

# Groundwater Application Review Summary Form

Application # G- 19253

GW Reviewer Phillip I. Marcy Date Review Completed: 11/09/2023

## Summary of GW Availability and Injury Review:

Groundwater for the proposed use is either over appropriated, will not likely be available in the amounts requested without injury to prior water rights, OR will not likely be available within the capacity of the groundwater resource per Section B of the attached review form.

## Summary of Potential for Substantial Interference Review:

There is the potential for substantial interference per Section C of the attached review form.

## Summary of Well Construction Assessment:

The well does not appear to meet current well construction standards per Section D of the attached review form. Route through Well Construction and Compliance Section.

*This is only a summary. Documentation is attached and should be read thoroughly to understand the basis for determinations and for conditions that may be necessary for a permit (if one is issued).*

**WATER RESOURCES DEPARTMENT**

**MEMO**

**November 9, 2023**

**TO:**            **Application G- 19253**

**FROM:**        **GW: Phillip I. Marcy**  
                    (Reviewer's Name)

**SUBJECT: Scenic Waterway Interference Evaluation**

**YES**            The source of appropriation is hydraulically connected to a State Scenic  
 **NO**             Waterway or its tributaries

**YES**  
 **NO**             Use the Scenic Waterway Condition (Condition 7J)

Per ORS 390.835, the Groundwater Section is **able** to calculate ground water interference with surface water that contributes to a Scenic Waterway. The calculated interference is distributed below

Per ORS 390.835, the Groundwater Section is **unable** to calculate ground water interference with surface water that contributes to a scenic waterway; **therefore, the Department is unable to find that there is a preponderance of evidence that the proposed use will measurably reduce the surface water flows necessary to maintain the free-flowing character of a scenic waterway**

**DISTRIBUTION OF INTERFERENCE**

*Calculate the percentage of consumptive use by month and fill in the table below. If interference cannot be calculated, per criteria in 390.835, do not fill in the table but check the "unable" option above, thus informing Water Rights that the Department is unable to make a Preponderance of Evidence finding.*

Exercise of this permit is calculated to reduce monthly flows in   [Enter]   Scenic Waterway by the following amounts expressed as a proportion of the consumptive use by which surface water flow is reduced.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date 11/09/2023  
 FROM: Groundwater Section Phillip I. Marcy  
 Reviewer's Name  
 SUBJECT: Application G- 19253 Supersedes review of \_\_\_\_\_  
 Date of Review(s)

**PUBLIC INTEREST PRESUMPTION; GROUNDWATER**

**OAR 690-310-130 (1)** *The Department shall presume that a proposed groundwater use will ensure the preservation of the public welfare, safety and health as described in ORS 537.525.* Department staff review groundwater applications under OAR 690-310-140 to determine whether the presumption is established. OAR 690-310-140 allows the proposed use be modified or conditioned to meet the presumption criteria. **This review is based upon available information and agency policies in place at the time of evaluation.**

**A. GENERAL INFORMATION:** Applicant's Name: Chris Robinson County: Yamhill

A1. Applicant(s) seek(s) 0.23 cfs from 2 well(s) in the Willamette Basin,  
 \_\_\_\_\_ subbasin

A2. Proposed use Nursery (9.1 acres) Seasonality: November 1<sup>st</sup> – February 28<sup>th</sup> (120 days)

A3. Well and aquifer data (attach and number logs for existing wells; mark proposed wells as such under logid):

Well	Logid	Applicant's Well #	Proposed Aquifer*	Proposed Rate(cfs)	Location (T/R-S QQ-Q)	Location, metes and bounds, e.g. 2250' N, 1200' E fr NW cor S 36
1	YAMH 453	3	Alluvium	0.23	5S/4W-8 SE-NW	890' S, 1520'E fr NE cor DLC 43
2	Proposed	4	Alluvium	0.23	5S/4W-7 SE-NE	2325'S, 650'W fr NE cor S 7
3						
4						

\* Alluvium, CRB, Bedrock

Well	Well Elev ft msl	First Water ft bls	SWL ft bls	SWL Date	Well Depth (ft)	Seal Interval (ft)	Casing Intervals (ft)	Liner Intervals (ft)	Perforations Or Screens (ft)	Well Yield (gpm)	Draw Down (ft)	Test Type
1	159	68	13.50	03/14/2022	137	0-18	0-75; 130-137	None	75-130	200	NA	Air
2	160	NA	NA	NA	150	0-30	0-150	Unknown	TBD	NA	NA	NA

Use data from application for proposed wells.

