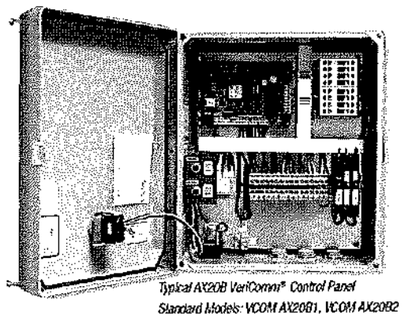
Orenco SYSTEMS *Technical Data Sheet*

VeriComm® AX20B Control Panels

Applications

VeriComm® AX20B remote telemetry control panels are used in AdvanTex® AX20 Treatment Systems with two pumps for timed recirculation and pump discharge. Coupled with the web-based VeriComm Monitoring System, these affordable control panels give the ability to remotely monitor and control treatment system operation, with real-time efficiency to wastewater system operators and maintenance organizations, while remaining invisible to the homeowner. AX20B panels allow remote operators to change system parameters, including timer settings, from the web interface. Interlocked controls prevent recirculation pump operation if there is a high-level alarm on the discharge side.



Typical AX20B VeriComm® Control Panel
Standard Models: VCOM AX20B1, VCOM AX20B2

Features

Three Operating Modes
- "Start-Up Mode" collects trend data and establishes operating standards during the first 30 days of operation
- "Normal Mode" manages day-to-day functions
- "Test Mode" suspends data collection and alarm reporting during installation and service

Data Collection and Utilization
- Compiles data logs of system conditions and events such as pump run times, pump cycles, and alarm conditions

Troubleshooting and Diagnostic Logic
- Reports suspected component failures, which then trigger alarms

Features, cont.

Advanced Control Logic
- Activates system diagnostics in the event of a float failure or malfunction and maintains normal system operation until servicing can occur

Communication and Alarm Management
- Provides remote telemetry and a web-based monitoring application for communication and alarm management (see *VeriComm Monitoring System*, NTD-CP-VCOM-1)
- Updates point values (including timer settings) and queued changes during each host communication session
- Contacts with host monthly; more frequently during alarm conditions

Multiple Communication Methods
- Call-In to VeriComm® Host (phone line or optional high speed internet)
  - Signals critical fault conditions that require immediate attention (e.g., pump failure) through automatic alarm notifications
  - Signals less-critical fault conditions (e.g., stuck float switch) through automatic alert notifications and triggers the panel's troubleshooting logic and alternative operating mode
  - Sends updates through automatic update notifications, including alarm updates or all-clear notifications following alarms/alerts, as well as normally scheduled monthly panel reports
  - Allows manual, forced communication from panel to host for updating point values and receipt of queued changes
- Real-Time, Manual Direct Panel Connection
  - Allows a local operator real-time access to detailed logged data and the ability to change point values through direct connection via RS-232 serial port from a laptop or Android® device with optional Bluetooth® kit
  - Allows a local operator to initiate an auto-answer mode in real-time to access detailed logged data and the ability to change point values via direct, forced communication at the site

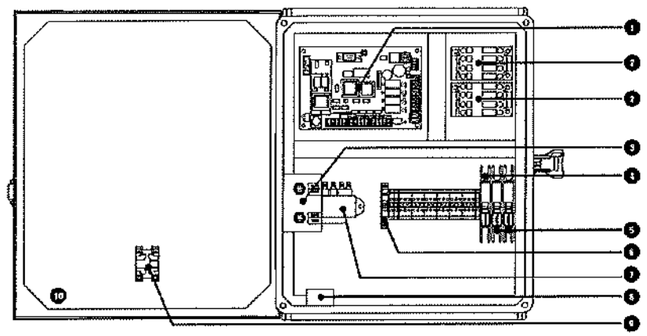
Open-architecture software with password security is used during real-time, manual connections. Orenco offers BT-VCOM software as an option, but VeriComm panels require no proprietary software. VT100 protocol allows access and control from a Mac or PC computer using a simple communication program (e.g., Windows® HyperTerminal), with multilevel password protection ensuring that only qualified personnel can access the panel's data.

