

Approved:



# MEMO

**To:** Kristopher Byrd, Well Construction and Compliance Section Manager  
**From:** Travis Kelly, Well Construction Compliance Coordinator  
**Subject:** Review of Water Right Application G-19217  
**Date:** February 9, 2022

The attached application was forwarded to the Well Construction and Compliance Section by the Groundwater Section. Phil Marcy reviewed the application. Please see Phil's Groundwater Review and the Well Report.

Applicant's Well #1 (LINN 62739): Based on a review of the Well Report, Applicant's Well #1 seems to protect the groundwater resource.

The construction of Applicant's Well #1 may not satisfy hydraulic connection issues.



# Groundwater Application Review Summary Form

Application # G- 19217

GW Reviewer Phillip I. Marcy Date Review Completed: 12/16/2021

## 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

12/16/2021

TO: Application G- 19217

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 12/16/2021  
 FROM: Groundwater Section Phillip I. Marcy  
 Reviewer's Name  
 SUBJECT: Application G- 19217 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: Lester and Lorinda Humphrey County: Linn

A1. Applicant(s) seek(s) 0.25 cfs from 1 well(s) in the Willamette Basin,  
 \_\_\_\_\_ subbasin

A2. Proposed use Irrigation (19.85 acres) Seasonality: April 1<sup>st</sup> – September 30<sup>th</sup> (213 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    | LINN 62739 | 1                  | Alluvium          | 0.25               | 11S/2W-3 NW-SE        | 140'S, 1615'W fr E1/4 cor S 3                                    |
| 2    |            |                    |                   |                    |                       |                                                                  |
| 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    | 272              | 21                 | 8          | 05/31/2019 | 79              | 19                 | 0-65                  | NA                   | 65-75                        | 65               | NA             | Air       |
|      |                  |                    |            |            |                 |                    |                       |                      |                              |                  |                |           |
|      |                  |                    |            |            |                 |                    |                       |                      |                              |                  |                |           |

Use data from application for proposed wells.

A4. **Comments:** The applicant proposes to develop groundwater from an existing well completed into alluvium for purposes of primary irrigation of 19.85 acres.

A5. ☒ **Provisions of the** Willamette (690-502-0240) 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 POA is greater than ¼ mile from any surface water source, and therefore pertinent 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) 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): \_\_\_\_\_

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- B3. **Groundwater availability remarks:** The POA well is located in an area underlain by the Willamette Aquifer, which here appears to be roughly 40-50' deep, overlying the Willamette Confining Unit. Both of these hydrogeologic units are penetrated by the POA well, which is constructed to develop groundwater from the lower confining unit, with the perforated interval open to "Claystone sandy gray", instead of the upper portions of the borehole which report "gravel". Well production likely utilizes sand and gravel lenses noted within the confining unit (Woodward and others, 1998).

There is little groundwater level data from nearby wells. Nearby LINN 6279 (see attached hydrograph) displayed about a 10' seasonal variation in water levels over the course of its record, which ended in 1981, with no discernible year upon year declines.

Nearby LINN 6260, authorized under Certificate 37015 is located 225' north of the proposed POA. This well is completed to a depth of 31' in gravels of the Willamette Aquifer and does not share an open interval with the proposed POA well. Due to this factor and the high specific yield and transmissivity of the upper aquifer, pumping at the proposed location and rate are not anticipated to cause undue injury to LINN 6260, which appears more likely to experience water level variation induced by changes in nearby surface water fluctuations throughout the year.

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**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                          |
|----------|----------------------------------|--------------------------|-------------------------------------|
| <b>1</b> | <b>Willamette Confining Unit</b> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|          |                                  | <input type="checkbox"/> | <input type="checkbox"/>            |
|          |                                  | <input type="checkbox"/> | <input type="checkbox"/>            |
|          |                                  | <input type="checkbox"/> | <input type="checkbox"/>            |

**Basis for aquifer confinement evaluation:** Lack of Willamette Silt hydrogeological unit or other continuous, thick silt/clay layer, shallow depth to water-bearing zone, and shallow (less than 20 feet) static water levels reported on well logs.

**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<br>ft msl | SW Elev<br>ft msl | Distance<br>(ft) | Hydraulically Connected?            |                          |                          | Potential for Subst. Interfer. Assumed? |                                     |
|----------|----------|----------------------------|-------------------|-------------------|------------------|-------------------------------------|--------------------------|--------------------------|-----------------------------------------|-------------------------------------|
|          |          |                            |                   |                   |                  | YES                                 | NO                       | ASSUMED                  | YES                                     | NO                                  |
| <b>1</b> | <b>1</b> | <b>South Santiam River</b> | <b>264</b>        | <b>256-265*</b>   | <b>3820</b>      | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>                | <input checked="" type="checkbox"/> |
| <b>1</b> | <b>2</b> | <b>Crabtree Creek</b>      | <b>264</b>        | <b>255-269*</b>   | <b>3975</b>      | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>                | <input checked="" type="checkbox"/> |
|          |          |                            |                   |                   |                  | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>                | <input type="checkbox"/>            |
|          |          |                            |                   |                   |                  | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>                | <input type="checkbox"/>            |

**Basis for aquifer hydraulic connection evaluation:** \*SW elevations within one mile of the proposed POA.

Perennial nature of streams, direct contact between streambed and alluvial sediments, comparable static water level elevations between surface and groundwater.

