



WATER WELL ABANDONMENT (CLAC 78034)



Ollison Estate

23737 SW Newland Road
Wilsonville, Oregon

Prepared for:

Estate of David Ollison

23737 SW Newland Road
Wilsonville, Oregon 97070

Issued on:

July 17, 2023

EVREN NORTHWEST, INC.

Project No. 114-19002-04

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This

Water Well Abandonment

(CLAC 78034)

For the:

Ollison Estate

23737 SW Newland Road
Wilsonville, Oregon

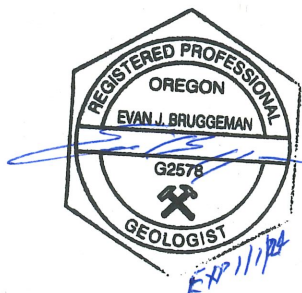
Has been prepared for the sole benefit and use of our Client:

Estate of David Ollison

23737 SW Newland Road
Wilsonville, Oregon 97070

and its assignees

Issued July 17, 2023 by:



EVRENNORTHWEST INC.
environmental natural resource consultants



Evan Bruggeman, R.G.
Principal Field Geologist

Paul M Trone, R.G.
Principal Geologist

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List of Acronyms and Abbreviations

bgs	below ground surface
Client	Ollison Estate
CMMP	Contaminated Media Management Plan
DRO	diesel-range organics
ENW	EVREN Northwest, Inc.
EPA	US Environmental Protection Agency
ESA	Environmental Site Assessment
GRO	gasoline-range organics
ID	inside diameter
IRAP	Interim Remedial Action Plan
Ma	million years ago
mg/Kg	milligrams per kilograms
OAR	Oregon Administrative Rules
ODEQ	Oregon Department of Environmental Quality
OWRD	Oregon Water Resources Department
ORS	Oregon Revised Statutes
PCS	petroleum-contaminated soil
RRO	residual (oil)-range organics
Sippel	Sippel Well Drilling, Inc.
SLRBC	screening level risk-based concentration
SOW	scope of work
Tcr	Tertiary Columbia River Basalt Group
UAI	Universal Applicators, Inc.
USGS	U.S. Geological Society
UST	underground storage tank

1.0 Introduction

EVREN Northwest, Inc. (ENW) has prepared this Water Well Abandonment Report on behalf of the Estate of David Ollison (Client) for the property located at 23737 SW Newland Road in Wilsonville, Oregon (subject site - see Figures 1 and 2). ENW contracted the services of Sippel Well Drilling (Sippel) of Salem, Oregon to provide well abandonment services.

This report is for the exclusive use of the Client and their representatives and authorized agents.

2.0 Background and History

Three underground storage tanks (USTs) were previously located on the property, two of which contained gasoline and diesel motor fuel located outside a building compound that includes two greenhouses and a storage shed, and one of which contained residential heating oil tank located next to the onsite residence. A release of petroleum hydrocarbons was first suspected in November 2018, when a sample of ground water from an old well on the property was found to contain gasoline-range organics (GRO), diesel-range organics (DRO), and residual (oil)-range organics (RRO) at concentrations exceeding Oregon Department of Environmental Quality (ODEQ) screening level risk-based concentrations (SLRBCs).

In 2019, Universal Applicators, Inc. (UAI) decommissioned by removal one of the motor fuel USTs and the residential heating oil tank and excavated approximately 14 tons of petroleum-contaminated soil (PCS) from the former tank excavations. Up to 36,800 milligrams per kilogram (mg/Kg) GRO and up to 7,650 mg/Kg DRO remained in-place at the final excavation limits of the former tank locations.

Between December 2021 and February 2022, ENW further characterized the magnitude and extent of soil and ground water impacts by installing 11 soil borings and collecting soil and reconnaissance ground water samples from the borings for laboratory analysis of petroleum hydrocarbons and petroleum-related constituents,¹ with the following findings:

- Soil impacts beneath one of the fuel USTs extending to the shallow ground water table.
- Impacts to the shallow ground-water table at the former heating oil tank location, just north of the old well location.
- The presence of dissolved petroleum impacts in shallow ground water extending from two of the former tank locations toward the subject property's northern and northwestern property boundaries. The former old water well location was within the project plume margins.

