Washington Street Sherborn Homes

Public Water Wells

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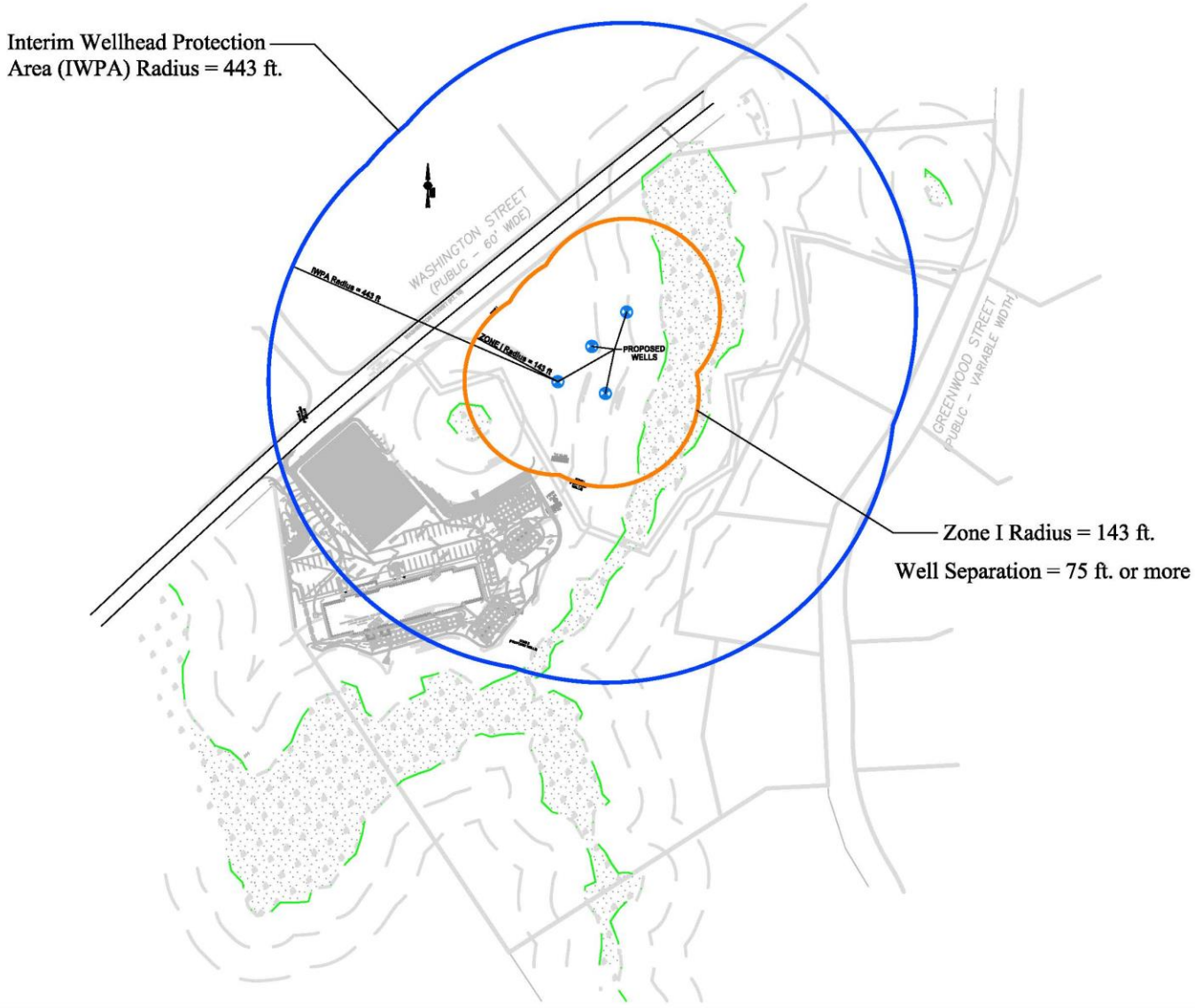
GeoHydroCycle, Inc.



0 Washington Street
Sherborn, MA 01770

Progress Figure.
Revised Community Well Locations.

NOTES

1. The Zone I and IWPA limits are based on composite radii from each of the four Community Wells.
2. Total Pumping = 7,700 GPD. Per well = 1,925 GPD or 1.34 GPM over a 24 hour period.

0 150
Scale in feet

Project No. GHC#24004
Drafted SWS
Date 2/4/24 Rev
Base Map: CAD File from DGT.

