Town of Barnstable
Comprehensive Wastewater Management Plan
Ad Hoc Committee

Meeting Minutes

Date: November 18, 2025
Location: Selectman's Conference Room, Town Hall

This meeting is being recorded and will be posted for future viewing on the Town of Barnstable's Government Access Channel:
http://streaming85.townofbarnstable.us/CablecastPublicSite/watch/1?channel=1

Committee Members Present:

Scott Horsley, Chair; Tom Cambareri; Zee Crocker; Rob O'Leary; Louise O'Neil; Butch Roberts; Kris Clark, Town Council; Gordon Starr, Town Council

Committee Members Absent:

Brian Hughes, Vice Chair; Glenn Snell; Paul Neary, Town Council

Others in Attendance:

Dan Santos, Director, Department of Public Works; Rob Steen, Assistant Director, Department of Public Works; Griffin Beaudoin, Town Engineer, Department of Public Works; Amber Unruh, Special Projects Manager, Department of Public Works; Chris Gadd, Communications Assistant, Department of Public Works; Jane Ward, Citizen

Agenda:

Call to Order

Scott Horsley, Chair, called the November 18, 2025 meeting of the Comprehensive Wastewater Management Plan Ad Hoc Committee to order at 6:01 PM. The meeting of the committee was held in-person with all participants attending in the Selectman's Conference Room, Town Hall.

Administrative Items

a) Recording Notice

Chris Gadd, Communications Assistant, Department of Public Works, read the notice of meeting recording

b) Roll Call

Chris Gadd, Communications Assistant, Department of Public Works, conducted a roll call from the committee. The attendance of members is reflected above.

Louise O'Neil joined the meeting in person.
Gordon Starr, Town Council, joined the meeting in person.

c) Approval of October 14, 2025 Minutes

Scott Horsley, Chair, entertains a motion to approve the October 14, 2025 meeting minutes. Butch Roberts moves to approve the minutes. Councilor Clark seconds. The committee unanimously votes to approve the October 14, 2025 meeting minutes.

d) Amendment of September 15, 2025 Minutes

Tom Cambareri notes he had some clarifications from the September 15 meeting.

Chris Gadd, Communications Assistant, Department of Public Works, displays a list of the amended items on the display screen.

Chris notes the first change is to correct the date. Councilor Starr notes that the statement should read that the houses got bigger, not the lots. Tom confirms this. Chris changes the proposed amendment to read "houses" instead of "lots".

Tom explains the next change is to clarify his remarks. It read as him being in favor of penalizing properties with cesspools, which he isn't.

Tom explains the third proposed amendment clarifies the "25%" which is included in the original statement without context. Councilor Starr notes a grammatical error, which Chris corrects.

Tom motions to approve the amended version of the September 15, 2025 meeting minutes with the edits just made. Butch Roberts seconds the motion. The committee unanimously votes to approve the amended version of the September 15, 2025 meeting minutes.

e) Next Meeting

Prior to determining the next meeting date, Scott inquires with Councilors Clark and Starr about the status of the presentation to Town Council, noting it was previously discussed as being on December 11, 2025. He would like to coordinate the next meeting with the presentation, if possible, noting he doesn't mind it being pushed back.

- Councilor Clark asks if Scott would prefer the presentation to be pushed back.
  - Scott responds that there are several topics to discuss tonight, including a draft recommendation that he has already received edits for. Assuming the Council is okay with this, it makes sense to move the presentation to January.
  - Councilor Clark notes there tends to be a reluctance to having a "heavy lift" closer to the holidays. There is a draft schedule of topics to be discussed for the next year, and Councilor Clark will discuss with Council President Tamash about getting the presentation scheduled for January

Scott assumes the presentation will be pushed off to January and proceeds to schedule the next meeting of the committee for December. Chris provides a list of several possible meeting dates and times. After some discussion, it is decided that the next meeting of the committee will be on Tuesday, December 16, 2025 at 6:30 PM in the Selectman's Conference Room, Town Hall.

Rob O'Leary joins the meeting in-person

Update on Community Septic Management Program Utilization

Scott Horsley, Chair, requests an update from Dan Santos, Director, Department of Public Works, on the Community Septic Management Program. Dan notes that Kelly Collopy, Communications Manager, Department of Public Works, was prepared to discuss the topic but had to attend to a personal matter and is unable to be at the meeting. He offers to send the committee a memo in the coming days about the program.

Dan provides a quick summary, noting that the State, through the SRF Program, has put aside money to provide low- or no-interest loans to communities so that the community can loan out the money to people for upgrades and replacements of septic systems. This is very similar to the AquiFund. There are mechanisms to adjust how much needs to be paid back and is based on affordability in the community.

- Scott thanks Dan and agrees with the memo being sent. He notes that the funding source being SRF is good because to qualify for the Cape and Islands Water Protection Fund loan forgiveness

the program must be SRF and on the Intended Use Plan (IUP). His understanding is that the Cape and Islands Water Protection Fund needs to vote on it for forgiveness as it is a line item on the IUP. This seems like a potential source of funding.

- Dan notes it is not a lot of money statewide. There is concern about continued funding at the current level.

- Zee Crocker asks what the current funding is.
    - Dan responds it is $5 million.

- Tom Cambareri asks how the funding would be applied in town
    - Dan responds it is a loan program for people replacing their septic systems.

- Tom asks if this goes above and beyond the AquiFund.
    - Dan responds he is uncertain if the Town were to do this with the AquiFund in place. This program uses the same money and does the same thing as the AquiFund.

- Scott notes his understanding that if the Town were to start a nitrogen-reducing septic system program, perhaps the town can be involved with the funding of said program. There have been talks of bulk purchasing units and giving them to property owners.

Presentation on Treatment Technologies used in Ponds
Scott Horsley, Chair, invites Amber Unruh, Special Projects Manager, Department of Public Works to present on the technologies used for pond and lake management. She notes that the prepared slide deck covers a variety of technologies but is not an exhaustive list.

Amber begins her presentation by noting there are four types of technologies: Biological Controls, Chemical Controls, Physical Controls, and Watershed Phosphorous Loading Controls. Biological controls work by altering the composition/relationships between animals and the pond. Examples include enhanced grazing and freshwater aquaculture. These examples have limited effectiveness and have not been permitted/implemented on Cape Cod. While Massachusetts hasn't done much with this type of technology, it does exist and is used in other areas.