Status Light Indicators
- Flashing green LED for normal operation
- Yellow LEDs for status of digital inputs
- Red LEDs for status of digital outputs and modem activity

UL-recognized and FCC-approved

For more information, try our online demo at www.vericomm.net (no password required).

Orenco SYSTEMS *Technical Data Sheet*



Standard Components

VERICOMM-AX20-B1-UV-IB-HT-SA- VIRGINIA

Feature	Specifications
1. VeriComm® Remote Telemetry Unit*	ATRTU-100: 36/18 VAC (center tap transformer); 8 digital inputs, 4 analog inputs, 4 digital outputs, 0 analog outputs, on-board modem (2400 baud); LED input and output indicators; 1-year battery backup of data and program settings
2. Motor-Start Contactors	120 V, 16 FLA, 1 hp (0.75 kW), 60 hz; 2.5 million cycles at FLA (5 million at 50% of FLA) 240 V, 16 FLA, 3 hp (2.24 kW), 60 hz; 2.5 million cycles at FLA (5 million at 50% of FLA)
3. Toggle Switch	Single-pole, single-throw, momentary manual switch; 20 A, 3/4 hp (0.75 kW)
4. Controls Circuit Breaker	10 A, OFF/ON switch; single-pole 120 V; DIN rail mounting with thermal magnetic tripping characteristics (240 V units are available for international markets)
5. Pump Circuit Breaker	20 A, OFF/ON switch; single-pole 120 V or double-pole 240 V; DIN rail mounting with thermal magnetic tripping characteristics
6. Fuse	250 VAC, 1 A
7. Transformer	120 VAC primary, 36 VCT @ 0.85 A secondary
8. Audible Alarm	85 dB at 24 in. (610 mm), warble-tone sound
9. Visual Alarm	7/8-in. (22-mm) diameter red lens; "Push-to-silence;" UL Type 4X rated, 1 W LED light, 120 V
10. Panel Enclosure	Measures 13.51 in. high × 11.29 in. wide × 5.58 in. deep (343 × 287 × 135 mm). UL Type 4X rated. Constructed of UV-resistant fiberglass; hinges and latch are stainless steel.

**See VeriComm® Monitoring System (NTD-CP-VCOM-1) for details.*

Optional Components

Feature	Specification(s)	Product Code Adder
Pump Run Lights	7/8-in. (22-mm) diameter green lens. UL Type 4X rated, 1 W LED light, 120 V	PRL
Heater	Anti-condensation heater; self-adjusting; radiates additional wattage as temperature drops	HT
Programmable Timer	Discharge pump timed dosing	PT
UV Disinfection Compatibility	UV grounded power circuit and alarm contacts; pump disable upon UV failure	UV

Additional options available on a custom basis. Contact Orenco Controls for more information.

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VERICOMM CONTROL PANEL

PAGE 11

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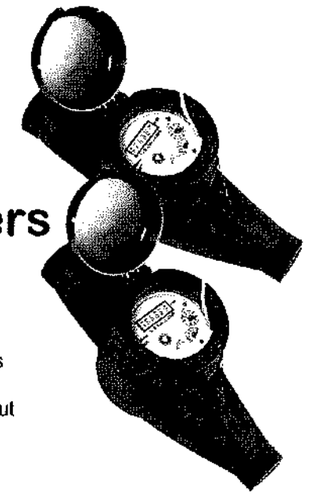
COUNTY/STATE: CITY OF CHESAPEAKE, VA

Accent
CONTROL SYSTEMS

ACS Series
Multi-Jet Cold Water Meters
Plastic Body

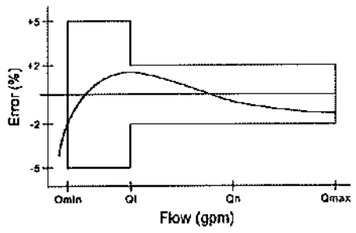


ACS Series water meters use the widely accepted multi-jet principle, as a gear train drives the register totalizer dials. For pulse output meters, a reed switch sensor is attached to the outside of the lens and detects a magnet arm that has replaced one of the dial pointers. The reed switch output is a dry contact closure and does not require power.

