# Water Right Conditions Tracking Slip Groundwater/Hydrology Section FILE # # \_ G - 17719 ROUTED TO: \_ Water Rights TOWNSHIP/ RANGE-SECTION: 25/4W-29 CONDITIONS ATTACHED?: [Yes [] no REMARKS OR FURTHER INSTRUCTIONS: See conditions on p 2

Reviewer: J. Hacke ft

### WATER RESOURCES DEPARTMENT **MEMO** Application G- 17719 TO: GW: J. Hackett (Reviewer's Name) FROM: **SUBJECT:** Scenic Waterway Interference Evaluation YES The source of appropriation is within or above a Scenic Waterway NO YES Use the Scenic Waterway condition (Condition 7J) Per ORS 390.835, the Ground Water 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 Ground Water 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 Waterway by the following amounts expressed as a proportion of the consumptive use by which surface water flow is reduced. Feb Jan Mar May Jun Jul Oct Nov Dec Apr Aug Sep

### PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

| TO:                               | Water Rights Section                 |  |                                     |  |   | Date November 5, 2013                                   |  |  |   |  |                                      |                          |  |  |
|-----------------------------------|--------------------------------------|--|-------------------------------------|--|---|---|--|--|---|--|--------------------------------------|--------------------------|--|--|
| FROM                              | :                                    | Groun  | dwater S                            | ection   |   | J. Hackett  |  |  |   |  |                                      |                          |  |  |
| SUBJE                             | ECT:                                 | Applie   | cation G-                           | 17719  |   | Reviewer's Name Supersedes review of  Date of Review(s) |  |  |   |  |                                      |                          |  |  |
| DIDI                              | LO INITI                             |  | DDDGI                               | ADTION   | CDOUNT  |   | <b>D</b>   |  |   | Date of Ke   | view(s)                              |                          |  |  |
| OAR 69 welfare, to deter the pres | 90-310-1, safety a mine who sumption | 30 (1) T<br>nd healt<br>ether the<br>criteria. | he Depart<br>h as descr<br>presumpt | tibed in ORS<br>tion is establi<br>ew is based | resume that<br>537.525. D<br>ished. OAR<br>upon avail | a proposi<br>epartment<br>690-310-<br>able infor        | ed groundw<br>staff review<br>140 allows<br>mation and | w ground wate<br>the proposed<br>d agency poli | ensure the preensure applications use be modificated in place and | under OA<br>ed or cond<br>at the time                              | AR 690-3<br>itioned to<br>e of evalu | 10-140<br>meet<br>ation. |  |  |
| A1.                               |                                      |  |                                     |  |   |   |  |  |   |  |                                      |                          |  |  |
|                                   |                                      |  |                                     |  |   | subb  |  |  | arlton  |  |                                      |                          |  |  |
| A2.<br>A3.                        |                                      |  | <u>Irri</u><br>r data ( <b>at</b> t | gation<br>tach and nu                          | mber logs f   | Seas  | sonality:<br>g wells; ma                               | March 1 – e<br>ark proposed                    | October 31<br>wells as such                                       | under lo   | <b>gid</b> ):                        |                          |  |  |
| Well                              | Logic                                |  | Applicant<br>Well #                 | Propos   | ed Aquifer*   | Prop<br>Rate  | (cfs)  | Location<br>(T/R-S QQ                          | -Q) 225   | ation, mete<br>0' N, 1200'   | E fr NW                              | or S 36                  |  |  |
| 2                                 | YAMH 5<br>YAMH 5                     |  | 2605<br>2606                        |  | edrock  | 0.08  |  | 02S/04W/29 S'<br>02S/04W/29 S'                 |   | 2560' S, 1950' W fr NE cor S 29<br>1360' S, 1530' W fr NE cor S 29 |                                      |                          |  |  |
| 3 4                               |                                      |  |                                     |  |   |   | _  |  |   |  |                                      |                          |  |  |
| 5                                 |                                      |  |                                     |  |   |   |  |  |   |  |                                      | _                        |  |  |
| * Alluvii                         | um, CRB,                             | Bedrock  |                                     |  |   |   |  |  |   |  |                                      |                          |  |  |
| Well                              | Well<br>Elev<br>ft msl               | First<br>Water<br>ft bls                       | SWL<br>ft bls                       | SWL<br>Date                                    | Well<br>Depth<br>(ft)                                 | Seal<br>Interval<br>(ft)                                | Casing<br>Intervals<br>(ft)                            | Liner<br>Intervals<br>(ft)                     | Perforations<br>Or Screens<br>(ft)                                | Well<br>Yield<br>(gpm)   | Draw<br>Down<br>(ft)                 | Test<br>Type             |  |  |
| i                                 | 350                                  | 94   | 24                                  | 8/14/2008                                      | 224   | 0-19  | +2-19  | 4-224  | 84-104, 184-<br>204, 214-223                                      | 20   | (11)                                 | A                        |  |  |
| 2                                 | 460                                  | 140  | 81                                  | 2/21/2008                                      | 300   | 0-50  | +2-97  | 4-300  | 140-160, 260-<br>280, 290-300                                     | 17   |                                      | A                        |  |  |
|                                   |                                      |  |                                     |  |   |   |  | _  |   |  |                                      |                          |  |  |
| Uso doto                          | from one                             | liantion f                                     | or propose                          | d walls  |   |   |  |  |   |  |                                      |                          |  |  |
| A4.                               |                                      |  |                                     |  |   |   |  |  |   |  |                                      |                          |  |  |
|                                   |                                      |  |                                     |  |   |   |  |  | <u></u>   |  |                                      |                          |  |  |
| A5. 🛚                             | manage<br>(Not all                   | ment of<br>basin ru                            | ground wiles conta                  | ater hydrauli<br>in such provi                 | ically conne<br>sions.)                               | cted to su  | rface water  | are, or  | o the developr are not, acti                                      | vated by t   | his applic                           | eation.                  |  |  |
|                                   |                                      |  |                                     |  |   |   |  |  |   |  |                                      |                          |  |  |
| A6. 🗌                             | Name of                              | of admin                                       | istrative a                         | rea:   |   |   |  |  | er limited by a   |  |                                      |                          |  |  |
|                                   |                                      |  |                                     |  |   |   |  |  |   |  |                                      |                          |  |  |

