PUBLIC HEALTH DIVISION
Center for Health Protection, Drinking Water Services
Kate Brown, Governor

Oregon Health Authority

800 NE Oregon Street, Ste 640
Portland, Oregon 97232
Voice (971) 673-0405
FAX (971) 673-0694
TTY (971) 673-0372
http://oregon.gov/DHS/ph/dwp/index.shtml

September 6, 2018

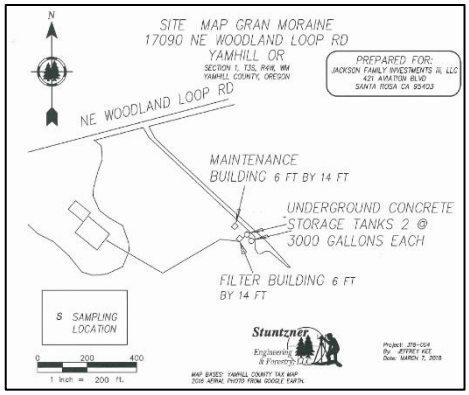
Jeffrey Kee
Gran Moraine Winery (PWS #95573)
13642 NW Riverview Drive
Portland, OR 97231-2200

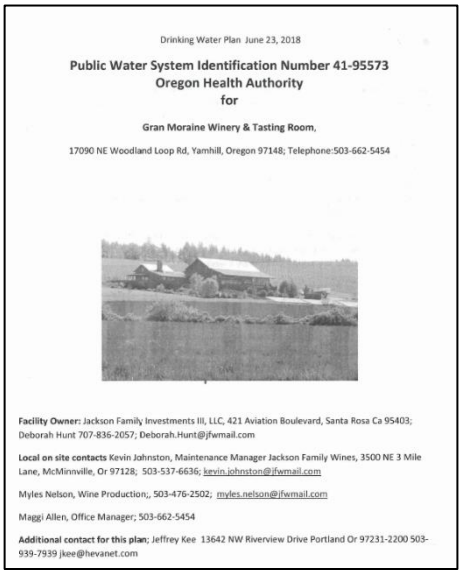
Re: **Two 3,000-gallon tanks and related secondary treatment**
Gran Moraine Winery (PWS #95573)
Conditional Approval (Plan Review #101-2018)

Dear Mr. Kee:

Thank you for bringing in plan review documentation to our office on August 3, 2018 for the Gran Moraine Winery. The submittal was assigned plan review #101-2018. This plan review is for the two 3,000 gallon buried concrete storage tanks (filled with hauled water purchased from various municipal water providers). The review will also attempt to verify NSF certification for the pressure tank, UV system, charcoal filters, and water softener. It is noted that the well on-site will not be part of this review and shall not be connected in any way to the potable water system. Should approval for the well be desired, a separate submittal will be needed unless it is decided to include the review of this well under this current plan review.

The Gran Moraine Winery was activated as a new transient non-community water system on May 4, 2018 and is regulated as a licensed facility by the Oregon Department of Agriculture. The August 3, 2018 submittal indicated that water is purchased from any one of the suppliers listed in Table 1 and is trucked in to fill two buried 3,000-gallon concrete storage tanks. Water is then pumped from the tanks to a pressure tank. Treatment for secondary (non-health based) contaminants includes UV, cartridge and carbon filtration. This water serves 5 restrooms, one kitchen and a wine





Drinking Water Plan June 23, 2018

Public Water System Identification Number 41-95573
Oregon Health Authority
for

Gran Moraine Winery & Tasting Room,

17090 NE Woodland Loop Rd, Yamhill, Oregon 97148; Telephone:503-662-5454

Facility Owner: Jackson Family Investments III, LLC, 421 Aviation Boulevard, Santa Rosa Ca 95403; Deborah Hunt 707-836-2057; Deborah.Hunt@jfwmail.com

Local on site contacts Kevin Johnston, Maintenance Manager Jackson Family Wines, 3500 NE 3 Mile Lane, McMinnville, Or 97128; 503-537-6636; kevin.johnston@jfwmail.com

Myles Nelson, Wine Production;, 503-476-2502; myles.nelson@jfwmail.com

Maggi Allen, Office Manager; 503-662-5454

Additional contact for this plan; Jeffrey Kee 13642 NW Riverview Drive Portland Or 97231-2200 503-939-7939 jkee@hevanet.com

production area with multiple lab sinks and 8 hose faucets. Bottled water is also provided for employees and visitors throughout the facility.

