Groundwater Application Review Summary Form

Application # G- 19459

GW Reviewer Stacey Garrison Date Review Completed: 1/3/2025

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 **_January 3 2025_**

TO: **Application** G-**_19459_**

FROM: **GW: _Stacey Garrison_**
(Reviewer's Name)

SUBJECT: Scenic Waterway Interference Evaluation

☐ **YES**
☒ **NO** The source of appropriation is hydraulically connected to a State Scenic 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 1/3/2024
FROM: Groundwater Section Stacey Garrison
Reviewer's Name
SUBJECT: Application G- **19459** 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: **Jonas Land LLC C/O Rick Jonas** County: **Clackamas**

A1. Applicant(s) seek(s) 0.30 cfs from 2 well(s) in the Willamette Basin, Molalla-Pudding subbasin

A2. Proposed use Irrigation Seasonality: March 1 – October 31

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

POA 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	PROP 598	1	Alluvium	0.30	4S/1E-6 NE-SE	2075' N, 1170' W fr SE cor S 6
2	PROP 599	2	Alluvium	0.30	4S/1E-6 NE-SE	2420' N, 1705' W fr SE cor S 6

* Alluvium, CRB, Bedrock

POA Well	Well Depth (ft)	Seal Interval (ft)	Casing Intervals (ft)	Liner Intervals (ft)	Perforations Or Screens (ft)	Well Yield (gpm)	Drawdown (ft)	Test Type
1	350		0 to 25		TBD			
2	350		0 to 25		TBD			

Use data from application for proposed wells.

A4. **Comments:** The proposed POAs/POU are within 500 ft of the City of Barlow.
[a] There is a discrepancy between the mapped location of the POA as indicated on the applicant's map and the metes-and-bounds description using the Department's PLSS projection. The mapped locations are considered the most accurate and will be used for the purposes of this review. The metes-and-bounds location for POAs 1 and 2 are 144 ft and 73 ft southwest of the mapped locations, respectively.

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 POAs are greater than 0.25 miles from the nearest surface water source. Per OAR 690-502-0240, the relevant basin rules 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) 7RLN, medium water use;

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 **alluvial** 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:** The POAs are located on mixed-grain Holocene floodplain deposits between the present day channels of the Pudding River and Molalla River, and approximately 3 miles south of their confluence with the Willamette River (O'Connor et al., 2001). The floodplain deposits of the Willamette Aquifer are only 20 ft thick in this area, with most wells utilizing sand and gravel interbeds within the Willamette Confining unit, which is up to 600 ft thick (Gannett and Caldwell, 1998). Within a mile of the proposed POA locations, thirteen wells utilize confined water-bearing zones, WBZs. The WBZs range in depth from 36 to 349 ft bls [-251 to 67 ft amsl], with thicknesses from 3 to 95 ft[a].
A review of statistics for nearby well records was completed and compared with the proposed rate of 0.30 cfs (~134.6 gpm) for this application (see Well Statistics). The median reported well yield is 40 gpm and the maximum reported well yield is 900 gpm. The proposed rate for this application is 337% of the median and 15% of the maximum reported yield. The proposed rate of use of 0.30 cfs (134.6 gpm) is likely within the capacity of the groundwater resource.
Water levels are stable (see Water Level Measurements in Nearby Wells). For the sixteen observation wells within one-and-a-half miles of the proposed POAs, only four have records over the last ten years: MARI 53023, MARI 65221, CLAC 12922, and CLAC 13121. CLAC 13121 has an extended record of 50 years with a decline of 41 ft from the highest measurement. One other observation well (CLAC 18078) shows similar declines over the same time period, but the remaining fourteen wells show steady water levels. There are 25 POAs for 39 groundwater rights within one mile of the POA, however, the overall steady water levels described above indicate that there is a low likelihood of interference with other groundwater users. The groundwater resource is not likely over-appropriated.
The nearest groundwater user to both POAs is CLAC 59186 (Permit G-15433, priority date 4/30/2002), and POA 1 (PROP 598) is closer at 177 ft southwest of CLAC 59186, which is at an elevation of 98 ft amsl. It is likely the proposed use would cause some degree of well-to-well interference with CLAC 59186. To assess the degree of drawdown, a Theis drawdown analysis was conducted for the proposed use (see attached Theis Drawdown Analysis-POA 1). Results indicate that the proposed use is not likely to cause well-to-well interference with CLAC 59186 that exceeds the threshold under the standard condition for alluvial aquifers in the Willamette Basin. Because only the distance is expected to vary between the POA and

other groundwater users, only the POA-groundwater user pair with the shortest distance (in this case, POA 1 and CLAC 59186) was analyzed. All other POA-groundwater user pairs would presumably result in less interference due to their greater separation relative to POA 1 and CLAC 59186.

Based on this analysis of the available data and under the assumptions previously identified, groundwater for the proposed use is likely within the capacity of the resource; if a permit is issued for this application, the conditions in B1(d)(i) and B2(c) are recommended to protect senior users and the groundwater resource.
NOTE: This evaluation considers a conservative scenario for the nearest authorized POA not owned by the applicant. Other authorized POAs in the area may also experience an increase in interference as a result of this application, although to a lesser extent than the scenario evaluated here.