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### B. GROUND WATER AVAILABILITY CONSIDERATIONS, OAR 690-310-130, 400-010, 410-0070

| Bas         | ed upon available data, I have determined that ground water* for the proposed use:  |                                     |
|-------------|---|-------------------------------------|
| a.          | is over appropriated, is not over appropriated, or is cannot be determined period of the proposed use. * This finding is limited to the ground water portion determination as prescribed in OAR 690-310-130;  |                                     |
| b.          | will not or will likely be available in the amounts requested without injury to is limited to the ground water portion of the injury determination as prescribed in   |                                     |
| c.          | will not or will likely to be available within the capacity of the ground water   | r resource; or                      |
| d.          | will, if properly conditioned, avoid injury to existing ground water rights or to i. The permit should contain condition #(s) _7B,7N  | the ground water resource:          |
|             | <ul> <li>ii.  The permit should be conditioned as indicated in item 2 below.</li> <li>iii.  The permit should contain special condition(s) as indicated in item 3 below.</li> </ul>   | low;                                |
| a.          | Condition to allow ground water production from no deeper than  | ft. below land surface;             |
| b.          | Condition to allow ground water production from no shallower than   | ft. below land surface;             |
| c.          | Condition to allow ground water production only from the water reservoir between approximately ft. and ft. below  | ground                              |
|             | Describe injury —as related to water availability—that is likely to occur without we senior water rights, not within the capacity of the resource, etc):  |                                     |
|             |   |                                     |
| low<br>perr | und water availability remarks: The applicant's wells produce water from the low yield bedrock aquifer is composed of older marine sedimentary and volcanic rocks the heability, and low well yield. Most of the available pore space in this unit is likely to conducter is confined by the low-permeability matrix. | at generally have low porosity, low |
|             | ited water-level data show no evidence of long-term declines. Well density in the bedinets to other wells should be minor.  | rock aquifer is relatively low so   |
|             |   |                                     |
|             |   | <u> </u>                            |
|             |   |                                     |
|             |   |                                     |
|             |   |                                     |
| _           |   |                                     |
|             |   |                                     |
|             |   |                                     |

