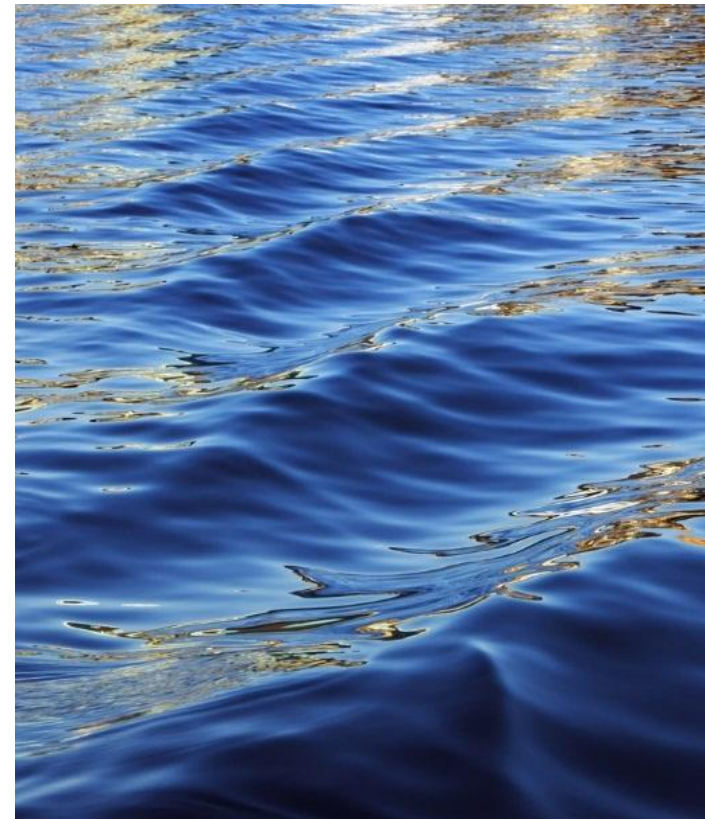





Makemie Park Septic Improvement Grant

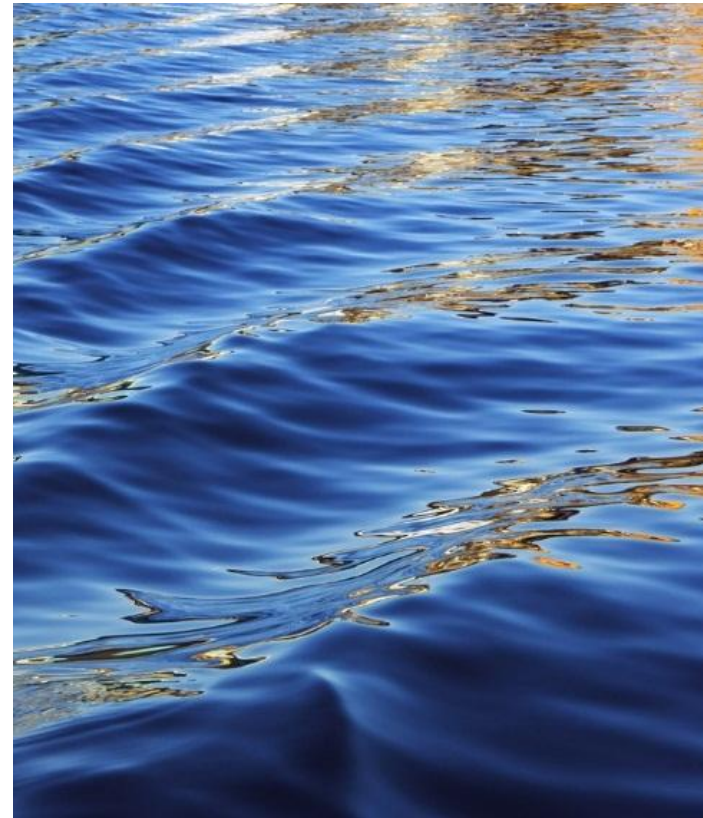
Kellen J. Singleton, Interdisciplinary Project Manager – ANPDC
Phil Dunn, President – Boggs Water and Sewer, Inc.