**Water Availability Basin the well(s) are located within:** S SANTIAM R > SANTIAM 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? |
|----------|----------|--------------------------|--------------------------|-------------------------|------------------------------|--------------------------|------------------------|------------------------------|----------------------------|-----------------------------------------|
| <b>1</b> | <b>1</b> | <input type="checkbox"/> | <input type="checkbox"/> |                         |                              | <input type="checkbox"/> | <b>253.0</b>           | <input type="checkbox"/>     | <b>&lt;25%</b>             | <input type="checkbox"/>                |
| <b>1</b> | <b>2</b> | <input type="checkbox"/> | <input type="checkbox"/> |                         |                              | <input type="checkbox"/> | <b>253.0</b>           | <input type="checkbox"/>     | <b>&lt;25%</b>             | <input type="checkbox"/>                |
|          |          | <input type="checkbox"/> | <input type="checkbox"/> |                         |                              | <input type="checkbox"/> |                        | <input type="checkbox"/>     |                            | <input type="checkbox"/>                |
|          |          | <input type="checkbox"/> | <input type="checkbox"/> |                         |                              | <input type="checkbox"/> |                        | <input type="checkbox"/>     |                            | <input type="checkbox"/>                |

|  | 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"/>                |

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[illegible]

**Basis for impact evaluation:**

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:** \_\_\_\_\_

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, 82p.

Conlon, T.D., and others, 2005. Ground-Water Hydrology of the Willamette Basin, Oregon. USGS Scientific Investigations Report 2005-5168.

O'Connor, J. E., Sarna-Wojcicki, A., Wozniak, K. C., Polette, D. J., and Fleck, R. J., 2001, Geologic map of Quaternary units in the Willamette Valley, Oregon: Reston, Va., U.S. Geological Survey, Professional Paper 1620, map scale 1:250,000.

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

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

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

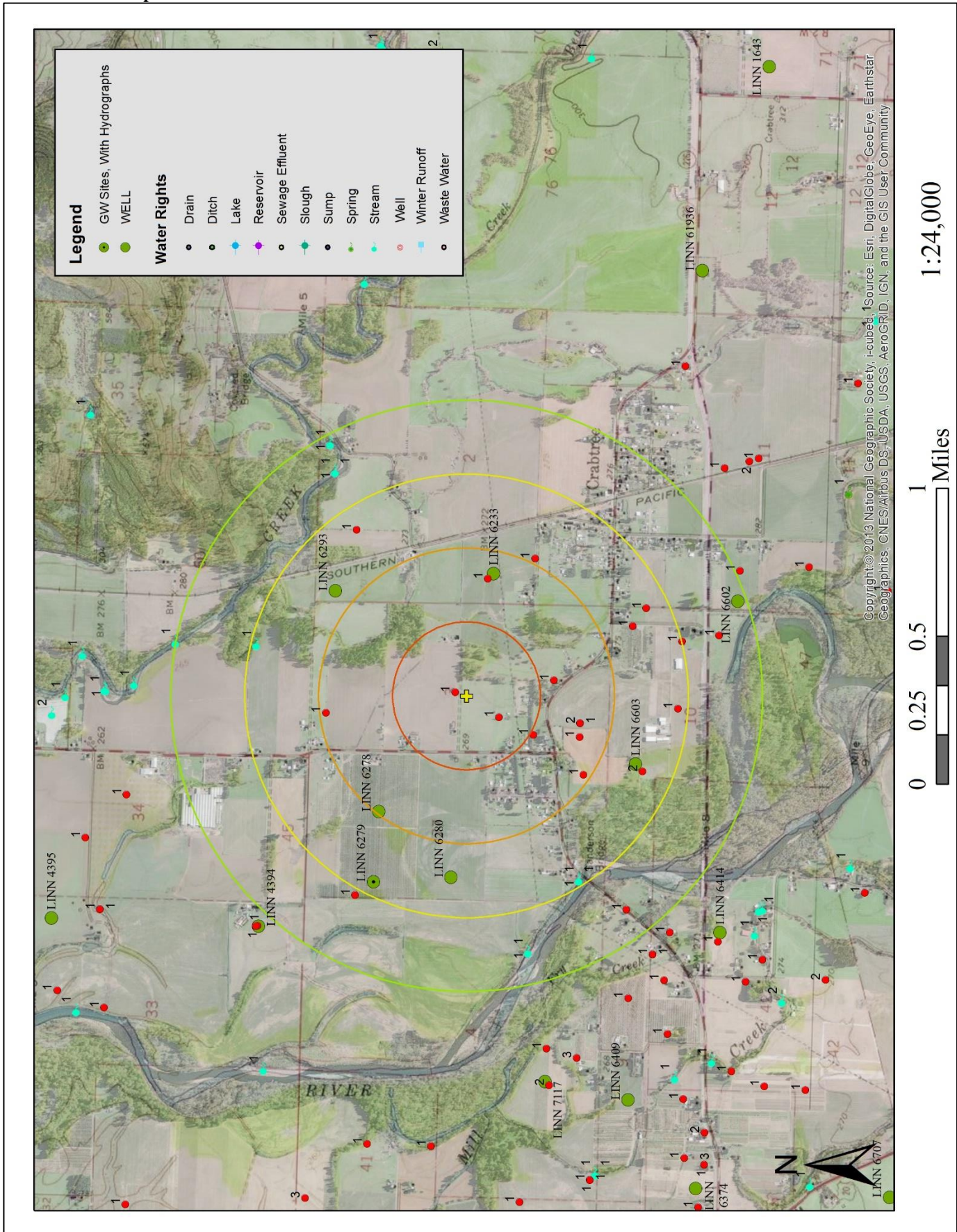
- a. ☐ review of the well log;
- b. ☐ field inspection by \_\_\_\_\_;
- c. ☐ report of CWRE \_\_\_\_\_;
- d. ☐ other: (specify) \_\_\_\_\_

