

WATER POLLUTION CONTROL AUTHORITY
Town of Trumbull
CONNECTICUT

TOWN HALL

(203) 452-5048



5866 MAIN STREET

TRUMBULL, CT 06611

JANUARY 14, 2026
MINUTES

Call to Order: The Chair called the meeting to order at 6:00 p.m.

Roll Call: The clerk called the roll and recorded it as follows:

Present: Chairman Frank Regnery, Vice-Chairman John Bryk, Secretary Jon Greene, Bruce Elstein

Also Present: WPCA Administrator/Town Engineer William Maurer, Town Attorney James Nugent and Christine Kurtz of Wright Pierce

Approval of November 20, 2025, Meeting Minutes:

Motion made by Greene, seconded by Bryk to amend the November 20, 2025, meeting minutes by adding the phrase “by Bryk” after the word seconded of the 2135-2145 & 2155 Reservoir Avenue Sanitary Sewer Connection Request vote to defer consideration until the next meeting. VOTE: Motion CARRIED unanimously.

Motion made by Elstein, seconded by Bryk to approve the November 20, 2025, as amended. VOTE: Motion CARRIED unanimously.

New Business:

- New Sewer Maintainer Position Update – Bill Maurer explained the new sewer maintainer is posted and will remain so until the end of the month. Hoping for viable candidates
- Trumbull WPCA 2026 Capital Improvement Plan (CIP)-\$2,700,000 Bond Issuance – The clerk shared her screen with the attached 2026 CIP Plan.
Bill Maurer reviewed the 2026 CIP with the Commission:
 - \$2 million is for the Wildwood pump station upgrade, the design was funded in the 2024 CIP. If the CIP bon authorization is approved this will go out to bid and then get the project started this year. This project is somewhat like the scale of the Reservoir Avenue pump station upgrade which cost \$1.7 million Wildwood is a can-style pump station. This estimate is from an Arcadis report. The cost summary is included in the back-up, see attached. Wildwood is near the lake and the commission spoke to the importance of this project.
 - \$500,000 is for the Beardsley pump station garage floor repair.
 - Bill met with a staging company yesterday that would build the platform, to go over all the obstacles. They're putting together a plan and a proposal. If the CIP bon authorization is approved this will go out to bid and then get the project started this year.
 - \$200,000 for the pump station and sewer system evaluation and preliminary design.

This is for on-going designs for the next phase of pump stations. Whitney Avenue is already under preliminary design. The next pump station will be Merritt Blvd.

- It was noted there will be another pump station tour on February 21, 2026, for the new Town Council and BOF members, and the WPCA Commissioners were also invited to attend.
- The CIP funding is based on calendar year, January 1st to December 31st not fiscal year.

Moved by Greene, seconded by Bryk to approve the WPCA 2026 Capital Improvement Plan (CIP)-\$2,700,000 bond issuance which contains the following projects:

1. Pump Station and sewer system evaluation and preliminary design \$200,000
2. Wildwood Pump Station Rehabilitation Upgrade (design funded CIP2024) \$2,000,000
3. Beardsley Pump Station Garage Floor Repair \$500,000

VOTE: Motion CARRIED unanimously.

Old Business:

- 2135-2145 & 2155 Reservoir Avenue Sanitary Sewer Connection Request –

Attorney Jay Klein of Carmody Law representing Vessel Technologies was present. Also present was Luke Mauro, project manager of Solli Engineering, Kyle Stein and associate of Vessel Technologies and Madison Smith an associate with Carmody Law.

Luke Mauro explained the following:

- The project is a proposed 150-unit of multi-family at 2135, 2145 & 2155 Reservoir Avenue and was before this commission in November 2025, where it was deferred to the next meeting.
- There are comments outlined in the attached Wright Pierce memo and there was a peer review meeting held on Monday of this week that offered some suggestions.
- An application was submitted to the town. Guidance was given by one of the town's engineers. Typically, Trumbull looks for a design flow of about 150 gallons per day per bedroom, when estimating an average daily flow for development such as this. At 178 bedrooms, that equals 26,700 gallons per day and were asked to provide a peak flow. (They have done these with other municipalities, and he doesn't recall ever being requested for peak flow). They offered a peak flow of about 1.5 gallons per day. The development to their south had also recommend that as well. When you apply that 1.5 peaking factor to their 26,700 gallons per day is a peak flow of just over 40,000 gallons per day.
- Wright Pierce's memo included the sewer capacity request review comments and indicated the peaking factor that was offered doesn't conform with the typical peaking factor that's applied for the town of Trumbull.
- He shared his screen showing a copy of the intro of the TR16 and explained it's a guide for the design of wastewater treatment by the New England Interstate Water Pollution Control Commission. The reason they think it's not appropriate to apply the 5.6 peaking factor, is because how quickly things can get extremely conservative and sometimes problems can be identified, which may not necessarily be a problem in reality. The document contains information from various sources. Some are from ASCE, some from other design manual, some could be empirical data collected regionally or elsewhere in the country. It's a document that's put together by this New England Interstate Water Pollution Control Commission, which encompasses New England states, and guidance New York. It is meant to be a guide, it's not to be construed as superseding the requirements, regulations, policies and standards of appropriate state water pollution

control agencies. Users of this guide should be aware of all applicable regulations; local and state regulators should always be contracted before starting.