[a] Well logs within one mile utilizing confined alluvium: CLAC 12938, CLAC 13005, CLAC 12939, CLAC 12991, CLAC 13006, CLAC 62322, CLAC 53455, CLAC 12962, CLAC 56595, CLAC 11979, CLAC 59186, CLAC 12944/58844, CLAC 12922.

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**	☒	☐
2	**Alluvium**	☒	☐

Basis for aquifer confinement evaluation: Static water levels of nearby wells are above the top of the WBZs in thirteen out of sixteen wells within one mile of the proposed POAs [a]. Gravel and sand WBZs are overlain by clay and silt confining layers.
[a] Groundwater elevation from most recent SWL for observation wells and on well logs within one mile utilizing confined alluvium: CLAC 12938, CLAC 13005, CLAC 12939, CLAC 12991, CLAC 13006, CLAC 62322, CLAC 53455, CLAC 12962, CLAC 56595, CLAC 11979, CLAC 59186, CLAC 12944/58844, CLAC 12922.

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[a]	SW Elev ft msl[b]	Distance (ft)	Hydraulically Connected? YES	NO	ASSUMED	Potential for Subst. Interfer. Assumed? YES	NO
1	**1**	**Pudding River**	**73-98**	**82-85**	**3,550**	☒	☐	☐	☐	☒
2	**1**	**Pudding River**	**73-98**	**84-86**	**4,080**	☒	☐	☐	☐	☒
1	**2**	**Molalla River**	**73-98**	**83-86**	**5,220**	☒	☐	☐	☐	☒
2	**2**	**Molalla River**	**73-98**	**83-94**	**4,960**	☒	☐	☐	☐	☒

Basis for aquifer hydraulic connection evaluation: Groundwater elevations of wells utilizing the alluvial aquifer range from 73 to 89 ft amsl [a] and the reported regional water table elevation is between 80 and 100 ft amsl (Gannett and Caldwell, 1998; Woodward et al., 1998). Within a mile of the POAs, the streambed of SW 1 (Pudding River) is between 82 and 86 ft amsl, and of SW 2 (Molalla River) is 83 to 94 ft amsl. It does not appear that the streambeds have incised into or below the elevation of the confined WBZs, which range from -251 to 66 ft amsl [a]. Groundwater elevations are above or coincident with surface water elevations, indicating hydraulic connection to SW 1 (Pudding River) and SW 2 (Molalla River) is likely but anticipated to be inefficient due to the low vertical permeability of the overlying fine-grained sediments.
[a] Groundwater elevation from most recent SWL for observation wells and on well logs, and WBZ elevation from observation well logs within one mile utilizing confined alluvium: CLAC 12938, CLAC 13005, CLAC 12939, CLAC 12991, CLAC 13006, CLAC 62322, CLAC 53455, CLAC 12962, CLAC 56595, CLAC 11979, CLAC 59186, CLAC 12944/58844, CLAC 12922.
[b] Surface water elevations were estimated from land surface elevations along stream reaches (Watershed Sciences, 2009; USGS, 2013).

Water Availability Basin the well(s) are located within:
SW 1 (Pudding River): PUDDING R>MOLALLA R-AT MOUTH
SW 2 (Molalla River): MOLALLA R>WILLAMETTE 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**	☐	☐	**IS73532A**	**36**	☐	**67.9**	☐	**<25%**	☐
2	**1**	☐	☐	**IS73532A**	**36**	☐	**67.9**	☐	**<25%**	☐
1	**2**	☐	☐	**IS69796A**	**100**	☐	**134**	☐	**<25%**	☐
2	**2**	☐	☐	**IS69796A**	**100**	☐	**134**	☐	**<25%**	☐

Comments: Potential depletion (interference with) SW 1 (Pudding River) by proposed pumping at POA 1 (PROP 598) was estimated using Hunt 2003 analytical model. Hydraulic parameters used for the model were derived from regional data or studies of the hydrogeologic regime (OWRD Well Log Query Report; Conlon et al., 2003, 2005; Iverson, 2002; McFarland and Morgan, 1996; Woodward et al., 1998) or are within a typical range of values for the parameter within the hydrogeologic regime (Freeze and Cherry, 1979; Domenico and Mifflin, 1965). See attached "Stream Depletion Analysis" for the specific parameters used in the analysis. The Hunt 2003 analytical model results indicate that depletion of (interference with) SW 1 due to pumping of POA 1 (PROP 598) is anticipated to be much less than 25 percent of the well discharge at 30 days of continuous pumping.

Because only the distance is expected to vary between the POA and surface water sources, only the POA-SW pair with the shortest distance (in this case, POA 1 and SW 1) was analyzed quantitatively for interference (stream depletion). All other POA-SW pairs would presumably result in less interference due to their greater separation relative to POA 1 and SW 1. Therefore, the interference of the proposed POAs with all surface water sources within 1 mile are anticipated to result in much less than 25 percent of the well discharge at 30 days of continuous pumping.

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?
			☐			☐		☐		☐
			☐			☐		☐		☐

Comments: N/A, Q is not distributed.

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
2	**3**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**
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: N/A, streams within one mile evaluated above.