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**

|                                                          |                           |                                   |                            |                            |                          |                           |
|----------------------------------------------------------|---------------------------|-----------------------------------|----------------------------|----------------------------|--------------------------|---------------------------|
| S SANTIAM R > SANTIAM R - AT MOUTH                       |                           | Exceedance Level: 80              |                            |                            |                          |                           |
| Basin: WILLAMETTE                                        |                           | Date: 12/16/2021                  |                            |                            |                          |                           |
| Watershed ID #: 30200601                                 |                           |                                   |                            |                            |                          |                           |
| Time: 11:11 AM                                           |                           |                                   |                            |                            |                          |                           |
| Month                                                    | Natural<br>Stream<br>Flow | Consumptive<br>Use and<br>Storage | Expected<br>Stream<br>Flow | Reserved<br>Stream<br>Flow | Instream<br>Requirements | Net<br>Water<br>Available |
| Monthly values are in cfs.                               |                           |                                   |                            |                            |                          |                           |
| Storage is the annual amount at 50% exceedance in ac-ft. |                           |                                   |                            |                            |                          |                           |
| JAN                                                      | 3,090.00                  | 266.00                            | 2,820.00                   | 0.00                       | 0.00                     | 2,820.00                  |
| FEB                                                      | 3,360.00                  | 1,530.00                          | 1,830.00                   | 0.00                       | 0.00                     | 1,830.00                  |
| MAR                                                      | 3,170.00                  | 1,260.00                          | 1,910.00                   | 0.00                       | 0.00                     | 1,910.00                  |
| APR                                                      | 2,950.00                  | 1,050.00                          | 1,900.00                   | 0.00                       | 0.00                     | 1,900.00                  |
| MAY                                                      | 2,050.00                  | 711.00                            | 1,340.00                   | 0.00                       | 0.00                     | 1,340.00                  |
| JUN                                                      | 968.00                    | 182.00                            | 786.00                     | 0.00                       | 0.00                     | 786.00                    |
| JUL                                                      | 450.00                    | 205.00                            | 245.00                     | 0.00                       | 0.00                     | 245.00                    |
| AUG                                                      | 275.00                    | 189.00                            | 85.60                      | 0.00                       | 0.00                     | 85.60                     |
| SEP                                                      | 253.00                    | 159.00                            | 94.10                      | 0.00                       | 0.00                     | 94.10                     |
| OCT                                                      | 363.00                    | 138.00                            | 225.00                     | 0.00                       | 0.00                     | 225.00                    |
| NOV                                                      | 1,450.00                  | 140.00                            | 1,310.00                   | 0.00                       | 0.00                     | 1,310.00                  |
| DEC                                                      | 3,040.00                  | 143.00                            | 2,900.00                   | 0.00                       | 0.00                     | 2,900.00                  |
| ANN                                                      | 2,330,000                 | 355,000                           | 1,980,000                  | 0                          | 0                        | 1,980,000                 |

## Well Location Map



**Water-Level Measurements in Nearby Wells**