- Commissioner Greene noted the guide points out that if you have a different regulation, the guide does not doesn't override, it does not say it's not an appropriate recommendation.
- Luke. Mauro agreed and highlighted the flow rates, section one, point 2.4 of the TR16 by the New England Interstate Water Pollution Control Commission, clearly indicates flow rates for a particular system, both existing and proposed, should be included in the report. Per capita waste average distribution flows should be calculated using existing state data, information from technical journals and actual water use rates. Based on their understanding, the initial design flows calculated were from a manual and weren't based on empirical data. The peaking factor that's applied to the rate, which is 5.6 is based on data from ASCE and it's noted where existing data are unavailable, peak domestic design flow may be determined by the ratio on the chart. The chart was taken from ASCE Sewer Design and Construction, a manual that was constructed basically in the 1970s and 80s. Inherently, the document is guiding people to information that was collected 40 to 50 years ago and is based on before there was any type of plumbing code enacted to reduce water usage in terms of low flow fixtures. It might be the most recent available information; he would argue that it's out of date.
- The Chair noted plumbing fixtures don't have an impact on peaking factors.
- Luke. Mauro further explained the flow coming out of the pipe is more controlled now and noted he would argue there's less variance in the amount of water that could be coming out of those various fixtures, in terms of toilets and sink fixtures. To that point, the peaking factor selected is the highest peaking factor that's recommended. It's the peaking factor for the highest hour on the highest day of the year, and it's based on the lowest flow rate that's available on this table here which is point 1 million gallons per day, or 100,000 gallons per day. When you take their flows that were provided the 26,000 gallons per day and the 50,000 gallons per day that were taken from the residential development to the south and the other set of flows taken from the 20 residential units across the street and those are all applied with a 5.6 peaking factor per day you can see how very quickly from a model, (it's considered an existing condition), but it's a hypothetical model of flows that are 5.6 times what is expected on average for the various uses flowing into this system in the basis of the conclusion in the report that there's not adequate capacity in the pipe system, but it is based on this multiplication factor 5.6. There were other developments at 2300 Reservoir Avenue and 100 Oakview Drive previously constructed and doesn't believe there was any empirical data collected after those were built. He isn't sure but it doesn't appear that any empirical data from those were ever provided and inputted into this model. When you keep peaking those factors on top of each other that's where, how there's a statement made that there's a capacity issue in the model, but it does note that, based on their average daily flow, there is capacity in the system to handle the flow without any upgrade, and it's only necessary if you were to account for an increase in the flow, which has been compounded time after time, and based on the day evaluated.
- The use of the 1.5 vs. the 5.6 was questioned by the commission.
- Luke Mauro explained based on his recollection of working with regional WPCA's when they recommend the peaking factor, it's for an immediate water flow. They don't typically recommend a peaking factor or are asked for a peaking factor for an average daily sewer flow, the 1.5 recommended, was the same that was recommended by the development to their south for the 48 units to the south. That's where that 1.5 came from.