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### C. GROUND WATER/SURFACE WATER CONSIDERATIONS, OAR 690-09-040

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

| Well | Aquifer or Proposed Aquifer | Confined    | Unconfined |
|------|-----------------------------|-------------|------------|
| 1    | Low-yield bedrock           | $\boxtimes$ |            |
| 2    | Low-yield bedrock           | $\boxtimes$ |            |
|      |                             |             |            |
|      |                             |             |            |
|      |                             |             |            |

Basis for aquifer confinement evaluation: General experience indicates that the low-yield bedrock aquifer is typically confined. Also, water levels in the applicant's wells rise above the elevations in which they were encountered. This is consistent with confined conditions.

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<br># | Surface Water Name | GW<br>Elev<br>ft msl | SW<br>Elev<br>ft msl | Distance<br>(ft) | Hydraulically Connected? YES NO ASSUMED | Potential for<br>Subst. Interfer.<br>Assumed?<br>YES NO |
|------|---------|--------------------|----------------------|----------------------|------------------|---|---|
| 1    | 1       | Rowland Creek      | 320                  | 180-300              | 2000             |   |   |
| 1    | 2       | Salt Creek         | 320                  | 200-300              | 2150             |   |   |
| 2    | 1       | Rowland Creek      | 380                  | 180-300              | 2500             |   |   |
| 2    | 2       | Salt Creek         | 380                  | 200-300              | 1900             |   |   |
|      |         |                    |                      |                      |                  |   |   |
|      |         |                    |                      |                      |                  |   |   |
|      |         |                    |                      |                      |                  |   |   |
|      |         |                    |                      |                      |                  |   |   |
|      |         |                    |                      |                      |                  |   |   |

| Basis for aquifer hydraulic connection evaluation: Groundwater levels are above the elevation of the local reaches of |
|---|
| Rowland and Salt creeks. This indicates groundwater flow toward the creek and suggests local hydraulic connection.    |
|   |
|   |
|   |
| Water Availability Posin the well's) are leasted within, 70746: N.VAMULL D. VAMULL D. 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 source. Limit evaluation to instream rights and minimum stream flows that are pertinent to that surface water source, and 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 \( \subseteq \) box indicates the well is assumed to have the potential to cause PSI.

| Well | SW<br># | Well < 1/4 mile? | Qw > 5 cfs? | Instream<br>Water<br>Right<br>ID | Instream<br>Water<br>Right Q<br>(cfs) | Qw ><br>1%<br>ISWR? | 80%<br>Natural<br>Flow<br>(cfs) | Qw > 1%<br>of 80%<br>Natural<br>Flow? | Interference<br>@ 30 days<br>(%) | Potential<br>for Subst.<br>Interfer.<br>Assumed? |
|------|---------|------------------|-------------|----------------------------------|---------------------------------------|---------------------|---------------------------------|---------------------------------------|----------------------------------|--|
| 1    | 1       |                  |             | n/a                              |                                       |                     | 16.60                           |                                       | <25%                             |  |
| 1    | 2       |                  |             | n/a                              |                                       |                     | 16.60                           |                                       | <25%                             |  |
| 2    | 1       |                  |             | n/a                              | _                                     |                     | 16.60                           |                                       | <25%                             |  |
| 2    | 2       |                  |             | n/a                              |                                       |                     | 16.60                           |                                       | <25%                             |  |
|      |         |                  |             |                                  |                                       |                     |                                 |                                       |                                  |  |
|      |         |                  |             |                                  |                                       |                     |                                 |                                       |                                  |  |
|      |         |                  |             |                                  |                                       |                     |                                 |                                       |                                  |  |
|      |         |                  |             |                                  |                                       |                     |                                 |                                       |                                  |  |