ENW's approved *December 2022 Interim Remedial Action Plan* (IRAP)² proposes a combination of interim remedial actions to address residual soil and ground water impacts. This report documents the abandonment of the old water well on the subject site.

¹ ENW, May 11, 2022. *Focused Site Investigation*, Estate of David Ollison, 23737 SW Newland Road, Wilsonville, Oregon.

² ENW, December 27, 2022. *Interim Remedial Action Plan*, Ollison Estate, 23737 SW Newland Road, Wilsonville, Oregon, Agency Information ODEQ LUST File Number 03-19-1934, Prepared for: Estate of David Ollison.

3.0 Site Description

The following general site setting information was gathered during ENW's previous investigations of the subject property.

3.1 Site and Vicinity General Description

The subject site is in a rural residential zoning district in unincorporated Clackamas County 3.8 miles northeast of Wilsonville, Oregon, and 2 miles east of Interstate 5. The subject site is a rectangular 4.74-acre parcel of land on the west side of SW Newland Road developed with a residence, a detached garage/shop building and greenhouses. A "new" water well installed in 1994, replacing an "old" well, and currently provides domestic water to the property. Surrounding land use is a mix of low-density residential and agricultural use.

3.2 Geographic Setting

The subject site lies in an upland area within an eastern uplifted extension of the Chehalem Mountains. The subject property is at an approximate elevation of 500 feet above mean sea level and slopes generally to the northeast (see Figure 1). Surrounding topography is hilly with local elevations rising moderately to around 590 feet to the south and dropping northeastward down to the Tualatin River.

The nearest surface water to the subject property is the headwaters of an unnamed creek several hundred feet to the west. The creek flows north-northeast to the Tualatin River, then eventually joins the Willamette River at its confluence near the town of Willamette. The Willamette River flows generally north from there to the Columbia River 21 miles to the north.

3.3 Geology and Soils

The site and surrounding uplands are located on an uplifted section of the Columbia River Basalt Group (CRBG) of Miocene age (Tcr). The CRBG are comprised of lava flows of gray tholeiitic basalt emplaced in the north Willamette Valley approximately 15 Ma (or million years ago), locally porphyritic and deeply weathered. This geologic unit also may be overlain by alluvium, colluvium, loess, and landslide debris. Cataclysmic flood deposits of the Pleistocene age underlie most of the surrounding lower elevations to the north and west of the site.

Subsurface conditions encountered in soil borings completed during site characterization activities consisted of basalt fragments and multi-colored interstitial fine-grained sediments. These materials are consistent with the upper weathered zone of the underlying CRBG flows. Borings encountered silts, sands and basalt with orange, red, yellow, and brown clayey weathered materials, including weathered and fractured basalt rock to the maximum depth explored of 27.5 feet below ground surface (bgs). Sediments are interpreted as highly weathered CRBG which underlie the area.

3.4 Ground Water

The regional ground aquifer from which local wells derive their water occurs at depths below 300 feet according to a well log for the onsite water well obtained from the Oregon Water Resources Groundwater Resource Information Database. Well driller's notes from the well log (CLAC 74697, the new well on the

subject site) describe the productive aquifer from 329 to 420 feet bgs within a fractured porous basalt layer.

Depth to ground water in the old well was measured at 291 feet bgs prior to decommissioning.

4.0 Scope of Work

4.1 Tasks

ENW completed the following primary tasks to meet the objective for this project:

- Prepared a Health and Safety Plan and field work plans.
- Subcontracted with Sippel to provide equipment and licensed drillers to perform the abandonment operations.
- Called in public utility locates prior to starting abandonment activities.
- Coordinated a private utility locate to ensure that no active utilities were connected to the existing well.
- Abandoned the onsite water well according to State standards, and prepared and submitted State of Oregon Water Supply Well Reports to meet Oregon Revised Statutes (ORS) 537.765 promulgated by Oregon Administrative Rules (OAR) 690-205-0210.
- An ENW Geologist supervised well abandonment operations.
- Prepared this report documenting work.

5.0 Well Abandonment

This section describes the general methods and procedures used in performing the water well abandonment services.

5.1 Pre-field Activities

Prior to abandonment:

- Sippel submitted a start card to the Oregon Water Resource Department (OWRD) in accordance with reporting requirements of OAR 690-240-0375.
 - Start Card #222014 – CLAC 78034, abandonment

5.2 Well Abandonment

On June 20, 2023, Sippel mobilized to the site. The well cap atop the 6-inch steel well casing was removed to provide access to the well interior. The total depth of the well was measured to be approximately 312 feet bgs and suggested little to no sediment accumulation in the well bottom.

