



Suggested Test Well Instructions for Subdivisions and Site Condominiums

It is commonplace for many subdivision and site condominium proposals to construct test wells in order to demonstrate the suitability of the aquifer to provide an adequate quantity and quality of water from a protected source. Where test wells and an aquifer pump test are required, the following general aquifer test instructions are suggested in order to provide the designer with reliable information necessary to substantiate the suitability of on-site water supplies.

Well Construction

- ❖ Minimum well diameter of four (4) inches.
- ❖ The depth of the test well will be established by the design consultant working with the well driller. The well should be completed in a formation expected to produce an adequate quantity and quality of water and depth should be adequate to provide for aquifer protection in accord with methods specified in rule R 560.408 including:
 - Penetration of an impervious layer, i.e., clay, etc., not less than 10 feet thick.
 - Minimum 50 feet of submergence of top of well screen below static water level.
 - Increased horizontal isolation from existing or potential sources of contamination.
 - Combinations of the above.

Pump Test

After the test well has been completed and fully developed an aquifer pump test of a minimum four (4) hours duration should be completed. A minimum rest period of two (2) hours should be observed, prior to conducting the pump test. The design consultant is responsible for and must supervise the collection of data during the test.

Pump test data should be collected at frequencies as indicated on the attached well pump test data sheet. During the well pump test the well should be pumped at a constant minimum rate of 10 gallons per minute or at a higher rate felt necessary to satisfy peak demand for the project in question. Where the test well does not yield a minimum of 10 gallons per minute, it should be pumped at its maximum expected yield.

Well Recovery Data

Where data collected during the pumping period confirms that the well can safely satisfy peak water demand collection of recovery data is optional. Where the well cannot yield a minimum of 10 gallons per minute, recovery data should be collected following the same schedule of readings as during the pumping period. Recovery data should be recorded for a maximum period of 90 minutes unless the well fully recovers in less time.

Water Sampling

During the last hour of the pumping period, the design consultant should make necessary arrangements for collection of required samples by qualified individuals to document water quality. Analyses of water samples shall be performed by a state certified laboratory.

The above information outlines the suggested general instructions for completing aquifer pump tests. In some areas, more complex studies of groundwater characteristics may be necessary. When such studies are indicated, the design consultant must come to agreement with the local health department having jurisdiction and the Michigan Department of Environmental Quality, prior to completion.