- Rob Steen, Assistant Director, Department of Public Works, asks whether freshwater mussels are endangered.
    - Amber responds that not all freshwater mussels are endangered, but there are several species of these mussels which becomes a permitting challenge. An additional challenge is making sure to not introduce an invasive species into the waterbody. While useful, they can become difficult for boats, docks, and other items in the water.

Amber continues her presentation by explaining chemical controls. These address impairments by adding chemicals to the waterbody to control algae, plants, and nutrients. Examples include algaecides, barley straw, phosphorous inactivation, and selective nutrient addition. Barley straw will be discussed later in the presentation and is included on this slide because it acts like a chemical control. Selective nutrient addition manipulates the nutrient ratio, affecting the phytoplankton, and changing the community in the pond. This approach does not tend to be used/recommended as the goal is to minimize the introduction of nutrients, not add them in.

Algaecides are used to kill cyanobacteria and algae and inhibit cyanobacteria growth. They are used for short-term control and require additional long-term maintenance. Algaecides are a "Band-Aid" and do not address the issue of nutrients. Permits are required and may have restrictions based on the waterbody. These might cause death of cyanobacteria cells which ultimately release the cyanobacteria toxin, resulting in a possible short-term increase in the waterbody. Decaying algae can also cause oxygen in the pond to decrease, and possibly release phosphorous sediments. Copper-based algaecides are most common but can accumulate in pond sediments. Hydrogen peroxide treatments are more expensive but there is more interest in them as their byproduct is water and oxygen. Barley straw is not currently permitted as an algaecide treatment.

- Jane Ward, Citizen, asks if Amber knows which approach is used in areas with harmful algal blooms in drinking water supplies.
    - Amber responds she has an example of this on the next slide.

Amber continues her presentation by providing two examples of algaecide applications on Cape Cod. The first is a private, half-acre pond in Yarmouth Port. They were authorized to use a copper algaecide in 2022 and recommended to repeat in 2023. Two treatment doses were required. The second example is Long Pond in Falmouth, which is Cape Cod's only public drinking water reservoir. In 2010 a copper algaecide was used to control algae. There were some issues causing particulates to enter the drinking water system, so Falmouth upgraded their treatment facility in 2017 to address the issue. This also created a long-term solution in the pond as opposed to annual algaecide treatments.

- Jane asks how long a community would have to wait after an algaecide treatment is applied before the water is safe to drink.
    - Amber responds there is a set of rules from that State pertaining to algaecide treatments in drinking water. She does not have that information readily available.

Amber notes that an algaecide works best with early intervention, before there is a problem. An application could occur without a visible bloom, but cyanobacteria levels are elevated in the waterbody. An early application is typically followed up monthly with additional treatments, becoming routine maintenance.

- Rob O'Leary asks, regarding the YarmouthPort example, who does the application of algaecide.

    - Amber responds that a management company is hired to complete the treatment.

- Rob O'Leary asks if a management company is required, or if a property owner could just apply the treatment themselves.
    - Amber responds that you must be a certified applicator to complete the treatment. The applicator must have a license from the state to apply the algaecide.

- Rob O'Leary asks how to get the permit before there is a problem, as Amber mentioned.
    - Amber responds that it is based off of the problem in previous years. Information to the local Conservation Commission would include documented issues and the proposed solution of an algaecide treatment. This approval is likely easier for privately-owned ponds.

- Rob Steen asks if the algaecide only causes harm to algae, or if there are other organisms that may be affected.
    - Amber responds the algaecide will likely affect phytoplankton and zooplankton populations. It depends on the type of algaecide being used. Many companies say their product "only" impacts cyanobacteria and won't affect other populations. However, they have caveats in their sales pitches.

- Councilor Clark asks if either of the examples were successful.
    - Amber responds that it depends on the quantification. The Long Pond examples did not have additional years of application reported through the Cape Cod Commission. With the Yarmouth Port Pond there was a recommendation to continue treatments over the next several years. The treatment was likely working but depends on whether the owner is willing to have an annual algaecide treatment.

- Tom Cambareri asks, besides killing the algae, what the objective of the treatment was, such as aesthetic or recreational.
    - Amber responds she did not look into this aspect.

Amber continues her presentation by explaining that barley straw is considered an algaecide because it produces hydrogen peroxide as it decomposes, therefore suppressing cyanobacteria. While it can suppress growth, it also appears to be able to shift algal dominance in the waterbody to green/filamentous algae and could release phosphorous from sediments. It is not currently permitted in Massachusetts as an algaecide. However, there is an example in Easthampton, Massachusetts. The community around Nashawannuck Pond in Easthampton got together and, through a leader, got permission from their conservation commission to fill bags with barley straw and install/remove the bags annually. While they got this permission from their local conservation commission, they did not get an algaecide permit through the State. The community would be unable to hire a licensed algaecide

applicator for this task as it implies the straw is an algaecide. The community reported no cyanobacteria blooms in 2023 or 2024, but pictures suggest other types of algae present in the pond.

- Rob O'Leary recalls that on Old Indian Trail there is a pond that the Cape Cod Commission did work on with barley straw. He reports there was some success with the effort. He asks if someone was to own a pond, could they put a bale of barley straw in the pond.
    - Amber responds they could.
    - Scott suggests approval from the Conservation Commission would be needed.
    - Amber notes uncertainty and recommends that anyone wishing to do this should at least get a determination of applicability from their local conservation commission.

- Scott notes there is a Massachusetts Pesticide Board which certifies applicators. Barley straw is probably not considered a pesticide, hence why it is not permitted. However, it is also not prohibited.

- Rob O'Leary asks if Amber interprets barley straw as a positive application.
    - Amber responds that it is difficult to make that judgement due to a lack of data available, as their monitoring data and criteria are different from what the Town is using.

- Zee asks about available data from Europe.
    - Amber responds that she does not recall any studies on barley straw in Europe. She does recall studies on hydrogen peroxide algaecides. She came across a study that indicated as barley straw decomposes it results in hydrogen peroxide. A concentration of 2 mg/L of hydrogen peroxide is needed to suppress cyanobacteria. This concentration is similar to other studies which focus specifically on hydrogen peroxide.

