

August 23, 2011

Mr. Tim Wallin, PhD, RG  
Water Rights Program Manager  
Oregon Water Resources Department  
725 Summer St NE, Suite A  
Salem, OR 97301

RE: **Request for an Exception to the Willamette Basin Program Rule (OAR-502-0240) under ORS 536.295**

Applicant: Paul Harcombe  
30680 Horseshoe Dr.  
Albany, OR 97321

Dear Mr Wallin:

**THE PURPOSE** of this letter is to request an exception to the Willamette Basin Program rules under **OAR 690-502-0240—Groundwater-surface water hydraulic connection**. The Oregon Revised Statutes gives flexibility to consider conditions of the application for a water use not classified in the basin program rules. The basis of this exception request is pursuant to **ORS 536.295 (1) (f)**. Under this provision, the Water Resources Department is allowed to consider an application to appropriate water for a use that is not classified in the Willamette Basin Program, if that use **“will provide a public benefit such as riparian or watershed improvement”**.

### **THE PERTINENT BACKGROUND**

- A. Mr. Paul Harcombe owns the Subject Property identified as Tax Lot 800 (Assessor’s Map 11-4W-22) in Linn County.
- B. Mr. Harcombe has an existing surface water right to irrigate 4.0 acres of his property under Permit # T-9111. This existing water right allows for diversion of surface water directly from Horseshoe Lake. This point of diversion is not on his property and is located approximately 1100 feet southwesterly of his irrigated “Place of Use”. See ATTACHMENT NO. 1 for a copy of T-9111 approval letter and map.

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- C. Mr. Harcombe has an existing ground water well (Identified as Linn 8433) on his property. The well is located approximately 750 feet east of Horseshoe Lake. It will be more feasible to utilize the well on his property, rather than diverting water from Horseshoe Lake. See ATTACHMENT NO. 2 for a copy of the well log.
- D. Mr Harcombe has made application for a new ground water right to irrigate the same 4.0 acres utilizing said existing well (Linn 8433). A copy of the groundwater application map is affixed as ATTACHMENT NO. 3.
- E. The Water Resources Department has indicated that it will deny approval of the new groundwater application on the basis of Willamette Basin Program Rule per OAR 690-502-0240—Groundwater-surface water hydraulic connection. The applicable provision of this rule reads as follows:

**Groundwater in unconfined alluvium within ¼ of a mile of the banks of a stream or surface water source is presumed to be in hydraulic connection with the surface water source, ... This hydraulically connected groundwater shall be classified the same as the surface water source. ...**

- F. Mr. Harcombe has met with Water Resource Department staff to discuss the merits of his request to irrigate the 4.0 acres utilizing the well rather than the diversion point on Horseshoe Lake. In that discussion, Mr. Harcombe was advised that the exception to the Willamette Basin Program rules under ORS 536.295 (1) (f) would be an applicable provision that, if approved, would allow the Water Resources Department to consider allowing the well to be used as the source of irrigation water for his 4.0 acres.

### **PREMISE:**

**APPROVAL OF THE GROUNDWATER WELL FOR IRRIGATION OF THE 4.0 ACRES WILL ELIMINATE THE NEGATIVE IMPACT TO HORSESHOE LAKE THAT IS CAUSED BY PUMPING WATER DIRECTLY FROM THE LAKE. BY PUMPING FROM THE WELL, THE NATURAL HABITAT OF HORSESHOE LAKE WILL BE IMPROVED. THE PUBLIC WILL BENEFIT BY THE ENHANCMENT TO THE RIPARIAN VALUES OF HORSESHOE LAKE.**

### **FINDINGS IN SUPPORT OF THIS REQUEST:**

1. The hydraulic connection of the well to the surface water of Horseshoe Lake is "presumed". (Per OAR 690-502-0240). However, the actual impact of this ground water connection is unknown. Because of the distance of the well (approximately 750 feet) from the lake, any presumed hydraulic connection will be very inefficient.

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The following sub-sections provide content pertaining to the inefficiency of the connection:

