

**TOWNSHIP OF HARMONY
COUNTY OF WARREN
ORDINANCE NO. 03-06**

**AN AN ORDINANCE CREATING A NEW CHAPTER 185 OF
THE CODE OF THE TOWNSHIP OF HARMONY TO BE
ENTITLED WATER SUPPLY**

BE IT ORDAINED by the Township Committee by the Township Committee oby the Township C
of of Warren and State of New Jersey, that Chapter 185 entitled Water Supplies, Individual and
Semipublic is hereby deleted in its entirety and replaced with the following new provisions:

§ 185-1. PURPOSE AND AUTHORITY

- A. Basis for Ordinance. I. It . It has been established in previous studies of ground water
supply in Harmony Township that a safe, sustainable supply in Harmony Township that a
Township's residences and businesses is limited by the facts that:
- (1) The Township's ground-water supply is devThe Township's grou
primarily primarily from sole-source aquifers and primarily from sole-sourc
water sources exist or are planned; and
 - (2) These sole-source aquifers are a limiThese sole-source aquifers are
resource with limited wastewater assimilation capability.
- B. Purpose of Ordinance. The purpose of this. The purpose of this . The purpos
development of thdevelopment of the Todevelopment of the Township occurs
protection of a safe and adequate water supply for existiprotection of a safe an
residences and businesses. This Ordinance is intended:
- (1) To protect the Township's water supply for all residents;
 - (2) ToTo ensTo ensurTo ensure that new wells constructed in Harmony
ToTownshipTownship will yield a sufficient rate of water which will
meet accepted standards of water quality;
 - (3) ToTo ensure that the pumping of newTo ensure that the pumping of
significantlysignificantly impact the performance of existing welsignificantly imp
effectiveness of wastewater disposal systems;

- (4) To collect data and information about resources of Harmony Township in order to determine the potential and limits of ground water supplies for existing and new uses; and
- (5) To ensure that prior to issuance of a Continuing Certificate of Occupancy (CCO), any well regulated hereunder providing water for human consumption shall be given, at a minimum, a bacteriological test and to assure that a bacteriological test and analytical report shall be made available to the buyer or lessee of the realty improvement.

§ 185-2. REFERENCE STANDARDS

The following standards and codes are incorporated and adopted herein by reference:

- A. A code regulating the location, construction, alteration, use and maintenance of individual and semipublic water supplies; requiring certain penalties for violations is hereby adopted pursuant to 26:3-69.1 to 26:3-69.6). A copy of said code is annexed hereto and made a part hereof without inclusion of the text thereof herein. Said code established by this Chapter is described and commonly known as the "Semipublic Water Supply Code of New Jersey (1966)." Three copies of said code are placed on file in the Office of the Secretary of the Board of Health upon introduction of this Chapter and will remain on file in said office for public examination by the public.
- B. The standards of the Realty Improvement and Sewerage and Facilities Act, N.J.S.A. 58:11-23 *et seq.*, and of the Safe Drinking Water Act, N.J.S.A. 17:27 *et seq.*, and of regulations promulgated thereunder are incorporated herein by reference and shall constitute minimum standards.
- C. In the case of conflict between the cited statutes and the standards herein, the more stringent standards shall govern.

§ 185-3. DEFINITIONS

- A. Alteration. Any physical change in a well, including without limitation, deepening, modification or removal such that there will be a change in its size, construction, configuration or installation, or an increase in the pumping capacity of the well. "Alter" shall be construed to include any of the foregoing.

accordingly. Specifically excluded from this definition is installation of pitless adapters.

- B. Available Drawdown. The distance between static-water level above the pump intake level, as measured above the pump intake level, above the pump intake level, casing).
- C. Bedroom. Any room within a dwelling unit may reasonably be expected to provide sleeping quarters for one (1) or more persons. The term "bedroom" shall be considered in the absence of any evidence to the contrary to include any room on the second or third floor, and any room on the first floor which has no through the first floor which has specifically constructed to access a common living, dining, or living rooms. The term "bedroom" shall include within an expansion attic.
- D. Certification. A written statement by the Board of Health Improvement and Facilities Act, N.J.S.A. 58:11-23 et seq., and the New Jersey Safe Drinking Water Act, N.J.S.A. 58:12A-1 et seq., the regulations promulgated thereunder, and the requirements of this Chapter.
- E. Constant Head Test. A pumping test of the well in question, conducted so that the water level (pumping level) remains constant over the test duration.
- F. Constant Rate Test. A pumping test of the well in question, conducted so that the discharge rate remains constant over the test duration.
- G. Construct A Well. The drilling, building, or enlargement of any existing ground water supply system or the enlargement of any existing ground water supply system by alteration to the existing system.
- H. Drawdown. The distance between the static water level and the declining water level in a well, due to the pumping of the subject well or a nearby well.
- I. Interference. The amount of drawdown on an observation well at the commencement of pumping from a nearby well.
- J. Interference Test. A pumping test conducted to determine the effects on one (1) or more selected observation wells, relative to the subject well.