Amber continues her presentation by explaining phosphorus inactivation, which is commonly referred to as alum treatment. These result in a rapid reduction of phosphorous levels due to the introduction of a phosphorous-complexing compound. There are many types of these compounds, and the Town typically uses aluminum sulfate. The treatment both removes the phosphorous from the water column and binds phosphorous to the sediment, preventing future release. If concentrations of the introduced agent are incorrect, it can result in fish or mussel die-off.

- Scott notes the die-off has occurred before and even put a former conservation agent in the hospital.
    - Amber emphasizes this as an important reason why the correct application instructions always need to be followed.

Amber continues by noting that effectiveness of the treatment depends on addressing sources of the phosphorus or other inputs. Alum treatments in waterbodies that have a controlled source tend to be more effective as the treatment is addressing residual, legacy phosphorous. Not having control of the

inputs can result in a shorter effectiveness term. However, “short term” is still several years, with some treatments lasting for 15+ years. She notes that Hamblin Pond had a treatment and lasted 18 years before an algae bloom. Other examples in Town include Mystic, Lovells, and Shubael Ponds, with other examples throughout Cape Cod.

Amber continues her presentation by explaining physical controls that are used in addressing water quality impairments. Examples include aeration, enhanced circulation, hydrologic manipulations, dredging, use of dyes, mechanical removal of plants, floating treatment wetlands, and sonication. There are some other possible physical controls not on this list.

- Scott notes that MassDEP put a floating treatment wetland in Eagle Pond in Cotuit.
    - Amber notes uncertainty of this being through MassDEP, as she thought it was John Paul II High School Students who put the wetland in.
    - Councilor Starr notes that it was the high school who did this.

Amber explains that hydrologic manipulation involves changing the inflow and/or outflow of a waterbody, or adding/removing water from the waterbody, to control cyanobacteria levels. This can reduce nutrient levels in the waterbody but could send nutrient-rich water elsewhere. It can also be expensive and potentially difficult to permit. There are possible unintended consequences to other organisms in the waterbody such as aquatic plants that get exposed to air during a lowering of water levels, or less mobile organisms such as mussels.

Another approach sees the introduction of more water to dilute the waterbody and decrease the water residence time. However, there is a question of where the added water comes from, especially on Cape Cod.

Another approach targets nutrient-rich water on the bottom of a waterbody and removes it. This approach is temporary and needs to be repeated.

Aeration is another physical control and controls sediment nutrient release through aeration of the water column. This breaks down stratification and eliminates low oxygen in bottom waters. This reduces nitrogen-rich bottom waters by keeping the water column oxygenated and keeping the phosphorous in the sediment. This approach requires constant operation to be effective and is typically more expensive than alum. Aeration was installed at Lovells Pond in 2009 but was met with temporary breakdowns and exasperated the situation. The approach was taken for three years and decommissioned in 2012. Aeration was also installed at Sarah’s Pond in Orleans including nanobubble technology in 2019 and 2020. The technology was not ready for “prime time” and was unable to sufficiently oxygenate the water. In 2021 oxygen saturation technology was used and showed promise after two years of troubleshooting, including temporary breakdowns.

Amber continues by explaining floating treatment wetlands, a pilot study for which was just completed in Long Pond, Marstons Mills. Wetlands assimilate phosphorous into the plant biomass, which can be harvested and remove phosphorous from the pond. The recently completed study was done because Long Pond sees annual cyanobacteria blooms. Previous studies indicated a removal of 0.1 kg to 1.8 kg of phosphorous removal per 100 square feet of wetland. The 0.1 kg comes from a PhD project on the Charles River. The 1.8 kg comes primarily from deployments in the south where they were deployed in stormwater ponds. The increased removal number could be as a result of additional phosphorous in the stormwater ponds. The recently completed pilot study started in May 2024. In October 2025 the plants were harvested and are currently being processed for their phosphorous content, the results of which are not yet available. She notes the wetlands provided a space for aquatic organisms, with anecdotal stories of turtles, mussels, and otters using the wetland as a habitat. She noted the John Paul II High School students attempted a floating treatment wetland on Eagle Pond, using 2"x4" planks to create the structure and filling it with wine corks.

- Rob O'Leary asks for clarification on the kilograms removed as part of these projects and their relation to the impact on the waterbody.
    - Amber responds that, for Long Pond, Marstons Mills, the Ponds and Lakes Management Study indicated a removal of 7 kilograms of phosphorous each year would help control cyanobacteria growth.
    - Rob O'Leary notes that the presented 1.8 kilograms is significant.
    - Amber agrees. There were 500 square feet of wetland deployed in Long Pond. However, she is skeptical of these wetlands achieving the maximum presented number of 1.8 kilograms.

- Louise O'Neil asks if the wetlands are free-floating or if they are secured in place
    - Amber responds that the wetlands are anchored in place.

- Louise asks how big the wetlands are.
    - Amber responds they are approximately 7 feet by 7 feet. The intent was to keep them fairly small because there was an assumption that the wetlands would be heavy during the removal process. This proved correct when they were recently removed, weighing around 300 pounds each after the plant biomass had been harvested.

- Rob O'Leary asks if there have been experiments done on the types of plants used for this technology.
    - Amber responds that there was a variety of plants on these wetlands. One plant was Pickerelweed which was assumed to grow great but none of them survived. Other plants such as Milkweed and Soft Rush grew well. Part of this study was seeing which plants do better, especially if this technology is continued to be used.

- Councilor Clark notes optimism about the project

- Amber notes there has been a lot of interest in this project from a variety of sources.

Amber continues her presentation by explaining watershed controls which manage nutrient inputs from the watershed. These include sewers, phosphorous-reducing septic systems, fertilizer reductions, pond buffer enhancements, stormwater control measures, and permeable reactive barriers.

There aren't many phosphorous-reducing septic systems, but there is an example in town. Jane Ward, who is present at the meeting, installed a Fuji Clean CRX system which addresses both phosphorous and nitrogen. The phosphorous removal is done through iron electrolysis. The data presented for the Fuji Clean System shows an immediate impact on phosphorous, although a clear starting point is unknown.

- Jane Ward adds that the starting phosphorous concentration was around 30-38 mg/L.
    - Amber notes this situation is unique as the Wards are water conscious, with less water use leading to an increased concentration of phosphorous.

- Scott asks who is doing the monitoring of the system
    - Jane responds that for the first two years it was MASSTC and Fuji Clean. This was the first system installed in the US that also reduced phosphorous. For the first year, both entities visited monthly. MASSTC then changed to quarterly visits. Fuji Clean continued to visit monthly until a few months ago. Jane is now paying for 6-month monitoring starting in March.