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What is a Public Well

In Massachusetts, a Public Water Supply is a system for providing to the public of water for human consumption, through pipes or other constructed conveyances, if such a system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days of the year.

Public Wells are divided into two major groups, large wells producing more than 100,000 gallons per day and small wells producing less than 100,000 gallons per day.

The four proposed Washington Street wells will be small public wells that would each pump 1,925 gallons per day, or 1.34 gallons per minute over a 24 hour period.

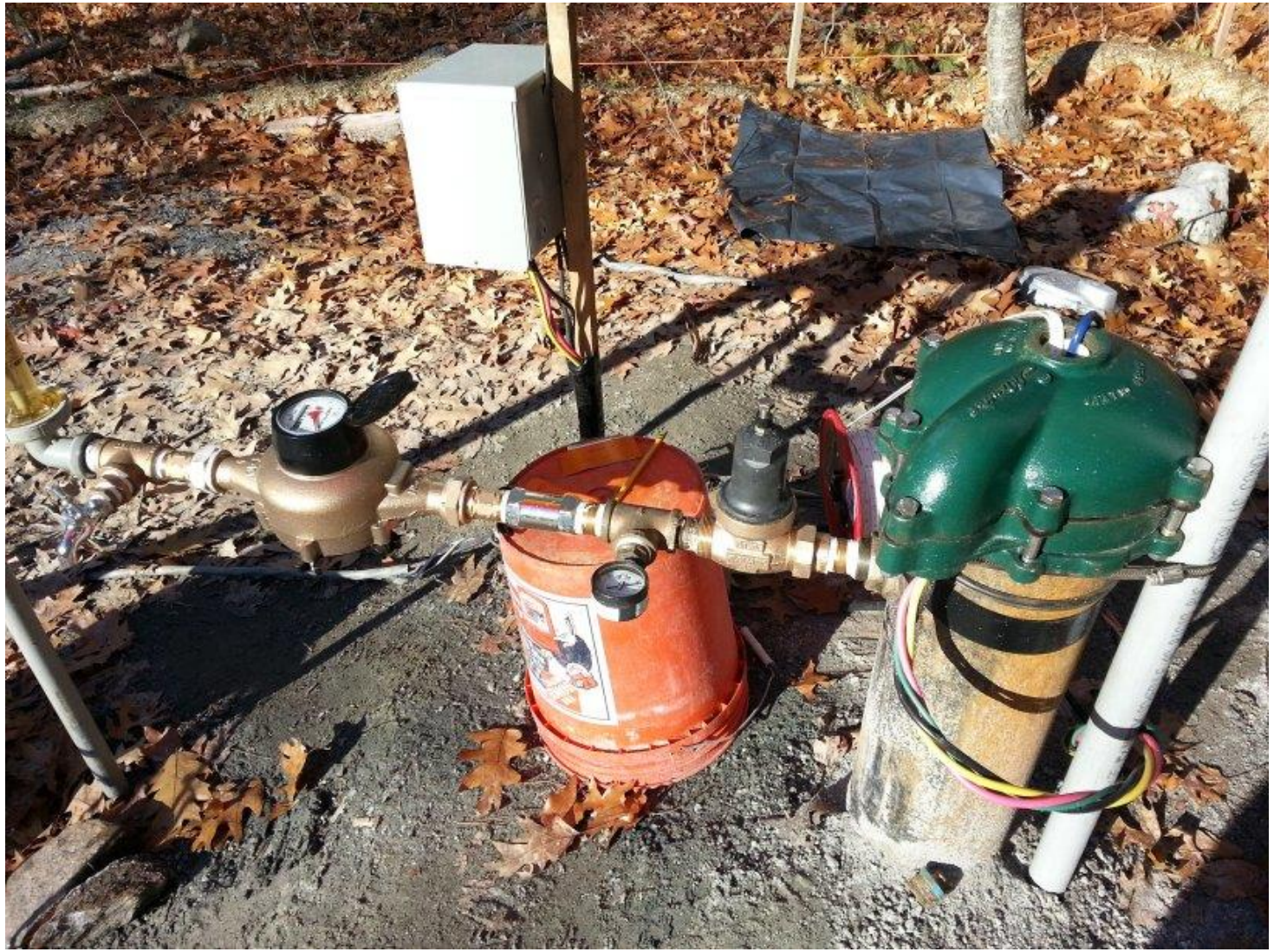
What Are the State Permitting Steps

Small Public Well Permitting in Massachusetts is done in two stages:

1) A detailed report describing where the wells are planned and what the local conditions are, including: an Overall Project Description, Zoning and Land Use, Existing and Potential Sources of Contamination, Environmentally Sensitive Areas, and Proposed Pump Test and Water Sampling.

