

Date: **11/25/2024**

Project No.: **13848C**

To: **Ronald McDaniel, WPCA Administrator**
Derek Albertson, WPCA Superintendent

From: **Mariusz Jedrychowski, PE**
Barry Parfitt, PE
Tim Henry

Subject: **Water and Sewer Utility Plans Review for 1758-1790 Route 32**

The Montville WPCA has requested that Wright-Pierce assist in the review of the water and sewer utility components of a proposed development. We received the following documents for “Shantok Village” development at 1758 Route 32 in Montville prepared by Loureiro Engineering Associates, Inc. for 1758 RTE 32, LLC:

- Utility Plan (C-7) dated 10/29/2024
- Utility Details (C-14) dated 10/29/2024

We reviewed the plans and discussed our initial comments with Montville WPCA staff via phone call on August 12th, 2024. This memorandum is a summary of our updated review and comments.

Water System Comments

The proposed water connection includes a connection to the exiting water main on Route 32 with a tapping sleeve, gate valve and valve box. There are two proposed service connections to each of the six buildings on site. The proposed water main loops around the proposed development with five fire hydrants located around the proposed buildings. Based on our review we have the following comments:

1. The hydraulic grade line for the water service zone is approximately elevation 430 to 450 (NGVD). Based on a preliminary review of the building elevations, it does not appear that adequate water pressure will be provided to the highest building elevation. Therefore, propose a means of boosting the water pressure for the development of that will meet the State’s minimum pressure and fire flow requirements.
2. Provide a range for the water demand (standard and fire flow conditions) of Shantok Village.
3. The Water Line Trench detail indicates 3-ft depth. The water pipe depth is to be 4-ft minimum below ground level.
4. Note location of water meter(s). Will these be located at each building or one for the whole complex?
5. Confirm the proposed fire hydrant locations with the Town of Montville Fire Marshall.
6. Plans should label water main pipe size and material throughout the development.
7. The valves on the service lines should be located close to the water main loop as opposed to buildings to facilitate isolation in the event of a service line break.
8. Maintain required separation distances per Utility Note 4C. Confirm and verify that the proposed water meets the required State of Connecticut Department of Health vertical and horizontal separation distances from the proposed sewer and storm lines.

9. Backflow preventers must be installed on each service line per Utility Note 4A. Will these be located inside buildings?

Sanitary Sewer Comments

The proposed sewer connection includes an 8-inch PVC at a 7.4% slope from the connecting sanitary sewer manhole located at the intersection of the proposed access road and Route 32. It is assumed that the sewers located on the developed parcel will be privately owned and maintained.

1. Provide a range of anticipated average and peak sanitary sewer flows for the development.
2. Flows discharged to the sewer from this development will flow through a series of isolated pipes further down Route 32 identified in the 2011 wastewater facility plan and I/I study as potentially having capacity limitations during high-flow / storm events. Depending on the estimated peak flows proposed to be discharged from the site, these pipes may need to be reviewed and considered for replacement to provide adequate capacity during peak flow events.
3. Confirm adequate separation distance according to CT Public Health Code at the intersection with the storm drain and water main.
4. MH 9, although a drop manhole is shown to be approximately 31' deep (rim to invert) in an area behind a building that will be inaccessible for future maintenance. Please consider alternatives that would allow for improved maintenance access.
5. There are significant drop piping connections within multiple manholes on the plan. Provide a detail for this type of manhole connection. Larger diameter manholes may be required for manholes containing drop pipes to allow for maintenance access.
6. The sewer piping leaving the building locations and heading downhill towards the sewer main connections will have significant slopes. Designer to confirm that adequate measures have been provided for high velocity protection in accordance with TR-16 *Guides for the Design of Wastewater Treatment Works*.
7. Design should consider inclusion of impervious dam materials in the sewer bedding for steep pipe segments to avoid groundwater collection and downstream groundwater issues.
8. Provide adequate sewer pipe cover or other protection for shallow pipes. There are instances of sewer piping having less than preferred minimum covers (such as the inlet to MH 19 with a frame elevation of 319.43, but an 8" pipe invert of 316.5, leaving approximately 2' of cover over the pipe). Typically, a minimum cover of 3.5' to 4' is maintained over sewer pipes where possible.