- Jane notes an impact which occurred is the rise in nitrogen before settling. The company was making adjustments through the winter, until spring when the nitrogen levels came back down. She notes an additional intricacy of not being alerted during a power outage. Because the alarm was on the same circuit as the system, it failed to alert and there was 2-3 weeks where the system reverted to a Title 5 System. As expected, levels went up during this time and took 1-2 months for them to come back down.

Amber continues, noting that within 2-3 months phosphorous levels were generally below 1 mg/L. The iron electrodes in the system have had to be replaced 3 times, approximately every 9 months. There are other phosphorous-reducing septic systems, all of which are in the Pilot Stage of approvals with MassDEP. Cost can be an inhibitor for some people, noting that Jane was able to get some costs covered.

- Jane explains that they were given the system under an EPA grant through MASSTC. Nobody would say how much the system would cost, but they had to pay half, which was $20,000-$25,000 for permitting, excavation, and installation. Overall, a ballpark estimate could put these systems around $50,000.

Amber continues, explaining permeable reactive barriers which control the phosphorous through means of an underground barrier that binds to a target nutrient. The material used for each nutrient is

different. This approach is effective at removing phosphorous, but requires detailed groundwater monitoring, extensive permitting, and the need for a public space to install the barrier. There is an example of this on Cape Cod at Ashumet Pond in Falmouth/Mashpee. The barrier was installed near-shore and required coffer dams to reach the near-shore areas. This was done because of excess cyanobacteria blooms resulting from many years of treated wastewater disposal from Joint Base Cape Cod. The plume entered the waterbody within 60 feet of the shore along 400 feet of shoreline, which is an expansive area when compared to septic systems. Approximately 200 monitoring sampling points were installed. Overall, there was a successful removal of phosphorous and nitrate.

- Scott asks to confirm that, from his understanding, the barriers for nitrogen and phosphorous act differently because the nitrogen barriers de-nitrify the water while the phosphorous barriers are complexing the phosphorus, resulting in the barrier needing to be replaced.
    - Amber responds that this is correct. If the iron were to be fully used and phosphorous return to the pond, the process of installation would essentially have to be done again. She is not aware of this concern for Ashumet Pond but notes they have done alum treatments in recent years.
    - Amber adds that the iron filings could also migrate into the pond bottom, resulting in a red pond bottom near the barrier.

- Councilor Clark asks if there is a problem disposing of the used iron filings from the barrier.
    - Amber responds she is not aware of any issues.

Amber concludes her presentation. Scott thanks her and asks Butch Roberts to provide information on the event hosted by Barnstable Ponds Coalition.

Butch notes that the Barnstable Ponds Coalition began in Spring of 2025 with an objective of focusing on and offering solutions for the 163 ponds in Barnstable. The intent is to work in tandem with the Town, focusing on areas where the Town is unable to. The Coalition sampled 7 ponds that the Town was not sampling, increasing the percentage of ponds being sampled from 17% to 22%. Barnstable was one of the few ponds without a ponds coalition and after several conversations with various groups, it became apparent an organization would need to be created to have an impact. They recently hosted an open house that had good representation from State Representatives, Town Council, and the Association to Preserve Cape Cod, among others. There were several exhibits, including on urine-diversion toilets and the “Old Ladies Against Underwater Garbage” group. The Coalition wants to work with private property owners to sample those ponds on private property, which is something the Town is unable to do.

- Scott notes he had a conversation with Butch about this effort and has added a recommendation to be brought to Town Council which suggests focusing more on ponds going forward.

- Rob Steen notes that an essential step for ponds and lakes is the advancement of phosphorous-removing septic system technology. He notes that between the start of the CWMP and now, with nitrogen-reducing septic systems the Barnstable Clean Water Coalition (BCWC) took on the effort of moving technologies from pilot to nearing general approval. That same effort needs to happen with phosphorous-removing septic systems. A common ask at the DPW is a solution to the problem and, aside from the single Fuji Clean system at Jane's house, there is no solution readily available. There are other approaches, such as floating treatment wetlands, that are being looked into. There is a necessary conversation about developing septic system technologies so there is something for areas not receiving sewer at all or for a long time.
    - Butch notes the Barnstable Ponds Coalition is putting together a scientific advisory council for the effort. They will be meeting soon and looking at which manufacturers seem promising. At $50,000 per installation, there is a significant cost. They are starting small and working to establish credibility.
    - Rob Steen notes that when the next 5-year update of the CWMP is discussed, hopefully there are tools to address phosphorous.

- Scott opines that, with the success at Shubael Pond, nitrogen-reducing septic systems have moved along well. He suggests a similar design for dealing with phosphorous, with a pilot project or demonstration at one pond.

- Tom Cambareri adds that he was reading the FY24 CWMP Annual Report and there is a lot of information about the ponds the Town has been working on and the strategy behind the effort. He wonders if the reports on the different ponds are available.
    - Amber responds that the reports should be available on BarnstableWaterResources.com under "Ponds & Lakes" which contains the presentations and reports. She is working on the presentation for Lovell's Pond and Lake Wequaquet.

- Tom asks if the DPW is working with pond stakeholder groups for each of the management plans.
    - Amber responds that there is coordination with local stakeholder groups. Shubael Pond did not have a pond association, but there was a surrounding homeowners association that was interested in the work. Long Pond, Marstons Mills, has an association so there was coordination to keep them informed. That association kept Long Pond Farms Conservation Area in the loop. Lovell's Pond has no associations. Connections are maintained for ponds that have associations

- Tom asks if there is a group being coordinated with for Lake Wequaquet.
    - Amber responds the DPW is still working with the University of Massachusetts Darthmouth School for Marine Science & Technology (UMass Dartmouth SMAST) on that particular project.

    - Griffin Beaudoin, Town Engineer, Department of Public Works, notes the DPW has a draft report for this project.

- Jane asks if the management plan for Long Pond, Centerville, is available yet
    - Amber responds that the report is pending

- Tom asks if draft reports are made available to review
    - Griffin responds they are not available until the DPW has been able to review and finalize the report.

- Tom notes the reports would be an interesting role for a pond coalition to look at, looking at multiple ponds instead of focusing on one.

