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February 10, 2025

Gary Barsky
Barsky Real Estate Trust
23 Hunting Lane
Sherborn, MA 01770

Subject: Review of Septic Plans for 41 North Main Street, Sherborn, MA – Pine Residence

Dear Mr. Barsky:

In response to your request, we have reviewed the proposed plans for 41 North Main Street and existing plans of record for the adjacent property (33 North Main Street) and were asked to provide comment on the specialty zoning for nitrogen and the Interim Wellhead Protection Area (IWPA) of the well at 33 North Main Street.

Background

The well at 33 North Main Street was installed in 1985 by F + R Scales of Oakdale, MA. The Water Well Completion Report is included as Figure 1. The well was installed in bedrock (not a shallow aquifer well) at a depth of 272 feet. It was air tested to a flow rate of 30 gallons per minute when installed. It was noted that water was 10 feet below the surface, and it was 20 feet from the surface to bedrock. The well was installed as a domestic well for the property (not a public well). At some time after the well was converted for use at the tavern.

Unlike a shallow gravel well, a bedrock well gets water through the cracks and fissures with the rock. That water can derive from many miles away. Bedrock wells are preferred when a septic system is located in close proximity.

Currently the well at 33 North Main Street has a daily use of about 3.5 gallons per minute or 5,225 gallons per day. This is based on the Title V septic design for 33 North Main Street by CIVILized Solutions of Holliston dated June, 13, 2003 With a soil percolation rate of 2 minutes per inch.

The well at 33 North main Street is not required to have a Water Management Act (WMA) permit as it uses less than 100,000 gallons per day which is the threshold by which the Massachusetts Department of Environmental Protection (MA DEP) requires such permit. If a WMA permit were filed for, DEP would require a calculated Zone II included with the permit submission, as the use is minimal, the owner of the well has not defined the actual Zone II.

Currently there is only an Interim Wellhead Protection Area which is a temporary placeholder until a Zone II delineation is completed.

Zone II is defined as the area tributary to a well without recharge (precipitation as an example) for 180 days. A Zone II delineation would replace the IWPA which has been interim since 1985.

Rock Well #5

Department of Environmental Management / Division of Water Resources
WATER WELL COMPLETION REPORT

WELL LOCATION Address <u>33 NO. MAIN ST.</u> City/Town <u>SHERBORN</u> G.S. Quadrangle Map _____ Grid Location _____ Owner <u>DR. DAVID SORTOR</u> Address <u>33 OLD ORCHARD RD. SHERBORN</u>																																			
WELL USE Domestic <input checked="" type="checkbox"/> Public <input type="checkbox"/> Industrial <input type="checkbox"/> Other _____ Method Drilled <u>ROTARY</u> Date Drilled <u>12.25.85</u>	CONSOLIDATED WELL Type of Water-bearing Rock _____ Water-bearing Zones 1) From <u>252'</u> To <u>272'</u> 2) From _____ To _____ 3) From _____ To _____ 4) From _____ To _____ Depth to Bedrock <u>20'</u>																																		
CASING Length <u>40'</u> Diameter <u>8"</u> Type <u>BLK STL PIPE</u>	UNCONSOLIDATED WELL Water-bearing Materials Sand: fine <input type="checkbox"/> medium <input type="checkbox"/> coarse <input type="checkbox"/> Gravel: fine <input type="checkbox"/> medium <input type="checkbox"/> coarse <input type="checkbox"/> Screen: Slot # _____ length _____ from _____ to _____ Split Screen (for 2nd screen) Slot # _____ length _____ from _____ to _____ Depth To Bedrock _____																																		
STATIC WATER LEVEL Feet below land surface <u>10'</u> Date measured <u>12.26.85</u>	GRAVEL PACK WELL Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																																		
WATER QUALITY TESTS MADE Chemical <input type="checkbox"/> Biological <input type="checkbox"/>																																			
PUMP TEST Drawdown _____ feet after pumping _____ days _____ hours at <u>30</u> GPM. How measured <u>AIR TEST</u> Recovery _____ feet after _____ hours.																																			
LOG of FORMATIONS <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Materials</th> <th style="width: 30%;">From</th> <th style="width: 30%;">To</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Materials	From	To																															COMMENTS: (On well or water) _____ _____ _____ DRILLER Firm <u>FYR SCALES INC.</u> Address <u>Box 18</u> City <u>DAKDALE</u> Registration No <u>278</u> <div style="text-align: right;"> <i>Robert J. Scales</i> <small>Operator's Signature</small> </div>	
Materials	From	To																																	

Figure 1 – Water Well Completion Report.