Due to access restrictions to the well head, Sippel requested a variance from OWRD authorizing in-place abandonment of the well using 3/8" bentonite chips. A Special Standards Request Form was submitted to

OWRD on June 20, 2023. On that same day, Sippel received verbal authorization to proceed with in-place abandonment using 3/8" bentonite chips. Written approval was issued by OWRD on June 21, 2023, and a copy of the letter is included in Appendix B.

Bentonite "Holeplug" (3/8" chips) was the primary product used for abandoning the well. Bags weighing 50 pounds each were gradually emptied into the well through a chute that allowed fines to separate from the chips. Well depth was regularly checked to ensure that chips did not create a "bridge" resulting in void spaces within the well casing. In total, 106 bags (5,300 lbs) of bentonite chips were introduced to the well, bringing the level of hydrated bentonite to within a few feet of the ground surface.

Using an oxyacetylene torch, Sippel cut the steel casing below the surface of the surrounding concrete slab. The upper portion of the casing was removed and the remaining space was filled with Portland cement grout and finished to match the surrounding concrete slab.

Photographs of abandonment activities are included in Appendix A.

5.3 Waste Disposal

Due to the approved abandonment variance, no waste was generated during the abandonment project that required offsite disposal.

5.4 Reporting

A well abandonment log was filed with OWRD by Sippel in accordance with OAR 690-205-0210 (included in Appendix B of this report).

6.0 Discussion

The onsite water well identified as CLAC 78034 was abandoned by licensed Oregon Well Drillers according to State regulations, and appropriate documentation has been provided to the Oregon Water Resources Department. No further investigation or actions regarding this well are recommended at this time.

7.0 Limitations

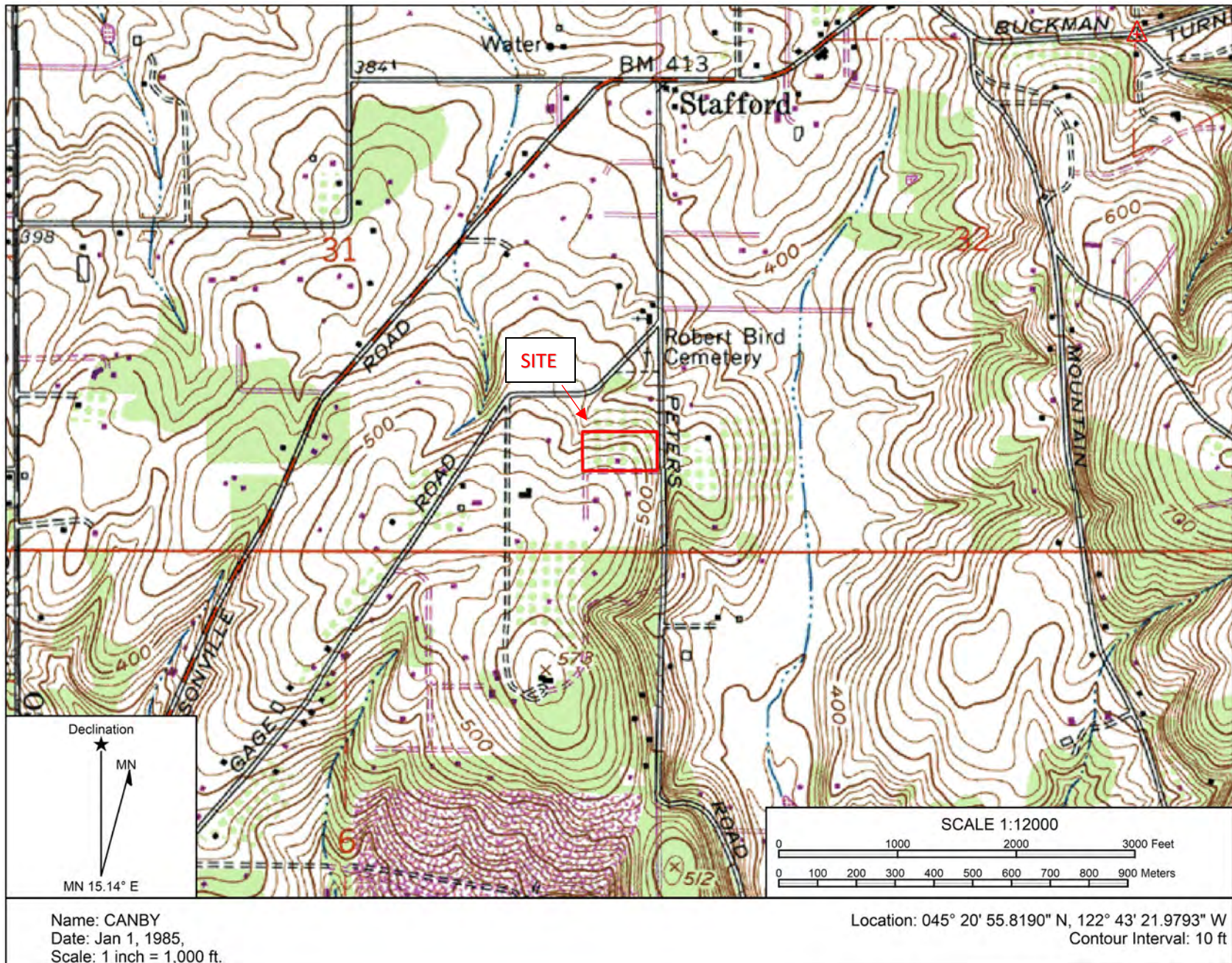
This Water Well Abandonment Report (Report) is reflective of site conditions discovered through environmental site assessments, as well as information provided by others and interpretations of qualified parties. We have performed our services for this project in accordance with our agreement and understanding with the client. This document and the information contained herein have been prepared solely for the use of the client and its representatives.