- Commissioner Greene noted this is a situation where they are potentially close to the edge and thinks they do have to deal with the worst case. That is the goal of using peaking factors. Mr. Mauro added the 5.6 is the peak flow on the peak days, one hour out of the year, it's the maximum day in a year. It may be over capacity based on this factor applied to all these various uses at the same time for one hour out of a whole year. That is his concern. That's how the document reads, it's the peak flow on the peak day of the year and there may be a capacity issue for a very small snippet in time, not on a constant basis. Commissioner Greene explained the idea of using the peak of anything is to say it is the worst-case scenario, you don't get into trouble with averages, you get into trouble in the worst-case scenario. Ms. Kurtz added it is an environmental issue.
- The Chair explained the peaking flow has a lot to do with the rain in the area, from what he researched on ASCE, they said in desert areas it is one to three. In rain areas like the northeast, they say four to six. The 1.5 doesn't seem to be applicable. We do have data from the one pump station where we measure it at both points going into Bridgeport we have significant increases in flow. Mr. Maurer noted with a heavy rain, the flow could go up 30% if not more.
- Christine Kurtz further explained in the past they have seen a peaking factor of 5.5. The document Mr. Mauro showed the commission all wastewater engineers' reference in their design of the treatment plants and sewers. The state of Connecticut approves the documents based on what is presented here. It is very standard. She has never heard of a peaking factor as low as 1.5 and thinks the applicant admitted it seemed low after looking at it. There was a statement by Mr. Mauro that insinuated the peaking factors were stacked on top of each other, that's not true. The peaking factor is applied to a flow. What is getting stacked is the amount of development happening in this area. This area was not designed to handle wastewater flow with high density, so it is not surprising that it's at the maximum in sewer segments in this area and needing to increase it.
- Luke Mauro questioned whether it is known for a fact there is an issue other than through this theoretical model? Their concern this is a significant upgrade that's been recommended or requested, and it is based on a model, not on what might actually be.
- Christine Kurtz added the model is based on experience, and their design experience they have seen in Trumbull, and experience in the industry. It was mentioned at the last meeting the Reservoir Avenue pump station overflowed on several occasions. Was it a design issue? Maybe, maybe not. There's another condition the fats, soil and grease that gets to the bottom of the pipes. Property owners don't always maintain their laterals. Things happen to the sewer system that is unpredictable. There is a reason their sized the way they are. There's a reason to use these documents to size them. We're only looking at the sewer sizing now and could have a whole separate conversation on the flow evaluation, which I think is where this started. If you look in TR16, they also mention 70 gallons per day, per capita. Trumbull has a per capita of three people, three point something people, the 150 is already less than being another approach of being conservative.
- Luke Mauro noted they have data, water usage bills pulled from a similar sized Vessel development. It has 30 units occupied by 34 people in single-bedroom units. They have an occupancy rate of 1.13 people per bedroom. It has been occupied for 8-9 months. Their apartments are 550 s.f. The peak usage for 30 units is 1160 gallons which is 34 gallons per day per person. And if that is applied to the Trumbull project of 170 bedrooms with 202 occupants the average rate is 29 gallons per day which is 5900 gallons per average day compared to the 26,000, they submitted. Utilizing the 70 gallons per day per occupant times 202 occupants in the building, that only comes to a total of 14,121 gallons per day, compared to the 26,000 gallons per day using our estimates. If we utilize Vessel's data, real

data from a similar facility with similar sized it's the same product. The units are the same. The exception being some will be two-bedroom units. It is almost half of what is recommended as 150 gallon per day sewer calculation initially recommended. When you take the 14,120 gallons per day and apply that peaking, now you're only looking at 80,000 total gallons per day, instead of 100,000 gallons per day and the pipe is under capacity, and that's still using the 5.6 peaking factor, and using the water usage data that was provided empirically from Vessel for their similar facility that's implemented. Commissioner Greene noted that is within capacity, not under capacity.

- The Chair noted Vessel's model is based on one person per bedroom and comparing Trumbull to New London is apples to oranges. There is a lot of workforce housing in New London. Trumbull is known for its great school system, people come to the town to utilize the schools. Basing the numbers on one person per bedroom turns the flow to half of the original model. Luke Mauro explained they used the Trumbull's guidance 150 gallons per bedroom. Mr. Maurer confirmed that is the number the Health Department uses for septic systems, Christine Kurtz added that many municipalities use the same number.
- The Chair noted the last approved development in this area brought it to 92% capacity. There is not a lot of capacity left. The age of the pipe needs to be considered as well. (Commissioner Greene left the meeting at 6:41 p.m.)
- Luke Mauro explained it has been stated there is a capacity issue, but that is based on a model and their concern is that has not been verified. There are other potential solutions, besides upsizing the pipes, such as holding tanks. That type of system has not been designed to date for this project.
- Attorney Klein noted what is better than a projection is hard data, which is why it was important to review the hard data with the commission. From his experience as a land use attorney, the types of units, the unit sizes and the site design of the project generally is for single young professionals. The data reviewed gives you a good picture of the flows. The Chair asked if Vessel had any other examples of developments other than New London. Attorney Klein said they can see if there is more data to provide. Luke Mauro explained there are others coming but not enough data on those yet. It is reasonable to assume the project to the south will be built but it may not and that is an additional 50,000 gallons a day that may not happen. When you add the developments with these peaking factors and questioned if there is a capacity issue.
- The Chair explained it was his understanding a peaking factor applies to all the flow, in all the system. It's an environmental impact of heavy rains and peak flows. You are design for the 100-year rain event, but you may not ever get it. Christine Kurtz agreed and added flow that comes in on an average basis at a peak event happens during that time. As an example, Trumbull's pump station went from two to 11 MGE a handful of years back. It does happen. A lot of it is inflow and infiltration. It's not always related to the people using the system. We're talking about a sewer pipe design. With regards to previously approved projects not yet built, if somebody has an approval to take capacity in that pipe you have to assume it's going to get built. That is how towns run their business. It must pass the straight face test, and the board has to decide if they want to do that, because then they're doing that with every other person in every other type. I mean, there is a standard of practice used when designing sewers. We would not design a sewer to be 100% full if we were putting a new pipe in. Right now, we go to 30 or 50%, so already we're being less conservative than we normally would be by allowing the pipe to be full. Luke Mauro asked if the board would consider a holding tank if there is an identified capacity issue.