The septic system for 33 North Main Street is located about 170 to the north of the well along the property line of 41 North Main Street. The proposed septic system for 41 North Main Street is located at minimum of 260 feet from the well at 33 North Main Street.

Water used at the Tavern is returned to the shallow aquifer recharging the water table through the septic system. When septage is delivered to the septic system localized mounding of the water table in the area of the septic system occurs. Water mounding creates a hydraulic dam or virtual water wall in the area of the 33 North Main Street septic system which is along the property line with 41 North Main Street.

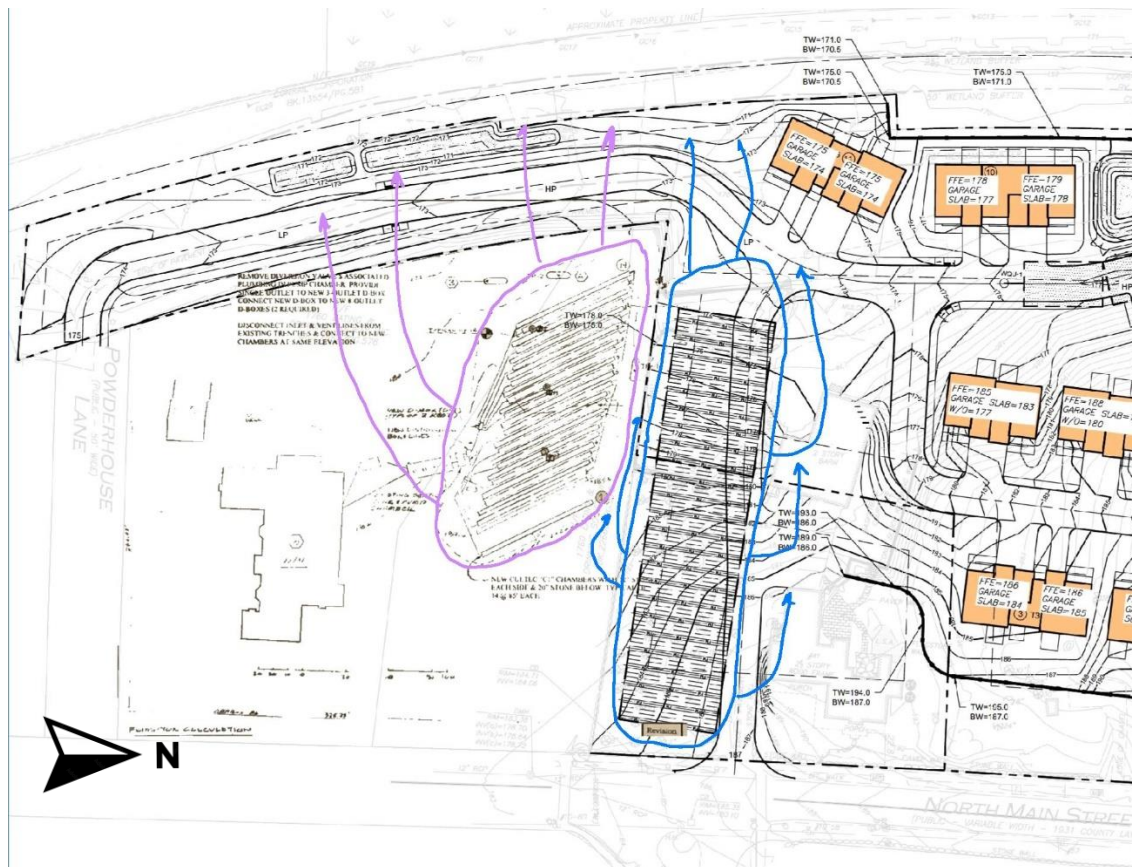


Figure 2 – Hydraulic Flow from Proposed Septic and Existing Septic.

A review of the test holes conducted during the design of the septic for 33 North Main Street, it is determined that water flows east to west across both properties from North Main Street towards the railroad tracks at a slope of 0.009 feet vertical per foot horizontal. Test pit data and locations are shown on Figures 3a and 3b.