A4. **Comments:** The applicant proposes to develop groundwater from one existing well (YAMH 453) and one well yet to be constructed. YAMH 453 is previously authorized under rights originating from applications G-12381 (0.35 cfs from March-October) and G-18329 (up to 1.69 cfs from November-May). The location for proposed POA 2 is previously authorized under Permit G-18329 (up to 1.69 cfs from November-May). The combined rates of 1.69 cfs (Permit G-18329) and 0.23 cfs (this application) amount to a maximum authorization of 1.92 cfs, or 862 gallons per minute. The reported well yield on YAMH 453 is only 200 GPM, therefore it is questionable whether two wells will be able to produce the requested volumes.

A5.  **Provisions of the** Willamette Basin rules relative to the development, classification and/or management of groundwater hydraulically connected to surface water  **are,** or  **are not,** activated by this application. (Not all basin rules contain such provisions.)  
 Comments: The proposed wells are located greater than ¼ mile from a surface water body therefore the pertinent basin rules (OAR 690-502-0240) do not apply.

A6.  **Well(s) #** \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, tap(s) an aquifer limited by an administrative restriction.  
 Name of administrative area: \_\_\_\_\_  
 Comments: \_\_\_\_\_

**B. GROUNDWATER AVAILABILITY CONSIDERATIONS, OAR 690-310-130, 400-010, 410-0070**

B1. **Based upon available data**, I have determined that groundwater\* for the proposed use:

- a.  is over appropriated,  is not over appropriated, or  cannot be determined to be over appropriated during any period of the proposed use. \* This finding is limited to the groundwater portion of the over-appropriation determination as prescribed in OAR 690-310-130;
- b.  will not or  will likely be available in the amounts requested without injury to prior water rights. \* This finding is limited to the groundwater portion of the injury determination as prescribed in OAR 690-310-130;
- c.  will not or  will likely to be available within the capacity of the groundwater resource; or
- d.  will, if properly conditioned, avoid injury to existing groundwater rights or to the groundwater resource:
  - i.  The permit should contain condition #(s) 7N;
  - ii.  The permit should be conditioned as indicated in item 2 below.
  - iii.  The permit should contain special condition(s) as indicated in item 3 below;

- B2. a.  **Condition** to allow groundwater production from no deeper than \_\_\_\_\_ ft. below land surface;
- b.  **Condition** to allow groundwater production from no shallower than \_\_\_\_\_ ft. below land surface;
- c.  **Condition** to allow groundwater production only from the \_\_\_\_\_ groundwater reservoir between approximately \_\_\_\_\_ ft. and \_\_\_\_\_ ft. below land surface;
- d.  **Well reconstruction** is necessary to accomplish one or more of the above conditions. The problems that are likely to occur with this use and without reconstructing are cited below. Without reconstruction, I recommend withholding issuance of the permit until evidence of well reconstruction is filed with the Department and approved by the Groundwater Section.

**Describe injury** –as related to water availability– that is likely to occur without well reconstruction (interference w/ senior water rights, not within the capacity of the resource, etc): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

B3. **Groundwater availability remarks:** \_\_\_\_\_

Nearby well logs show 40 to 60 feet of Willamette Silt which is underlain by 40 to 60 feet of sand and gravel layers interbedded with silt and clay layers. Gannett and Caldwell (1998) and Woodward et al. (1998) noted that the productive sand and gravel beds occurring throughout the sequence are separated layers of lower permeability silts and clay which progressively confine the deeper water-bearing zones. The water table occurs approximately 20-30 feet below land surface in this region (Conlon et al., 2005, Woodward et al., 1998, and the well logs for YAMH 57192 and YAMH 453).

Proposed POA YAMH 453 has been measured Sporadically since 1995, and annually since 2008 (see attached hydrograph) under permit condition. These measurements show relatively stable long-term trends in the vicinity of the proposed POAs. However, increased groundwater development in the area indicates a need for additional water-level monitoring (7N) if this permit is issued.

The groundwater review for T-11854 references an interference test conducted on a well (owned by McRae) located approximately 830 feet from YAMH 453. That test resulted in approximately 2 feet of drawdown after 3 hours of pumping. From this, potential interference after 120 days of pumping was estimated to be 10 to 20 feet. Since nearby wells are approximately 100 to 150 feet deep with depth to water ranging from 8 to 26 feet (varying seasonally) it was concluded that well to well interference should not bring the water level near the bottom of YAMH 453. The cone of depression at this location is expected to be broad and shallow, and well to well interference is not expected to prevent nearby water rights from receiving water.