Required actions described in this Report are consistent with State of Oregon and Oregon Department of Environmental Quality rules, regulations and guidance enforce and available as of the Report issue date.

ENW performed this study under a limited scope of services per our agreement. No warranties are expressed or implied concerning potential contaminants or environmental media not addressed through sampling and analysis. EVREN Northwest is not responsible for conditions or consequences arising from information not available at the time of Report preparation. This Report was prepared in accordance with

generally accepted professional practice in the area at this time for the exclusive use of our client and their agents or authorized third parties. No other warranty, either expressed or implied, is made.

Figures



Date Drawn: 4/10/2023
CAD File Name: 114-19002-
fig1sv_map
Drawn By: CLR
Approved By: LDG

Ollison Property
23737 SW Newland Road
Wilsonville, Clackamas County, Oregon

**Site Vicinity
Map**

Project No.
114-19002
Figure No.
1

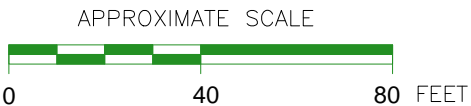


LEGEND:

- | | |
|--|------------------------------|
| | SUBJECT BUILDINGS |
| | SUBJECT PROPERTY BOUNDARIES |
| | DOMESTIC WELL |
| | DECOMMISSIONED DOMESTIC WELL |

NOTES:

1. BASE MAP DEVELOPED FROM AN AERIAL PHOTOGRAPH MAP DATED 2018 AND BOTH UAI AND ENW FIELD NOTES.
2. ALL BUILDING, STREET, AND FEATURE LOCATIONS ARE APPROXIMATE.
3. SYMBOLS REPRESENT LOCATION AND DO NOT ALWAYS REPRESENT EXACT SHAPE, SIZE, OR ORIENTATION.