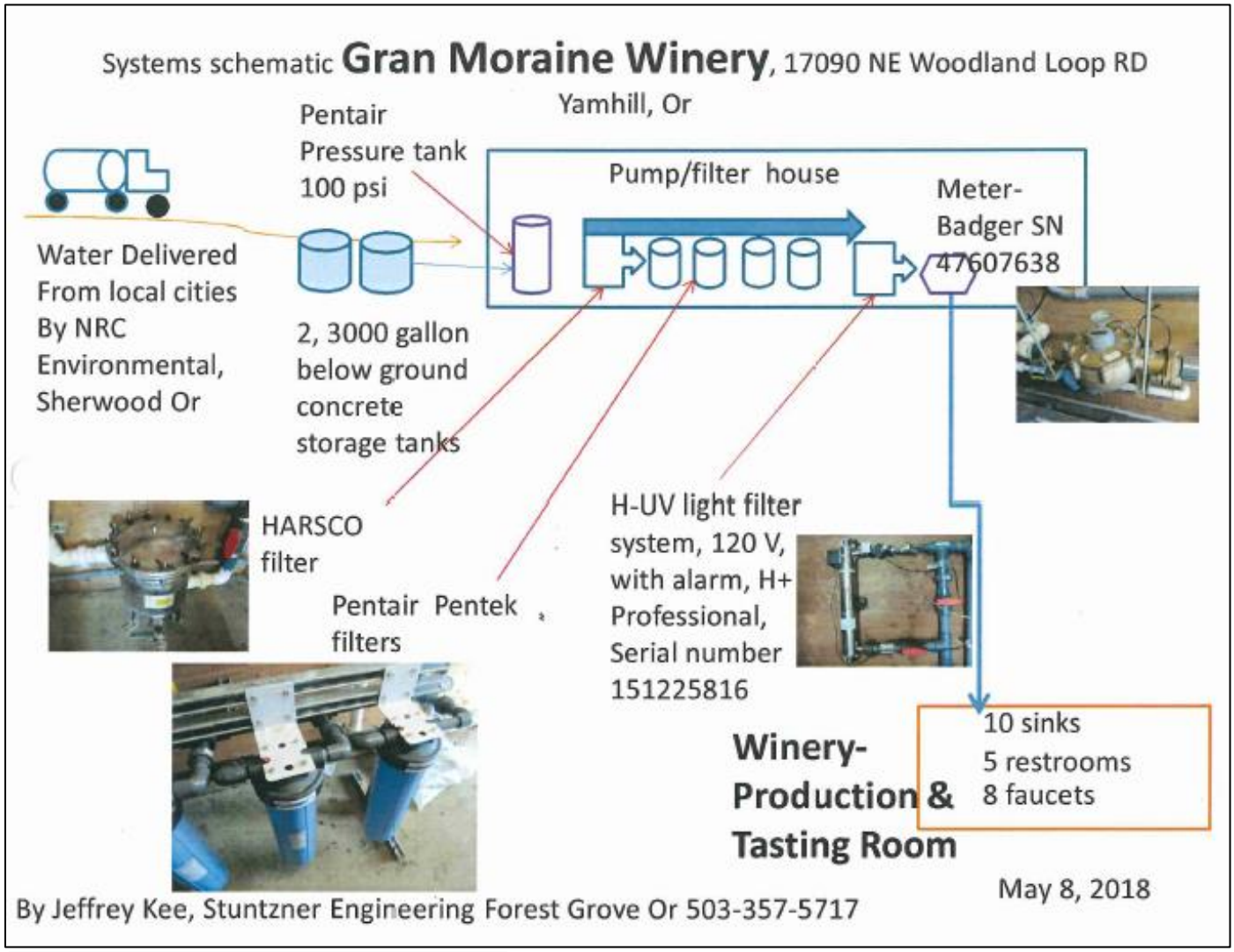
Table 1. Water Suppliers

PWS ID	Water System Name
00968	City of Yamhill (surface water)
00557	City of Newberg (groundwater)
00497	City of McMinnville (surface water)
00954	City of Wilsonville (surface water)
00557	City of Newberg (groundwater)
Not regulated under OAR 333-061	Thunderbird Springs – Pure Waters NW http://www.purewatersnw.com/

The system is comprised of the following:

1. Two 3,000-gallon buried concrete tanks (estimated to have been installed in 2008 by Cascade Water Systems on behalf of the previous landowner).
2. One Pentair Pressure Tank (NSF-61 approved)
3. One Harmsco (NSF-61 approved housing and cartridges)
4. Four Pentair Pentek DGD Series carbon filters (NSF-42 approved) – installed to improve taste.
5. One Viqua H+ UV system (Viqua model H+ Professional SN#151225816, lamp #602855) - not NSF-55 UV system.
6. One Badger flowmeter (SN#4760738) – Badger Recordall® positive displacement mechanical flowmeter (AWW C-700 NSF/ANSI 61 & 372). Measures 2.5-170 gpm with 2" flange or 2.5-120 gpm with 1.5" flange.