**C. GROUNDWATER/SURFACE WATER CONSIDERATIONS, OAR 690-09-040**

C1. **690-09-040 (1):** Evaluation of aquifer confinement:

Well	Aquifer or Proposed Aquifer	Confined	Unconfined
1	Alluvium	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	Alluvium	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>

**Basis for aquifer confinement evaluation:** The static water level within YAMH 453 rises significantly higher than the elevation at which water is produced, which lies beneath greater than 60 feet of Willamette Silt (Gannett and Caldwell., 1998), which is fine-grained enough to generally confine the subjacent coarse-grained alluvial aquifer. The proposed construction of POA 2 is likely to produce from the same water-bearing horizons.

C2. **690-09-040 (2) (3):** Evaluation of distance to, and hydraulic connection with, surface water sources. All wells located a horizontal distance less than ¼ mile from a surface water source that produce water from an unconfined aquifer shall be assumed to be hydraulically connected to the surface water source. Include in this table any streams located beyond one mile that are evaluated for PSI.

Well	SW #	Surface Water Name	GW Elev ft msl	SW Elev ft msl	Distance (ft)	Hydraulically Connected?			Potential for Subst. Interfer. Assumed?	
						YES	NO	ASSUMED	YES	NO
1	1	Salt Creek	~145	100-115	1820	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	1	Salt Creek	~145	100-115	1980	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	2	South Yamhill River	~145	95-100	4280	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	2	South Yamhill River	~145	95-100	2535	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Basis for aquifer hydraulic connection evaluation:** Published water-table maps indicate that groundwater in the alluvial aquifer flows toward, and discharges to, the South Yamhill River and its perennial tributaries (Woodward et al., 1998 Plate 1, and Conlon et al., 2005, Plate 1). However, there is a layer of low permeability Willamette Silt between the aquifer and the bottom of Salt Creek and the South Yamhill River above the productive water-bearing zone, so the connection is likely inefficient. The large distance between the wells and the South Yamhill River should likewise reduce seasonal interference.

**Water Availability Basin the well(s) are located within:** SALT CR > S YAMHILL R - AT MOUTH

C3a. **690-09-040 (4):** Evaluation of stream impacts for each well that has been determined or assumed to be **hydraulically connected and less than 1 mile** from a surface water (SW) source. Limit evaluation to instream rights and minimum stream flows that are pertinent to that SW source, not lower SW sources to which the stream under evaluation is tributary. Compare the requested rate against the 1% of 80% *natural* flow for the pertinent Water Availability Basin (WAB). If Q is not distributed by well, use full rate for each well. Any checked  box indicates the well is assumed to have the potential to cause PSI.

Well	SW #	Well < ¼ mile?	Qw > 5 cfs?	Instream Water Right ID	Instream Water Right Q (cfs)	Qw > 1% ISWR?	80% Natural Flow (cfs)	Qw > 1% of 80% Natural Flow?	Interference @ 30 days (%)	Potential for Subst. Interfer. Assumed?
1	1	<input type="checkbox"/>	<input type="checkbox"/>	IS 73562	0.4	<input checked="" type="checkbox"/>	9.76	<input checked="" type="checkbox"/>	<25%	<input checked="" type="checkbox"/>
2	1	<input type="checkbox"/>	<input type="checkbox"/>	IS 73562	0.4	<input checked="" type="checkbox"/>	9.76	<input checked="" type="checkbox"/>	<25%	<input checked="" type="checkbox"/>
1	2	<input type="checkbox"/>	<input type="checkbox"/>	IS 73562	0.4	<input checked="" type="checkbox"/>	9.76	<input checked="" type="checkbox"/>	<25%	<input checked="" type="checkbox"/>
2	2	<input type="checkbox"/>	<input type="checkbox"/>	IS 73562	0.4	<input checked="" type="checkbox"/>	9.76	<input checked="" type="checkbox"/>	<25%	<input checked="" type="checkbox"/>

C3b. **690-09-040 (4):** Evaluation of stream impacts by total appropriation for all wells determined or assumed to be **hydraulically connected and less than 1 mile** from a surface water source. **Complete only if Q is distributed among wells.** Otherwise same evaluation and limitations apply as in C3a above.