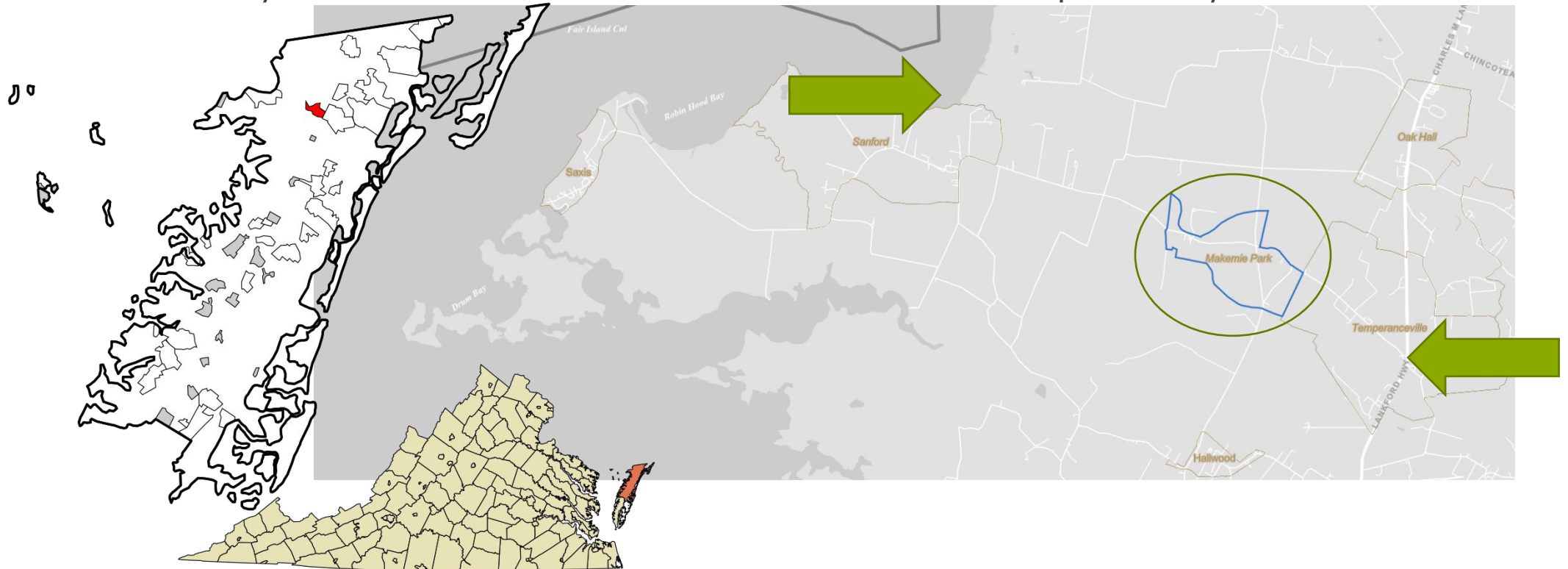
Geography and Demographics

Makemie Park, Eastern Shore of Virginia



Makemie Park - Geography

- Makemie Park is a small Census Designated Community in Accomack County on Virginia's Eastern Shore
- The community is located 2.4 miles west of US Highway 13 and 3.8 miles east of the mouth of Holdens Creek, a small tributary that flows into Pocomoke Sound and the Chesapeake Bay



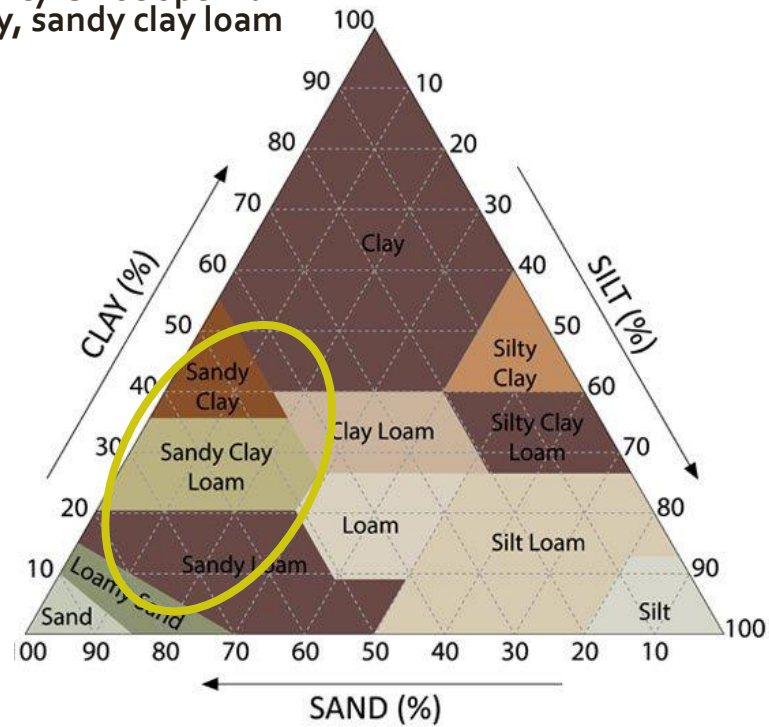
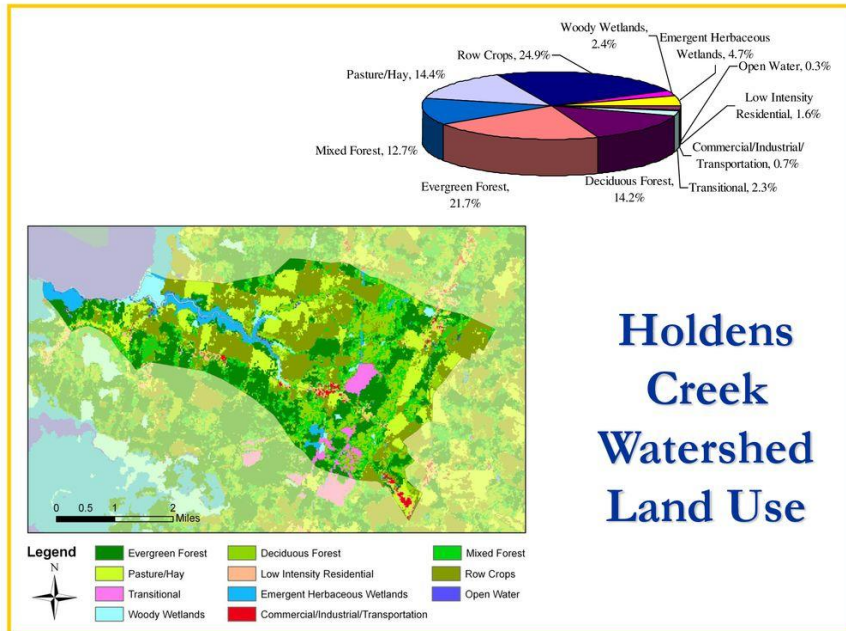
Makemie Park - Geography

- Makemie Park is bisected by Saxis Road, running from east to west from Highway 13 to the town of Saxis and Sandy Bottom Branch/Holdens Creek a Chesapeake Bay Tributary running south-east to north-west into Pocomoke Sound



Makemie Park - Geography

- The Holdens Creek Watershed is primarily undeveloped. The limited productive soil and land are dominated by commercial agricultural use.
- Soil aeration and quality in the Makemie Park community is not optimal for filtering effluent. Primarily consisting of sandy clay, sandy clay loam and sandy loam soils.