Potable water is delivered via truck to two underground 3,000-gallon buried concrete tanks. A pressure tank in the filter house is kept at 100 psi. Water is pumped from the tanks by a 1.0 HP, 25-gpm, 230v pump to the winery facility. The 6-ft x 14-ft filter building also houses UV, charcoal, and water softener systems. The storage tanks are accessed by 3-ft diameter manholes, secured with padlocks. The tanks and piping were installed by Cascade Water Systems and is currently maintained by Stettler Supply Company. The UV, carbon filter and softener systems were installed by Always Pure. A 2-inch underground PVC pipe delivers water 1,000-ft downhill southward entering the east end of the facility.


Systems schematic Gran Moraine Winery, 17090 NE Woodland Loop RD
Yamhill, Or
Pentair
Pressure tank
100 psi
Pump/filter house
Meter-
Badger SN
47607638
Water Delivered
From local cities
By NRC
Environmental,
Sherwood Or
2, 3000 gallon
below ground
concrete
storage tanks
HARSCO
filter
Pentair Pentek
filters
H-UV light filter
system, 120 V,
with alarm, H+
Professional,
Serial number
151225816
10 sinks
5 restrooms
8 faucets
Winery-
Production &
Tasting Room
May 8, 2018
By Jeffrey Kee, Stuntzner Engineering Forest Grove Or 503-357-5717


MERRILL

ATTACHMENT A

SITE MAP GRAN MORAINE
17090 NE WOODLAND LOOP RD
YAMHILL OR

SECTION 1, T3S, R4W, WM
YAMHILL COUNTY, OREGON

PREPARED FOR:
JACKSON FAMILY INVESTMENTS iii, LLC
421 AVIATION BLVD
SANTA ROSA CA 95403

N

0 200 400
1 inch = 200 ft.

S SAMPLING LOCATION

Certified Water Right Examiner
#60125
Jeffrey A. Kee
July 15, 2003
STATE OF OREGON
EXPIRES 06/30/2019

MAP BASES: YAMHILL COUNTY TAX MAP
2016 AERIAL PHOTO FROM GOOGLE EARTH.

Stuntzner Engineering & Forestry, LLC

Project: 318–004
By: JEFFREY KEE
Date: MARCH 7, 2018

Gran Moraine Winery Estate Parcel (Oregon)

The facilities are approved, provided the following conditions are met:

1. The land use is approved by Yamhill County Planning and Development (503-434-7516). Enclosed is a Land Use Compatibility Statement for your use.
2. Hauled water is potable and is obtained from a public water system regulated under OAR 333-061. Thunderbird Springs – Pure Water NW does not appear to be regulated under OAR 333-061. Earlier submittals indicate water is only hauled from the City of Yamhill, McMinnville Water and Light, and the City of Newberg.
3. A raw water sample tap that allows you to sample water prior to any treatment must be present.
4. A treated water sample tap (after all treatment and typically after any pressure tanks) that is used for routine entry point sampling must also be present.
5. The tanks need to be secured such that no insects can get into them (flies can carry fecal matter into tanks if they can get into them). The tanks must have a drain and overflow which drain to daylight and have a flap valve and/or screening that prevents insect and rodent intrusion. The tanks must also have an air vent which is screened. A #24 mesh stainless screen is recommended.
6. The concrete tanks must have sufficient reinforcing to prevent the formation of cracks, and water stops and dowels shall be placed at construction joints. Poured-in-place wall castings shall be provided where pipes pass through the concrete.
7. Since the tanks are at least partially below ground, the bottom of the tanks must be above the ground water table and footing drains discharging to daylight must be provided to carry away ground water which may accumulate around the perimeter of the tanks;
8. The concrete tanks must be equipped with a lockable watertight access hatch for cleaning and maintenance, a watertight roof, fence or other method of vandal deterrence, and an internal coating (if present) that meet NSF Standard 61.
9. NSF Standard 61 (or "NSF-PW") certification is required for all components that come in contact with potable water. This is generally stamped on manufactured products and is shown in most of the photos you sent. Please provide the make and model of treatment equipment so that this certification can be verified.
10. The existing "on-site" well mentioned in the "General Description" of the June 23, 2018 Drinking Water Plan must be physically disconnected from the system supplying potable water, since it has not been approved for use and may have potential contamination issues (e.g., connection to underground irrigation piping, process chemicals, and/or pesticide application facilities). A removable spool (can be made from flanges and gaskets) or piping that accommodates a short segment of hose will provide this separation and will make some allowance for an emergency connection if needed in the future.

