

## Ground source heat pump boring

### Introduction

In Chapters 173-160-111 (32) and 173-160-410 (4) WAC (Washington Administrative Code) it defines ground source heat pump boring as “a vertical boring constructed for the purpose of installing a closed loop heat exchange system for a ground source heat pump.”

Currently, the most common use of a ground source heat pump boring is for large commercial or government building heating and cooling systems. The most common loop material is high-density polyethylene pipe. The average boring depth is about 300-feet. And the most common installation method is with mud-rotary drilling. Hundreds of these wells are constructed in Washington every year.

### **Q: Who can construct or decommission a ground source heat pump boring?**

**A:** A ground source heat pump boring is considered both a water well and a resource protection well; a Washington State well operator’s license with either a water well or resource protection endorsement is required.

### **Q: Who is exempt from the licensing requirement?**

**A:** Chapter 18.104.180 RCW (Revised Code of Washington) exempts Washington State licensed engineers, architects, and land surveyors from further licensing requirements. They must directly supervise the work and comply with all other requirements of law and rule.

### **Q: What do I need to do first when I construct a ground source heat pump boring?**

**A:** Make sure a NOI (Notice of Intent) has been sent to Ecology and that the required fees have been paid at least 72-hours before construction begins.

### WHY IT MATTERS

This is a summary of questions and answers regarding the laws and regulations of ground source heat pump boring.

The licensed well driller is responsible for understanding:

- Chapter 18.104 RCW: the Water Well Construction Act (1971)
- Chapter 173-160 WAC: Minimum standards for Construction and Maintenance of Wells, and
- Chapter 173-162 WAC: Rules and Regulations Governing the Regulation and Licensing of Well Contractors and Operators.

### Contact information:

Bill Lum

(360) 407-6648

[blum461@ecy.wa.gov](mailto:blum461@ecy.wa.gov)

### Special accommodations:

If you need this publication in an alternate format, call the Water Resources Program at 360-407-6872. Persons with hearing loss, call 711 for Washington Relay Service. Persons with a speech disability, call 877-833-6341.

**Q: Who is responsible for submitting the NOI?**

**A:** It is the responsibility of the property owner (or owner's agent) to inform Ecology that a ground source heat pump boring will be constructed or decommissioned 72-hours in advance of any work. It is the drillers' responsibility to make sure that no work occurs until that time has passed.

**Q. Do I file a well report if I construct or decommission a ground source heat pump boring?**

**A:** A well report must be filed with Ecology within 30-days of completion of construction or decommissioning the well.

**Q: What is the fee for a ground source heat pump boring?**

**A:** The fee for a ground source heat pump boring is \$40 for construction of up to four ground source heat pump borings per project and \$10 for each additional ground source heat pump boring constructed on a project with more than four wells. The construction of all borings on one project can be reported on one NOI.

**Q: What is the minimum borehole size for a ground source heat pump boring?**

**A:** The borehole size for ground source heat pump borings must be of sufficient size to allow placement of the heat exchange loop and tremie tube to the bottom of the hole.

**Q: What type of grout may be used in a ground source heat pump boring?**

**A:** A bentonite grout with a minimum of twenty percent (20%) active (swelling) solids by weight is required.

**Q: Do I install a tag on a ground source heat pump boring?**

**A:** The driller is responsible for tagging every ground source heat pump boring that they construct within 30-days of completion of the well. The tags may be attached to the system manifold or other visible and conspicuous location.

**Q. What do I need to do first when I decommission a ground source heat pump boring?**

**A:** Make sure a NOI has been sent to Ecology and the required fees (\$20 per well) have been paid.

**Q. Who is responsible for decommissioning a ground source heat pump boring?**

**A:** The property owner is responsible for decommissioning the well.