Makemie Park - Demographics

- According to the project's compliance and beneficiary data, of the 19 households, responding to the project survey, total persons served equaled 46.
- 18 of the 19 households and/or 45 of the 46 total persons qualified for DHCD LMI designation, 98% of the total population
- Demographic information also indicated that 7 of the 19 households are female-headed
- 13 of the 19 households are elderly
- 3 of the 19 homes house handicap residents
- All households self-identify as African-American or black.





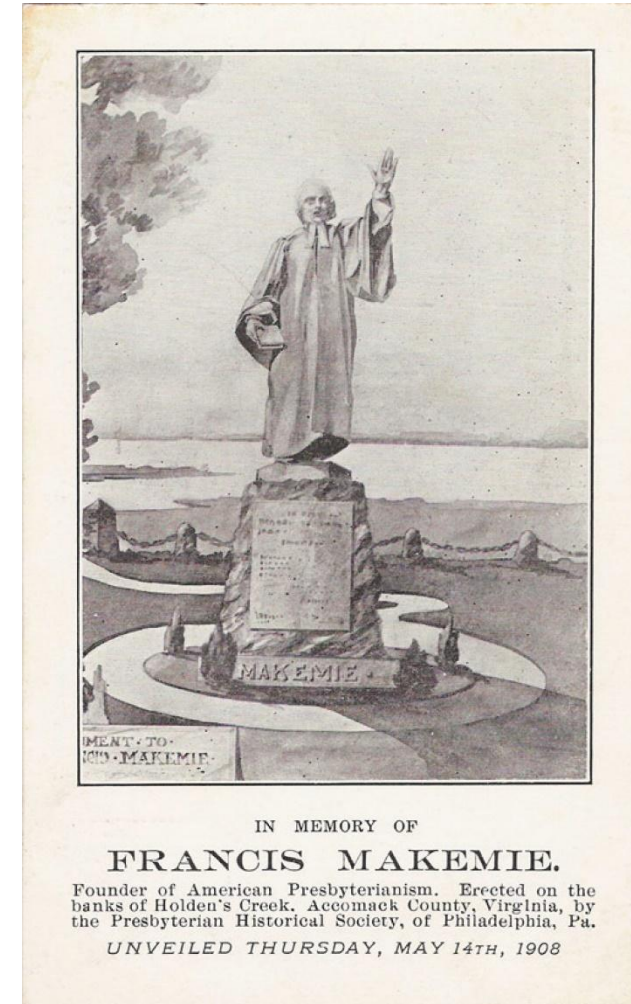
History

Makemie Park, Eastern Shore of Virginia



Makemie Park - History

- The Makemie Park community is named after Reverend Francis Makemie.
- The Reverend Francis Makemie is often regarded as the father of American Presbyterianism, organizing the first American presbytery in 1706, and contributed to the establishment of the principle of religious toleration through a notable court case in New York the following year. He also held property in human beings.
- Makemie later married into a wealthy family in Accomack County on the eastern shore of Virginia, where he acquired substantial land holdings, including what is now Makemie Park, where he is buried. His 1708 will listed and ordered the distribution of thirty-three chattel slaves.



Makemie Park - History

- Underserved communities in Virginia (including former slaves and their descendants) were historically given the least productive agricultural lands.
- There is a correlation between poor soils for agricultural purposes and poor soils for conventional onsite sewage systems (COSS). What Revis and Gregory describe as “wastewater islands” (Onsite Sewage Systems and Environmental Justice in Virginia, VDH 2017).
- These “poor lands” were passed on to future generations, so the future generations inherited increasing wastewater regulatory demands and inequities.



Makemie Park - History

There are a number of environmental, financial, and social factors that can be used to identify disenfranchised individual and communities living in wastewater islands. The Makemie Park Community is a case illustration:

Environmental:

- No access to centralized sewerage.
- Soils not suitable for COSS.
- Sensitive receiving environment (local TMDL, ground water concerns, existing water quality issues).
- Small lot size.
- Older homes and communities.

Financial:

- Low income.
- Difficulty raising funds for initial installation.
- Difficulty paying for ongoing maintenance cost.
- Difficulty obtaining a loan.

Social:

- Historical inequities.
- Lower education regarding environmental/public health issues.

Makemie Park - History

COMMUNITY SEWER



On April 25, Makemie Park Community residents and some helpful neighbors outside the community installed nearly 800 feet of two-inch sewer force main. The self-help project is being spearheaded by the Accomack-Northampton Planning District Commission and coordinated by project manager John Simpkins. Bayside Market of Temperanceville contributed beverages for the workers, and Eastern Shore Tractor of Accomack and Shore Distributors of Onley also pitched in to help.

- Completed between 2002-2005 the Makemie Park Self-Help Sewer Project was a VDHCD CDBG funded effort to provide sewer services to the Makemie Park community.
- The project included an Indoor Plumbing Rehabilitation (IPR) set-aside to address 11 homes with no indoor plumbing and several more homes with failing drain field systems.

Makemie Park - History



- In 2010, with 27 households connected, a portion of the treatment system appeared to be failing, requiring repair or replacement.
- Over the past eight years, a total of \$165,000 of grant funds have been generously distributed, primarily with the South East Rural Community Assistance Project, Inc. (SERCAP) substantial support for the Makemie Park communal septic system.
- These funds have been spent and exhausted on past repairs, replacements, and maintenance to support the community-maintained system. This support has been integral in keeping the community system, health, well-being of the Makemie Park community from immediate risk.

Makemie Park - History

FINDINGS

The Commissioner finds an imminent danger to public health exists at the community of Makemie Park in Accomack County, Virginia (the community) regarding the health and safety of residents and recreational visitors to Holden's Creek, wherein the community drainage ditch flows and the shellfish waters of the Pocomoke Sound to which Holden's Creek feeds.

A community onsite sewage system, owned by Makemie Park Neighborhood Association (Ownership), serves Makemie Park, consisting of 26 individual homes and 27 overall properties, originally installed in accordance with *Code of Virginia* § 32.1-164 and the Regulations at 12VAC5-610-240 (Permits; general.). Individual private wells serve the community.