- Attorney Klein noted it is important to reiterate the important value of the facts. This is one part of the equation. Certainly I&I is a very important point. Obviously, any fees that would be paid because of connecting to this project if approved, would help with I&I abatement. Let's gather the facts, because ultimately what you all deserve is a decision based on the facts and that's what the law requires. Decisions based on the facts are conducting flow meter tests of what's going on in the pipe as we speak, so that we can get further comfort about what the current state of the system in this neighborhood. I think that's something that would be very helpful in reaching an ultimate determination of. Are the projections and assumptions accurate, or how close are they to what's going on in the pipe today? And that's something that Vessel has agreed to do and can get started on. That's something that we can get started on tomorrow, in terms of getting to work on getting that information, getting it to you, so that all of you have the benefit of the complete set of facts as it relates to this application. (Commissioner Greene returned to the meeting at 6:50 p.m.)
- Christine Kurtz explained that will give some information about the existing conditions. It would need to be for a substantial duration during rain events to understand how the piping system is working in this particular area. What you won't know at that time is who is using it and when. The other side of the equation, which is design flows for any of the connections that are approved to date, adding that to whatever metering data collected. We typically meter for at least three months. They are suggesting metering existing flow now to see that the pipe might have 30% capacity, even though the model shows it with this amount of flow in the pipe, it should have 40% capacity or is using 30% versus 40. The Chair added we are still in a drought.
- Commissioner Greene noted they have established a standard and have been using and is a reticent to change them unless there is a reason to think New England has changed and 5.6 is no longer the right number to use. It was confirmed these are the numbers that have been applied to all the other people that have built in this area.
- Christine Kurtz explained there are different standards. There's the 70 gallons per capita per day. Trumbull has three. There's the Department of Health number. Trumbull is using a standard. I've worked in other communities where they use a standard. And sometimes they'll get down a little bit to a nitty gritty and say in a two-bedroom apartment, you can have four people, let's use the 70 for that number. In a one-bedroom apartment, you could have two people, let's use the 70. And in that case, you're only using 140 instead of 150. Do those nuances make enough of a change where you're talking that flow right in underneath the capacity of the pipe? It means deviating from your standard. And the person before this project, what are they going to think? They got an approval the person that had to put the pipe in the ground a couple years ago. What will they think?
- Attorney Nugent explained procedure as follows. If the applicant kind of has the floor, if they have more information they want to present, we should let them do that if they're if you think you're at the end or near the end, we can wrap that up. If the town wants to present any more evidence for the record, it can in response. It's the applicant's application and they have the option of concluding and saying, this is all, we must take a vote, and the Commission can vote yes or no, or the applicant can agree that we can continue the hearing. There is a statutory deadline. I need their consent on the record to continue it to a later date, and they can submit more data and information to the Commission for consideration and potential vote next month. Attorney Klein noted they want you guys to have all the facts, it sounds like we can get you some more facts in the intervening week.
- Luke Mauro noted they most recently did a project at 6600 Main Street, and they looked through meeting minutes and didn't notice any peaking factor that was applied or even

discussed as part of the review. Maybe behind the scenes it was. They are also going through 1Trefoil with a supermarket development with an existing connection point, and didn't have to come before WPCA but this is the first time in our few applications we've done over a couple years where the peaking factor has come up. The commission noted there are different capacity issues to work with in different areas of town. The Chair noted the previous 48-unit apartment complex, which is close to this development did have a peaking factor consideration that was 5.6.