- Scott notes he has been in contact with Rick Moore who lives on Long Pond and is interested in getting more involved.
    - Butch responds that he has been in contact with Mr. Moore, and he has agreed to be on the Scientific Advisory Council.

Discussion on Preliminary Outline of Presentation to Town Council
Amber Unruh, Special Projects Manager, Department of Public Works, notes that there is an updated map showing the affected parcels based on the approved recommendation.

Chris Gadd, Communications Assistant, Department of Public Works, distributes physical copies of the outline from Scott and the updated setback figure.

Scott Horsley, Chair, begins the discussion on the preliminary recommendations to Town Council. He notes that the document being discussed is a very rough draft and he has already received feedback on it from several people. After today's discussions he will take another pass at the document.

Scott notes the first 3 items are thanks and recognition for all involved. He explains that the 5th item begins the discussion on potential technologies. Items 6-8 continues the technology discussion and leads into the setback recommendation.

- Scott asks if the committee's wish is to continue to proceed with the 1,000-foot setback in the recommendation
    - No disagreements are heard.

Chris displays the updated map on the display screen.

Scott requests Amber to briefly explain the updated map. Amber explains that the map presented is the entire town. Blue lines are watershed boundaries. Parcels within 1,000 feet of nitrogen sensitive

estuaries (Popponesset Bay, Three Bays, Centerville River, Halls Creek, and Lewis Bay) or within 1,000 feet of surface waters draining to a nitrogen sensitive estuary need to potentially upgrade the septic system according to the recommendation. Parcels in green on the map have an existing septic system. Parcels in pink are not currently developed, so they don't have a septic system.

- Griffin Beaudoin, Town Engineer, Department of Public Works, clarifies that if an undeveloped parcel within the setback were to be developed, the requirement to use nitrogen-reducing septic systems would apply.

Amber notes that areas in the lightest two grays are included in the CWMP. The darkest gray is existing sewer.

- Rob Steen, Assistant Director, Department of Public Works, notes the Stages of the CWMP are included in this recommendation, but there is continued discussion of incorporating the Stages into Phase 2 of the CWMP. If this occurs, they will be excluded from this recommendation. However, they are included on this map as the map is the interpretation of the recommendation.

- Zee Crocker asks if the green (developed) parcels in the Phase 3 areas are not part of Phase 3 of the CWMP.
    - Griffin responds that they are either part of Phase 3 or not part of the CWMP at all. The proposed regulation only excludes parcels in Phase 1 or Phase 2, hence why these parcels are included.

- Scott again asks if there are any concerns or desired changes to the recommendation.
    - Zee responds it will be useful to have the numbers of each type (developed/undeveloped) of parcels. He also suggests a calculation of loads and costs associated with that data. This question will almost certainly be asked.
    - Griffin responds that this can be quantified. There would be a calculation of the reduction from a standard Title 5 Septic System. There are 2,100 parcels in total. Griffin agrees this will be wanted as part of the recommendations.
    - Scott attempts to pull together numbers for a rough estimate. After some discussion, Griffin notes the DPW can pull the water usage data, which is how the CWMP was developed.
    - Scott agrees with Griffin, and requests the data is incorporated into the table on the map, as well as making the table larger for the presentation.

- Scott notes that there can be a significant reduction as a result of this recommendation.
    - Griffin notes there will be residual nitrogen from each home.

- Scott asks to review the triggers, recalling they were based on new homes, upgrades and expansions, and failures.

- Zee notes this will be essential information for the Town Council, including how many parcels are estimated to be upgraded each year.

Chris displays the document with recommendations on the display board.

- Tom Cambareri asks, related to the updated map, about the green parcels in the "Avenues" area of Hyannis and what phase of the CWMP they are in.
  - Rob Steen responds they are in Phase 3, which is why they are included in this map as meeting the setback requirement.

- Tom Cambareri asks if it is true that the Halls Creek Estuary has assimilative capacity.
  - Rob Steen responds this is correct, and the reason these parcels are included in Phase 3 is because the area is included for reasons other than nitrogen.
  - Griffin notes this is a good discussion point that the group may want to consider. It is slightly different from the other south-facing embayments in town due to its assimilative capacity. From a technical perspective, the lots in the "Avenues" area are tight and it may be difficult to implement I/A systems on them.

Scott continues his discussion of the proposed outline, noting item number 10 relates to needing a Responsible Management Entity (RME) if the town were to proceed with implementing an I/A Program.

- Rob Steen asks why, as an RME is not required.
  - Scott responds that according to MassDEP an RME is necessary.
  - Rob Steen responds it is necessary if I/A systems are used as the center piece of the plan, which is not true in this instance. The plan already complies with the TMDLs. There can be a choice to use an RME for this, but it is not required.

- Scott notes that it may be necessary if we ask MassDEP for credit in the future.
  - Rob Steen responds that, from discussions with MassDEP, the Town will attempt to get credit at the estuary, including all the approaches such as aquaculture and work from Barnstable Clean Water Coalition. Each individual approach will not receive its own credit, instead focusing on what is happening at the estuary.
  - Scott notes that he has had conversations with MassDEP and other towns indicate the credits will be from the sources and sentinel monitoring stations.
  - Rob Steen clarifies that this is a different route, based on how the Town chose to do the CWMP. The credits were explicitly stated as being done at-risk to see what the results are on the environment.

- Scott notes there are other advantages to using an RME, including cost.

    - Rob Steen agrees there are other considerations and emphasizes that the conversation started by saying an RME is required, which is not correct. The I/A Program can still be done without an RME, and it is still valid because the CWMP is addressing the TMDLs.
    - Scott adds that cost is an important element of an RME. The RME would coordinate with each property owner instead of the owner being responsible for their own system. Additionally, performance is an important element of an RME. Nearby towns have found systems unplugged because nobody is monitoring them. He understands Rob's point but believes it should still be recommended to the Town Council.

- Scott notes a recent conversation with MASSTC about a grant for developing an RME. There is a proposal that was sent out for consideration by the Town of Barnstable for services at low- or no-cost. If there is interest, they could be asked to present in the future.

Chris distributes physical copies of the proposal from MASSTC.

- Tom notes the recommendations include 2,100 parcels and there is an assumption that they would fall under some form of town administration.
    - Zee adds that an RME is not necessarily one thing, it could be multiple. While MASSTC is a good repository of data, functions of an RME such as monitoring should be done by the Town.
    - Scott agrees with the Town acting as an RME, with some services being done by MASSTC as well.

