

**Infrastructure & Energy Committee
Minutes, June 27, 2022**

Infrastructure & Energy Committee Members present: (On Zoom)

Peter Doyle, Chair, Jane Ward, Vice Chair, John Solomon,

Infrastructure & Energy Committee Members absent:

Kathryn Hautanen, Clay Schofield, Rob Wilson

Others in Attendance: (On Zoom)

Gordon Starr, Councilor, Cindy Dabkowski, Administrative Assistant

Call to Order:

Peter Doyle, Chair stated at the July 11, 2022 meeting of the Infrastructure and Energy Committee (IEC) we don't have a quorum. So I won't call the meeting to order. The meeting of the Infrastructure and Energy Committee was held remotely to avoid group congregation.

Approval of Minutes:

Approval of minutes postponed to future meeting.

Presentation

Jane Ward introduces Sara Wigginton, Ph.D. MASSTC Project Assistant | Health and Environment Barnstable County, Regional Government of Cape Cod. Sarah is graciously agreed to talk to us about what I think is probably one of the least known and most important scientific test sites on the Cape with our current water quality issues. Sara Wigginton has been at Mass tech for about a year. The Massachusetts alternative septic test site. It is impressive the work done there and she's going to talk to us about her particular part of it and how we can help spread the word about what's going on with their programs and how people can help out by volunteering to try some of these systems. Jane Ward is actually trying one, an alternative septic system and she'll explain what those are but she's overseeing our project and we will be getting a new septic system that takes out not only most of the nitrogen, which a lot of the alternative systems have been doing, but also removes a lot of phosphorus, which not too many systems do. Sarah, I'm going to just let you go ahead. Thank you for coming.

Sara Wigginton Thanks for inviting me and I appreciate all the members being here and listening to what I have to say about Massachusetts Alternative Septic System Test Center (MASSTC). I assume that everyone is a little familiar with septic systems just in general that there are a lot of septic systems on the case. And that's kind of the assumption I'm going to go forward with. So if I say something that you're like, everybody knows that just I'm trying to make sure that I don't confuse anybody keeping it really broad but please ask me any questions. I'm going to be talking about innovative and alternative septic system technology. So just a little bit of background about who I am. What is an MASSTC? Massachusetts alternative septic system test center. Sometimes people call it an MASSTC and we're the nation's premier third party testing and research facility for innovative alternative or IA septic system technologies. So these manufacturers make claims about the performance of their systems and we exist to do third party verification of those claims. My background is I've been in septic for about seven years. I

did my PhD at the University of Rhode Island finished up in 2020. I was actually funded by MASSTC to do research on the layer cake systems which are a nitrogen removal, not trademark technology. Very broadly, we're going to start with why we would use I and A, or innovative and alternative technologies. These above conventional systems maximize the removal of carbon, pathogens, nitrogen and phosphorus among other things, but those really are kind of the big four and carbon and pathogens. We have a lot of technologies that are out in general approval from the state of Massachusetts to do a great job of reducing carbon and pathogens, sort of as James said at the at the top, we're still really getting after this nitrogen problem, and we're just starting to scratch the surface of this phosphorus problem. So excess nitrogen in marine systems and excess phosphorus and freshwater systems leads to eutrophication. Eutrophication is just too much nutrients in the water body, and that leads to algal blooms, which can eventually lead to fish kills like this one that we see here from Rhode Island. And just like Rhode Island, Cape Cod has high density of septic systems and the general consensus is a lot of the phosphorus and nitrogen that is causing the problems in these areas are from septic. So this is a bit of background history for both I and A technologies AMS etc. So early 90s, long before my time working here, obviously, nitrogen was identified as a big problem in Cape Cod probably before that, really, but that's when it really started to, you know, get a lot of notice we have to do something about this. And then in the late 90s. Those manufacturers that I mentioned a couple of slides ago, started bringing their nitrogen removal technologies onto the landscape. But there wasn't any third party verification of these performance claims. So that's what mas Tech was made to do is to perform that third party verification since the 90s. We have really expanded not just to technology development, but to other forms of research, which I'll talk a little bit about. Towards the end. We do a lot of both state and federally publicly funded projects. See attached PowerPoint presentation

Question about the work that you and your team are doing with a viruses are you looking at virus removal by the systems are you have anything to do with the testing of the wastewater like for COVID which has been done very successfully and with a very high utility around the country, has that been done? Are you more interested in the systems that will remove the viruses? Sara Wiggington replies have not done any COVID virus testing here, it is something we've talked about, but we're really focused virus wise on determining the separation who actually needs to remove all of the pathogens, all the viruses because that's where basically the funding is coming from Massachusetts Department of Environmental Protection (MASSDEP) asked us to really nail down how much separation we need to completely remove the viruses? So that's our biggest question, but we are expanding beyond that question. Some of the things I've been paying attention to during the pandemic is it's a good argument to get away from getting rid of waste in water. We should have waterless toilets. We wouldn't be spraying viruses all over restaurants, which most people don't realize happens every time you flush, especially if these unbelievably powerful commercial toilets in public restrooms are sometimes like a jet taking off and you've got basically virus spread all over the room.