- Christine Kurtz explained at the Beardsley pump station in 2012 or maybe 2014, it was a rainy year. The average daily flow was 2 million gallons per day they saw peaks of 11 million gallons per day. The sewer manhole overflowed upstream of the station, so the Reservoir pump station had a similar condition in the past. That's why the upgrades have happened. But it's just evidence of the fact that, depending on the other event and the diurnal flow, the diurnal flow is 6am and 6pm that's when everybody is flushing at the same time is what the system must be designed for. Sometimes we get into this mentality of, well, it's never going to happen, or it might only happen once, but that's all it needs is to happen once for a violation. And then state of Connecticut is involved.
- Attorney Klein explained having the data that Luke Maura shared earlier, where, using those real-life numbers even if we assume the peaking factor, he thinks they can get some more comfort to you folks on what is proposed. Attorney Klein stated they are happy to agree to a continuation of this proceeding to the next meeting, that gives them time. The next meeting is scheduled for February 25, 2026.
- Attorney Nugent suggested if the Vessel team wants to present alternate options that Luke Mauro mentioned, it would be appropriate to get that kind of data to the Commission as soon as you can, so it can be reviewed, perhaps by Christine and Bill and so we have a good understanding of how that would work. Christine Kurtz suggested another meeting with the professionals and noted that would be helpful. Attorney Klein agreed.
- Attorney Klein asked if there are any other questions or comments that are off the top of your mind tonight, so that we can take them down and add that to their to do list. You know, starting first thing tomorrow morning, please let them know. They'll take good notes, and we'll come with answers to those questions. The Chair requested information on other developments if Vessel has them, New London is small, maybe even something in Westchester would be helpful.
- Attorney Klein requested a continuance of this discussion.

Moved by Greene, seconded by Elstein to CONTINUE to the next meeting scheduled on February 25, 2026. VOTE: Motion CARRIED unanimously.

Adjournment: There being no further business to discuss, and upon motion by Elstein, seconded by Bryk the Trumbull Water Pollution Control Authority adjourned at 7:14 p.m. by unanimous consent.

Respectfully Submitted,

Margaret D. Mastroni
Margaret D. Mastroni, Clerk

CATEGORY	LOCATION	DESCRIPTION	Potential CY2026 Funding Source	CY 2026 5YR Capital Plan	CY 2026 1yr. Funding Request	CY2026 Funding Sources			CY 2026 BONDING REQUEST	BOF APPROVED
						LOC/P/TAR	GRANT	OTHER	BOND	
WPCA	Townwide	Pump Station and sewer system evaluation and preliminary design	Bond	400,000	200,000				200,000	200,000
WPCA	Wildwood Pump Station	Wildwood Pump Station Rehabilitation Upgrade <i>(design funded CIP 2024)</i>	Bond	2,000,000	2,000,000				2,000,000	2,000,000
WPCA	Various	Force Main evaluations for pump stations	Bond	250,000	-				-	-
WPCA	Various	I/V evaluations, design and repairs for various pump stations	Bond	250,000	-				-	-
WPCA	Various	Gravity main and system pipe lining	Bond	250,000	-				-	-
WPCA	Hawley Ln. Pump Station	Hawley Ln. Pump Station upgrade <i>Phase I Design - funded CIP 2025</i> <i>Phase II Construction</i>	Bond	990,000	-				-	-
WPCA	Beardsley Pump Station	Beardsley Pump Station Garage Floor Repair	Bond	500,000	500,000				500,000	500,000
		Total WPCA		4,640,000	2,700,000				-	2,700,000

Memo

SUBJECT
Wildwood Pump Station
 Confirmation of Existing Conditions and Alternatives Review

TO
 Town of Trumbull WPCA
 William Maurer, PE – Town Engineer

DATE
 September 19, 2025

OUR REF
 30115445

The purpose of this memorandum is to document the analyses performed to evaluate three alternatives to rehabilitate the Wildwood Pump Station located in Trumbull, Connecticut.

Existing Conditions

The Wildwood Pump Station is a wet pit/dry pit, can-style pump station utilizing two constant speed centrifugal pumps in a lead/lag configuration. According to pump nameplates, the existing pumps are designed for 420 gallons per minute (GPM) at 66 feet of total dynamic head (TDH).

To confirm the existing design capacity of each pump, Arcadis performed drawdown testing at the Wildwood Pump Station on May 14, 2025. The drawdown testing involved (1) recording the observed time to fill the wet well and pump run time to confirm the flow rate of the pumps and (2) reviewing as-built drawings to determine wet well capacity and dimensions. The drawdown testing confirmed that Pump 1 has an average flow of 519 gpm and Pump 2 has an average flow of 735 gpm. Arcadis used the observed flow rates from the drawdown testing in further analyses to determine recommendations for the pump station rehabilitation.

Feasibility Review

Three alternatives were considered for rehabilitation of the Pump Station:

1. **Option 1:** Install new submersible pumps in the existing wet well.
2. **Option 2:** Install a new pre-cast submersible pump station with integral vault structure to replace the existing dry well.
3. **Option 3:** Replace the pumps in-kind within the existing dry well and relocate electrical and controls at grade.

Following discussions with the Town, Option 3 was removed from consideration due to the challenges associated with maintaining pumps in the existing configuration.