Scott explains that item number 11 relates to phosphorous-reducing systems such as what Amber talked about earlier in the meeting. It discusses promoting those technologies and pushing them forward towards general approval. Item 12 relates to urine diversion (UD) toilets and composting.

Item 13 pertains to a pilot project for phosphorous-reducing septic systems, with the Town possibly sponsoring a pilot project similar to Shubael's Pond.

- Rob Steen notes the previous pilot project was not done by the Town. He further clarifies that the Town does not do scientific studies as is being suggested. The Town likely does not have the funds, people, or resources to do that.
    - Scott suggests the wording could be changed to read "The Town should partner with somebody…"
    - Rob Steen notes that it is possible, or simply that somebody needs to do this. The Town does not necessarily need to be doing this.

- Scott notes that the Town has been paying for studies in ponds
    - Rob Steen responds that the work done by Zee's group has been funded separately from the Town and with the help of grants. The work the Town does in ponds is an attempt to

get a better understanding of what is occurring. The studies are working to figure out the sources of pollution in the ponds. He would argue that the pilot project and getting enough units for study is not a function of the Town.

- Tom notes the Long Pond, Marstons Mills, recommendation indicated that controlling phosphorous from 28 properties could address problems in the pond. This seems like a great pilot project.
    - Dan Santos, Director, Department of Public Works, notes this is all private property. The Town won't install septic systems on private property and manage them. The Town could provide some funding to an organization if they were to go out and do this.

- Jane Ward, Citizen, suggests changing "conduct" to "encourage" or "support".
    - Rob Steen agrees with this, and notes his concern was the recommendation sounded like the Town would be able to go out and do the pilot project, which would not be possible.

- Zee notes his agreement with the DPW Staff, remarking on 8 years of work for I/A systems. For the purposes of this recommendation to Town Council it should not be suggested as written, with the word "conduct" possibly changed to "cooperate with" or "look for". Beyond that, the Town will be unable to assist.

- Scott asks if something in the recommendation should still discuss the desire to have a pilot study done, even if not through the Town.
    - Rob Steen responds that it should be included, just the responsibility should change.

- Zee suggests that there is an opportunity to review regulations from the Board of Health such as using Load instead of Flow and using Accessory Dwelling Units as encouragement. Looking at commercial units, anywhere with more than one urinal, for urine diversion can be impactful and is low-hanging fruit. This should be added to the recommendations and is a regulatory item.

- Tom notes this would be better than going after 28 septic systems in the Long Pond Watershed.
    - Scott asks for clarification on what Tom is referring to
    - Tom clarifies that the recommendation from the Ponds and Lakes Management Plan indicates that removing the phosphorous load from 28 parcels would be beneficial.
    - Griffin clarifies that the recommendation is to sewer 28 parcels or install I/A systems at more than 28 parcels. He does not have the exact number readily available, but it is more than 28 that would need I/A Systems.
    - Amber adds that the selection of parcels is also a factor as not every parcel contributes to the pond the same way.

- Zee suggests that the Town could, and should, delineate the groundwater going into ponds and determine where it is coming from. This will be helpful when a manufacturer of septic systems comes in wanting to test, there will be targeted areas to address.
    - Rob Steen responds this is the work EPA originally did for BCWC but is unsure if it exists currently.
    - Zee responds that it exists, but the work at Shubael's Pond was incorrect by a significant factor.

- Tom Cambareri asks if urine diversion removes the phosphorus
    - Scott confirms it does, removing approximately 65% of phosphorous.
    - Tom notes this is approximately equal effect to installing septic systems around Long Pond, Marstons Mills

- Jane remarks that the interest in pursuing these options is not strong, even after presentations.
    - Rob Steen explains that the property owners around Long Pond, Marstons Mills, have heard from Jane about her Fuji Clean System and from Brian Horsley about Urine Diversion. The property owners are not interested.
    - Butch suggests the attitude towards these systems may change over time.
    - Amber notes that "interest" is not the best phrasing and suggests there are social and economic barriers to these solutions.
    - Jane agrees with Amber, noting these approaches are strange and different.

Scott notes he will make the changes discussed. Item 14 pertains to the Cranberry Bog Restoration Project and how the town may wish to take a larger role as it continues to progress.

- Zee notes he is 100% on board with this recommendation. This is a low-cost effort to put a de facto treatment plant, by way of wetland, in the middle of the river.
    - Scott notes this will likely be one of the quickest response rates for monitoring.
    - Rob Steen agrees that this approach will be fast.

- Scott asks if item 14 is a reasonable recommendation
    - Rob Steen asks what the recommendation is trying to get at. He sees the points about the value but is unsure what the recommendation is asking the Town Council to do.
    - Scott reads that the recommendation is to partner with BCWC and value-engineer the design of nitrogen removal and construct the restoration project. In essence, partner and fund for both final design and construction. Monitoring will also be likely.

Zee Crocker recuses himself due to his role in the Barnstable Clean Water Coalition. Scott notes he has added a footnote indicating he is working as a consultant for the Barnstable Clean Water Coalition. Councilor Clark notes that this committee has no authority other than to recommend.

- Rob Steen notes the devil will be in the details. There are several factors that go into this.

- Scott asks if it is a good idea to put the topic in front of the Town Council and see if they find it a good investment.
    - Amber questions the approach, as the CWMP already addresses non-traditional solutions.
    - Rob Steen opines that the concept doesn't seem like a problem, the issue will be getting from Point A to Point Z.
    - Zee adds, as was said before, the CWMP includes non-traditional approaches, but it is worth going in, getting more details, and continuing to pursue that path.

- Dan suggests there needs to be a direct proposal for an action the Town Council can act on. As presented, there is a preliminary design.
    - Zee agrees and notes BCWC plans to go in front of the Town Council at some point, separate from this committee.

- Rob Steen asks if the inclusion of this recommendation dilutes the future conversation with BCWC, or should the recommendation focus only on the 1,000-foot setback.
    - Zee opines he doesn't think it dilutes the conversation; it is included as part of the big package. It can be delineated as a future conversation. The discussion between BCWC and Town Council is approaching soon.

- Rob Steen notes a valuable conversation to discuss what the committee hopes to have happen after the recommendations are read at Town Council.
    - Scott responds he hopes they say, "this is awesome, how do we start?"