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:**

References Used:

Application File: G-19459

Pumping Test Files: CLAC 12980, CLAC 59186, CLAC 12990, CLAC 62322

Well Reports: CLAC 12938, CLAC 13005, CLAC 12939, CLAC 12991, CLAC 13006, CLAC 62322, CLAC 53455, CLAC 12962, CLAC 56595, CLAC 11979, CLAC 59186, CLAC 12944/58844, CLAC 12922, CLAC 8794, CLAC 52645, CLAC 52644, CLAC 52646

Conlon, T.D., Wozniak, K.C., Woodcock, D., Herrera, N.B., Fisher, B.J., Morgan, D.S., Lee, K.K., and Hinkle, S.R., 2005, *Ground-water hydrology of the Willamette Basin, Oregon*, Scientific Investigations Report 2005-5168: U. S. Geological Survey, Reston, VA.

Gannett, M.W. and Caldwell, R., 1998, *Geologic framework of the Willamette Lowland aquifer system, Oregon and Washington*, Professional Paper 1424-A, 32 p: U. S. Geological Survey, Reston, VA.

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

Iverson, J., 2002, Investigation of the hydraulic, physical, and chemical buffering capacity of Missoula flood deposits for water quality and supply in the Willamette Valley of Oregon: Unpublished M.S. thesis, Oregon State University, 147 p.

O'Connor, J.E., Sarna-Wojcick, A., Woznikak, K.C., Polette, D.J., Fleck, R.J., 2001, Origin, Extent, and Thickness of Quaternary Geologic Units in the Willamette Valley, Oregon; U.S. Geological Survey, Professional Paper 1620, 51 p.

Theis, C.V., 1935, The relation between the lowering of the piezometric surface and the rate and duration of discharge of a well using ground-water storage: American Geophysical Union transactions, v. 16, p. 519-524.

United States Geological Survey, 2013, National Elevation Dataset (NED) [DEM geospatial data]. 1/9th arc-second, updated 2013.

Watershed Sciences, 2009, LIDAR remote sensing data collection, Department of Geology and Mineral Industries, Willamette Valley Phase I, Oregon: Portland, OR, December 21.

Woodward, D.G., Gannett, M.W., and Vaccaro, J.J., 1998, Hydrogeologic framework of the Willamette Lowland aquifer system, Oregon and Washington: U.S. Geological Survey Professional Paper 1424-B, 82 p.

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:** _____

_____

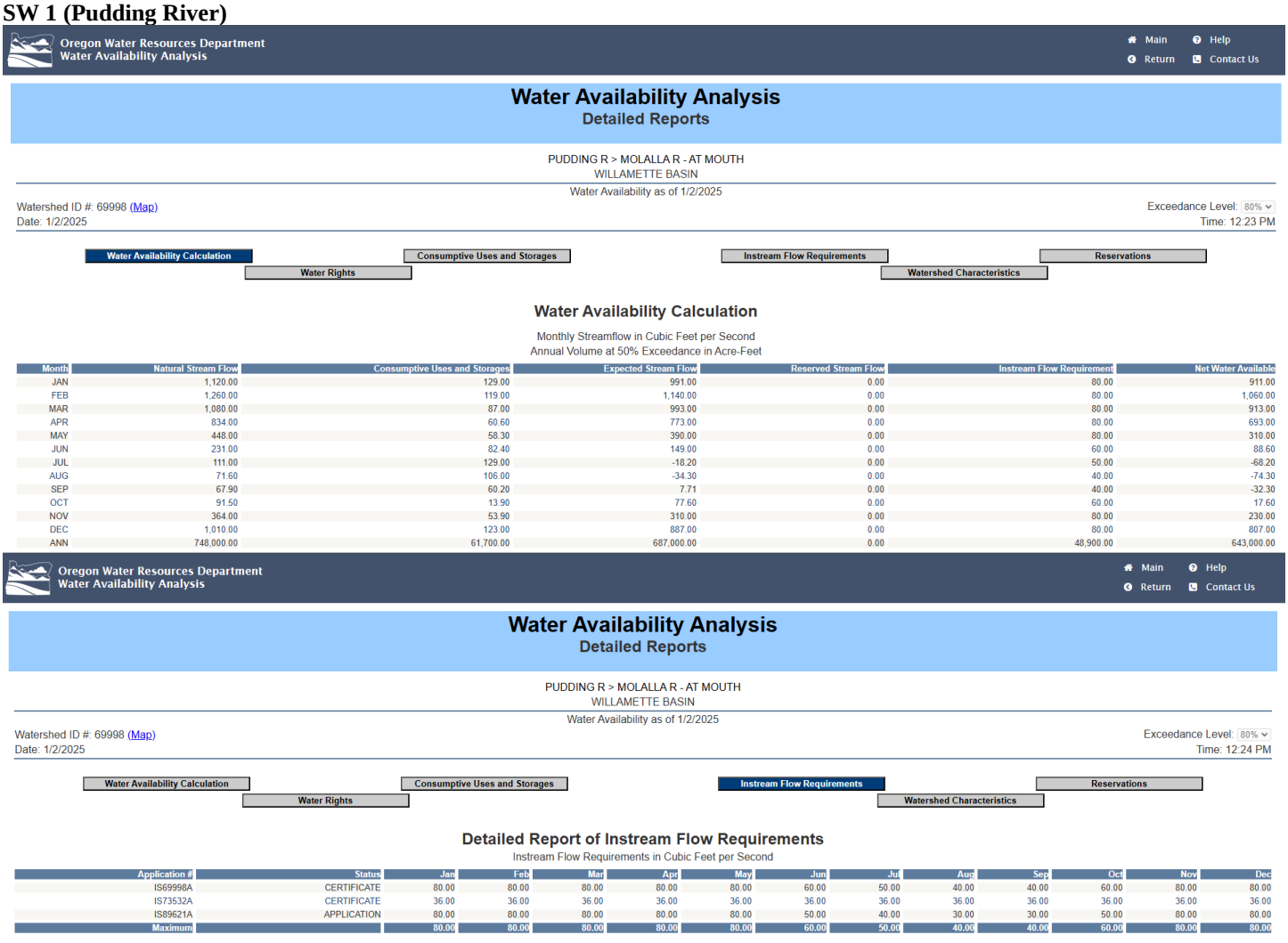
_____

_____

_____

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

Water Availability Tables
SW 1 (Pudding River)