PO BOX 14488, PORTLAND, OREGON 97293
P: (503)452-5561, E: ENW@EVREN-NW.COM

FIGURE 2

SITE PLAN

OLLISON PROPERTY
23737 SW NEWLAND ROAD
WILSONVILLE, CLACKAMAS COUNTY, OREGON

Appendix A

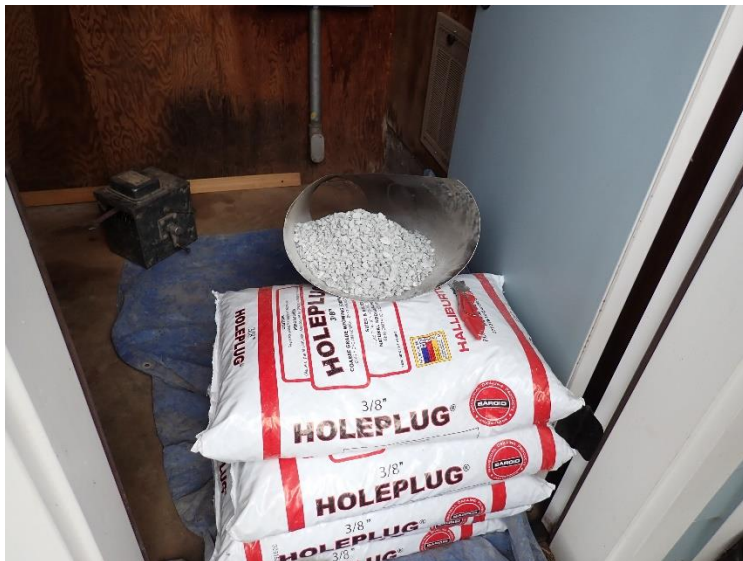
Site Photographs



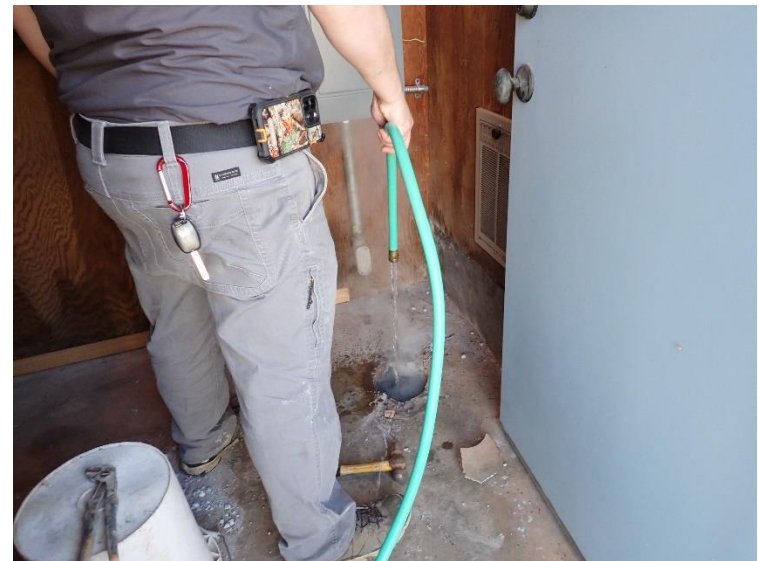
Determining depth to water and total depth in well



Tracking the quantity of bentonite used



Adding bentonite chips to fill well



Hydrating bentonite in well



Ollison Estate Well Abandonment
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Wilsonville, OR 97070

