

Scott Horsley
Water Resources Consultant
65 Little River Road • Cotuit, MA 02635 • 508-364-7818

MEMORANDUM

TO: Truro Selectboard
FROM: Scott Horsley, Water Resources Consultant
RE: Walsh Property – Drinking Water Protection
DATE: September 15, 2022

I have reviewed the recent reports prepared by Tighe & Bond dated January 7, 2022 and Sole Source Consulting dated August 24, 2022 relative to the Walsh property. I understand that the town has an interest in the possible development of the Walsh property and that it is within the Zone 2 Wellhead Protection Area to North Union Field (NUF) public water supply wells.

I believe that it is possible to provide for both uses of the property with careful planning and design. The long-term protection of public drinking water supplies requires stringent land use controls and appropriate wastewater treatment technology.

Required land use controls within drinking water supply areas include the preservation of a 400-foot radius around each public water supply well to be sited on the property. These areas are referred to as Zone 1 protection areas and measure approximately 11.5 acres. No development is allowed in Zone 1 areas.

A second level of protection is also required for those land areas which contribute groundwater recharge that flows to the wells under pumping conditions. These areas are referred to as Zone 2 areas. Development within Zone 2 areas must be limited to safe levels that will not threaten water quality.

A conservative approach to site planning for the Walsh property would include the development of a cluster/neighborhood wastewater treatment facility that would result in a net water quality improvement compared to existing conditions. This could be accomplished by collecting some of the existing untreated wastewater sources within the Zone 2 area and including it within a cluster/neighborhood wastewater treatment facility.

The Truro Central School is a potential site for a cluster/neighborhood wastewater treatment facility. It has an existing Title 5 wastewater system with a design flow of 3500 gallons/day that could be upgraded and expanded to process wastewater from potential development on the Walsh property, the school, and additional single-family homes in the adjacent neighborhood as desired. This could result in a net reduction of nitrogen loading within the Zone 2 area.

I have prepared a nitrogen loading model that can be used to evaluate various development scenarios for the Walsh property and to determine the required offsets associated with the collective treatment of existing untreated wastewater within the Zone 2 area to result in a net water quality benefit and enhanced protection for the public water supply.