For both Options 1 and 2, electrical and control systems will be located above grade in weatherproof enclosures beneath a canopy, and the generator will be replaced. Both options will also include new isolation and check valves on each pump, a bypass connection, and a flow meter. The recommended pump for both options is the Flygt NP 3153 HT (duplex configuration: 1 duty, 1 standby), sized for 750 GPM to maintain a minimum force main velocity of 3 feet per second in accordance with TR-16 guidance. At this flow rate, the anticipated TDH required by the pump is approximately 67 feet, based on an analysis of the existing record drawings and the results of the drawdown testing discussed above.

Option 1: New Submersible Pumps in Existing Wet Well

This alternative involves reconfiguring the existing wet well to accommodate new submersible pumps, along with installation of new piping, valves, and appurtenances to connect to the existing force main. Review of as-built drawings indicates sufficient space for two new submersible centrifugal pumps within the wet well, but insufficient space for the required isolation and check valves. Consequently, a separate concrete valve vault (approximately 10' x 12' x 11' deep) would be constructed to house these components. Locating valves in a separate structure is also advantageous due to the corrosive atmosphere in the wet well.

Construction would require demolition of the entrance to the existing dry pit and filling in the structure to support the new valve vault. Additional modifications to the wet well would include:

- Creating new openings in the top and intermediate slabs for pump maintenance access.
- Installing a baffle wall to improve hydraulic conditions and reduce air entrainment.
- Partially filling the wet well to improve flow toward the pumps and minimize dead spots.
- Creating wall penetrations for piping from each pump to the valve vault.

Benefits:

- Requires less demolition of the dry pit and reuses existing structures.
- Expected to be less costly than constructing a new wet well.

Disadvantages:

- Risks associated with modifying and reusing the existing wet well, including construction challenges and potential for differential settlement between the wet well and new valve vault.

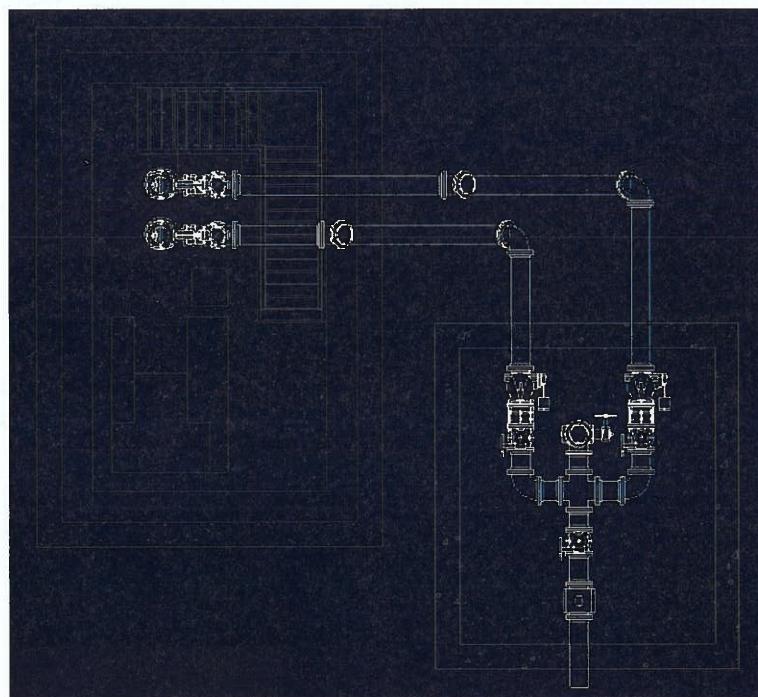


Figure 1. Option 1 plan view.

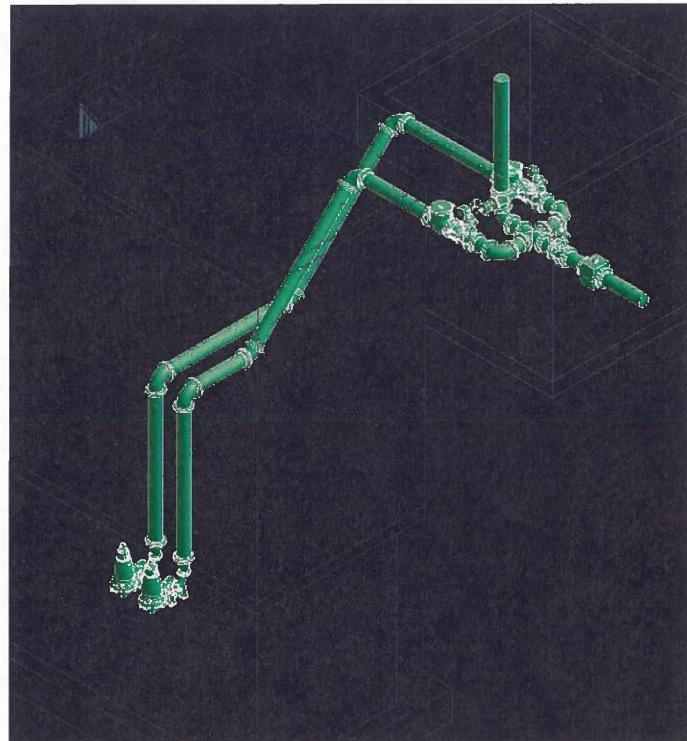


Figure 2. Option 1 isometric view.