- K. Observation Well. A well utilized to obtain water level measurements (i.e., non-supply well).
- L. Monitor Well. A well installed specifically for the purpose of resource and quality assessments (i.e., non-supply well).
- M. Peak Demand Rate. The average pumping rate of water in gallons per minute (gpm), during peak demand periods.
- N. Peak Demand Test. A pumping test conducted to determine if a well can supply the water needed by the realty improvement.
- O. Peak Demand Time. The duration of time, in minutes, during which the demand rate is exerted on a well and is divided by the peak demand rate (measured in gpm).
- P. Peak Demand Load. The total volume of water, in gallons, required during the period of peak demand.
- Q. Potable Water. Any water used or intended to be used for drinking purposes.
- R. Qualified Hydrogeological Professional. Any person who has a baccalaureate or post-graduate degree in Hydrogeology, Geohydrology, Geology, Engineering or Soil Science and has at least five (5) years of appropriate professional experience in ground water hydrogeology. A test plan and/or hydrogeologic report shall be required to submit evidence of the associated qualified hydrogeological professional.
- S. Realty Improvement. Any existing or proposed building or modification the useful occupancy of which requires a water supply in a multiple dwelling shall be construed to be a separate realty improvement.
- T. Repair. To fix, refurbish or replace one (1) or more components of a supply system in a manner that will restore the potability, design, construction and installation of the system.
- U. Replacement Well. Any well intended to replace an existing well no longer produces an acceptable water quantity. A replacement well is not a supplemental well for a given realty improvement.

- V. Residual Available Drawdown. The distance between the pump intake in a well and ten (10) feet above the pump intake in a well from the same datum (e.g., top of well casing) and measured at a specific time.
- W. Static Water Level. The water level in the well either before or after when all local pumping effects on the aquifer have dissipated and the water surface in the well is in equilibrium with atmospheric pressure.
- X. Test Well. A well used to prove ground water supply development. Said well may be constructed in a manner which allows it to be used as a ground water supply if so approved.
- Y. Well. A man-made excavation that derives water from the fractures or interstices of the rocks or soils which it taps.
- Z. Well Construction. Undertaking the activities as defined hereinabove.
- AA. Well Recovery. The flow of ground water into a well from the aquifer following the cessation of pumping and the corresponding rise of the water level in the well.
- BB. Well Test Plan. The plan of well testing proposed by an applicant submitted for approval by the Board of Health prior to the testing prescribed by this Chapter.
- CC. Well Yield. The maximum rate at which water can be obtained from a well under normal hydrological conditions.

§ 185-4. WELL PERMITS

No person shall locate, construct or alter any water supply until a license or permit for the location, construction or alteration of said water supply has been issued by the Board of Health.

- A. The Board of Health may issue a license or permit if an application for the same is accompanied by a Certificate made by an engineer licensed to practice professional engineering in New Jersey stating that the design of professional engineering as proposed is in compliance with the code.
- B. A State well permit shall be a prerequisite to the Board of Health under the terms of the Board of Health to construct, replace or alter any well within Harmony Township at the location, construction or alteration of such well has been approved by the Board of Health. Repairs require well permits from the Board of Health.

§ 185-5. WELL CERTIFICATION

Prior to use, all new or altered wells constructed or altered after the effective date of this chapter shall be certified and approved by the Board of Health. Certification shall be continued and approved by the Board of Health at the conclusion of all well testing prescribed by the Board of Health. Certification and approval by the Board of Health may be conducted only after such approval. All well test results must be satisfactory to the Board of Health.

- A. New water supplies shall not be placed in buildings or additions thereto be sold or supplied for water until the Board of Health indicates that said water supply has been located and constructed in compliance with the terms of the license or permit issued under the aforesaid code. Issuance of such Certificate shall be conditioned upon the construction of an existing water supply.
- B. The Board of Health may issue such a Certificate if a registered professional engineer in New Jersey submits a statement, in writing, signed by him to the Board of Health that said water supply has been constructed in accordance with the requirements of the aforesaid code.