Oregon Water Resources Department
Water Availability Analysis

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PUDDING R > MOLALLA R - AT MOUTH
WILLAMETTE BASIN
Water Availability as of 1/2/2025

Watershed ID #: 69998 (Map)
Date: 1/2/2025

Exceedance Level: 80%
Time: 12:23 PM

Water Availability Calculation | Consumptive Uses and Storages | Instream Flow Requirements | Reservations
Water Rights | Watershed Characteristics

Water Availability Calculation

Monthly Streamflow in Cubic Feet per Second
Annual Volume at 50% Exceedance in Acre-Feet

Month	Natural Stream Flow	Consumptive Uses and Storages	Expected Stream Flow	Reserved Stream Flow	Instream Flow Requirement	Net Water Available
JAN	1,120.00	129.00	991.00	0.00	80.00	911.00
FEB	1,260.00	119.00	1,140.00	0.00	80.00	1,060.00
MAR	1,080.00	87.00	993.00	0.00	80.00	913.00
APR	834.00	60.60	773.00	0.00	80.00	693.00
MAY	448.00	58.30	390.00	0.00	80.00	310.00
JUN	231.00	82.40	149.00	0.00	60.00	88.60
JUL	111.00	129.00	-18.20	0.00	50.00	-68.20
AUG	71.60	106.00	-34.30	0.00	40.00	-74.30
SEP	67.90	60.20	7.71	0.00	40.00	-32.30
OCT	91.50	13.90	77.60	0.00	60.00	17.60
NOV	364.00	53.90	310.00	0.00	80.00	230.00
DEC	1,010.00	123.00	887.00	0.00	80.00	807.00
ANN	748,000.00	61,700.00	687,000.00	0.00	48,900.00	643,000.00

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PUDDING R > MOLALLA R - AT MOUTH
WILLAMETTE BASIN
Water Availability as of 1/2/2025

Watershed ID #: 69998 (Map)
Date: 1/2/2025

Exceedance Level: 80%
Time: 12:24 PM

Water Availability Calculation | Consumptive Uses and Storages | Instream Flow Requirements | Reservations
Water Rights | Watershed Characteristics

Detailed Report of Instream Flow Requirements

Instream Flow Requirements in Cubic Feet per Second

Application #	Status	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
IS69998A	CERTIFICATE	80.00	80.00	80.00	80.00	80.00	60.00	50.00	40.00	40.00	60.00	80.00	80.00
IS73532A	CERTIFICATE	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00
IS89621A	APPLICATION	80.00	80.00	80.00	80.00	80.00	50.00	40.00	30.00	30.00	50.00	80.00	80.00
Maximum		80.00	80.00	80.00	80.00	80.00	60.00	50.00	40.00	40.00	60.00	80.00	80.00

SW 2 (Molalla River)

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MOLALLA R > WILLAMETTE R - AT MOUTH
WILLAMETTE BASIN
Water Availability as of 1/2/2025

Watershed ID #: 69796 (Map)
Date: 1/2/2025

Exceedance Level: 80%
Time: 11:47 AM

Water Availability Calculation | Consumptive Uses and Storages | Instream Flow Requirements | Reservations
Water Rights | Watershed Characteristics

Water Availability Calculation

Monthly Streamflow in Cubic Feet per Second
Annual Volume at 50% Exceedance in Acre-Feet

Month	Natural Stream Flow	Consumptive Uses and Storages	Expected Stream Flow	Reserved Stream Flow	Instream Flow Requirement	Net Water Available
JAN	1,870.00	155.00	1,720.00	0.00	500.00	1,220.00
FEB	2,010.00	145.00	1,870.00	0.00	500.00	1,370.00
MAR	1,830.00	113.00	1,720.00	0.00	500.00	1,220.00
APR	1,530.00	86.80	1,440.00	0.00	500.00	943.00
MAY	927.00	98.40	829.00	0.00	500.00	329.00
JUN	431.00	120.00	311.00	0.00	500.00	-189.00
JUL	204.00	187.00	17.40	0.00	200.00	-183.00
AUG	139.00	157.00	-17.60	0.00	100.00	-118.00
SEP	134.00	83.20	50.80	0.00	150.00	-99.20
OCT	188.00	39.90	148.00	0.00	450.00	-302.00
NOV	637.00	79.80	557.00	0.00	500.00	57.20
DEC	1,700.00	150.00	1,550.00	0.00	500.00	1,050.00
ANN	1,320,000.00	85,400.00	1,240,000.00	0.00	295,000.00	966,000.00