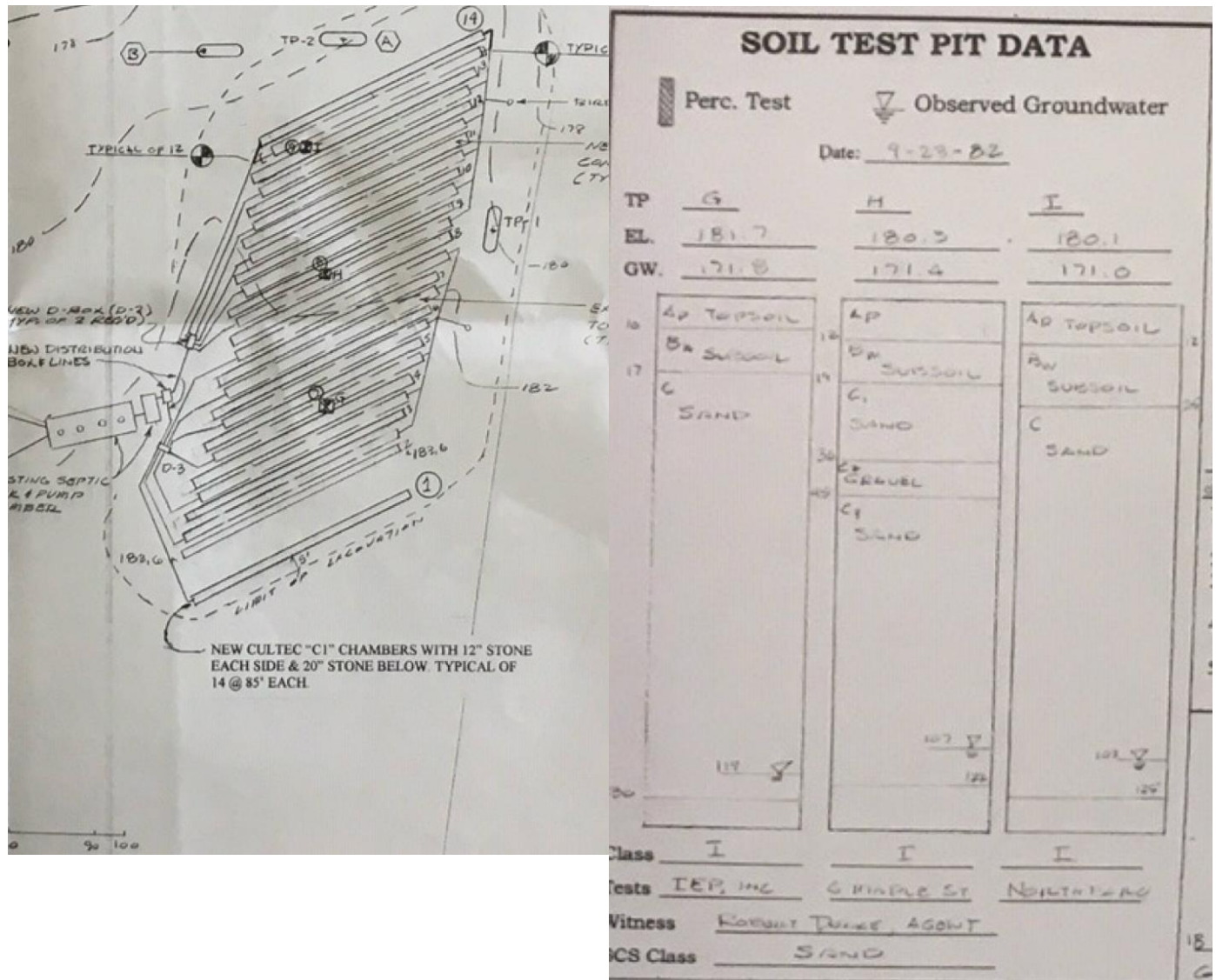


Figure 3a and 3b – Soil Test Pit Locations and Data

The Town of Sherborn has restricted the use of the property at 41 North Main Street based on the IWPA and their local bylaw. They are restricting the septic design for 41 North Main Street along the shared property line with 33 North Main Street due to an assumption of nitrogen loading. As shown, most if not all of the water discharged in the proposed septic at 41 North Main Street will flow towards the railroad track.



Summary

MassDEP has confirmed no Zone II exists for Well ID: 3269024-01G. The Zone I as defined under 310 CMR 22.21(1)(b) is 198 feet. The assumption of nitrogen loading as a basis for restricting septic design at 41 North Main Street lacks scientific justification as groundwater data indicate that discharge from the proposed septic system will flow west towards the railroad tracks. There is no site-specific hydrogeologic evidence proving that flow from the proposed septic system will flow into the well at 33 North Main Street.

It has been 39 years since the well was installed and neither the town nor owner have completed or been required to complete Zone II analysis on the well at 33 North Main Street. There are no other scientific facts to restrict use beyond Zone I. We respectfully request that the town reconsider its position based on these facts.

Sincerely,

A handwritten signature in black ink, appearing to read "Brian P. Giovanoni", written over a vertical line.

Brian P. Giovanoni