Site Photographs

Project No.
114-19002-04



Measuring depth of bentonite in well



Topping off decommissioned well with concrete



Cutting off well casing below concrete grade



Concrete brought up to grade with the floor



Ollison Estate Well Abandonment
23737 SW Newland Rd
Wilsonville, OR 97070

Site Photographs

Project No.
114-19002-04

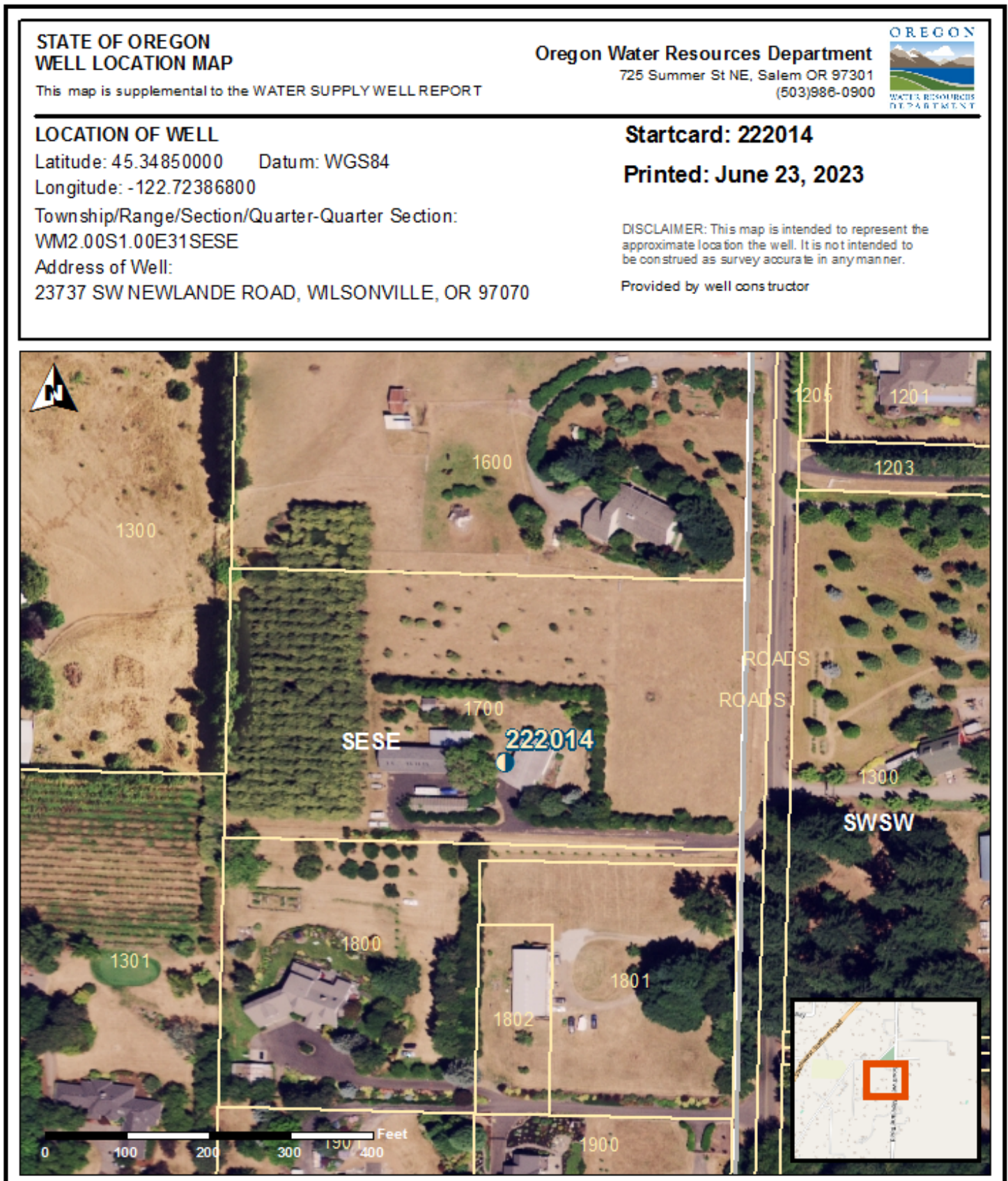
Well Abandonment Documents

WATER SUPPLY WELL REPORT - Map with location identified must be attached and shall include an approximate scale and north arrow

CLAC 78034

6/23/2023

Map of Hole





Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem Oregon 97301-1266
(503) 986-0900
www.wrd.state.or.us

Special Standards

Request Form

REQUEST FOR WRITTEN APPROVAL TO USE CONSTRUCTION METHODS NOT INCLUDED IN OREGON ADMINISTRATIVE RULES 690-200 THROUGH 690-240

Before the request can be considered, this form must be completed. Requests shall be submitted to the Well Construction Program Coordinator, Water Resources Department, 725 Summer Street NE, Suite A, Salem OR 97301-1266. Requests may also be considered by the appropriate Regional Manager.

Date of request: June 20 Oral approval date (if applicable): _____

Bonded Well Constructor (name, license #, and mailing address): Sippel Well Drilling, Inc
Lic #1273 7195 lawnridge St. NE Keizer, OR. 97303

(1) Location of Well: SE 1/4 SE 1/4 Tax lot 1700 Section 31,
Township 2-S N, Range 1-E W, Clackamas County
Address at well site: 23737 SW Newland Rd.
Wilsonville, OR. 97070