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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<br># | Qw > 5 cfs? | Instream<br>Water<br>Right<br>ID | Instream<br>Water<br>Right Q<br>(cfs) | Qw ><br>1%<br>ISWR? | 80%<br>Natural<br>Flow<br>(cfs) | Qw > 1%<br>of 80%<br>Natural<br>Flow? | Interference<br>@ 30 days<br>(%) | Potential<br>for Subst.<br>Interfer.<br>Assumed? |
|---------|-------------|----------------------------------|---------------------------------------|---------------------|---------------------------------|---------------------------------------|----------------------------------|--|
|         |             |                                  |                                       |                     |                                 |                                       |                                  |  |
|         |             |                                  |                                       |                     |                                 |                                       |                                  |  |
|         |             |                                  |                                       |                     |                                 |                                       |                                  |  |
|         |             |                                  |                                       |                     |                                 |                                       |                                  |  |

Comments: No model is readily available to estimate impacts to streams by the pumping of a well in a fractured system. However, because of the low permeability and porosity of the Marine Sedimentary rock aquifer system, pumping impacts are likely to be localized to a relatively small area around the well. Therefore, impacts to Rowland and Salt creeks are likely to be less than 25% of the pumping rate after 30 days of pumping.

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-D                        | istributed   | Wells |     |     |     |     | <del>-</del> | •   | •      |     |     |     |     |
|------------------------------|--------------|-------|-----|-----|-----|-----|--------------|-----|--------|-----|-----|-----|-----|
| Well                         | SW#          | Jan   | Feb | Mar | Apr | May | Jun          | Jul | Aug    | Sep | Oct | Nov | Dec |
|                              |              | %     | %   | %   | %   | %   | %            | %   | %      | %   | %   | %   | %   |
| Well (                       | Q as CFS     |       |     |     |     |     |              |     |        |     |     |     |     |
| Interfer                     | rence CFS    |       |     |     |     |     |              |     |        |     |     |     |     |
| Distrib                      | outed Well   | le    |     |     |     | _   |              |     |        |     |     |     |     |
| Well                         | SW#          | Jan   | Feb | Mar | Apr | May | Jun          | Jul | Aug    | Sep | Oct | Nov | Dec |
|                              |              | %     | %   | %   | %   | %   | %            | %   | %      | %   | %   | %   | %   |
| Well (                       | Q as CFS     |       |     |     |     |     |              |     |        |     |     |     |     |
| Interfei                     | ence CFS     |       |     |     |     |     |              |     |        |     |     |     |     |
|                              |              | %     | %   | %   | %   | %   | %            | %   | %      | %   | %   | %   | %   |
| Well (                       | Q as CFS     |       |     |     |     |     |              |     |        |     |     |     |     |
| Interfei                     | rence CFS    |       |     |     |     |     |              |     |        |     |     |     |     |
|                              |              | %     | %   | %   | %   | %   | %            | %   | %      | %   | %   | %   | %   |
| Well (                       | Q as CFS     |       |     |     |     |     |              |     |        |     |     |     |     |
| Interfei                     | rence CFS    |       |     |     |     |     |              |     |        |     |     |     |     |
|                              |              | %     | %   | %   | %   | %   | %            | %   | %      | %   | %   | %   | %   |
|                              | Q as CFS     |       |     |     |     |     |              |     |        |     |     |     |     |
| Interfe                      | rence CFS    |       |     |     |     |     |              |     |        |     |     |     |     |
|                              |              | %     | %   | %   | %   | %   | %            | %   | %      | %   | %   | %   | %   |
|                              | Q as CFS     |       |     |     |     |     |              |     |        |     |     |     |     |
| Interfer                     | rence CFS    |       |     |     |     |     |              |     |        |     |     |     |     |
|                              |              | %     | %   | %   | %   | %   | %            | %   | %      | %   | %   | %   | %   |
|                              | Q as CFS     |       |     |     |     |     |              |     |        |     |     |     |     |
| Interfer                     | rence CFS    |       |     |     |     |     |              |     |        |     |     |     |     |
| (A) = T                      | otal Interf. |       |     |     |     |     |              |     |        |     |     |     |     |
|                              | ) % Nat. Q   |       |     |     |     |     |              |     |        |     |     |     |     |
|                              | % Nat. Q     |       |     |     |     |     |              |     |        |     |     |     |     |
|                              |              |       |     | ·   |     | 1   |              |     | -<br>I |     |     |     |     |
|                              | (A) > (C)    |       |     |     | ~   | 01  | C/           | C/  | O/     | O/  | %   | 67  | %   |
| $(\mathbf{E}) = (\mathbf{A}$ | ( / B) x 100 | %     | %   | %   | %   | %   | %            | %   | %      | %   | 1 % | %   | %   |