§ 185-6. APPLICABILITY

1. The requirements contained in this Chapter are applicable to all new construction and to all alterations of construction in any Township and require application to the Board of Health for the following:
 - (1) Certification and approval of realty improvements they are intended to serve;
 - (2) Certification and approval of a water supply and issuance of construction permit for capacity of existing systems;
- B. All applications shall be made and shall include all the data as specified by this Chapter and by N.J.A.C. 7:10-12.1 *et seq* and N.J.A.C 7:9D *et seq*.
- C. All applications, shall include a plot plan (with an approximate scale) showing the location measured from at least two (2) property or main structure for new wells, all pre-existing wells, all existing subsurface disposal areas. All identified pre-existing wells and existing subsurface disposal areas shall include those on adjoining properties that are those on adjoining properties.

subject property. Such applications shall also subject property. Such applications shall also of all of all new wells of all new wells as recorded in properly executed Form DW Record," as issued by the New Jersey Department of Environmental Protection.

- D. TheThe foThe foregoing notwithstanding, the requirements of this Chapter shall not apply to any new construction for which a conany new construction for which a consany new c effectiveeffective date of this Chapter aneffective date of this Chapter and shall not effective dat the purpose of merger or boundary adjustment.

§ 185-7. **WELL TEST REQUIREMENTS**

2. **Existing Residential Realty Improvements**

(1) CapacityCapacity of well noCapacity of well notCapacity of well not increased replacementreplacement replacement welreplacement wells for existing residential units re HealthHealth approval of potability tests in accordance withHealth approval of pot 7:10-12.30.

(2) CapacityCapacity of well to be increased. Capacity of well to be increased. ICapa ttestintestingtesting required in §185-7A(1) above, the results of peak demand teststests,tests, as required in accordance with §185-10C of this Chapter, shallshall be approved by the Board shall be approved by the Board of Health ishall be capacity of the well is to be increased.

(a) IncreaseIncrease due to an increase in living space. In those casescases where the capaccases where the capacity cases where the cap increasedincreased byincreased by increased by less than 50% no peak dema shallshall be required. Forshall be required. For shall be required. calculationcalculation the following rates of demand shalculation the follow as follows:

Minimum volume per dwelling unit	350 gal/day
Minimum volume per apartment unit	350 gal/day
Volume first bedroom	200 gal/day
Volume each additional bedroom	150 gal/day

(b) IncreaseIncrease due to an increase non-living space generatedgenerated demangenerated demand.generated demand. In those capacitycapacity of the well is to be increased by less than twentytwenty (20%twenty (20%) perctwenty (20%) percent, no peak demand test required.required. For the purposes of calcurequired. For the purposes existingexisting flows, the volumes set forth in (a) above

that are to be used in determining all living space related demand and the actual projected demand for other uses shall be determined in a manner acceptable by the Board of Health.

3. Existing Undeveloped Lots

- (1) No construction permit shall be proposed on an existing lot until the well is certified. The well must fulfill the well test plan and the pump tests described in §185-10 of this Chapter. For those lots to be developed, the pump tests may be proposed if the proposed well is located the following distance from all adjacent wells and the well is demonstrated to have a yield of (5) gallons per minute.
- (2) The following minimum separation distances from existing wells and septic systems on neighboring property shall be required for the selection of locations for new residential wells at the rates indicated:

Tapped Aquifer	Minimum Separation Distance In Feet For Rates Of 5 gpm Or Less	Minimum Separation Distance In Feet For Rates Of Greater Than 5 gpm and Equal To Or Less Than 10 gpm
Overburden	140	190
Crystalline Bedrock	240	270
Carbonate Bedrock	240	270

- 4. Minor Subdivisions and Minor Site Plans. A minor subdivision application shall include a well test plan shall include the information and data specified in §185-8(1), (3) and (6).
- D. Major Subdivisions and Site Plans. A major subdivision and preliminary site plan application shall include a report specified in §185-8, prepared by a qualified hydrogeological professional, and shall include the results of pump and test logs.

well test plan shall be approved by the Board of Health before such tests are conducted. In connection with the well tests, the applicant shall, if necessary, install a monitor well or wells in accordance with the approved well test plan. One (1) or more existing wells (e.g., adjoining property) may be used as observation wells in accordance with the approved well test plan for the purpose of measuring water levels, contingent upon the respective distance.

In the event that the well in question is proposed for a proposed major subdivision, then each additional (either supplemental or individual) well may be required by the Board of Health in §185-10 and 11, before the subdivision is approved. Such decision by the Board of Health will be contingent upon the lot configuration and hydrogeological variability of the proposed subdivision.