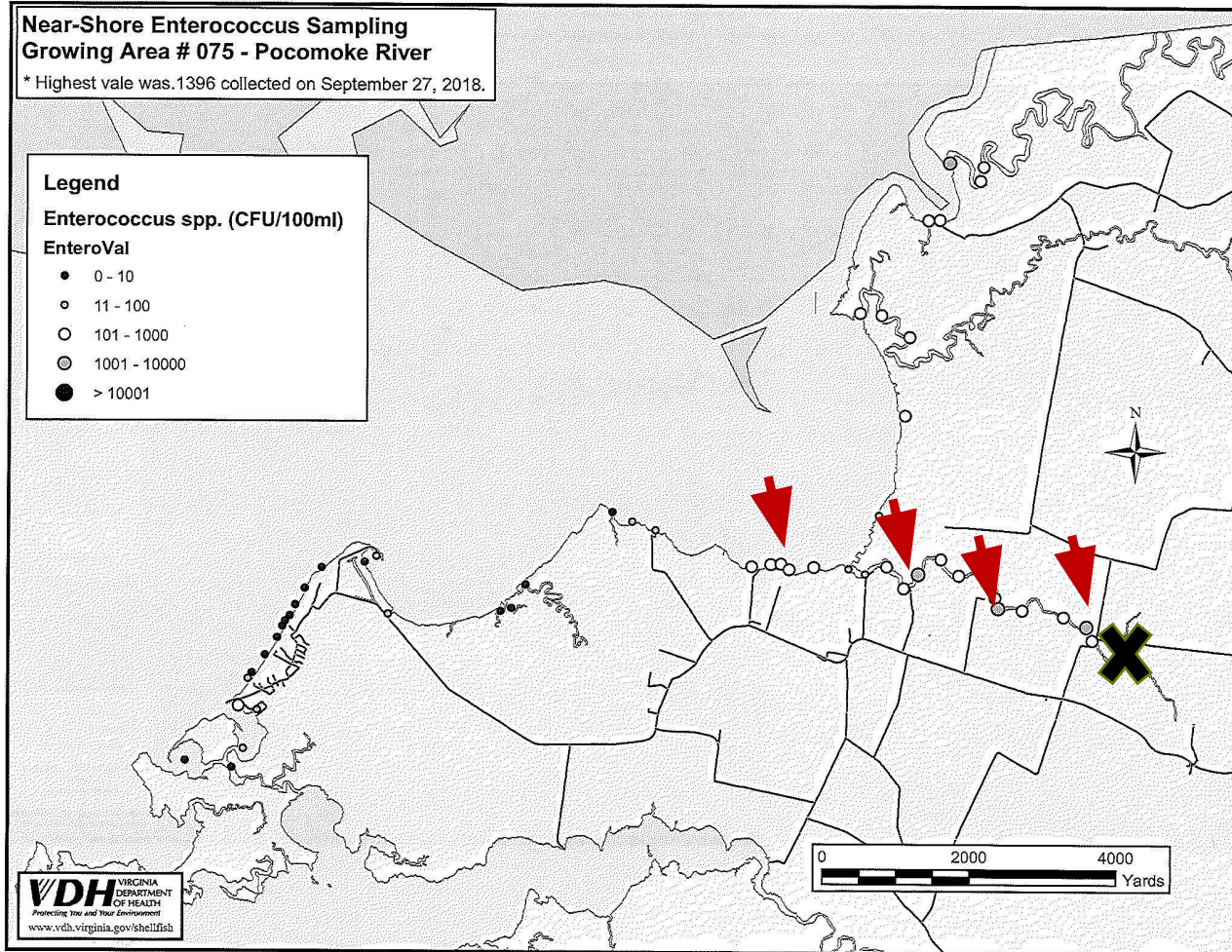


- Despite repeated repairs and annual maintenance, in 2019, VDH issued an Emergency Order Declaring Danger to Public Health to the Makemie Park Community Association, Inc. for the failed community system
- The failed system posed “an imminent danger to public health exists at the community of Makemie Park in Accomack County, Virginia regarding the health and safety of residents and recreational visitors to Holden's Creek, wherein the community drainage ditch flows and the shellfish waters of the Pocomoke Sound to which Holden's Creek feeds.”

The community system's drainage ditch is at the headwaters of Holden Creek, which feeds into Pocomoke Sound. Currently, all of Holden's Creek and a portion of Pocomoke Sound are condemned for shellfish harvesting, potentially due in part to the ongoing failure of this sewage system. The failing sewage system presents a threat to groundwater, recreational waters, and shellfish waters.



Makemie Park - History



- 2019 Near-Shore Enterococcus Sampling by the Virginia Department of Health revealed elevated levels in Holdens Creek and the congruent shoreline.
- This is a case where a failure of Environmental Justice resulted in a very real, direct public health risk.

Makemie Park - History



Surface Wastewater
from Makemie Park
Collective
Treatment System

Makemie Park - History

MAKEMIE PARK SEPTIC IMPROVEMENT GRANT TIMELINE



PLANNING
GRANT...