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Water Availability Analysis

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MOLALLA R > WILLAMETTE R - AT MOUTH
WILLAMETTE BASIN
Water Availability as of 1/2/2025

Watershed ID #: 69796 (Map)
Date: 1/2/2025

Exceedance Level: 80%
Time: 11:49 AM

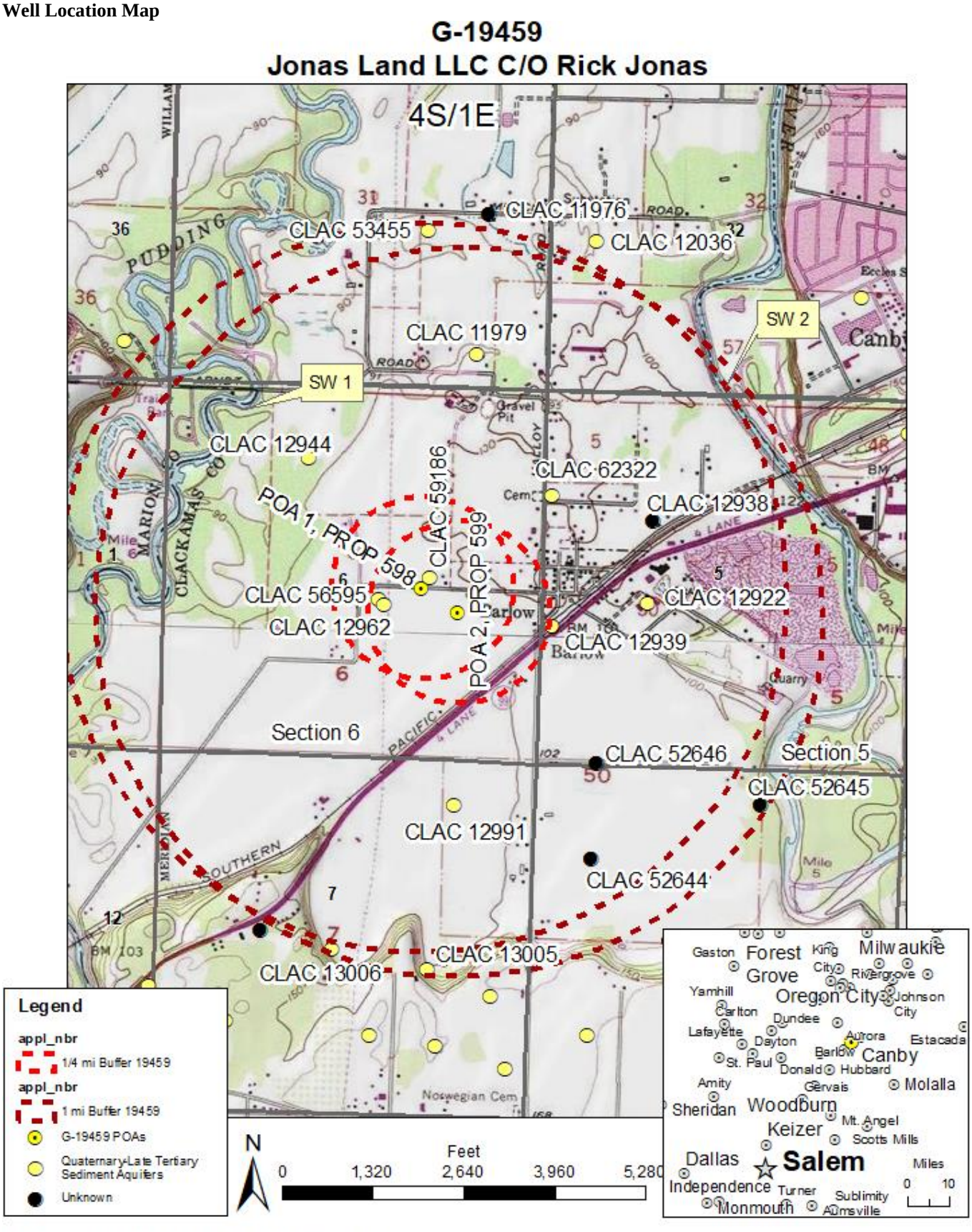
Water Availability Calculation | Consumptive Uses and Storages | Instream Flow Requirements | Reservations
Water Rights | Watershed Characteristics