What Are the State Permitting Steps

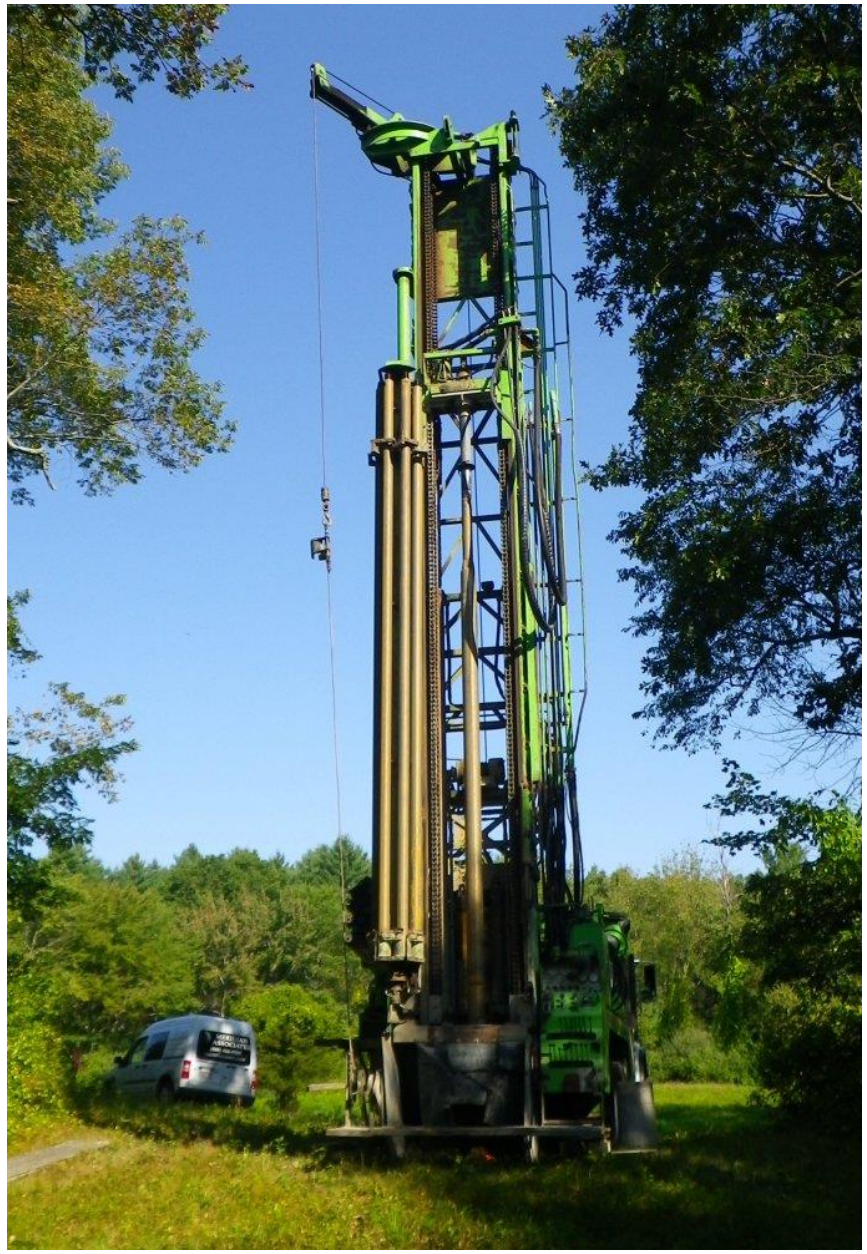
2) If, based on the report, the well locations appear to be suitable to MassDEP, the next step involves actually pumping and sampling the wells to demonstrate that the wells can provide sufficient water and that the water quality is suitable to drink directly or may need treatment. The results of the testing and sampling are submitted to MassDEP as a Small Public Water Supply Permit Application.



Public Well Being Pump Tested

How is a Bedrock Well Constructed

A Public Water Supply well is drilled down through the overburden soil at least 15 feet into bedrock, and a steel casing is set between the surface and the bottom of the bedrock hole.