§ 185-8. HYDROGEOLOGIC REPORT

- A. A hydrogeologic report for the proposed development shall be prepared by a qualified hydrogeological professional, provided to the Board of Health and initial homeowner, and shall include:
- (1) A discussion of the hydrogeology of the site and the environs affecting or being affected by the location of any potential fractures or faults;
 - (2) The location and construction specifications for the proposed wells and subsurface disposal systems;
 - (3) The location of all active or abandoned wells, areas and the location of all subsurface disposal areas within the subdivision boundaries;
 - (4) Results of the tests described in §185-10 and §185-11 of this Chapter. At a minimum, subject wells must be tested for yield, drawdown and recovery;
 - (5) The subject test well shall be tested, at a minimum, for nitrate and bacteria concentrations, if any, to plan for the proper disposal of the subsurface disposal system; and

- (6) A summary projection of the hydrogeologicalA summary projection of including including niincluding nitrate including nitrate and bacteria as described be caused by the proposbe caused by the proposed sbe caused by the proposed s measures that will be employed to minimeasures that will be e impacts on the underlying aquifer(s).
- B. AsAs a basis for the required study, an adequate number of wells (e.g., monitor, observation)observation) shall be utiobservation) shall be utilizedobservation) shall be utilized. wellswells must be indicated on a well test plan approved by thewells must be indicated on a w to their installation.
- C. ToTo be considered adequate, the number and locaTo be considered adequate, the number addressaddress at a minimum each of the identified grouaddress at a minimum each of the intendedintended to be used as a water supply, and the possibility of interferintended to be exiexistingexisting wells and wastewater disposal systems on immediately neighborinexisti properties.

§ 185-9. RELATED TECHNICAL REQUIREMENTS

AllAll wells conAll wells constrAll wells constructed within Harmony Township shall conform to the constructionconstruction of non-public and non-commuconstruction of non-public and non-community well that:

- 1. WellWell casings shall extend to a minimuWell casings shall extend to a minimum of two bedrock.
- 2. PlacemPlacementPlacement of the pump shall not be less than twenty (20) feet below the Placethe water level measthe water level measured at the water level measured at the end of a succ than ten (10) feet above the bottom of the well.
- C. NoNo new or replacemenNo new or replacement wellNo new or replacement well sha a permanent water level access tube, installed with the permaa permanent water level a facilitatefacilitate measurement of the water level in the well. The tube (e.g., facilitate measure polypolypipe)polypipe) shall expolypipe) shall extend from the rim of the well casing to, at l pump.pump. The internal pump. The internal diameterpump. The internal diameter of the tub commonlycommonly used, electronic watercommonly used, electronic water levecommonly inside diameter of one (1) inch).

§ 185-10. WELL TEST REQUIREMENTS

during the test. Water pumped during the test may be discharged to waste at a shorter distance if it is immediately routed to a moving surface water body (e.g., a stream) or a non-retention type stormwater system with sufficient capacity.

- (3) The water level in the well must be maintained during the test, at a minimum, to the nearest tenth (0.1) of a foot from a fixed point (typically from the top of the well casing). Air lines may not be used for measurement purposes, unless approved by the Township.

C. Peak Demand Test

- (1) General Requirements. The peak demand test shall demonstrate that the well can supply the water needed for improvement during times of peak water demand. The peak demand test shall demonstrate that the well can recharge the aquifer, that recharge during the peak demand equals the peak load required for the realty in the service area. If the results of the peak demand test are unsatisfactory, either modifications to the well characteristics or the usage characteristics or the usage of the improvement shall be made, or the well shall be abandoned in accordance with the rules and regulations of the Township: 7:9D-3.1 et. seq.

- (2) Test Protocol. The well shall be pumped constantly at least at the peak demand rate for at least the peak demand rate for residential use. The peak demand rate for residential use shall be 10 gpm for each full bathroom, plus one and one-half gpm for each half-bath. The peak demand rate for commercial use shall be 100 gallons for each bedroom (which equals one-half of the daily demand volume) the daily demand volume for design application for proposed residential use (expressed in gallons per day), and the peak demand time shall equal the time required to deliver the peak demand rate:

The peak demand rate of non-residential water supply systems (expressed in gallons per minute), as served non-residential facility; the peak load according to N.J.A.C. 7:10-12.7, and the peak demand according to N.J.A.C. 7:10-12.7, equals the time required to deliver the peak load at the peak-demand rate.

The water levels shall be measured, once every five (5) minutes, during the test, the water level shall not be drawn down, at any time during the test, to a depth less than twenty (20) feet below the measurement of the water level immediately before initiating the portion of the pumping test.

D. Constant-Head Pumping Test.

- (1) General Requirements. The constant head test shall be used to determine whether the recharge of an aquifer is sufficient to meet the long-term use of the well.