SW #	Qw > 5 cfs?	Instream Water Right ID	Instream Water Right Q (cfs)	Qw > 1% ISWR?	80% Natural Flow (cfs)	Qw > 1% of 80% Natural Flow?	Interference @ 30 days (%)	Potential for Subst. Interfer. Assumed?
	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>

**Comments:** Both wells are evaluated against the Salt Creek WAB, rather than the nearby S Yamhill River WAB, both because both well locations are within this WAB, but also because of its higher sensitivity due to much smaller summer flows. Stream depletion at 30 days is anticipated to be much less than 25% of the total pumping rate due to distance and the thick succession of Willamette Silt above the productive aquifer which is anticipated to greatly slow vertical migration of groundwater. PSI has been triggered on both POA wells for the proposed use due to the rate being greater than 1% of the 80% exceedance rate.

C4a. **690-09-040 (5):** Estimated impacts on **hydraulically connected surface water sources greater than one mile** as a percentage of the proposed pumping rate. Limit evaluation to the effects that will occur up to one year after pumping begins. This table encompasses the considerations required by 09-040 (5)(a), (b), (c) and (d), which are not included on this form. Use additional sheets if calculated flows from more than one WAB are required.

Non-Distributed Wells													
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
Distributed Wells													
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
(A) = Total Interf.													
(B) = 80 % Nat. Q													
(C) = 1 % Nat. Q													
(D) = (A) > (C)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
(E) = (A / B) x 100		%	%	%	%	%	%	%	%	%	%	%	%

(A) = total interference as CFS; (B) = WAB calculated natural flow at 80% exceed. as CFS; (C) = 1% of calculated natural flow at 80% exceed. as CFS; (D) = highlight the checkmark for each month where (A) is greater than (C); (E) = total interference divided by 80% flow as percentage.

**Basis for impact evaluation:** This section does not apply.

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C4b. **690-09-040 (5) (b)** The potential to impair or detrimentally affect the public interest is to be determined by the Water Rights Section.

- C5.  **If properly conditioned**, the surface water source(s) can be adequately protected from interference, and/or groundwater use under this permit can be regulated if it is found to substantially interfere with surface water:
  - i.  The permit should contain condition #(s) \_\_\_\_\_;
  - ii.  The permit should contain special condition(s) as indicated in "Remarks" below;

C6. SW / GW Remarks and Conditions: \_\_\_\_\_

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References Used: \_\_\_\_\_

Gannett, Marshall W., and Caldwell, Rodney R., 1998, Geologic Framework of the Willamette Lowland Aquifer System, Oregon and Washington: U. S. Geological Survey Professional Paper 1424-A.

\_\_\_\_\_

Hunt, B., 2003, Unsteady stream depletion when pumping from semiconfined aquifer: Journal of Hydrologic Engineering, January/February, 2003.

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Application review for G-18329, nearby G-15457 and T-11854

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**D. WELL CONSTRUCTION, OAR 690-200**

D1. Well #: \_\_\_\_\_ Logid: \_\_\_\_\_

D2. **THE WELL does not appear to meet current well construction standards based upon:**

- a.  review of the well log;
- b.  field inspection by \_\_\_\_\_;
- c.  report of CWRE \_\_\_\_\_;
- d.  other: (specify) \_\_\_\_\_

D3. **THE WELL construction deficiency or other comment is described as follows:** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