**October
2020**



PROJECT SIGN
ERECTED

**May
2022**



BID RELEASED

**July
2022**



**October
2019**

EMERGENCY
ORDER ISSUED



**April
2022**

FAIR HOUSING
EVENT



**June
2022**

DESIGN WORK
COMPLETED



**September
2022**

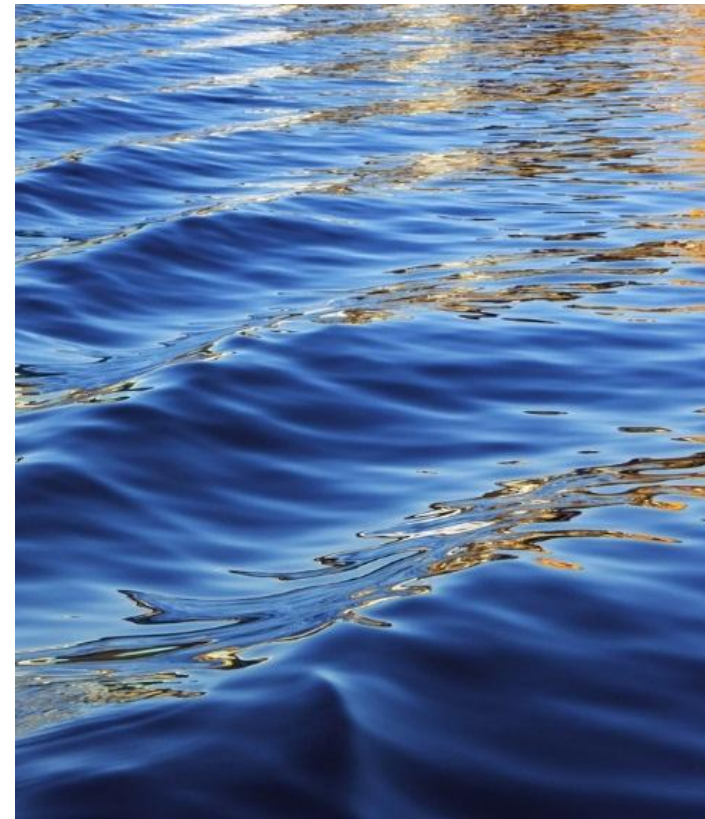
CONSTRUCTION
BEGINS





Construction

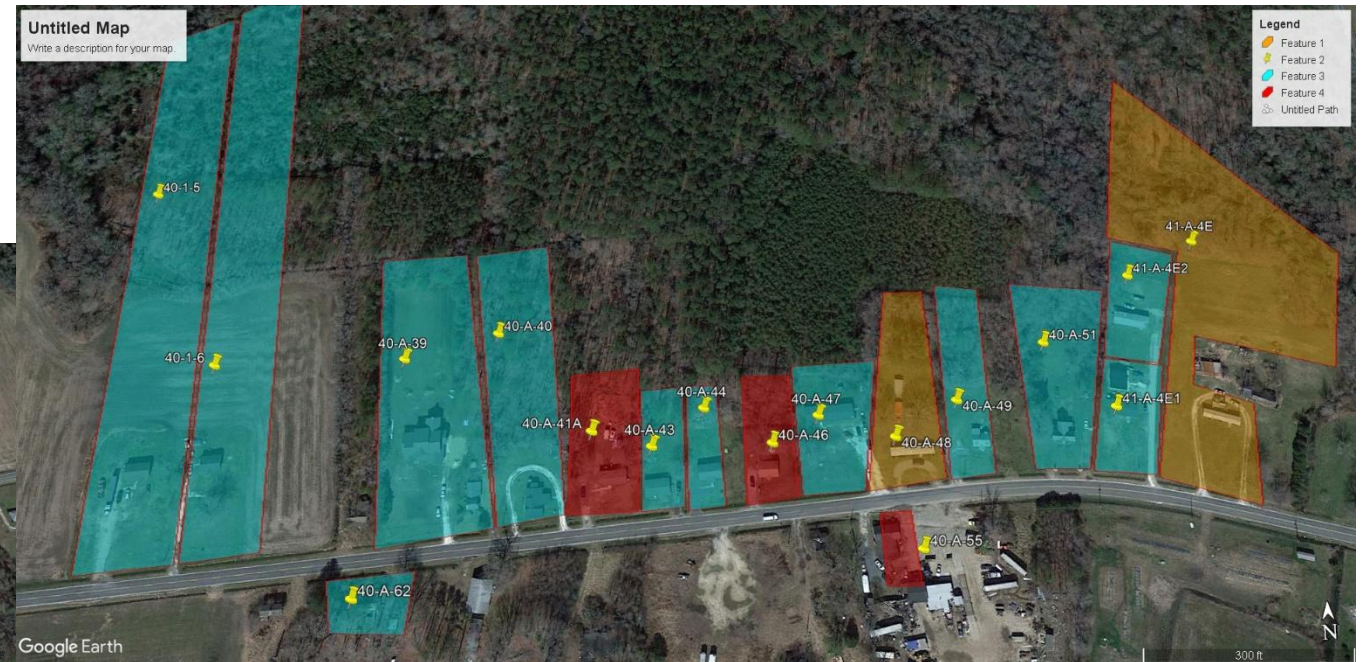
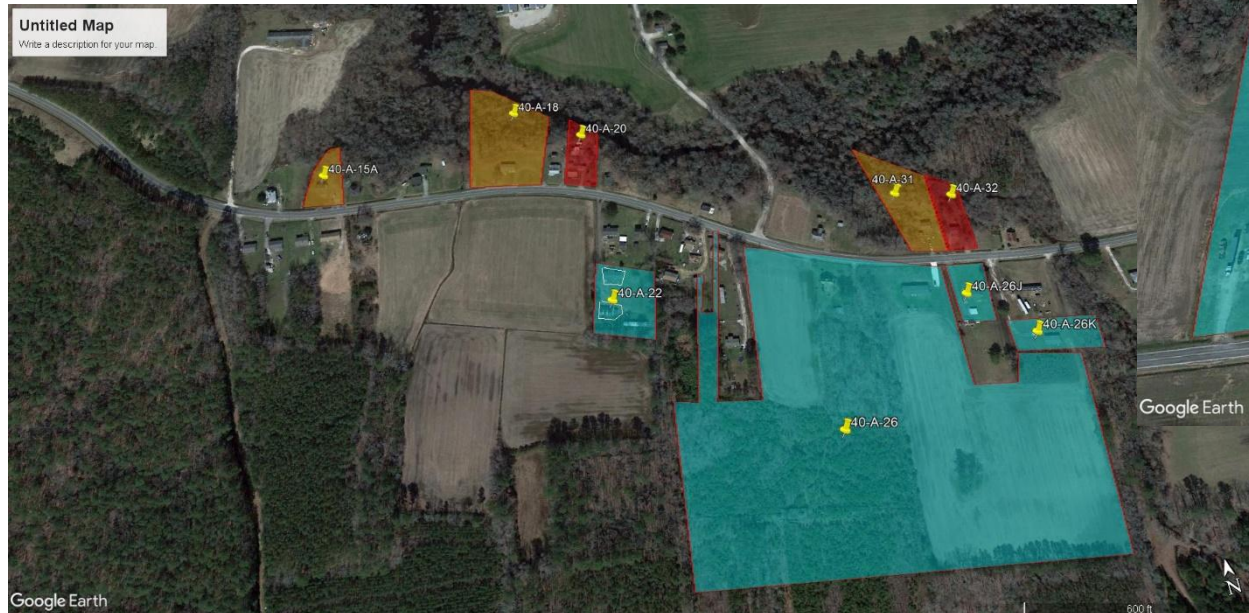
Makemie Park, Eastern Shore of Virginia



