DEQ	OFFICE OF DRINKING WATER AND MUNICIPAL ASSISTANCE POLICY AND PROCEDURE		DEPARTMENT OF ENVIRONMENTAL QUALITY
Original Effective Date: September 28, 2001 **Revised Date:** **Reformatted Date:** April 3, 2013	**Subject:** Large Diameter Auger-Bored Water Wells **Division/Office and Program Names:** ODWMA- Well Construction Program **Number:** ODWMA-368-127-004	Page: 1 of 3	**Category:** ☐ Internal/Administrative ☐ External/Noninterpretive ☒ External/Interpretive

A Department of Environmental Quality (DEQ) Policy and Procedure cannot establish regulatory requirements for parties outside of the DEQ. This document provides direction to DEQ staff regarding the implementation of rules and laws administered by the DEQ. It is merely explanatory; does not affect the rights of, or procedures and practices available to, the public; and does not have the force and effect of law.

INTRODUCTION, PURPOSE, OR ISSUE:

Large diameter auger-bored, dug, and crock wells are found in some areas of Michigan where conventional drilled well installations have been unsuccessful due to hydrogeological limitations. Additionally, these wells may be encountered on sites where acceptable groundwater may be obtainable utilizing standard drilling methods, but due to cost considerations or historical precedence, no attempt had been made to drill a well.

While some large diameter dug or bored wells have been approved for use in Michigan, they still may pose a potential health risk due to their nonconventional casing components and installation methods. It is critical that a large diameter well of this nature only be considered for installation where a conventionally drilled water well cannot be successfully installed.

AUTHORITY:

Part 127, Water Supply and Sewer Systems, of the Public Health Code, 1978 PA 368, as amended, as described in R 325.1674, Other water sources (Rule 174), of the Groundwater Quality Control Rules adopted under authority of Part 127.

STAKEHOLDER INVOLVEMENT:

None documented. The installation of most dug wells was not conducted with local health department (LHD) authorization or state level involvement. They have traditionally been treated as non-potable water supplies.

In September 2001 a letter was sent by DEQ to one Michigan Registered Water Well Drilling Contractor and a limited group of LHDs that described the driller's auger-bored water well installation method. This method was considered an improvement upon existing crock well installation methods. The letter conditionally approved the use of certain fiberglass corrugated well casings, specific pitless adapter requirements, and specific installation methods. A copy of this letter was provided to the Ground Water Advisory Committee. This policy and procedure reflects the specifics contained in that correspondence.

DEFINITIONS:

Large diameter auger-bored well - A well with a casing diameter of approximately 30" inches, installed with a bucket auger drilling rig.

Approved fiberglass corrugated well casing – means water well casing manufactured by G.P. Fiberglass, Ltd., P.O. Box 3400, Melfort, Saskatchewan, Canada SOE 1AO, and is listed by National Sanitation Foundation (NSF) International to conform to ANSI/NSF Standard 61, for potable water contact; or equivalent.

POLICY:

1. Approval from the LHD is required prior to construction of an alternate water source, per Rule 174.

2. At least the upper 25 feet of annulus between the large diameter borehole and the permanent well casing shall be grouted with neat cement or concrete grout.

3. When using approved fiberglass corrugated well casing, a full length of casing shall be used at the upper end of the well so that the first below-grade casing joint occurs about 24 feet below ground surface. The lower sections of fiberglass casing may be slotted using procedures recommended by the manufacturer, to permit infiltration of water.

4. Where used, approved fiberglass corrugated well casing sections will be joined with stainless steel screws.

5. The pea stone filter material that is placed around the slotted section of well casing and the grout that fills the annulus between the auger bore hole and the permanent, un-slotted well casing must be placed uniformly, to prevent collapse of these sections of the fiberglass corrugated well casing during well completion.

6. A modified Dicken pitless adapter (or equivalent pressure tested pitless adapter approved by the DEQ) shall be used for providing the (outside) connection of the water service line to the fiberglass corrugated well casing and the (inside) connection to the drop pipe that is connected to the submersible pump in the well. The gasket material associated with the pitless adapter shall be a GE Silicone RTV 664 (or equivalent), which has U.S. Food and Drug Administration approval for food contact. The pressurization passage on the portion of the pitless adapter that passes through the hole in the well casing shall be centered so that the area between the two gaskets remains pressurized at all times.

7. The top of the fiberglass corrugated well casing will be covered with the well cap provided by the casing manufacturer. To prevent the entrance of insects into the well, the space

between the cover and the well casing will be sealed with a neoprene gasket or a flexible sealant compatible with the casing/well cover material.

8. A watertight junction shall be made where the electrical conduit passes through the well cover.

9. The approved fiberglass corrugated well casing manufacturer shall maintain the NSF listing.

PROCEDURES:

WHO	DOES WHAT
LHD	Evaluates the proposed water well site and representative area hydrogeological or water well drilling records to verify that a conventional drilled well cannot be installed on the site.
Health Officer or designee	Issues written authorization for construction of an alternative water source.
LHD	Issues permit for installation of a large diameter auger-bored well. Permit contains reference to approved materials and methods for proper installation of an auger-bored water well.

Compliance with Part 127 shall be based on the statute and rules promulgated thereunder. Nothing in the policy or procedure shall be used in an enforcement action brought against a Registered Water Well Drilling Contractor or Pump Installer. This policy or procedure shall expire on December 31, 2014, unless superseded before that date.

OFFICE CHIEF APPROVAL:

Liane J. Shekter Smith, P.E., Chief
Office of Drinking Water & Municipal Assistance

3/15/2013
Date

DEPUTY DIRECTOR APPROVAL:

Jim Sygo, Deputy Director

4/3/2013
Date