Option 2: New Submersible Station with Integral Valve Vault

This alternative involves demolishing the existing dry pit and installing a new pre-cast concrete combination wet well and valve vault structure. The existing wet well would be modified to direct flow to the new structure. This approach is consistent with upgrades completed at the Reservoir Avenue and Old Town Road Pump Stations in 2025.



Figure 3. Option 2 isometric view.

Benefits:

- Provides a new, integrated wet well and valve vault, minimizing settlement risks.
- Aligns with recent pump station upgrades, facilitating consistent operations and maintenance.
- Offers operational flexibility and potential for additional storage; the existing wet well could be bypassed in the future if needed.

Disadvantages:

- Requires additional demolition of the existing dry pit.
- Higher construction costs compared to Option 1.

Cost Summary

For cost comparison, it was assumed that operating and maintenance costs for Options 1 and 2 would be similar.

The major differences between these two options are summarized below:

Option 1:

1. Construction of concrete valve vault structure.
2. Partial demolition of dry-pit and installation of fill where dry-pit does not need to be demolished.
3. Additional piping and fittings associated with connecting pumps to the separate valve vault
4. Modifications to the existing wet well for submersible pump installation, including new openings, fill, and baffle wall(s).

Option 2:

1. Demolition of existing dry-pit
2. Installation of new wet well structure with integral valve vault
3. Modifications to existing wet well to direct flow to new wet well.

The primary cost differences are summarized below:

Option	Estimated Cost of Option Specific Scope Items
Option 1: Install Submersible Pumps in Existing Wet Well	\$323,000
Option 2: New Submersible Pump Station	\$433,000
Cost Difference (Option 2 - Option 1):	\$110,000

Estimated total project cost: Approximately \$2 million, based on recent bid results for similar projects.

Recommendation

While Option 1 presents a modest cost savings (~5% of anticipated total project cost), Option 2 is recommended. Option 2 aligns with the design of recently upgraded pump stations, reduces long-term risks, and provides greater operational consistency.

Date: **12/18/2025**Project No.: **20718B**To: **William Maurer**From: **Christine Kurtz and Joe Hausmann**Subject: **Sewer Capacity Request Review Comments – 2135, 2145 & 2155 Reservoir Ave**

The following information has been reviewed with regard to a sewer connection related to the proposed development at 2135, 2145 & 2155 Reservoir Avenue:

- A single drawing entitled "Proposed Redevelopment 2135, 2145 & 2155" designed by Solli Engineering, dated 11/07/2025
- A 160 page Engineering Report for the property also by Solli Engineering, dated 11/07/2025 – excluding Appendix D containing additional design plans
- Emails between Solli Engineering and Trumbull WPCA with additional information on unit counts and sewer flows.

The developer proposes two separate buildings that will have a total of 150 dwelling units; this is a mix of studio, one- and two-bedroom units. Existing sewer flows and reserved capacity values from a previous (fall 2025) sewer capacity request was the basis for this review to determine the impact of wastewater from the 2135, 2145, 2155 Reservoir Avenue development to the downstream system.

We provide the following comments on the sewer flow estimate provided by the applicant:

- The reviewed plans show the proposed installation of approximately 160 LF of 8" sewer from the road to an first manhole on site, and an additional 525 LF of 6" sewers from the first manhole (labeled as MH-6) on the site to the furthest manhole on the site (labeled as MH-1).
- An email from the Engineer provided to us by the WPCA presented an average daily flow (based on estimated number of residents) as well as a peak hourly flow based on the average daily flow and a peaking factor of 1.5.
 - They requested an average daily flow of 26,700 gpd, and a peak flow of 40,050 gpd.
 - Other than the breakup of units by types (1 bedroom, 2 bedroom, and 2 bedroom with additional den) there was no backup provided on how the flows were estimated.
 - It appears they utilized 150 gpd/bedroom in accordance with the CT public health design codes; this is acceptable for wastewater flows. However, there was no I/I allowance assumed for this proposed pipe within the estimated flow calculations.
 - For the purposes of our review, we have included an infiltration allowance of 500 gpd/in-mile for the assumed 6" and 8" pipe between the proposed saddle connection in the road and proposed MH-1 on the site. This adds an additional 420 gpd to the average daily flow. But this flow is not peaked for the purposes of peak flow analysis.
 - The peaking factor for peak flows does not meet the requirement for how peak flow is calculated in Trumbull, following state standards. The applicant references a calculation / approach taken by a similar proposed development in this same area; note the WPCA rejected that calculation.