Detailed Report of Instream Flow Requirements

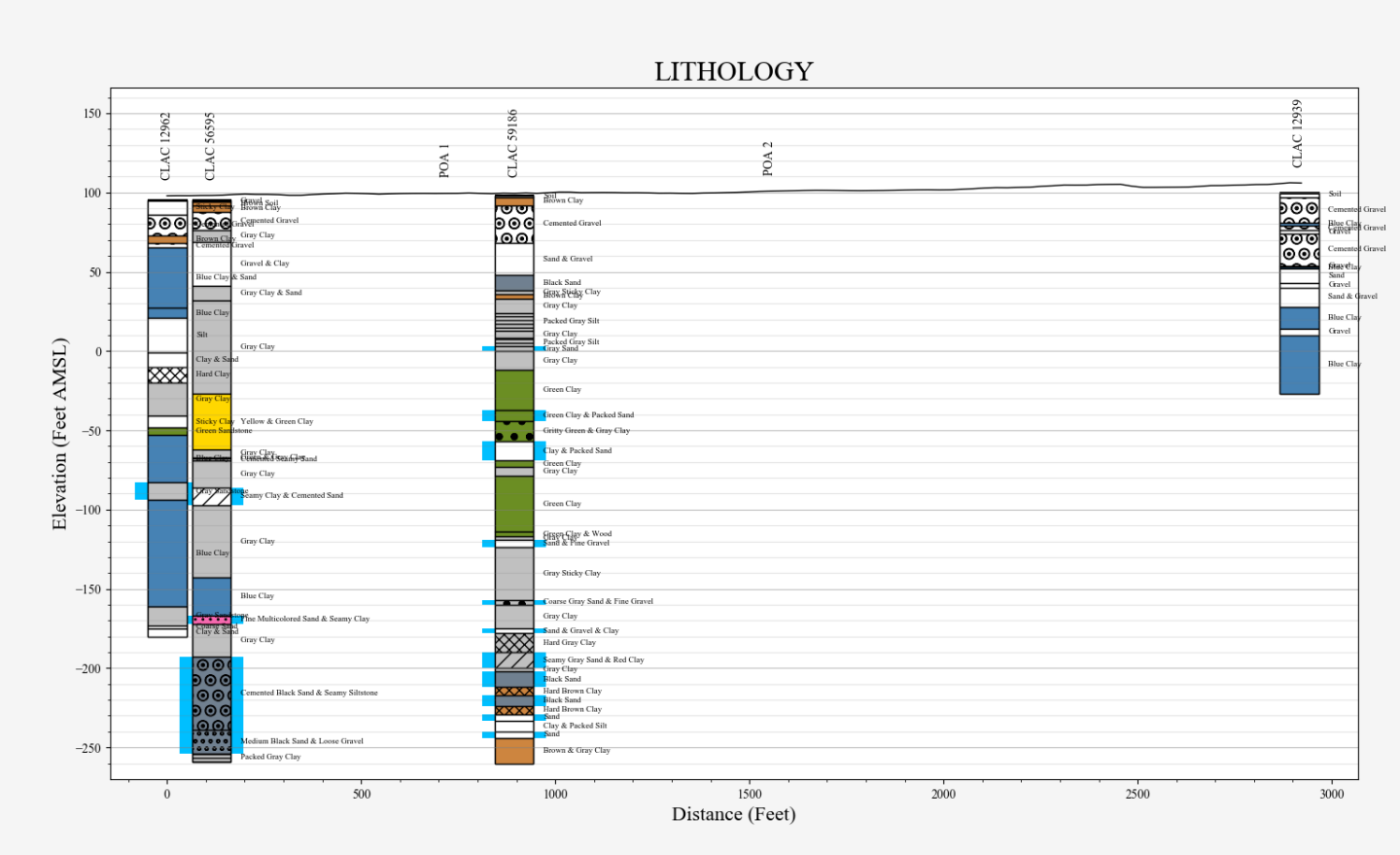
Instream Flow Requirements in Cubic Feet per Second

Application #	Status	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
IS69796A	CERTIFICATE	500.00	500.00	500.00	500.00	500.00	500.00	200.00	100.00	150.00	450.00	500.00	500.00
IS89609A	APPLICATION	13.00	13.00	13.00	6.62	4.67	2.65	2.85	2.38	2.13	3.20	13.00	13.00
Maximum		500.00	500.00	500.00	500.00	500.00	500.00	200.00	100.00	150.00	450.00	500.00	500.00