For non-residential or multi-residence realty, the minimum water requirements of the government, and each one hundred fifty (150) gallon requirement or fraction thereof shall be considered equivalent to one (1) bedroom for constant head pump test. A constant head pump test shall be required for residential use.

- (2) Test Protocol. The constant head portion of the pumping test shall immediately follow the peak test without interruption. The discharge shall be throttled so that the water level in the well immediately prior to termination of the test is maintained for a minimum of four (4) hours.

maximum of twelve (12) hours. more than 0.5 feet. The pumping rate shall be more than 0.5 feet. The pumping rate shall be at ten (10) minute intervals during this time. The pumping rate shall not varied significantly by more than one percent per minute for at least the last hour, the aquifer-to-per minute for at least the last hour. The recharge rate shall be determined to be equal to the measured pumping rate. If the pumping rate coincides with the stabilized water level is less than the flow needed to meet the daily demand volume, then the well fails a portion of the test.

- E. Well Recovery Test. Immediately following the constant head portion of the three (3) part pumping test, the water level in the subject well shall be recorded until it has recovered to and recorded until it has recovered to pre-test static water level, or for four (4) hours, whichever pre-test static water level, or levels shall be measured once every five (5) minutes for the first hour of recording and once every thirty (30) minutes for the remaining duration.

Failure of a well to recover to water level within a twenty-four (24) hour period raises doubt as to the reliability of a long-term water supply developed from the well at the utilized test rate or any greater rate. Under such conditions, the applicant shall provide and provide technical support for the use of the well at a lower rate (possibly including the completion of a second pumping test at the same rate) and test in a similar manner an alternative supply well.

§ 185-11. WELL INTERFERENCE

- A. New wells in proximity to existing supply wells. Determination required by §185-7D of this title shall be made by the Board of Health within one thousand (1,000) feet of the new well to determine well interference.

The applicant for well certification shall notify all owners of real property within one thousand (1,000) feet of the proposed well of the proposed well tests. This notification shall be by certified mail on forms available from the Board of Health, and at least two (2) weeks prior to the tests. The owners of the closest wells to the proposed well, if notified, may request monitoring of their well at the applicant's expense.

To qualify as an observation well, pumping of the proposed well must either be ceased for at least three (3) hours before the start of the test sequence, or throughout the test sequence, or throughout the test sequence, or throughout the test sequence.

§ 185-13. STOP-WORK ORDERS

The Board of Health may order all further work being erected or installed in violation of the code, to be stopped forthwith, except such violation shall be necessary to remedy such violation of any of the provisions of the code.

shall be necessary to remedy such violation of any of the provisions of the code. A copy thereof shall be served upon any person or installation of any such water supply or any part thereof, no further work shall be done thereon except as aforesaid.

§ 185-14. FEES AND CHARGES

The following fees and charges are herewith established:

- A. For the filing of an application to construct a water supply - Two Hundred Fifty (\$250.00) Dollars.
- B. For the filing of an application and plans for a license or permit to alter an existing water supply - Two Hundred Fifty (\$250.00) Dollars.
- C. For the filing of an application and plans for the filing of an application and plans for the existing water supply - Twenty Five (\$25.00) Dollars.

§ 185-15. PENALTIES

Any person or persons, firm or corporation Any person or persons, firm or corporation Any person or persons, firm or corporation Any person or persons, firm or corporation Any person or persons, firm or corporation Any person or persons, firm or corporation Any person or persons, firm or corporation Any person or persons, firm or corporation Any person or persons, firm or corporation Any person or persons, firm or corporation

order promulgated under this Ordinance shall, upon conviction hereof, pay a penalty of not more than Five Hundred (\$500.00) Dollars, nor less than Fifty (\$50.00) Dollars for each violation. Each day a particular violation continues shall constitute a separate offense.

§ 185-16. SEVERABILITY

If any provision of this Chapter or the application thereof is held by any Court of competent jurisdiction to be invalid or unenforceable, the same shall not affect the other provisions of this Chapter.

Repealer. All Ordinances or parts of Ordinances inconsistent with this Ordinance shall be repealed as to their inconsistencies only.

Effective Date. This Ordinance shall take effect following final approval.

publication in accordance with law.

NOTICE IS HEREBY GIVEN that the foregoing Ordinance was intrthat the foregoing Ordinance was introduced on first reading by the Harmony Township Committee at its regular meeting on July 3, 2002, which Ordinance shall be given further consideration at its regular monthly meeting to be conducted thereon at its regular monthly meeting to be conducted on July 3, 2003, which Ordinance shall commence at 7:30 P.M at the Harmony Township Municipal Building, Belvidere Road, Phillipsburg, NJ 08865.

Loyce C. Johnson
Municipal Clerk