- Rob Steen notes that, in watching Town Council, the general response is "that was a great presentation, thank you very much. The next agenda item is…". There is no action tied to this.
    - Zee agrees with this and opines that these should be distilled into a handful of actionable, votable items. The main item would be the 1,000-foot setback.

Several overlapping conversations occur

- Butch Roberts suggests that putting the recommendation on record would be helpful in future discussions as it indicates the committee's thinking.

- Rob Steen asks the councilors present what other Ad Hoc Committees have done when they present, are they just presentations or are there actual items to be discussed.
    - Councilor Clark responds that recommendations are made. She notes the presented document will be a lot to digest. It needs to be simplified. She suggests involving the

Legal Department, especially recommending changes either through Town Council or the Board of Health.
    - Griffin adds that the presented document is not actionable items at the meeting, it is an update. The piece to add is how to proceed forward.
    - Dan suggests that Scott will want to get an endorsement from the Town Council that the work is good, and the Town Council instructs the Town Manager to proceed with the recommendations.

Several overlapping conversations occur

- Rob O'Leary asks if the Town Council would recommend a regulatory board to change their recommendation. How does this go from recommendation to implementation.
    - Griffin responds that it depends on which item is being discussed. The item on the proposed 1,000-foot setback would likely need the Legal Department's input on who would regulate it.

- Rob O'Leary opines that, after putting the recommendations in front of Town Council, there is a lot of work left to be done. There should be a follow-up document with next steps such as Town Manager delegation or Town Council recommending a Board to revisit regulations.
    - Scott notes that item 17 is the continuation of the committee. Only 1-2 items are truly ready for "primetime", while other items are to make the Town Council aware.
    - Rob O'Leary notes the Town Council may not realize the 1,000-foot setback is an actionable item unless they are asked to act on it.
    - Zee suggests distilling the recommendations into a few items, agreeing with Rob O'Leary and Dan. There should be further discussions with the Legal Department about what the next steps are and who needs to sign off on certain items. These can be presented to Town Council with the recommendations.

- Tom opines that a lot of the recommendations are good and there should be a focus on several action items including the continuation of the committee and the 1,000-foot setback.

- Scott suggests a document summarizing discussions that will be helpful to the Town Council. He does hear that, when possible, call out the specific actions. This includes the 1,000-foot setback, continuing the committee, and a possible third one. The other items are for the Town Council's further discussion and future recommendations, which leads into the recommendation to continue the committee. He can try to make the report simpler but does not want to go too simple.
    - Zee suggests the report should be 1-2 pages.
    - Councilor Clark adds that there can be supporting documents with the report. She offers to provide a copy of what was submitted by the Zoning Subcommittee. They had three recommendations, with supporting documents.

    - Councilor Starr notes that the Zoning Subcommittee submitted 7 recommendations, of which the Town Council President advanced 4 through the Town Council and out to the relevant bodies. The others may percolate up. He suggests this has to go through the Board of Health.

- Dan suggests the presenter wants the Town Council's endorsement or buy-in. Once outreach is made to the Legal Department and the Board of Health the recommendations will, metaphorically, explode and it will be difficult to bring them back together. Start with the Town Council, then the relevant departments get directions from the legislature.
    - Zee suggests that the presentation could come with the next steps forward and we would be able to get the endorsement and direct them in the right direction.
    - Griffin responds that the committee does not need to get too deep into the proposed recommendations. The presentation essentially says, "This committee recommends that the Town do XYZ". This is then delegated to staff and brought to Town Council who then vote on the measure. It may also be brought to other bodies, depending on who has the authority.

- Rob Steen notes a recent example with the Flow Neutral legislation. That began as the Council indicating they want to achieve the requirements. This was delegated by the Town Manager to staff, then the staff brought back a votable item. This is analogous to this approach.
    - Councilor Starr agrees that the endorsement needs to be in place before going to the Legal Department or other departments.
    - Griffin notes the Town Council is endorsing the concept of allocating staff and resources to the item in question.
    - Zee suggests the path forward may not need to go in the documentation, but it would be good for the committee to know what is involved, to the extent possible.

- Councilor Clark suggests that it would be helpful to have information on the grant from MASSTC for pilot programs. The timing and capacity will be helpful as price makes a difference.

- Scott notes confusion on the committee's thoughts on the presented document and what should be done.
    - Lousie O'Neil suggests keeping it short with 3 recommendations.
    - Zee suggests it could be 3-5 recommendations.
    - Lousie adds to include action points that can be presented to Town Council.
    - Dan suggests that the document Scott presented is fine but would edit it and have the document as backup. Create a one-sheet that includes a sentence and an action item. Ultimately, you want Town Council to endorse those action items.
    - Scott notes his understanding and will work to make the proposed edits and action item list.

- Councilor Clark notes she will see the Town Council President on Wednesday and asks if she can show him the document Scott put together.
    - Scott responds he would not want it distributed widely.
    - Griffin notes the meeting is being recorded so the document is technically already available.
    - Zee suggests additional edits before sharing.
    - Scott requests to be given some time for edits prior to sharing the document.
    - Councilor Clark agrees with this.

- Councilor Starr asks to clarify from Dan that an endorsement would need some form of vote from the Town Council.
    - Dan responds that the vote after the presentation would be that vote of endorsement to continue forward with the recommendations. He notes it will all come down to Scott's power of persuasion.

- Scott asks if a slide show is appropriate
    - Councilor Clark confirms it is.

Public Comment/Questions

Scott Horsley, Chair, opens the floor for any public comments or questions. He notes Jane Ward is the only member of the public present and has spoken earlier in the meeting, but asks if there is anything she would like to add.

Jane Ward notes that the work done by the committee is "phenomenal". She has been following along and there is an incredible amount of good. She asks for clarification as her understanding is part of the committee's goal is to provide feedback to MassDEP about the CWMP.

- Rob Steen, Assistant Director, Department of Public Works, responds that the DPW is working on the "what we did for the past 5 years report". The aspect of this committee is where the Town is going on innovative/alternative technologies. The existing annual updates effectively get lumped into 1 report, which includes the financial plan and planning. These elements are being assembled now. The work of this committee then gets added in as noting the recommendation on I/A septic systems.
    - Councilor Clark asks if the timing of the committee disrupts the update
    - Rob responds that it does not.