Main Technical Data

Nominal diameter		DN	062 - 1/2"	075 - 3/4"	100 - 1"	150 - 1 1/2"
Maximum flow rate	US gpm	Qmax	20	20	50	88
Nominal flow rate	US gpm	Qn	10	10	25	44
Transition flow rate	US gpm	Qt	1	1	3	3.5
Minimum flow rate	US gpm	Qmin	0.25	0.25	0.75	0.88
Minimum reading	US gallon		0.01	0.01	0.1	0.1
Minimum graduation	US gallon		0.005	0.005	0.1	0.1

Accuracy Curve



Specifications

Temperature		105° F (40° C) max	
Pressure		150 psi operating	
Materials	Body	FRP-Reinforced polyamide	
	Couplings	Brass couplings (Std) Lead Free EcoBrass (Opt)	
	Internals	Engineered thermoplastic	
	Magnet	Alnico	
Accuracy		+/- 1.5% of reading	
Sensor		Reed switch	Totalizer only
Maximum Current		20 mA	n/a
Maximum Voltage		24 Vdc or Vac	n/a
Cable Length		12' (4m) std 2000' max run	n/a

Model Codes - How to Order

ACS - NM - 075 - R/10P

Size
062 = 1/2"
075 = 3/4"
100 = 1"
150 = 1 1/2"

Pulse Rate (if applicable)
R/20P = 20 pulse/gal only in 1/2"& 3/4"
R/10P = 10 pulse/gal only in 1/2"& 3/4"
R/4P = 4 pulse/gal
R/2P = 2 pulse/gal
R/1P = 1 pulse/gal
R/5G = 5 gal/pulse
R/10G = 10 gal/pulse
R/50G = 50 gal/pulse
R/100G= 100 gal/pulse
Totalizer only meter would have nothing after the size designation

Examples: ACS-NM-075-R/10G is a 3/4" meter with a pulse output (reed switch) sensor with a pulse rate of 10 gallons/pulse
ACS-NM-100 is a 1" meter with totalizer only

www.accent-control.com •2101 Potshop Lane •Norristown, PA 19403 •888-265-5632

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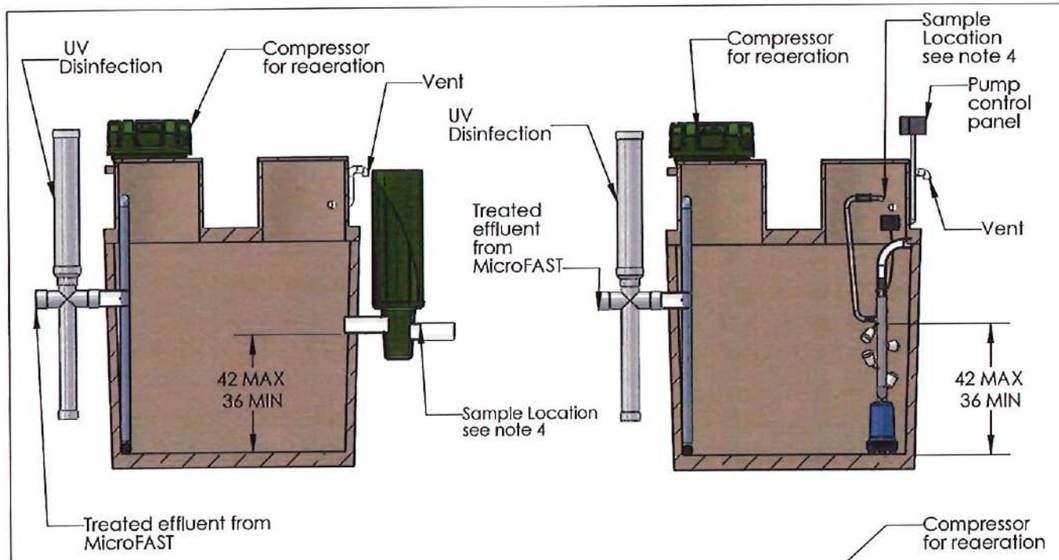
WATER METER