Application G-17719 Date: November 5, 2013 Page 5 (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: 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 ground water 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: 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: U.S. Geological Survey Scientific Investigations Report 2005-5168.

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

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.

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

| D1.   | Well #: | Logid:  |        |
|-------|---------|---|--------|
| D2.   | a.      | review of the well log; field inspection by   | ;<br>; |
| D3.   |         | ELL construction deficiency or other comment is described as follows:                       |        |
| D4. [ |         | to the Well Construction and Compliance Section for a review of existing well construction. |        |

Version: 07/26/2013

### Water Availability Tables

## N YAMHILL R > YAMHILL R - AT MOUTH WILLAMETTE BASIN

Water Availability as of 11/5/2013

Watershed ID #: 70746 (Map)

Exceedance Level:

80%

Date: 11/5/2013

Exceedance Level: Time: 10:15 AM

Date: November 5, 2013

Water Availability Calculation

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

| Month | Natural<br>Stream Flow | Consumptive Uses<br>and Storages | Expected<br>Stream Flow | Reserved<br>Stream Flow | Instream Flow<br>Requirement | Net Water<br>Available |
|-------|------------------------|----------------------------------|-------------------------|-------------------------|------------------------------|------------------------|
| JAN   | 395.00                 | 39.50                            | 356.00                  | 0.00                    | 70.00                        | 286.00                 |
| FEB   | 485.00                 | 40.10                            | 445.00                  | 0.00                    | 70.00                        | 375.00                 |
| MAR   | 379.00                 | 31.70                            | 347.00                  | 0.00                    | 70.00                        | 277.00                 |
| APR   | 240.00                 | 32.70                            | 207.00                  | 0.00                    | 70.00                        | 137.00                 |
| MAY   | 124.00                 | 27.70                            | 96.30                   | 0.00                    | 70.00                        | 26.30                  |
| JUN   | 63.60                  | 30.50                            | 33.10                   | 0.00                    | 40.00                        | -6.85                  |
| JUL   | 30.70                  | 34.60                            | -3.93                   | 0.00                    | 15.00                        | -18.90                 |
| AUG   | 22.70                  | 32.40                            | -9.73                   | 0.00                    | 10.00                        | -19.70                 |
| SEP   | 17.40                  | 26.20                            | -8.84                   | 0.00                    | 10.00                        | -18.80                 |
| OCT   | 16.60                  | 18.80                            | -2.18                   | 0.00                    | 10.00                        | -12.20                 |
| NOV   | 68.90                  | 26.40                            | 42.50                   | 0.00                    | 70.00                        | -27.50                 |
| DEC   | 338.00                 | 38.90                            | 299.00                  | 0.00                    | 70.00                        | 229.00                 |
| ANN   | 249,000.00             | 22,900.00                        | 226,000.00              | 0.00                    | 34,600.00                    | 193,000.00             |

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# G-17719, Mt. Richmond Vineyards 1:24,000 scale 45 25 4 W YAMH 55302 30 YAMH 55291 52 Lunnville 187 51

1,000

2,000

4,000

8,000 Feet

6,000