(2) Start Card Number(s)(for work to be done): 222014

(3) Name and Address of Land Owner: Daniel Wehrman

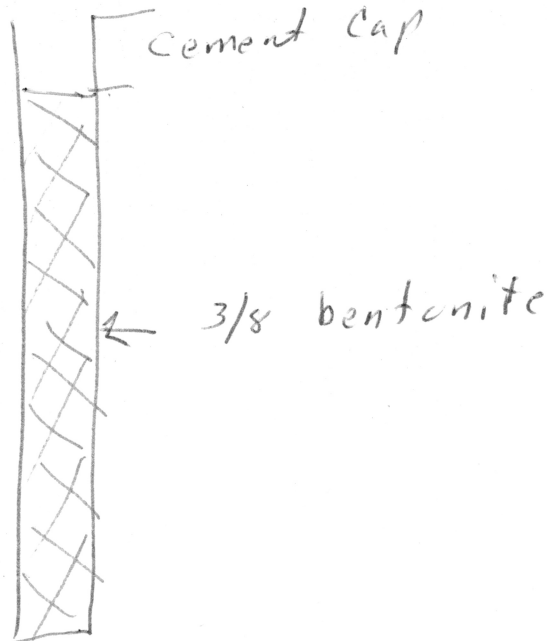
(4) Distance to the nearest septic tank, drainfield, closed sewage line (if water supply well)
100' +

(5) The unusual site conditions which necessitate this request: Well inside house
and under power lines

(6) The proposed construction methods that the bonded well constructor believes will be adequate for this well: (attach additional pages if needed)

Abandon in place with 3/8 bentonite

- (7) Diagram showing the pertinent features of the proposed well design and construction:
(attach additional pages if needed)



PLEASE NOTE:

- (1) The Well Construction Standards serve to protect ground water resources. By approving and issuing this special construction standard the Oregon Water Resources Department is not representing that a well constructed in accordance with this condition will maintain structural integrity or that it meets engineering standards. The well constructor/or landowner is responsible for ensuring that a well is constructed in a manner that protects ground water resources as required under Oregon Administrative Rules 690-200 through 690-240.
- (2) If it should be determined at some future date that the well, due to its construction, is allowing ground water contamination, waste or loss of artesian pressure, the undersigned shall return to the site and rectify the problem.
- (3) If oral approval was granted, a written request must be submitted to the Department either within three (3) working days of the date of oral approval or prior to the completion of the associated well work. Failure to submit a written request as described above may void prior oral approval.

I have read and understand the above information. I further attest that the information provided is accurate to the best of my knowledge.

Bonded Constructor Signature: _____

Floyd Spivey



Oregon

Tina Kotek, Governor

Oregon Water Resources Dept

725 Summer St NE, Ste A Salem, OR 97301

Ph (503) 986-0900, Fax (503) 986-0904

www.oregon.gov/owrd

June 21, 2023

FLOYD SIPPEL WWC/MWC #1273
SIPPEL WELL DRILLING INC
7195 LAWRIDGE ST NE
KEIZER, OR 97303

FINAL ORDER

Dear Mr. Sippel:

The Special Standards Request Form you submitted for owner: Daniel Wehrman, Start Card number: 222014, is hereby approved for the following: You may decommission this water supply well as outlined on your Special Standards Request Form dated June 20, 2023. All other well abandonment standards apply as required under Oregon Administrative Rules 690-220. A copy of your Special Standards Request Form is enclosed.

Approval of this Special Standards Request was granted on June 20, 2023, due to the photos you provided showing the lack of access for a drilling machine to the well location.

Verbal approval of this Special Standards Request was provided on June 20, 2023.

The Well Construction Standards serve to protect ground water resources. By approving and issuing this special construction standard the Oregon Water Resources Department is not representing that a well constructed in accordance with this condition will maintain structural integrity or that it meets engineering standards. The well constructor/or landowner is responsible for ensuring that a well is constructed in a manner that protects ground water resources as required under Oregon Administrative Rules 690-200 through 690-240.

If you have any questions concerning this letter, I may be contacted at (503) 302-8618, or by e-mail at Tommy.K.Laird@water.oregon.gov.

Sincerely,

Tommy Laird
Well Construction Program Coordinator
Well Construction Section

enclosure

cc: Ryan Pillsbury, Well Inspector, Northwest Region
Josh Lucas, Well Inspector, Northwest Region

This is a FINAL ORDER other than contested case. This final order is subject to judicial review under ORS 183.484. Any petition for judicial review of the final order must be filed within the time specified by ORS 183.484(2). Pursuant to ORS 536.075 and OAR 137-004-0080 you may either petition for judicial review or petition the Director for reconsideration of this order. A petition for reconsideration may be granted or denied by the Director, and if no action is taken within 60 days following the date the petition was filed, the petition shall be deemed denied.