

WELL FIRST PROTOCOL FOR INSTALLATION OF RESIDENTIAL DRINKING WATER WELLS WITHIN AREAS ALONG THE LAKE MICHIGAN SHORELINE, SOUTH OF EASTPORT, MICHIGAN

Effective Date: May 13, 2013

Basis for Protocol

Areas along the Lake Michigan shoreline, South of Eastport, Michigan, in Antrim County, have had significant difficulties installing water supply systems that meet well construction code requirements for the State of Michigan and that can reliably produce potable water for domestic uses. Many existing homes have “lake draw” systems that use Lake Michigan to supply drinking water to residential homes. These systems are vulnerable to rapid changes in water quality and have a high potential for bacterial and pathogenic contamination.

Over the past several years, Antrim County environmental health staff have worked diligently with home owners and water well contractors to attempt well installations that comply with the Michigan Water Well Construction and Pump Installation Code (Part 127 of Act 369, P.A. 1978 as amended) and that have sufficient capacity and quality to be used as drinking water wells and have been met with limited success.

Specific restrictions on well installations in this area were deemed necessary, in accordance with Part 127 and Act 399, P.A. 1976 (the Safe Drinking Water Act) to protect the public health and prevent the unintended consumption of contaminated drinking water through the use of surface water withdrawals or shallow bedrock wells.

Mandatory Procedures

For new or replacement residential drinking water wells installed within the areas South of Eastport, Michigan, Antrim County and encompassed by Phase 1,2 and 3 of the Eden Shores development (see attached site map), the following procedures apply and are considered conditions of your well permit.

Well First Policy

Proposed residential drinking water wells will not be approved for use and will restrict the issuance of other health department permits (ie. sewage disposal permits) until the following construction and sampling requirements have been met:

Well Depth: The proposed drinking water well must be completed to a minimum casing depth of twenty five (25) feet below grade (Part 127; R 325.1632 (3)) and completed at a depth least likely to be impacted by surface water intrusion and subsurface contaminants. Water well contractors should contact the HDNW prior to drilling and completion of all proposed drinking water wells in the affected area. With assistance from Health Department personnel, a target well depth should be established based on regional geology and intervals of known groundwater impairment, both in quantity and quality.

If a water supply cannot achieve the minimum depth required under Michigan Water Well Construction and Pump Installation Code, the well must be abandoned and plugged in accordance with Part 127 of Act 368, PA 1978; R 325.1662 and the Michigan Abandoned Water Well Plugging Manual.

Well Drilling: The proposed drinking water well must be constructed using a rotary-bored drilling techniques and methodologies.

Grouting Requirement:

The proposed drinking water well must be grouted with neat cement or bentonite grout a minimum of 25' below grade. If bedrock is encountered less than 25' below grade, an oversized borehole must be drilled to 25' and grouted consistent with R 325.1637.

Well Development: The proposed water well must be developed by surging or pumping and is restricted from development by air. After development, the well must sit a minimum of 24 hours prior to sampling.

Well Chlorination: All newly constructed water wells must be chlorinated by a Registered Water Well Contractor in accordance with the requirements of Part 127, R 325.1661.

After installation and prior to sampling, the well must be thoroughly flushed until no chlorine is present in the production water.

Well Sampling: After chlorination and prior to putting the well into service, the proposed drinking water well must be sampled for bacteriology and the results must be reported to the Health Department of Northwest Michigan, Environmental Health Division. All samples must be sent to a State of Michigan certified Drinking Water Laboratory.

Two (2) *bacteriology* samples must be collected, a minimum of twenty four (24) hours apart, and one (1) *partial chemistry* and must be found acceptable (Act 399, P.A. 1976 as amended) for water supply approval.

Final Inspection: The Health Department of Northwest Michigan must be contacted to conduct a final inspection of the proposed drinking water well after completion. The well must be found in compliance with all Part 127 and Act 399 requirements for residential wells.

Connection to Public Water Supply: When a public water supply system becomes available, the existing water supply well will be required to be abandoned and the residence connected to the public system.

Well Abandonment: Water wells must be properly abandoned, in accordance with Part 127 of Act 368, P.A. 1978; R 325.1662 and the Michigan Abandoned Water Well Plugging Manual when public water is made available or an acceptable well installation cannot be approved.

Annual Sampling: In order to assure long-term safety of the drinking water supply, the Health Department of Northwest Michigan strongly recommends annual sampling for bacteriology and partial chemistry.

ACKNOWLEDGEMENT

I hereby acknowledge that the water supply well permitted by the Health Department of Northwest Michigan may be subject to contamination and that I agree to the above restrictions as written.

Signature _____ Date _____

Health Department of Northwest Michigan use only:

Supplement to special conditions for Permit # _____

Sanitarian's Signature _____ Date _____