Makemie Park - Construction

The project area includes 26 dwellings over a one mile stretch along Saxis Rd. Homes connected to the original communal wastewater treatment system will receive and have installed their own individual alternative onsite sewage system (AOSS) that the homeowner will be responsible for maintaining.

WEST MAKEMIE PARK



EAST MAKEMIE PARK

Makemie Park - Construction

1. 28059 September 20 – 24	1. 28135 September 20 – 24
1. 28139 September 25 - October 1	1. 28109 September 25 - October 1
1. 28092 October 2 – October 8	1. 28087 October 2 – October 8
1. 28099 October 9 – October 15	1. 28075 October 9 – October 15
1. 28067 October 16 – October 22	1. 28051 October 16 – October 22
1. 28039 October 23 – October 29	1. 28014 October 23 – October 29
1. 27549 October 30 – November 5	1. 27541 November 6 -November 12
1. 27454 November 13 -November 19	1. 27428 November 20 -November 26
1. 27418 November 27 -December 3	1. 27304 December 4 -December 10
1. 27322 December 11 -December 17	1. 27301 December 18 -December 24
1. 28025 December 25 -December 31	

Following our September Pre-Construction conference, Boggs and the Makemie Park Team set an ambitious four month schedule to get ahead of the inevitable wet winter weather. Phil's team went immediately to work not only with installation but to establish a positive rapport with the community and project engineers.



Makemie Park - Construction

Challenges

- Balancing the Special Needs, Challenges, and Priorities of the Community with the Construction Timeline



Approach

- Weekly Call-Ins with Community Leaders, and Door-To-Door Petitioning by Staff and Construction Crew, Close Coordination with Third Party Stakeholders



Makemie Park - Construction

Challenges

- Coordinating Accomack County's Unique Bi-weekly Pay Schedule with Engineer Review Reports and Invoicing

Approach

- Bogg's and Staff took the lead and established direct lines of contact with the engineer, coordinating site visits with the anticipated construction work and completion



Makemie Park - Construction

Challenges

- Outreach, Maintenance Training, and Keeping the Community Engaged, Involved, and Informed.

Approach

- In addition to Call-Ins and Door-To-Door Petitioning, Staff and Boggs have Organized Regular Meetings and a Community

MAKEMIE PARK SEPTIC IMPROVEMENT PROJECT NEWSLETTER

ISSUE NO 1 | JANUARY - 2023 | VOLUME 1



SEPTIC SYSTEM BASICS
The alternative on the horizon is a septic system. It's called one of the most advanced systems available. Find out how they work!

COMMUNITY OUTREACH
This January, the staff at ACCDC and Boggs, together with several local groups of residents, will begin a series of meetings about your septic system and the project. Come to the meetings, share your ideas, learn more, and sign up for your next meeting.

PROJECT UPDATE
We appreciate your patience and cooperation during the construction project. Our contractor is ahead of schedule and the most disruptive part of the project is beginning to wind down.
Construction on all properties is completed or in-process. 13 properties have been inspected or are awaiting inspection.
Following construction and installation of all projects, the contractor will commence clean-up and demolition.
Again, thank you for your support during this process.
If you have any questions or concerns, please do not hesitate to reach out to Gellen Skogerson at 757-767-3159 x129 or at gskogerson@accdc.com.

NEXT STEPS
When you receive your new system, you will need to know how to get your new system online!


ISSUE NO 1 | JANUARY - 2023 | VOLUME 1


Mound Septic System

All wastewater runs out of your house through a drainage pipe into a septic tank.

The septic tank is buried in a concrete water-tight container. Its job is to hold wastewater long enough to allow solids to settle to the bottom while oil and grease float to the top.

Effluent from the septic tank flows to the treatment and pump unit where it is filtered and disinfected.

From there it is pumped to the mound in prescribed cases. Treatment of the effluent occurs as it discharges to the trench and filters through the sand, and then disperses into the native soil.



Community Meeting | January 16, 4PM
Emmanuel Episcopal Church | 26405 Horsey Road, Jenkins Bridge, Virginia

- Sign your Notice of Recordation (Required)
- Learn about the proper maintenance of your new system to keep it up and running
- Food and drinks will be served!

Notice of Record means around that's just with the deal of a court pursuant to plan to the principal purpose of giving public notice of the record. It includes deeds, mortgages, and other documents filed among the public records. It also stands as proof of work that adds value to your property!

Home improvement projects and other selling your property can be affected without one being filed.

NEXT STEPS TO GET YOUR SYSTEM ONLINE

- 01** Sign your Notice of Recordation
- 02** Learn about the ends out and proper maintenance of your new system
- 03** Pick up your Operations and Maintenance Manual
- 04** Stay Involved!