These conditions are based on requirements in our construction standards on-line at: http://public.health.oregon.gov/HealthyEnvironments/DrinkingWater/Rules/Documents/61-0050.pdf. Construction standards for tanks are provided at the end of this letter for reference. You may refer to my 1/26/18 e-mail to you (included with this letter), which also addresses some of these requirements.

Please verify in writing that construction was completed in compliance with the conditions listed above. Documentation demonstrating how the above conditions were met should reference Plan Review #101-2018 and can be e-mailed to me at evan.e.hofeld@state.or.us or mailed to:

Attn: Evan Hofeld
OHA-Oregon Drinking Water Services
P.O. Box 14450
Portland, OR 97293-0450

Until we receive verification that the conditions listed above have been met and we have granted Final Approval for the project, the water system is not approved for use.

If you have any questions or would like this in an alternate format, please feel free to call me at (971) 673-0419.

Sincerely,

Evan Hofeld
Regional Engineer
OHA - Drinking Water Services

(6) Finished water storage:

(a) Distribution reservoirs and treatment plant storage facilities for finished water shall be constructed to meet the following requirements:

(A) They shall be constructed of concrete, steel, wood or other durable material capable of withstanding external and internal forces which may act upon the structure;

(B) Ground-level reservoirs shall be constructed on undisturbed soil, bedrock or other stable foundation material capable of supporting the structure when full;

(C) Steel reservoirs, standpipes and elevated tanks shall be constructed in conformance with the AWWA Standards D100 and D103;

(D) Concrete reservoirs shall be provided with sufficient reinforcing to prevent the formation of cracks, and waterstops and dowels shall be placed at construction joints. Poured-in-place wall castings shall be provided where pipes pass through the concrete;

(E) Wooden reservoirs shall be redwood or other equally durable wood and shall be installed on a reinforced concrete base. Where redwood reservoirs are used, separate inlet and outlet pipes are required and the water entering the reservoir must have a disinfectant continuously applied so as to result in a detectable residual in the water leaving the reservoir;

(F) Start-up procedures for new redwood tanks shall consist of filling the tank with a solution of water containing a minimum of two pounds of sodium carbonate per 1,000 gallons of water and retaining this solution in the tank a minimum of seven days before flushing;

(G) Where ground-level reservoirs are located partially below ground, the bottom shall be above the ground water table and footing drains discharging to daylight shall be provided to carry away ground water which may accumulate around the perimeter of the structure;

(H) The finished water storage capacity shall be increased to accommodate fire flows when fire hydrants are provided;

(I) Finished water storage facilities shall have watertight roofs;

(J) An access manhole shall be provided to permit entry to the interior for cleaning and maintenance. When the access manhole is on the roof of the reservoir there shall be a curbing around the opening and a lockable watertight cover that overlaps the curbing;

(K) Internal ladders of durable material, shall be provided where the only access manhole is located on the roof;

(L) Screened vents shall be provided above the highest water level to permit circulation of air above the water in finished water storage facilities;

(M) A drain shall be provided at the lowest point in the bottom of the storage facility and an overflow of sufficient diameter to handle the maximum flow into the tank shall be provided at or near the top of the sidewall. The outlet ends of the drain and overflow shall be fitted with angle-flap valves or equivalent protection and shall discharge to a watercourse or storm drain capable of accommodating the flow with a vertical separation between the bottom of the pipe and top of the receiving body or structure;

(N) A silt stop shall be provided at the outlet pipe;

(O) Where a single inlet/outlet pipe is installed and the reservoir floats on the system, provisions shall be made to insure an adequate exchange of water and to prevent degradation of the water quality and to assure the disinfection levels required in subparagraph (5)(c)(D) of this rule;

(P) A fence or other method of vandal deterrence shall be provided around distribution reservoirs;

(Q) When interior surfaces of finished water storage tanks are provided with a protective coating, the coating shall meet the requirements of NSF Standard 61: Drinking Water System Components - Health Effects or equivalent.