- The proposed flows anticipated from this development along with the estimated flows along this section of Reservoir Avenue, per the guidance in TR-16, we recommend using a peaking factor of 5.6 be applied to average day flow to estimate the peak flow during a maximum day. This is the flow used to model peak flow scenarios to ensure no adverse effects.
- Based on the above recommendations, for the purposes of our capacity analysis, we utilized the following flows:
 - Average Daily flow of 27,120 gpd. (26,700 gpd as requested plus 420 gpd as an infiltration allowance)
 - Peak flow of 149,940 gpd as a rate (26,700 avg gpd times 5.6 the peaking factor, plus 420 gpd for Infiltration).

We provide the following comments as a summary of evaluations done for this portion of the sewer system, including our updates to the sewer capacity model downstream of the proposed development:

- We utilized the sewer capacity analysis from previous developments along Reservoir Avenue as the base information for this analysis.
 - This included reviews of developments at 2300 Reservoir Avenue and 100 Oakview Drive (off of Lindeman Drive) in previous years, as well as the recent proposal of a development at 2105 Reservoir in October of 2025. These reviews included the existing buildup of the entirety of the connected properties at that time.
- Several years ago, the analysis of the sewer capacity associated with the proposed development at 2300 Reservoir Avenue identified a segment of pipe that was undersized.
 - This pipe was replaced with an increased size as part of the development of 2300 Reservoir Avenue and the upgrade and renovations to Reservoir Avenue Pumping Station (which was adjacent to the pipes identified as being under capacity).
- In addition, since the review of 2300 Reservoir Avenue, 20 residential lots along Eddie Road, Rocky Hill Terrace and Garland Circle were identified for connection to the sewer system in this area (Contract 5). The sewer capacity request for this area has been accepted by the WPCA, therefore the estimated flows from these properties have been reserved in the existing conditions model, and have been calculated as follows:
 - 20 lots, assuming an average of 2.8 residents per lot and 70 gpd/person = 3,920 gpd
 - 1,550 LF of additional 8" sewer, assuming a 500 gpd/in-mile infiltration allowance = approx. 1,200 gpd
 - Average Daily flow = 5,120 gpd for the average daily flow
 - Peak flow = $(3,920 * 5.6) + 1,200 = 23,152$ gpd as a peak flow

This flow is assumed to connect to the system through the 2300 Reservoir Development sewers, per the design agreement at that time, near Manhole 10B-75.

- The Development at 2105 Reservoir was reviewed with a proposed sewer flow of 9,490 gpd average daily flow and 51,994 gpd at peak flow. Those flows are assumed to be 'existing flows' for the purposes of the capacity review of this development.

We provide the following summary of our review of the available sewer capacity model downstream of the proposed development requesting connection to the system (2135, 2145 and 2155 Res Ave):

- The sewers along Reservoir Avenue have sufficient capacity for the average daily flow, including this proposed development.

- The recent upgrade to Reservoir Avenue Pump Station provides adequate capacity for the average daily flows, through the station and its force main.
- The increased flow will mean that the pump station operates more frequently. Thus piping downstream of the Reservoir Avenue pump station force main is unlikely to be affected.
- The pipe segments along Reservoir Avenue with limited capacity are between SMH 10B-74 and 10B-76. These segments are 8" ACP sewers, with a slope of approximately 0.013 ft/ft, with a full pipe capacity of approximately 0.77 MGD.
 - According to our capacity model, the existing flows including the proposed development at 2105 & 2125 Reservoir Avenue (as well as the Contract 5 service area along Eddie Road, Rocky Hill Terrace and Garland Circle), this segment would be required to convey a peak flow of 0.66 MGD, which places it at 85% full capacity at the peak flow conditions.
 - With the addition of the peak flow rates from the proposed development from 2135, 2145 & 2155 Reservoir, these pipes would be required to convey a peak flow rate of approximately 0.81 MGD, more than their 0.77 MGD full pipe capacity.
 - This equates to the segments being approximately 104.5% full or approximately 34,000 gpd over capacity.

A portion of the existing sewer system that would be used to convey wastewater from the proposed development does not have the capacity to convey the calculated peak flow. It is recommended to increase the pipes from MHs 10B-74 to 10B-76 to 10" PVC to provide the required capacity. This would leave one section of 8-inch pipe between two 10-inch pipes which is not standard sewer design practice. It is recommended to remove the 8-inch ACP from MH 10B-72A to MH 10B-74 and replace it with 10" PVC. The replacement of these 4 pipe segments consists of approximately 730 LF of sewer piping. This replacement would increase the capacity of the limiting pipe segments from 0.77 MGD to around 1.9 MGD.