Jane opines on the earlier statement of an RME being "at least a very good idea". As a property owner, she became her own RME and if they had not been as motivated as they were it would not have worked. The process was intimidating, and the Wards are not easily intimidated. They fell into the opportunity for the Fuji Clean almost by accident, but it seemed like a good idea. They hired an installer, but nobody knew about the electrician to make the system work. If there had been an RME, the process would have

been incredible. It was a huge challenge. Once the system is in, it's not foolproof. Having an RME with handholding and potential bulk purchase is an excellent recommendation.

- Scott remarks that there is a proposal from MASSTC to the Town, and he only just received it and has not read through it yet. They could be scheduled to present at a future meeting.

Matters Not Reasonably Anticipated by the Chair
Scott Horsley, Chair, notes conversations he has had in relation to the proposed items and how the CWMP treats approximately half the town. There is another half of the town that is not affected, which he understands some of the reasons why that is. He notes a communication issue and wonders if something should be added to the report in this regard.

- Zee suggests verbiage to encourage "skating to where the puck will be". While this plan gets wastewater treatment to half the Town, the hope is that someday the entire town gets wastewater treatment at a higher level than a Title 5 septic system. Today focuses on the regulations from MassDEP. The ponds and lakes within the 53% not being sewered do need to be addressed but is not the mandate for this group.

- Butch agrees with Zee's remarks. He notes an issue in calling it a "comprehensive" plan because it is not comprehensive. It should be acknowledged as such. This is the plan the state required us to do but is not comprehensive.
    - Scott responds that he agrees with the comment but there are two different uses of the word "comprehensive". The State has an official definition for it, which the plan does address. He agrees with Zee's analogy of skating to where the puck will be, as there are other issues that this plan is not directed to address. The plan is Comprehensive because it has been approved by the State.
    - Rob O'Leary notes that this is not part of the mission at the moment and is an enormous topic. It is not a pressing matter. He doesn't see why the discussion of "comprehensive" is necessary at this point in time. There is a large piece of business on the table right now.
    - Zee disagrees with Rob O'Leary's comments because this will be in a public forum in front of voters who don't get anything from this plan. There are people on the north side being asked to pay money for this but aren't getting wastewater treatment.

- Tom Cambareri opines that people will be happy not to be getting wastewater treatment. Additionally, there are parts of Barnstable Village that are sewered. This is a Town responsibility, and everyone in Town is taking care of the resources. He asks how much is being asked of the people not getting wastewater treatment and how they are being charged.
    - Zee responds it is approximately $2 billion
    - Rob Steen responds that 50% of the plan has been accounted for by other things coming in, such as the room and meals tax. An argument can be made that if the money from

the tax wasn't going to the CWMP, it would be going to something else. There is no specific tax to a property owner not receiving wastewater treatment. There is an opportunity cost that goes into the plan which everybody bears to some extent.
    - Tom notes his understanding and that at some point a debt exclusion may be necessary to move forward.

- Scott asks the Councilors present if, when he goes to present, will there be room for others
    - Councilor Clark opines that it is good optics to have committee members present, sitting together at least for visual support.
    - Scott suggests there may be opportunity during the presentation to have committee members talk on certain topics.

Adjournment

Scott Horsley, Chair, entertains a motion to adjourn. Councilor Clark moves to adjourn the meeting. Rob O'Leary seconds. The meeting is adjourned at 8:10 PM.

Respectfully submitted by Christopher Gadd, Communications Assistant, Barnstable Department of Public Works

Addendum 1: Proposed Meeting Topics

Meeting Held/Topic Discussed
Next Meeting/Topic
Future Meeting/Topic

All meetings are subject to change. Official agendas will be posted to the Town of Barnstable's Website in accordance with Open Meeting Laws.

- Meeting #1 (*Held Tuesday, October 22, 2024*)
  - Introductions and overview of Town Council & DPW wishes for the committee.
- Meeting #2 (*Held Monday, November 18, 2024*)
  - Opportunity to ask questions from assigned homework to get up to speed on the current CWMP.
- Meeting #3 (*Held Monday, December 16, 2024*)
  - Presentation on Enhanced Innovative & Alternative Septic Systems.
- Meeting #4 (*Held Tuesday, January 28, 2025*)
  - Presentation on Growth
  - Presentation on Accessory Dwelling Units
- Meeting #5 (*Held Tuesday, March 4, 2025*)
  - Presentation on Additional Alternatives such as dredging and cranberry bog restoration
    - Amber Unruh, Special Projects Manager, Department of Public Works
  - Presentation on overall approach to funding of the CWMP
    - Mark Milne, Director, Finance Division
- Meeting #6 (*Held March 31, 2025)*
  - Discussion with Board of Health/Health Division on relevant policies
    - Tom McKean, Director, Health Division
    - Tom Lee, Chair, Board of Health
- Meeting #7 (*Held April 22, 2025*)
  - Discussion of the view of the CWMP through the lens of the Local Comprehensive Plan (LCP)
    - James Kupfer, Director, Planning Board
- Meeting #8 (*Held May 19, 2025*)
  - Formulation of recommendations to be made to Town Council
- Meeting #9 (*Held on June 16, 2025*)
  - Continuation of Formulation of Recommendations
- Meeting #10 (*Held on July 14, 2025*)
  - Continuation of Formulation of Recommendations
- Meeting #11 (*Held on August 12, 2025*)
  - Continuation of Formulation of Recommendations
- Meeting #12 (*Held on September 15, 2025*)
  - Continuation of Formulation of Recommendations
- Meeting #13 (*Held on October 14, 2025*)
  - Final recommendations, discussions, and any other related topics.
- Meeting #14 (*Held on November 18, 2025*)
  - Hold for final discussions.
- Meeting #15 (*Scheduled for December 16, 2025*)
  - *Final Discussions*
  - *Committee concludes on December 31, 2025*

Addendum 2: Potential Policy Discussion Items

Accessory Dwelling Units (ADU)

- *Information on ADUs was presented by James Kupfer at the 01/28/25 Meeting*.
- ADUs recently became codified under Massachusetts Law
- Specific questions pertaining to ADUs include:
    - Can sewering and I/As incentivize ADUs, and vice versa?

Grinder Pumps

- *A request for this practice to be discussed was made by a resident through the DPW staff*.
- The current practice for grinder pumps is the first pump is purchased by the Town then becomes the responsibility of the property owner.
- Specific questions pertaining to grinder pumps include:
    - Should the existing practice be formulated/continued as is?