Makemie Park - Construction

Boggs Water and Sewer, Inc.

BOGGS CONCRETE PRODUCTS CO.
HAS INCORPORATED

NEW NAME

Boggs Concrete Works Inc. MELFA, VA.
COMPLETES
ATLANTIC HIGH SCHOOL DRAIN FIELD

The above illustration shows Mr. R. M. Dab, Superintendent of Schools, receiving certificate of approval from State Health Department's representative Mr. F. A. Wray on completion of the Atlantic High School drain field. This is one of the largest drain fields in Accomack County and was installed by Boggs Concrete Works, Inc. under supervision of state and local Health Department. Others in the picture from left to right are: Mr. D. T. Southall, of Motley Construction Co., Farmville, Va. (Building Contractor); Mr. C. D. Hammond, of Harris Heating & Plumbing, Hibernia, Va. (Plumbing Contractor); Mr. E. U. Boggs, President, Boggs Concrete Works, Inc.; Mr. Deob, Mr. M. Formyduval, Jr., Vice President, Boggs Concrete Works, Inc.; Mr. Wray and Mr. J. C. Justice, Principal of Atlantic High School.

Boggs Concrete Works Specializes In Septic Tank And Drain Field Installations - Complete Job In One Day.

WE ARE ALSO EQUIPPED TO HANDLE DITCHING AND STORM SEWER INSTALLATIONS.

WE MANUFACTURE REINFORCED CONCRETE SEPTIC TANKS, DRAIN TILE, SPLASH BLOCKS, STEPPING STONES AND HAVE FOR SALE TERRA COTTA PIPE AND SLAG.

ONLY TOP QUALITY MATERIALS AND WORKMANSHIP ARE USED, UNDER OUR PERSONAL SUPERVISION, IN BOTH LARGE AND SMALL JOBS.

WE WILL APPRECIATE THE OPPORTUNITY TO DEMONSTRATE OUR QUALITY SERVICE TO YOU.

CALL FOR FREE ESTIMATE - DAY 1033; NIGHT 1074 OR 1122

HIGHLIGHT on BUSINESS

Boggs Water and Sewage

787-4000

Since 1954, Boggs Water & Sewage, Inc. has been serving the families of the Eastern Shore.

A small, locally owned business, Boggs Water & Sewage, Inc. has grown over the years into the Eastern Shore of Virginia's oldest and most experienced sewage and water system installer.

"We pride ourselves on using the latest technology when and wherever possible in order to bring the most cost effective services to our customers," states F. B. Killmon Jr., President. "We have seen a lot of changes over the years."

"We still install the conventional septic tank and drainfield, in certain instances, more efficient disposal such as the circulating sand filter, Puraflo Peat Bio-filter and low-pressure distribution systems to satisfy current sewage disposal codes", explained Phillip Dunn, Manager and Soil Consultant for Boggs Water & Sewage, Inc. "Dunn performs soil sample analysis with personalized sewage systems designed for optimum performance and the best sewage treatment possible."

"Water system installation and treatment is another facet of our business that has evolved over the years" according to Nathan Thornton, Vice President. "We have seen the emergence of the submersible water pump, the private air water storage tank and computerized water softeners as a few examples." The newest facet of the water department involves the installation of ground water loops for air conditioning and heat.

Boggs Water & Sewage, Inc. has transformed cutting edge ideas into practical applications for Eastern Shore communities from Chincoteague to Kiptopeke.

The company's business office is a landmark for the business district of Melfa, and the staff welcomes the opportunity to serve the water and waste-water treatment needs of the area in a professional, environmentally efficient manner.

BOGGS WATER & SEWAGE, INC.

Nathan L. Thornton, C.W.D./P.I. Vice-President

Phillip Dunn, Manager & Soil Consultant

Phil Dunn and Boggs Water and Sewage have been integral to the success of this effort. Phil's intimate work and connection with the community in tandem with the years of experience he brings from a previous background at the Virginia Department of Health have not only brought quality and know-how to the project but has also fortified the confidence and assuredness of the Makemie Park Community



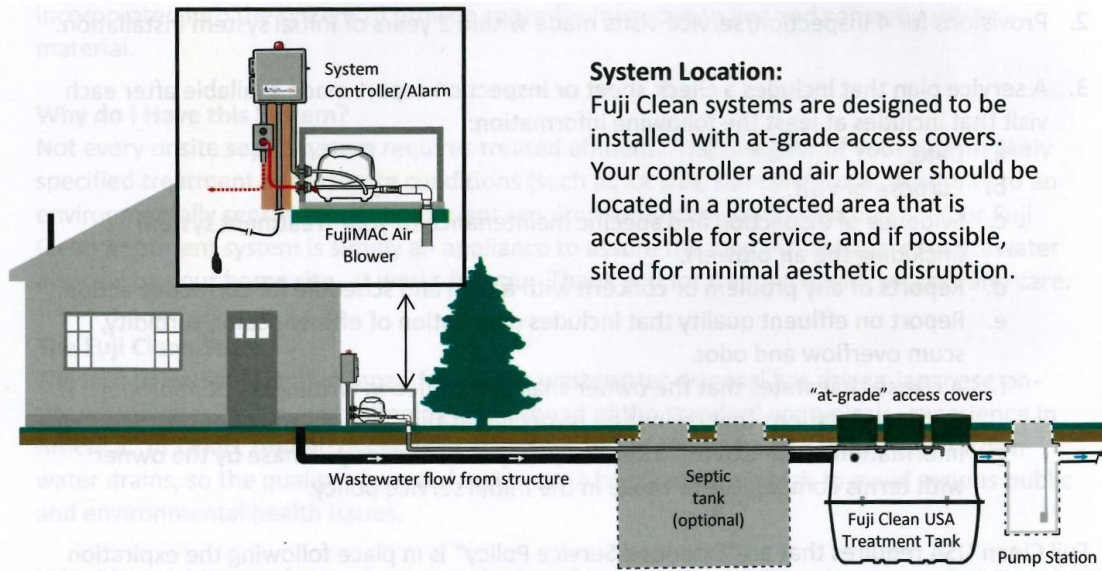
Makemie Park - Construction

Boggs Water and Sewer, Inc.