The only alternative system that members have heard about is Shubael Pond. Curious how many are there is this just one of many are other types of systems out there? Answer, yes, it's one of a couple dozen that's out there. Are all of these currently installed and in a testing phase? Are there any that are already certified? Answer There are six that are general for nitrogen removal are certified. A few more that are provisionally approved. There are six that are fully certified.

How much do they cost? Answer: It depends on the technology and it depends on the site. I am going to give a number it's about \$35,000. That includes design cost, it can be more expensive than that it can be less expensive.

There's a number of studies out there that show that your property value decreases in direct relationship to the pollution of the water with nitrogen and phosphorus. It's really worth it. One of the tipping points that we've come to see over time as it gets warmer and warmer the ponds get toxic earlier in the season. If we can't use our fresh water for the whole summer, that's going to change the economy of the Cape pretty quick.

Are there limitations in terms of space? If you have a house and you have a conventional septic system, would you be able to convert to one of these IA systems are there going to be some situations where you might need more space or different conditions? Answer: Almost every case, a designer would be able to find a technology that fit. Even high groundwater you would use an AI system to get a variance so they be closer to groundwater. A lot of times when space is a constraint on a site, IA is actually the answer.

Old Business

Recycling Committee members met with Daniel Santos, one of the things that came up at that meeting was a question of who we would get to do the design work on our flyer and rack card and the promotional materials. Daniel Santos agreed at that time to see if there was somebody working in the town that might be able to do that for us and we didn't have to spend money to hire somebody. And then he found Paula Hersey, Digital Content Manager . She manages the town's Facebook page and all the social media sites for the town. Moving forward, expanded to include not just food waste, but also textiles. It's the same kind of theme of organic, organic matter.

Textile recycling donation, collection, sorting and processing of textiles, and then subsequent transportation to end users of used garments, rags or other recovered materials. Textiles are valuable material that can be reprocessed rather than leaving it to individuals to decide what goes where put everything in the textile bin, they sort through it, and they'll decide what might be worth donating and reselling. You're keeping the organics out of the landfill. So you're again you're reducing the methane and it's valuable raw material.

Jane Ward shared information about Nathan Herschler, owner Bread & Roses Bookshop and Café, located at 302 Main Street, he might be an ally for food waste composting particularly for the Hyannis Main Street restaurants. It's a plant based restaurant. He wants to increase this to be a place to teach, you know plant based cooking and he wants to have a market where you can buy local produce he also wants to expand into food waste composting. Jane Ward is attending an event at his restaurant and she will see where he is in this process.

Sustainability Position Good news Town Manger is reviewing positon description.

Green Community pretty soon will be the only town on the Cape not a green community. Sandwich Board Of Selectmen has voted to go in that direction they have little bit more work to do on it, but it passed and it appeared that the issue that swung the vote was they got a bid for

their school district for having to replace the heating, ventilation and air conditioning (HVAC) system which was a lot of money and when some of the people who've been advocating for green community said, you know, if we were a green community, some of that we might be able to get paid for by the state. That was the argument that helped sway the vote.

Cape Light Compact Clay Schofield representative has been assigned a number of jobs. We will request update at next meeting.

Electric Lawnmowers Rob Wilson is our representative. We will request update at next meeting.

Bottle bill there was some progress on that. We will request update at next meeting

Peter Doyle asks for a Motion to adjourn the June 27, 2022 meeting of the Infrastructure and Energy Committee . John Solomon makes a motion to adjourn the June 27, 2022 meeting of the Infrastructure and Energy Committee at 5:47 PM, Jane Ward Second. Three members in attendance voted affirmatively.

Next Meeting: July 11, 2022 5:00PM | Remote Zoom Meeting

Upcoming Meeting: August 22, 2022 September 12, 2022, October 24, 2022, December 12, 2022

Documents and Exhibits

Handout 1: Agenda, June 27, 2022

Handout 2: Draft Infrastructure and Energy Committee Minutes March 28, 2022

Respectfully submitted by Cindy Dabkowski