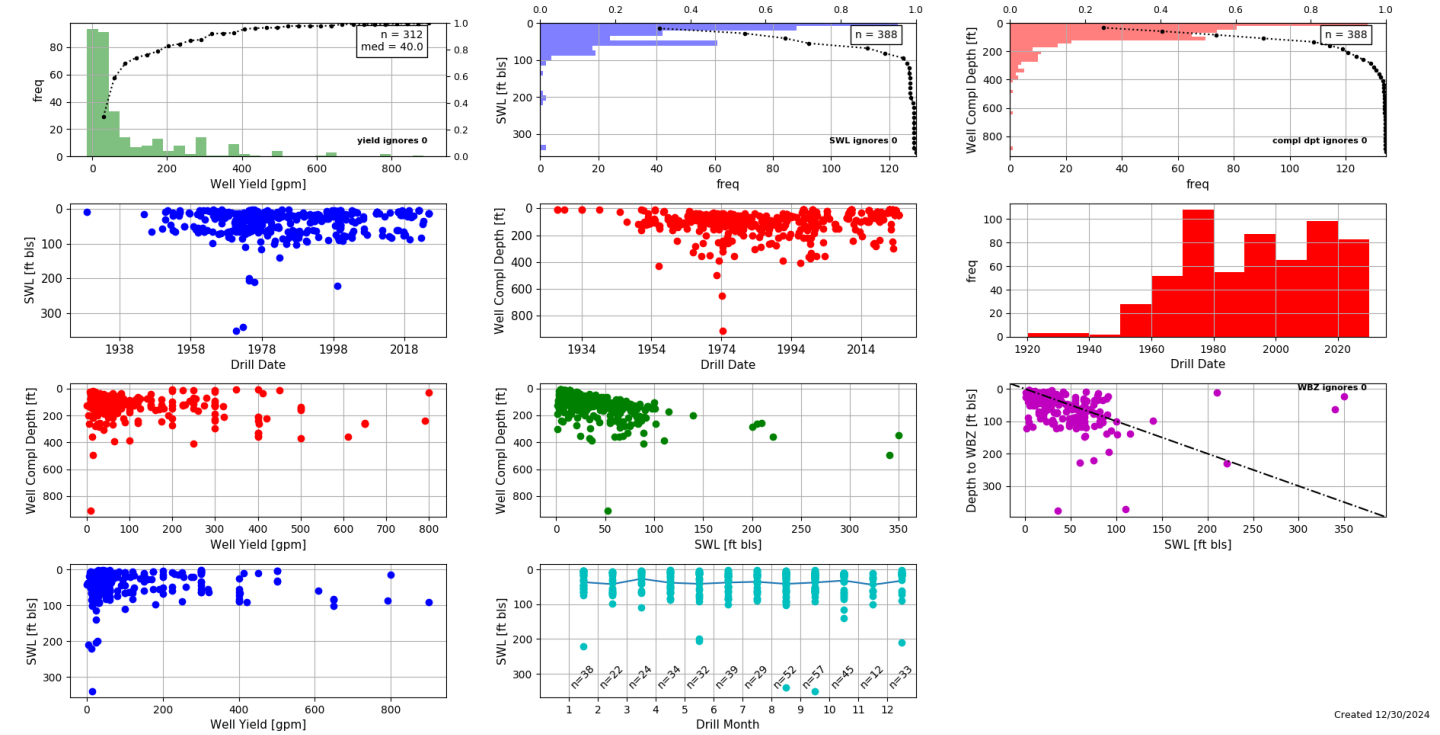
Well Location Map



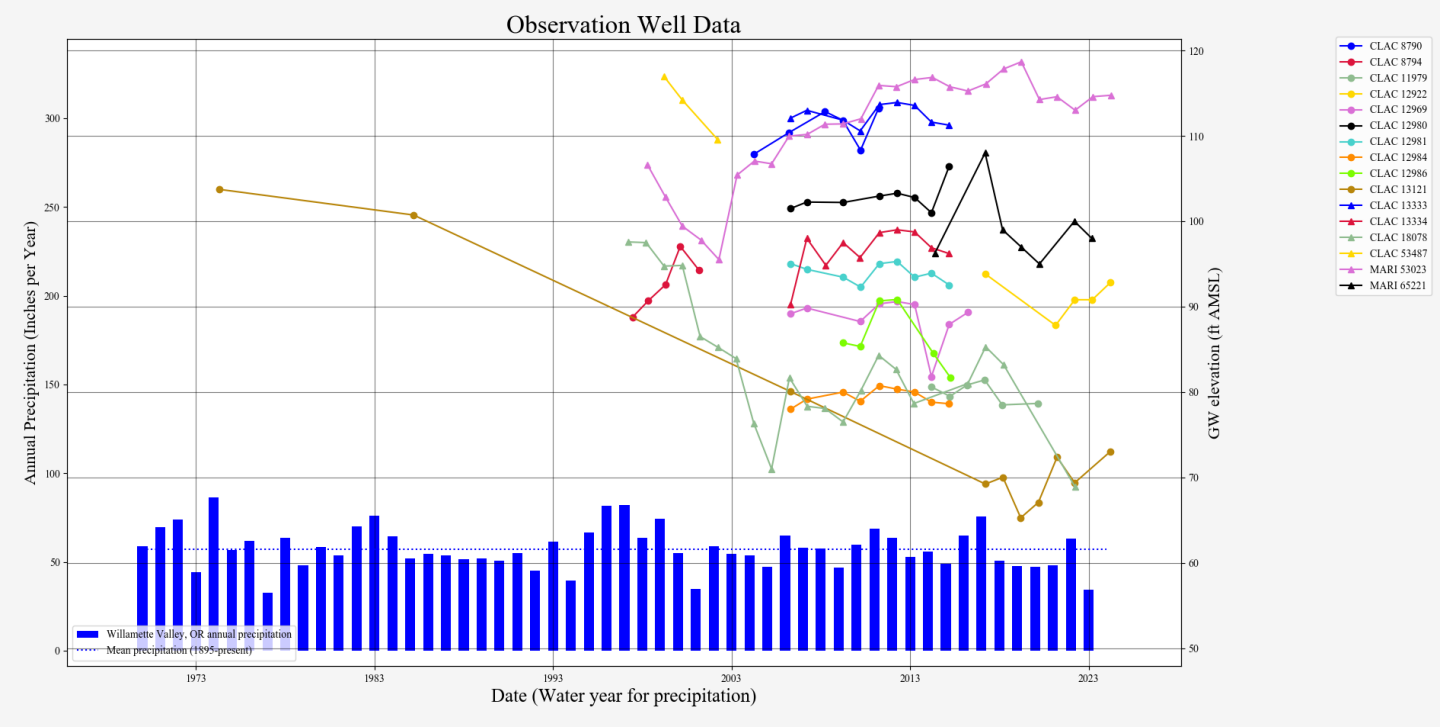
Cross-Section



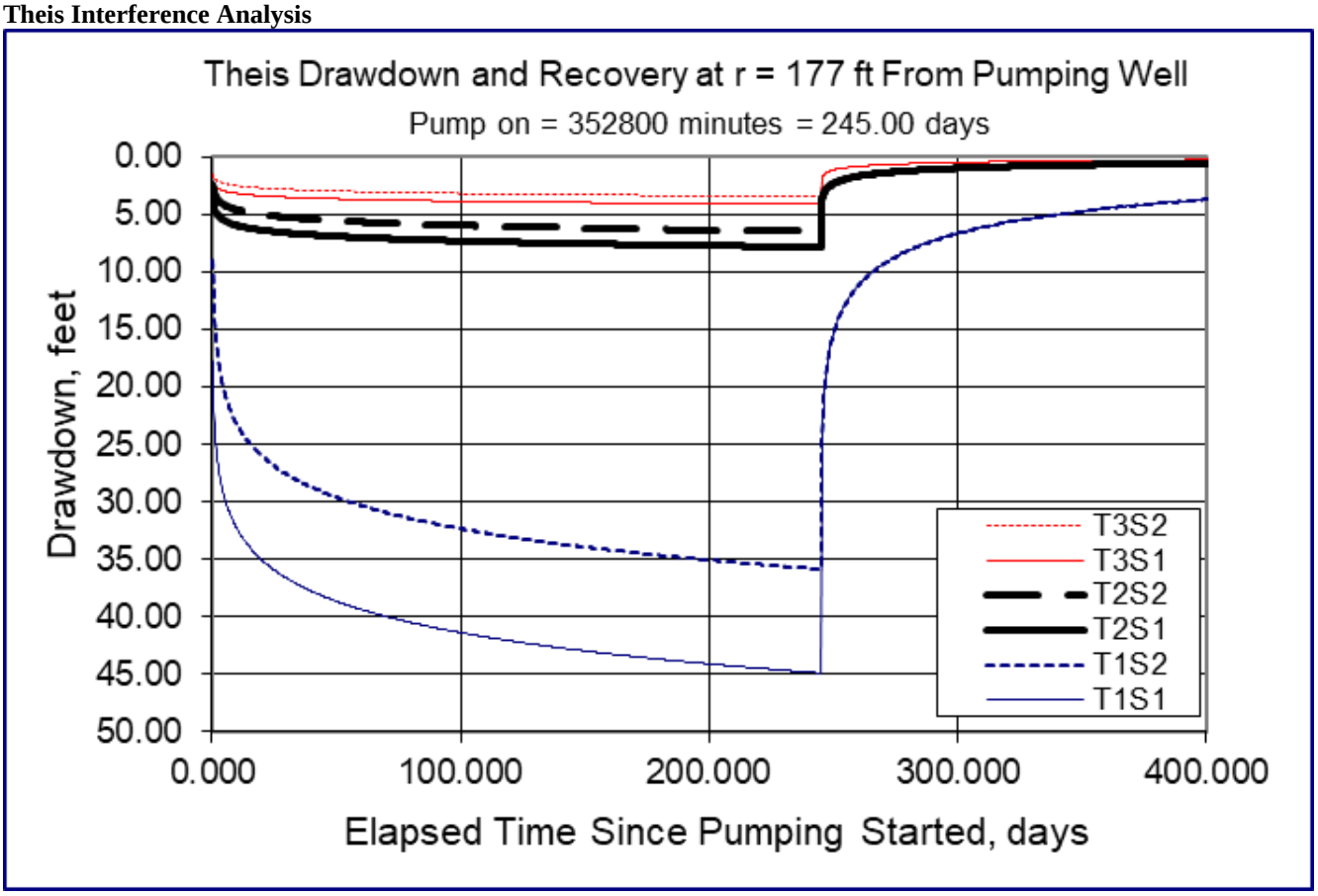
Well Statistics



Water-Level Measurements in Nearby Wells



Theis Interference Analysis



Radial distance from pumping well (r)=177 ft [estimated radial distance to nearest user, CLAC 59186]

Pumping Rate (Q)= 0.30 cfs (~ 134.6 gpm)

Aquifer Transmissivity (T1)= 3,927 gpd/ft (525 ft^2/day), (T2)= 26,180 gpd/ft (3,500 ft^2/day), (T3)= 52,360 gpd/ft (7,000 ft^2/day)

Storativity (s1) = 0.0001, (s2) = 0.001 [Conlon et al 2005, Table 1 and 2 values for MSU]

Total pumping time=245 days [March 1-October 31]

Stream Depletion (Hunt) Model Analysis

Application type:	G
Application number:	19459
Well number:	1
Stream Number:	1
Pumping rate (cfs):	0.3
Pumping duration (days):	245
Pumping start month number (3=March)	3.0
Plotting duration (days)	365

Parameter	Symbol	Scenario 1	Scenario 2	Scenario 3	Units
Distance from well to stream	a	3550	3550	3550	ft
Aquifer transmissivity	T	525	3500	7000	ft2/day
Aquifer storativity	S	0.0001	0.00055	0.001	-
Aquitard vertical hydraulic conductivity	Kva	0.01	0.005	0.001	ft/day
Aquitard saturated thickness	ba	85	85	85	ft
Aquitard thickness below stream	babs	65	65	65	ft
Aquitard specific yield	Sya	0.2	0.2	0.2	-
Stream width	ws	150	150	150	ft

Stream depletion for Scenario 2:

Days	10	330	360	30	60	90	120	150	180	210	240	270	300
Depletion (%)	1	0	0	1	1	1	1	1	1	1	1	0	0
Depletion (cfs)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00