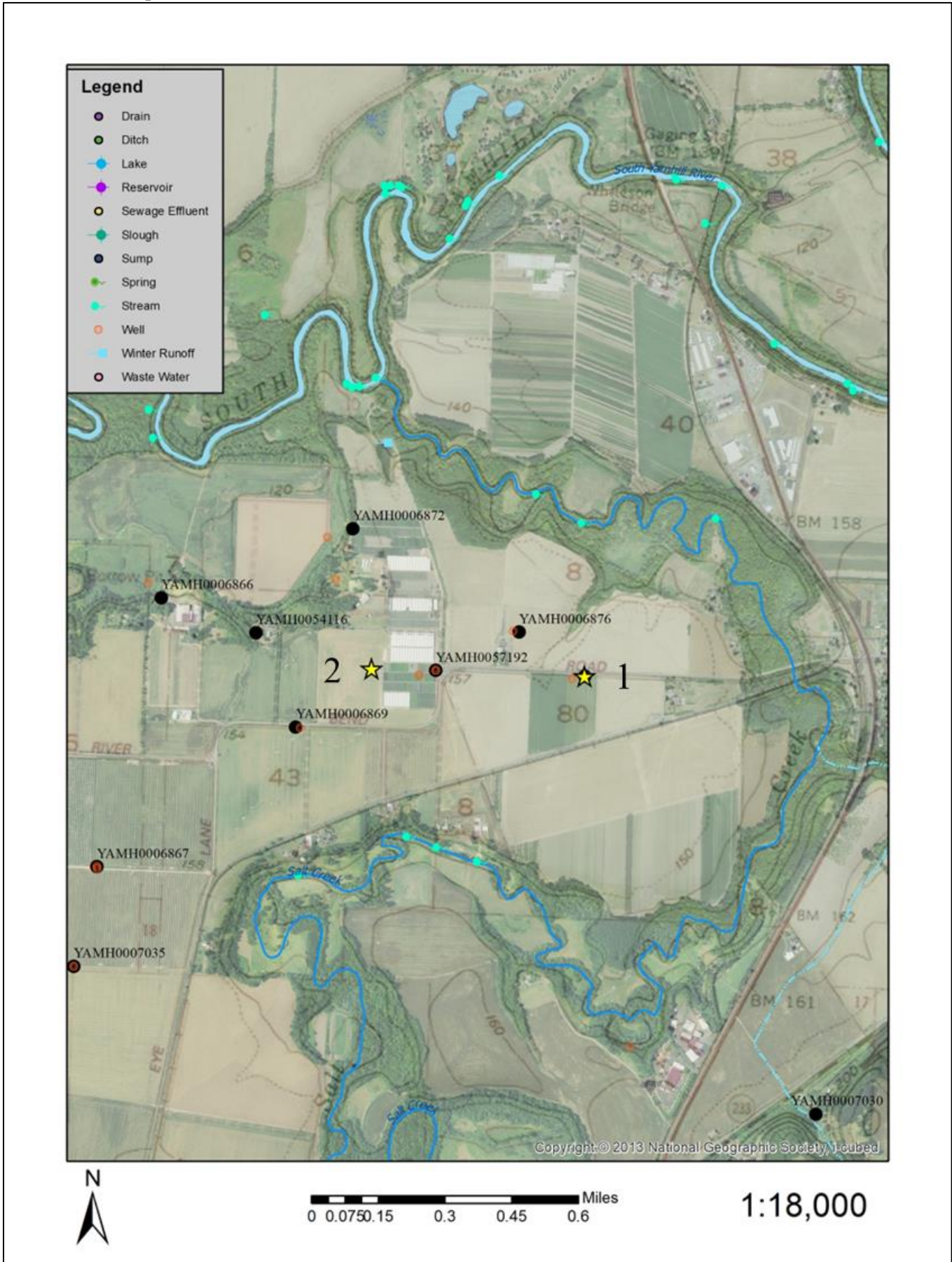
D4.  **Route to the Well Construction and Compliance Section for a review of existing well construction.**

**Water Availability Tables**

SALT CR > S YAMHILL R - AT MOUTH						
Watershed ID #: 73562		Basin: WILLAMETTE			Exceedance Level: 80	
Time: 9:26 AM					Date: 11/09/2023	
Month	Natural Stream Flow	Consumptive Use and Storage	Expected Stream Flow	Reserved Stream Flow	Instream Requirements	Net Water Available
Monthly values are in cfs. Storage is the annual amount at 50% exceedance in ac-ft.						
JAN	154.00	18.40	136.00	0.00	0.40	136.00
FEB	168.00	16.00	152.00	0.00	0.40	152.00
MAR	143.00	13.40	129.00	0.00	0.40	129.00
APR	75.10	5.68	69.40	0.00	0.40	69.00
MAY	43.90	7.36	36.60	0.00	0.40	36.20
JUN	27.30	14.90	12.40	0.00	0.40	12.00
JUL	18.30	18.40	-0.06	0.00	0.40	-0.46
AUG	12.90	14.70	-1.79	0.00	0.40	-2.19
SEP	9.76	7.39	2.37	0.00	0.40	1.97
OCT	10.00	1.19	8.83	0.00	0.40	8.43
NOV	22.40	4.43	18.00	0.00	0.40	17.60
DEC	107.00	16.90	90.10	0.00	0.40	89.70
ANN	92,900	8,370	84,700	0	290	84,400



### Well Location Map



Water-Level Measurements in Nearby Wells

