

TOWNSHIP OF WARWICK

Lancaster County, Pennsylvania

ORDINANCE NO. 263

AN ORDINANCE AMENDING THE CODE OF ORDINANCES OF THE TOWNSHIP OF WARWICK, CHAPTER 340, ZONING, SECTION 92.1.A, TO REVISE THE GEOTHERMAL ENERGY SYSTEMS PORTION OF THE RENEWABLE ENERGY SYSTEMS SECTION OF THE ZONING ORDINANCE IN THE TOWNSHIP OF WARWICK, LANCASTER COUNTY, PENNSYLVANIA; TO ALLOW GEOTHERMAL SYSTEMS IN ZONE 2 OF THE WELLHEAD PROTECTION AREA AND TO ADD PROVISIONS TO CLOSE-LOOPED SYSTEMS WITHIN ZONE 2.

BE AND IT IS HEREBY ORDAINED AND ENACTED by the Board of Supervisors of the Township of Warwick, Lancaster County, Pennsylvania, as follows:

Section 1. The Code of Ordinances of the Township of Warwick, Chapter 340, Zoning, Article IV, Specific Criteria, Section 340-92.1, Renewable energy systems, Subsection A, Geothermal energy systems, shall be amended as follows:

- A. Geothermal energy systems shall be permitted in all zoning districts, subject to the following regulations:

Section 2. The Code of Ordinances of the Township of Warwick, Chapter 340, Zoning, Article IV, Specific Criteria, Section 340-92.1, Renewable energy systems, Subsection A.(1), Accessory Use, shall be amended as follows:

- (1) Accessory use. A geothermal energy system shall be permitted by right in all zoning districts as an accessory use.

Section 3. The Code of Ordinances of the Township of Warwick, Chapter 340, Zoning, Article IV, Specific Criteria, Section 340-92.1, Renewable energy systems, Subsection A.(4), Wellhead Protection Area, shall be amended as follows:

- (4) Wellhead Protection Areas. All geothermal energy systems, due to their potential for contaminating, via surface water, the groundwater supplies upon which the residents of Warwick Township depend, shall be prohibited from construction and use within Zone 1 of the designated wellhead protection area. Within Zone 2 of the designated wellhead protection area, geothermal systems are limited to closed-loop systems as defined within this ordinance. [NOTE: A map of the designated wellhead protection areas, Zones 1 and 2 as established by the WTMA, may be obtained from the WTMA office or the Township's website.]

Section 4. The Code of Ordinances of the Township of Warwick, Chapter 340, Zoning, Article IV, Specific Criteria, Section 340-92.1, Renewable energy systems, Subsection A.(7)(a), Potential pollution sources, shall be amended as follows:

- (a) Potential pollution sources. Geothermal boreholes or trenches (in the case of horizontal loop systems) shall be set back a minimum of 100 feet from on-lot sewage disposal systems or potable wells.

Section 5. The Code of Ordinances of the Township of Warwick, Chapter 340, Zoning, Article IV, Specific Criteria, Section 340-92.1, Renewable energy systems, Subsection A.(8)(a), Permitted fluids, shall be amended as follows:

- (a) Permitted fluids. Unless otherwise specified, for all closed-loop geothermal systems relying upon circulating fluids, the heat transfer fluid is potable or beneficial reuse water and may have approved nontoxic antifreeze, such as propylene glycol added, as defined within this ordinance. A permanent sign must be attached to the heat pump specifying that only approved heat-transfer fluids can be used.

Section 6. The Code of Ordinances of the Township of Warwick, Chapter 340, Zoning, Article IV, Specific Criteria, Section 340-92.1, Renewable energy systems, Subsection A.(8), Closed-loop geothermal systems, shall be amended by adding Subsection (8)(c) through (8)(h) which shall provide as follows:

- (c) Geothermal heating and/or cooling system vertical heat exchange boreholes containing loop pipes shall be tremie grouted for the total depth of the borehole utilizing the IGSHPA Manual Grouting Procedure for Ground Source Heat Pumps.
- (d) Construction standard. All materials and construction practices shall conform to all applicable industry standards for Closed-loop geothermal heat pump systems, such as, but not limited to, standards for pressure testing, heat transfer fluids, etc. All materials and construction practices shall effectively prevent contamination of groundwater.
- (e) The assembled loop system shall be pressure tested with water at 100 psi (690 kPa) for one (1) hour with no observed leaks before connection (header) trenches are backfilled. Flow rates and pressure drops shall be compared to calculated values. If actual flow rate or pressure drop figures differ from calculated values by more than 10 percent, the problem shall be identified and corrected.
- (f) The applicant shall be required to submit complete specifications for the entire system (including well drilling and grouting procedures). In Zone 2, the project shall be reviewed and requires approval by the Township (zoning department or Township's engineer) and a certified geologist as part of the permit process.
- (g) In Zone 2, No Drilling or Grouting shall be preformed without inspections by the Township's inspection department or Township engineer, and a certified geologist. A 24-hour notice is required prior to starting the project, and to schedule inspections.

(h) Discharge of water:

- [1] Discharge of water from drill boreholes into sanitary sewer systems shall be prohibited, except upon approval by the Warwick Township Municipal Authority.
- [2] Discharge of water from drilling boreholes into storm sewers, neighboring properties and onto roads, shall not be permitted.
- [3] Discharge of water from drilling boreholes into a watercourse shall comply with all federal, state, county and Township laws and regulations.

Section 7. The Code of Ordinances of the Township of Warwick, Chapter 340, Zoning, Article IV, Specific Criteria, Section 340-92.1, Renewable energy systems, Subsection A.(9), Open-looped geothermal systems shall amend Subsection (b)[2] with the following:

- [2] Discharge of water from open-loop systems into storm sewers, neighboring properties and onto roads, shall not be permitted.

Section 8. All other sections, parts and provisions of the Code of Ordinances of the Township of Warwick shall remain in full force and effect, as previously enacted and amended.

Section 9. In the event any provision, section, sentence or clause or part of this Ordinance shall be held to be invalid, illegal or unconstitutional by a court of competent jurisdiction, such invalidity, illegality or unconstitutionality shall not affect or impair the remaining provisions, sections, sentences, clauses or parts of this Ordinance, it being the intent of the Board of Supervisors that the remainder of the Ordinance shall be and shall remain in full force and effect.

Section 10. This Ordinance shall take effect and be in force five (5) days after its enactment by the Board of Supervisors of the Township of Warwick as provided by law.

DULY ORDAINED AND ENACTED the 7th day of May, 2014, by the Board of Supervisors of the Township of Warwick, Lancaster County, Pennsylvania, in lawful session duly assembled.

TOWNSHIP OF WARWICK
Lancaster County, Pennsylvania

Attest: 
Secretary

By: 
(Vice) Chairman
Board of Supervisors

[TOWNSHIP SEAL]