Typical Bedrock Well Drilling Rig

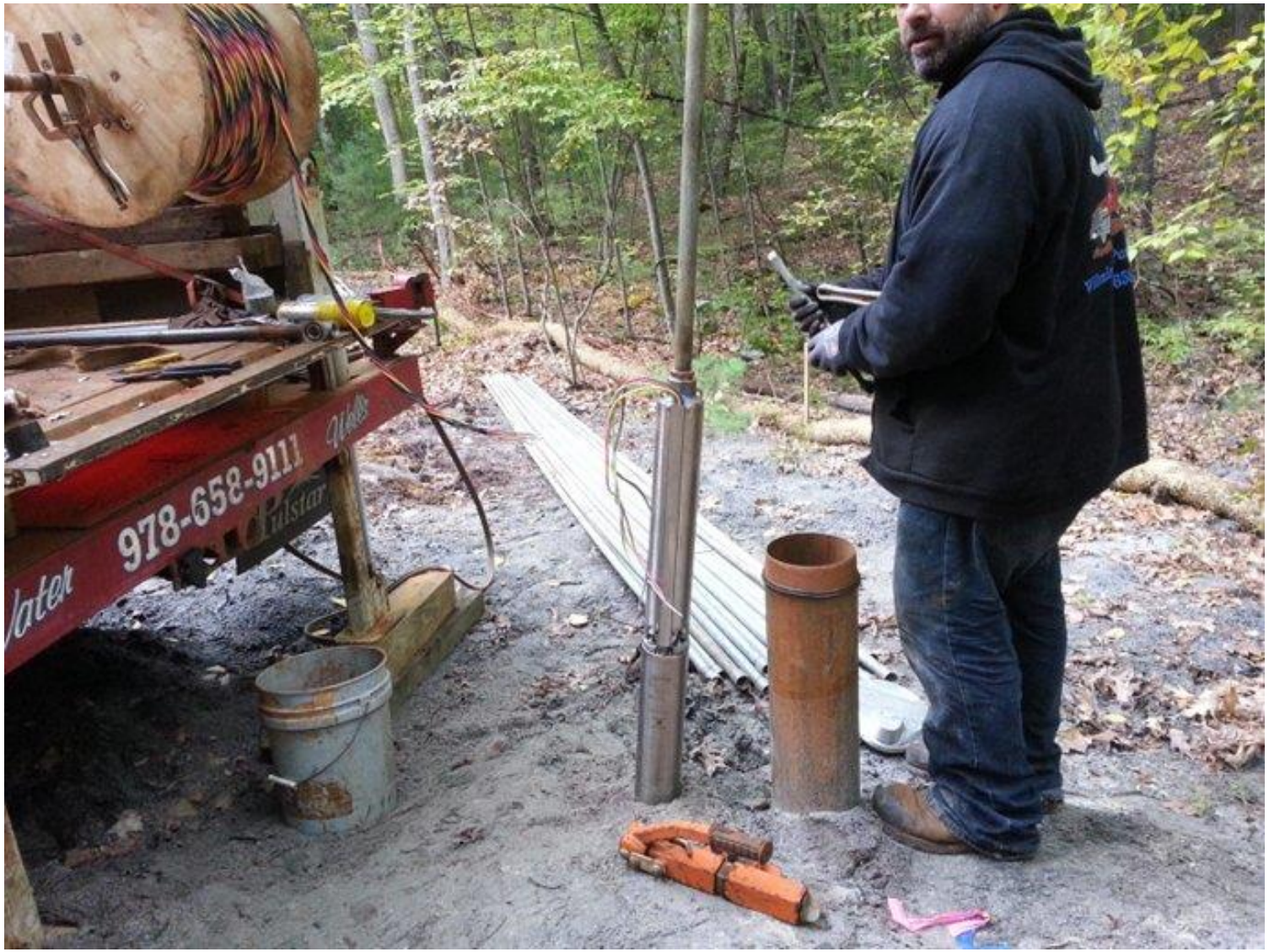
How is a Bedrock Well Constructed

From the surface a cement-grout mixture is injected through a tube down into the bottom of the casing where it fills the space within the casing and around the outside of the casing. The purpose of the grout is to prevent a common well problem, seepage of contaminated surface water down into the well. Once the grout has hardened, drilling resumes and the hole is advanced to a depth where sufficient water fractures have been encountered to meet the water demand.

Preparing a Public Water Well for Grouting

How is a Bedrock Well Constructed

The last step is the installation of a pump capable of bringing the water to the surface.



Pump Installation

How is the System Operated

All permitted public wells are required by MassDEP to be a registered water company and operated as such with operating and maintenance budgets, water sampling schedules, backup plans, and regular operating inspections. Operation and sampling are typically contracted to private companies specializing in well water systems.