SOILS INC.
8331 WEST MAIN ST, MARSHALL, VA 20115
P.844.447.SOIL (7645) F.540.364.2060

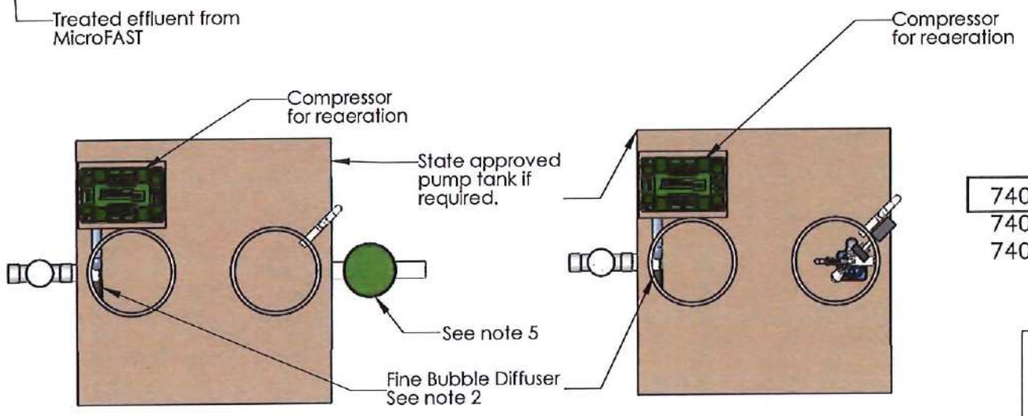
PROJECT: 940 INDIAN CREEK ROAD
DATE: 02/23/2026 JOB #T6304
GPIN OR TM #: 1080000000240
COUNTY/STATE: CITY OF CHESAPEAKE, VA



Notes:

1. A minimum water level of 36" must be maintained for aeration.
2. Fine bubble diffuser shall be mounted on the floor of the basin.
3. UV and aeration blower are linked to the Track® Dialer when utilizing ther Salcor UV unit in a Gravity System.
4. Effluent sample will be pulled through access riser which is greater than 8" diameter.
5. Inlet to sample chamber to be 2 inches higher than outlet of sample chamber. Sample chamber to be deep enough to allow for 8 inches below the inlet pipe to the sample chamber.
6. The minimum volume is based on MicroFAST® model sizes:

MicroFAST	Minimum Volume
0.50	70 Gallons
0.75	105 Gallons
0.90	126 Gallons
1.50	210 Gallons



Gravity Arrangement

Fail Safe Pump Arrangement

740–RE/AERMCF0.5 – 500 GPD
740–RE/AERMCF0.625–0.9 – 600–900 GPD
740–RE/AERMCF1.5 – 1500 GPD

DO NOT SCALE

UNLESS NOTED DIMENSIONS ARE IN INCHES [CENTIMETERS] TOLERANCES ± 0.02 IN/IN [± 0.05 CM/CM]

BIO-MICROBICS® INCORPORATED

Post Aeration

WEIGHT	lb	SIZE	DRAWING NUMBER	SHEET
NAME	DATE	A	Tank Installation	2 OF 2
DRAWN CTC	2/19/2010			
CHECKED AB	6/17/2010	REVISED 6/17/2010	REV. IN1-01-O	

COMMONWEALTH OF VIRGINIA
Wayne A. Savage
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02-23-2026
PROFESSIONAL ENGINEER