Makemie Park - Construction

Boggs Water and Sewer, Inc.



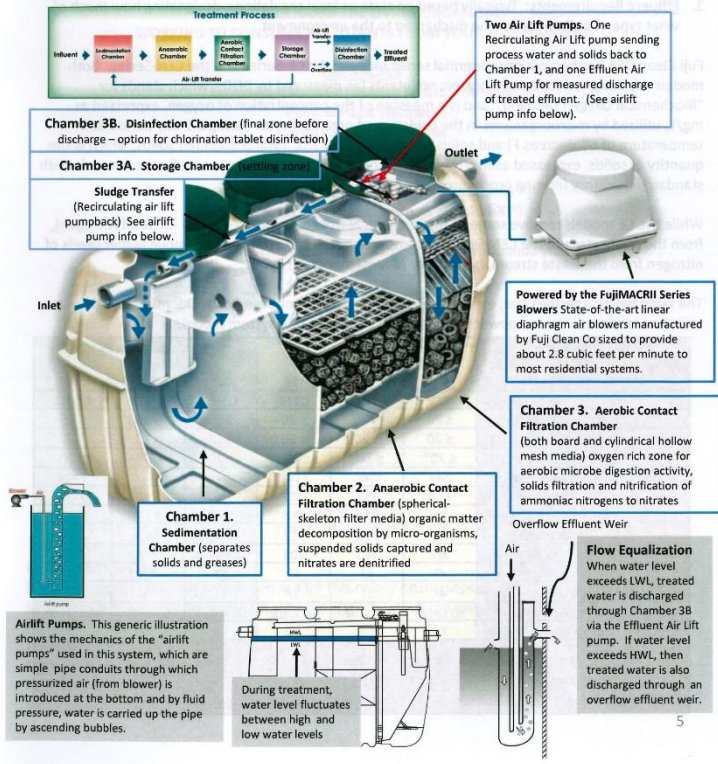
FUJI CLEAN USA, LLC
NSF/ANSI Standard 40 & 245 Class 1
MODEL NO.:XXXXX SERIAL NO.:XXXXX
CAPACITY (GPD): XXXXX

41-2 GREENWOOD RD. BRUNSWICK, ME 04011 207-406-2927

Treatment Process Overview

Fuji Clean's "contact filtration" treatment is a simple, well engineered process that consists of a controlled, circuitous flow train through anaerobic and aerobic chambers and in direct contact with assorted proprietary fixed film medias on which biological digestion of organic matter occurs. Media is also designed and positioned to provide mechanical filtration of process wastewater.

The system includes two air lift pumps (see diagram below) The Recirculating AirLift Pump returns process water and sludge from the aerobic zone to the sedimentation chamber, recirculating 2-4 times inflow per day for CE models and 4-6 times inflow for CEN (enhanced denitrification) models. The Effluent AirLift Pump is designed to help equalize flow and discharge treated effluent.

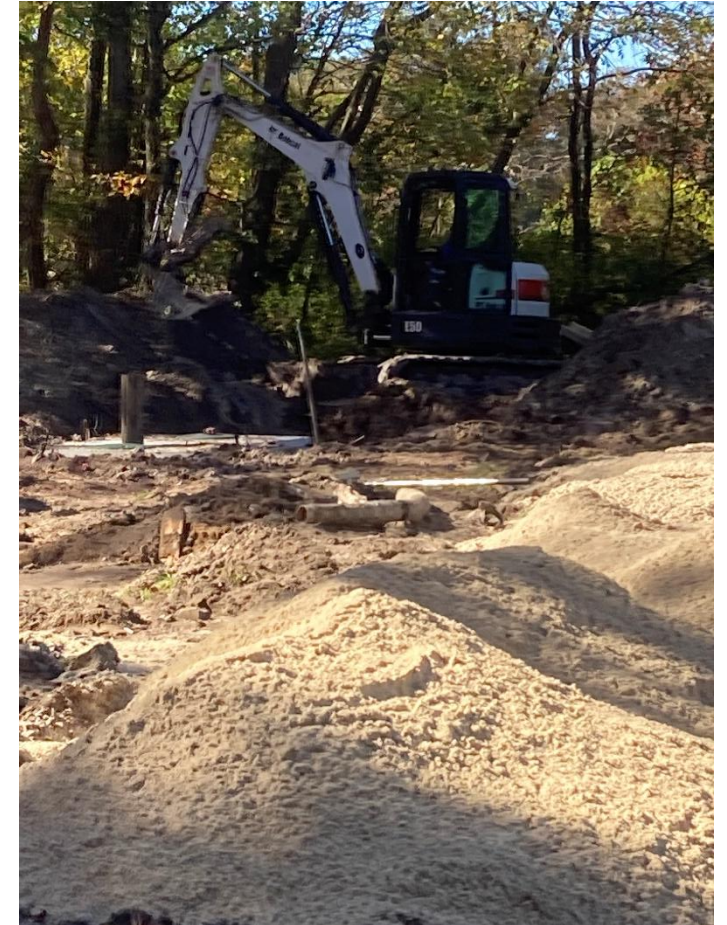


Makemie Park - Construction

Boggs Water and Sewer, Inc.



Photography Courtesy of Kathy Bique our beloved DHCD Community Development Specialist



Makemie Park - Construction

Boggs Water and Sewer, Inc.



Photography Courtesy of Kathy Bique our beloved DHCD Community Development Specialist



The End

That's it.

Everyone can go home.