

**TOWN OF WILTON**  
**CONSERVATION SUBDIVISION ORDINANCE**  
**HYDROGEOLOGICAL STUDY REQUIREMENTS**

**Prepared for:**  
**Town of Wilton**  
**22 Traver Road**  
**Gansevoort, New York 12831**

**Prepared By:**  
**Kirby Van Vleet**  
**Senior Hydrogeologist**  
**Hanson Van Vleet, LLC**  
**902 Route 146**  
**Clifton Park, New York**

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## **1.0 INTRODUCTION**

The Town of Wilton adopted the Conservation Subdivision Design (CSD) Ordinance on October 6, 2005, which was added to Chapter 109, Subdivision Regulations, Article III Review Procedure, Section 109.21-24. The ordinance requires all subdivisions involving ten (10) or more lots, which include any lots with on-site water wells, to perform a hydrogeological study and associated testing to confirm the availability of reliable on-site water. The study must be performed by a hydrogeological consultant approved by the Town of Wilton. This document provides an outline of the requirements of the hydrogeological study.

## **2.0 HYDROGEOLOGICAL STUDY REQUIREMENTS**

### **2.1 Well Requirements**

- Three (3) drilled wells should be installed for the first ten (10) to fifteen (15) lots and one (1) additional well for each additional one (1) to five (5) lots. As an example, three (3) wells would be required for a 10 to 15 lot subdivision, four (4) wells would be required for a 16 to 20 lot subdivision and five (5) wells would be required for a 21 to 25 lot subdivision, etc.
- Note that well points are not acceptable.
- Two of every three wells must be installed on adjacent lots of the proposed subdivision in order to evaluate potential adverse impacts to adjacent wells.
- All wells must be installed by a New York State licensed water well contractor.
- The location and construction of the wells must meet all New York State Department of Health and Saratoga County set back and construction requirements (i.e. 100-feet from proposed septic system components, 20-foot minimum casing length, sanitary grout seal, etc.).
- A well log must be submitted for each well drilled, along with a copy of the New York State Department of Environmental Conservation Well Completion Report.

### **2.2 Well Testing**

- Each well will be tested to confirm that there is a minimum yield of 5 gallons per minute (gpm) as also required by 10NYCRR Part 74, Section 74.5(c). A test pump capable of providing a minimum of 5 gpm at the required head must be used to perform the test. The yield of a flowing artesian well may be determined by direct measurement, if the artesian flow equals or exceeds 5 gpm.

- A constant flow rate will be maintained for a minimum of four (4) hours after a stabilized drawdown is achieved. The constant flow rate must be a minimum of 5 gpm.
- Periodic water level measurements are required as described on attached table at the pumping well and at least the closest other well to the pumping well.
- Water discharged from the pumping well must be discharged a sufficient distance from the pumping well and other measured wells to avoid possible impacts from re-circulating the water. The water should be discharged to a drainage ditch or swale that will direct the water away from the well(s) if possible.
- Upon completion of the pumping portion of the test water level measurements should be recorded at the pumped well for two hours or until the well has recovered to 90% of the original level, whichever is less.
- Stabilized drawdown is defined as a water level that does not fluctuate by more than 1.0 foot for each 100 feet of water depth within the well. For example, the allowable fluctuation during the test of a 300 foot deep well, where the static water level was 50 feet below the surface is 2.5 feet (250-feet of water in the well at a range of 1 foot fluctuation for each 100 feet of water).
- Water level measurements must be made to the nearest 0.1 foot.
- If a sustainable yield of 5 gpm at a stabilized drawdown is not possible, the yield test may be performed at a rate between 2 and 5 gpm, however, an enclosed storage structure (tank) of at least 400 gallons may be required.
- The results of the test must be documented on the Town of Wilton Pumping Test Data Form.
- Water quality samples should be collected at the conclusion of the yield test. The water should be clear, with no evidence of turbidity, prior to collection of the samples. Water quality samples should be analyzed for the following: Coliform group (Total Coliform and E. Coli Coliform Bacteria), nitrates, iron, manganese, sodium, chloride, pH, hardness, sulfate, alkalinity and turbidity.

## **2.3 Analysis**

- Pumping test analysis should be analyzed by a Town approved hydrogeologist. The data must show that the well can sustain a yield of 5 gpm, without significantly impacting any adjacent well or a yield of between 2 and 5 gpm, if 400 gallons of storage is to be provided, without significantly impacting adjacent

wells. The analysis must be performed using industry accepted methods for pumping test analysis.

- Water quality must meet the 10NYCRR Part 5, drinking water standards for the parameters analyzed or the developer must submit a plan for proposed water treatment system, by a treatment firm acceptable to the Town approved hydrogeologist.

**Town of Wilton  
Conservation Subdivision Ordinance  
Pumping Test Data Form**

**Pumping Observations\*: Original Static Water Level \_\_\_\_\_ Feet Below Top of Casing**

<b>Time</b>	<b>Elapsed Time</b>	<b>Water Level (FT.) Pumping Well</b>	<b>Pumping Rate (GPM)</b>	<b>Water Level Observation Well _____</b>	<b>Water Level Observation Well _____</b>
	0 Minutes				
	5 min.				
	10 min.				
	15 min.				
	30 min.				
	45 min.				
	1 hour				
	1 hr. 15 min.				
	1 hr. 30 min.				
	1 hr. 45 min.				
	2 hrs.				
	2 hrs. 30 min.				
	3 hrs.				
	3 hrs. 30 min.				
	4 hrs.				
	4 hrs. 30 min.				
	5 hrs.				
	5 hrs. 30 min.				
	6 hrs.				

(Attach additional page, if necessary)

\* Pumping Rate and water level must be stabilized for a minimum of four (4) hours.

**Recovery Observations:**

<b>Time</b>	<b>Elapsed Time</b>	<b>Water Level (FT.) Pumping Well</b>
	0 Minutes	
	5 min.	
	10 min.	
	15 min.	
	30 min.	
	45 min.	
	1 hour	
	1 hr. 15 min.	
	1 hr. 30 min.	
	1 hr. 45 min.	
	2 hrs.	