(R) Reservoirs and clearwells that are to be used for disinfection contact time to treat surface water shall use a tracer study to determine the actual contact time. The Authority must approve procedures and protocols for the tracer study prior to the initiation of the study. The Authority recommends the US EPA Guidance Manual for Compliance with the Filtration and Disinfection Requirements for Public Water Systems Using Surface Water Sources for a tracer study procedure and protocol.

(S) Reservoirs and clearwells that are to be used for disinfection contact time to treat surface water shall have a means to adequately determine the flow rate on the effluent line.

(b) Pressure tanks for finished water shall meet the following requirements:

(A) Pressure tanks shall be installed above normal ground surface;

(B) Bypass piping around the pressure tank shall be provided to permit operation of the system while the tank is being maintained or repaired;

(C) Pressure tanks greater than 1,000 gallons shall be provided with an access manhole and a water sight-glass.

(D) All pressure tanks shall be provided with a drain, a pressure gauge, an air blow-off valve, means for adding air and pressure switches for controlling the operation of the pump(s);

(E) Pressure tanks shall be constructed of steel or an alternative material provided the tank is NSF 61 certified and shall be designed for pressure at least 50 percent greater than the maximum system pressure anticipated.

STATE OF OREGON
DEPARTMENT OF HUMAN SERVICES
DRINKING WATER PROGRAM
LAND USE COMPATIBILITY STATEMENT

Certain plan review approvals for drinking water projects have been identified by the Department of Land Conservation and Development as Class B permits affecting land use. The Department of Human Services is therefore required by ORS 197-180, OAR 660-30-065 to - 070, OAR 660-31-010-040, the Department of Human Service=s state agency coordination program and OAR 333-61-062 to ensure that projects defined in OAR 333-61-062(1) are compatible with city and county comprehensive plans and land use regulations. This form or other acceptable documentation and necessary attachments must accompany each set of project plans to ensure that compatibility.

1. GENERAL INFORMATION

a. Project Title_____

b. Applicant_____
Name of Water System

c. Type of project_____
Treatment, Transmission, Storage, Distribution, Etc.

d. Project contact person_____
Engineer, owners, etc., including title

_____
Street Address

_____
City, State, Zip Code Phone

e. The local government entity* having comprehensive planning authority over the site of the proposed project is:

Agency Name_____Phone_____

Address_____Zip_____
(*If the proposed project is located within the jurisdiction of more than one planning authority, all entities must certify compatibility.)

f. If a statement of compatibility previously has been submitted to the Department to cover a master water system plan, of which this project is a segment, no further information is required. If such a statement has been filed, the date of the submittal was _____.

(Continued on the back)

LAND USE COMPATIBILITY DETERMINATION (Complete either 2 or 3)

2. PLANNING AUTHORITY STATEMENT: (To be completed by local planning authority)

a. I certify that this project has been reviewed for compatibility with:

1. ~ The acknowledged comprehensive plan and land use regulations.

2. ~ Statewide planning goals. The goals apply because:

~ There is no acknowledged plan, or
~ Conditions described in OAR 660-31-025(3) apply.

b. I find that this project **(circle one)** IS or IS NOT, compatible.
Attach appropriate land use decision(s) written findings as required in ORS 215.416 (8) or (9) or 227.173 (1) OR (2), or OAR 660-31-025 (2) or (3).

Signed_____ Title_____
Date_____

3. APPLICANT REQUEST FOR PLAN REVIEW APPROVAL

I hereby certify that I have applied to the local governments cited in 1.e above for a determination of compatibility with the local acknowledged plan or the statewide planning goals as applicable. I hereby request that the Department issue the plan review approval with the understanding that issuance of said approval is not a finding of compliance with the statewide planning goals or compatibility with the applicable, acknowledged comprehensive plan and land use regulations, but will be conditional, pending the applicant receiving a land use approval from each unit of local government. When signed, such approval shall be forwarded to the Department. I understand that plan review approval for this project will not be effective until and unless the Department of Human Services has received a copy of the land use approval and determined it to be complete and adequate.

Signed_____Title_____Date_____

Hofeld Evan E

From: Hofeld Evan E
Sent: Friday, January 26, 2018 5:36 PM
To: Jeffrey Kee
Subject: RE: drinking water at wineries
Attachments: 61-0050.pdf; lucs.pdf; PR-NewWells.pdf; CLAT_396.pdf

Hi Jeffrey,
Your system could be either a transient system or a non-transient non-community system, depending upon how many people are employed there and if there is a wine tasting room open to the public:

- Non-transient non-community systems serve 25 or more of the same people for 60 days out of the year or more (examples include schools and larger businesses like paper mills)
- Transient systems serve a transient population (like patrons of a wine tasting room) of 25 or more people for 60 days out of the year (examples include parks, convenience stores with their own wells, etc.)