BIO–MICROBICS POST AERATION UNIT

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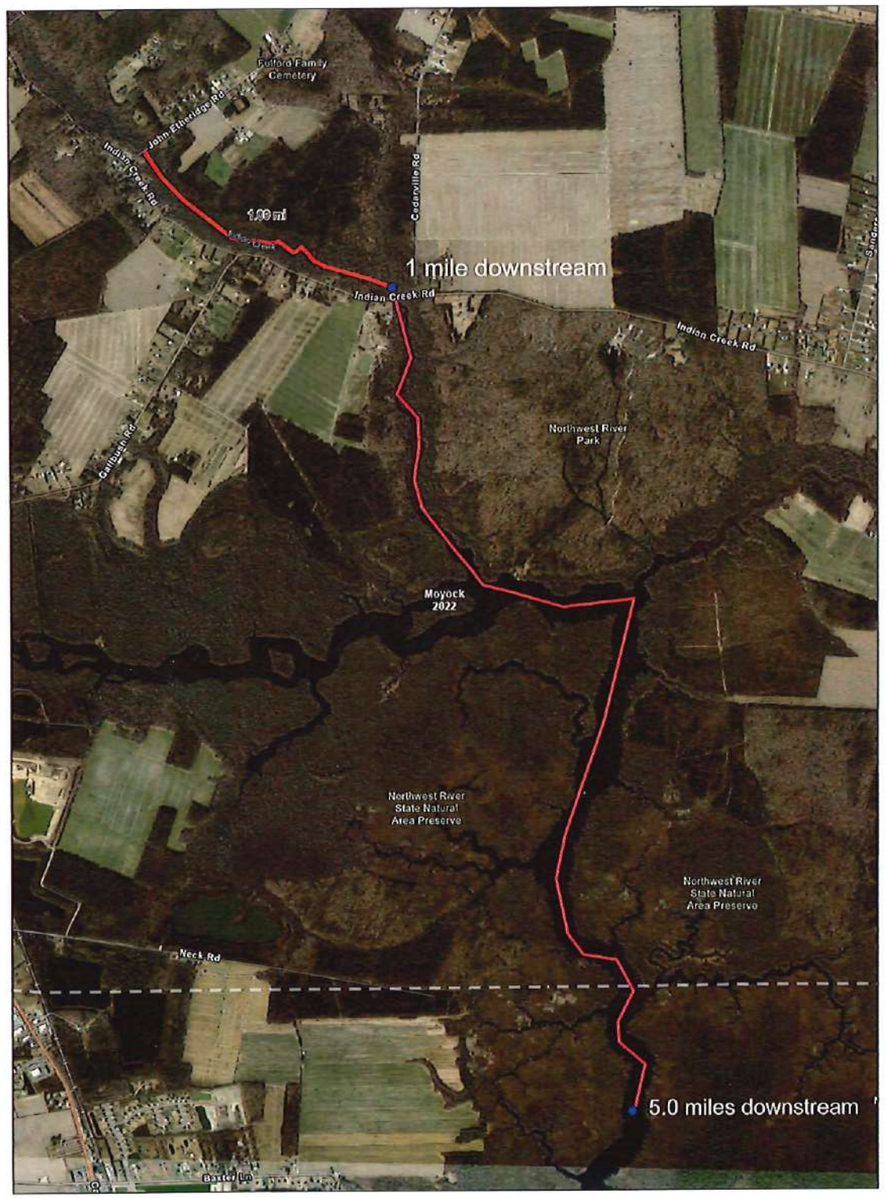
940 Indian Creek



2/17/2026

7.5 Minute Index	High Resolution 60cm Imagery
7.5 Minute Labels	High Resolution 30cm Imagery
World Imagery	Citations
Low Resolution 15m Imagery	4.8m Resolution Metadata

VGIN, Vantor
Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community
Credits: USGS TNM – US Topo. Data refreshed nightly.

COMMONWEALTH OF VIRGINIA
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DOWNSTREAM MAP

PAGE 14

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