We have a website for plan review information that will help give you an idea of what is required on-line at:
http://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/DRINKINGWATER/PLANREVIEW/Pages/index.aspx
Attached is a plan review packet for a well (see "PR-NewWells.pdf" file attached).

I'll summarize the basic steps here though

1) Submit plans (see below)
2) Plans are reviewed and approved for construction within 2 weeks – a Conditional Approval Letter will be sent to you
3) Once constructed, the engineer needs to submit record drawings (as-builts) and a statement indicating that the project was completed in accordance with the Conditional Approval Letter and our construction standards. Generally I will come out to inspect the well although Yamhill County may send someone out in my place.
4) A Final Approval letter is sent.
5) All the information gets added to our database, which is available for viewing by the public – see Stoller Family Estate for an example of what is posted on-line: https://yourwater.oregon.gov/inventory.php?pwsno=95530
6) The system will likely be assigned to Yamhill County for periodic inspections (every 5 years) and be available to assist with regulatory or technical questions.

What plans to submit:

1) The name of the winery or facility
2) Contact information like phone number and address for the person who is going to be responsible for maintaining/operating the water system or other on-site person in charge of the system.
3) Approximately the number of people to be served each day and the number of buildings or connections that will have piped water for human consumption.
4) For a new well (not constructed yet), I need a site map showing where the well is to be drilled with GPS coordinates. The plan needs to be approved prior to the well being constructed. Other information for related facilities (either planned or constructed) would need to be submitted as follows.
5) For an existing well, send in a copy of the well log or driller's report (an example is attached or click here if you need to find it on-line: http://apps.wrd.state.or.us/apps/gw/well_log/Default.aspx)
6) For either a new well or an existing well, I need a map showing the location of the well with GPS coordinates and that the water system owns the land within 100-ft of the well and the location of any hazards (old dump sites, buried oil tanks, septic fields, etc. If the land is not owned, restrictive easements will work – we can talk about that.
7) A land use compatibility statement signed by Yamhill County (form is attached that can be filled out and taken to Yamhill County (or the City planning department if within City limits)). See the "lucs.pdf" file attached.

8) How the well is plumbed (e.g. treatment room schematic and distribution system map) and what treatment is in place (provide make and model for treatment, tanks, pumps, etc. and any information on chemicals used). Distribution piping and type of pipe material (e.g. AWWA C-900 PVC or Schedule 40 PVC, etc.)
9) The well and other treatment, pressure tanks, etc. would need to meet construction standards under OAR 333-061-0050(2) – see attached "61-0050.pdf" file.
10) Well test results including arsenic, nitrate, and coliform bacteria taken as close to the wellhead as possible and prior to any treatment or storage tanks. Ongoing sampling will include annual sampling of nitrate and quarterly sampling for coliform bacteria.
11) The review fee would be $825:
    Please make checks payable to "OHA Drinking Water" and mail all plans, required information and fees to the address below:
    Attention: Plan Review
    OHA Drinking Water Services
    800 NE Oregon St, Ste 640
    Portland, OR 97232-2162

Hope that helps and let me know if you have any more questions.

Evan Hofeld, P.E.
Regional Engineer
OREGON HEALTH AUTHORITY
Public Health Division
Drinking Water Services
evan.e.hofeld@state.or.us
Desk: 971-673-0419
http://www.healthoregon.org/dwp

From: Jeffrey Kee [mailto:jkee@stuntzner.com]
Sent: Friday, January 26, 2018 12:47 PM
To: Hofeld Evan E <EVAN.E.HOFELD@dhsoha.state.or.us>
Subject: drinking water at wineries

Evan, how goes it? I heard you may have assisted in helping Stoller Vineyards set up and implement a 'transient' drinking water system for their winery? I have winery client owner that asked me to do a little research for them on the rules, procedures etc.

Might you have a template or guide that you could share with me that I can share with them?

Much appreciated.

Jeffrey Kee
Certified Water Rights Examiner/Professional Land Surveyor/Certified Erosion Sediment Control Lead

NOTE: our new location is 2318 Pacific Avenue, Suite B, Forest Grove, Or 97116

Stuntzner Engineering & Forestry LLC
Office 503-357-5717