- a. The well has been pump tested. The pump test report by Stutzman Services, Inc. (dated 4-23-02) is included as ATTACHMENT NO. 4. The test was done on 4-18-02. The test was a 4-hour flow test. Lateral irrigation lines were set up for testing of discharge rate, and the well was probed to test and document draw down in the well. The results of the test are summarized as follows:
    1. Static water level measurements before pumping were 18'
    2. Discharge rates were consistently 87.9 gpm.
    3. Depth to water dropped to 19' 6" after 2 minutes and remained there for the 4 hr pumping period.
    4. Static Water Level recovery to 18' occurred within 6 minutes.
    5. The cover sheet also notes that well elevation is approximately 2' above the elevation of the surface water body 750' to the east.
  - b. The pump test shows no correlation of the static water level at the well to the water surface level of Horseshoe Lake over a 4 hour period. The static level of the underground ground water was restored in 6 minutes.
  - c. The Stutzman Pump Services personnel (that conducted the pump test) observed that the static water level at the well was approximately 2' above the surface water elevation of the lake on April 18, 2002. April is a month early in the growing season when irrigation is not frequent. The fact that the static water level at the well was higher than the lake surface is an indication that the ground water is not greatly influenced by the lake. At best, the connection appears be too inefficient to be measurable.
2. Pumping water from the lake will have a direct and immediate impact on potential surface water levels.
- a. The rate of water being pumped to irrigate the 4.0 acres is based on 1/80 cfs per acre. This rate translates to 0.05 cfs which equals 22.4 gpm. Pumping at this rate from the lake has a direct impact on the surface water level elevation. The impact to the level is likely not measurable, but theoretically, there is a direct correlation.
3. Mr. Harcombe's irrigations practices are summarized as follows:
- a. The irrigation system consists of 3" hand line and high-pressure impact sprinklers.

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- b. Typically irrigation begins when crops are planted in late May and ends in mid August when seed crops begin to dry down.
  - c. Occasionally, pastures or late-developing crops (like squash) are irrigated through mid September.
  - d. Irrigation intervals depend on soil moisture conditions and crop needs, but usually irrigation occurs every 7-14 days, with the longer intervals occurring in the early part of the season, and the shorter intervals occurring in July and August.
  - e. Irrigation is done at night to minimize evaporation loss.
  - f. Field measurement of water delivery is employed to adjust the duration of irrigation seasonally to 1" to 2" per set.
  - g. Duration of irrigation is controlled with a timer; it usually is 4-7 hrs per set.
4. Horseshoe Lake has a surface area of approximately 26 acres. Based on Mr. Harcombe's irrigation practices during the hottest part of the season (place 2" of irrigation water per set), the calculated volume of 29,040 cubic feet is used each time he irrigates his 4.0 acres. Not accounting for the re-charging of the lake by natural forces, the lake water surface elevation has a potential drop of about 1/3 inch each time the subject 4.0 acres is irrigated.
5. Horseshoe Lake is part of a Conservation Opportunity Area identified as Area No. 11—"Bowers Rock-Truax Island" that has been identified as a priority for conservation in the Oregon Conservation Plan by the ODFW, Oregon State Parks, and The Nature Conservancy. These agencies / non-profits are entities with the mission to protect the public interest. This tract is identified as Tract No. 11 in the Oregon Conservation Plan as shown on the map included herein as ATTACHMENT NO. 5.
6. Oregon's Statewide Planning Program for land use has developed a set of 19 statewide planning goals. Goal 5 protects natural resource areas such as:
- a. Riparian corridors, including water and riparian areas and fish habitat;
  - b. Wetlands;
  - c. Wildlife habitat;

**Horseshoe Lake contains all of these habitats.**

7. Pumping directly out of Horseshoe Lake potentially reduces the water level. Avoidance by pumping from the well will enhance the conservation and protection of the environmental values that exist around the lake.
8. Approvals of the requested exception and the ground water application will produce a public benefit and watershed improvement by protecting summer water levels in Horseshoe Lake, thereby:

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- a. enhancing a priority conservation area
  - b. contributing to statewide conservation goals
  - c. benefiting federally endangered salmonids and other fishes
9. Mr. Harcombe has contacted the ODFW to determine the Department's level of support for pumping out of the well rather than directly from Horseshoe Lake. These contacts included the following:

- a. He has met with Mr. Paul Farrand of the ODFW on site to show and explain his proposed plan. Mr. Farrand is the Assistant District Fish Biologist. Representing the position of the ODFW in support for Mr. Harcombe's plan, Mr. Farrand provided the following statement in an email dated April 5, 2011:

*"From our perspective, your proposal to switch your water right from a surface water withdrawal at Horseshoe Lake to a ground water withdrawal from a well on your property would provide a benefit to fish in Horseshoe Lake because of the reduced risk of entrainment from faulty or broken screens. We would prefer the use of the well so long as the overall allocation remains the same".*

A copy of his email is included herein as ATTACHMENT NO. 6

- b. In an email to applicant (3-22-2011), Dave Jepsen, Director, ODFW Conservation and Recovery Program, states "note that improvements on this property and lake may have benefits beyond juvenile salmon and trout, to include Oregon chub and other native aquatic species." A copy of his email is included as ATTACHMENT NO. 7.

10. Other residual benefits to the public are:

- a. Help create opportunities for economic development in the area by making it possible to irrigate more effectively and efficiently;
- b. Enhance the agricultural potential of the farm. It is consistent with state and local land use requirements.

### CONCLUSION:

For the reasons stated in the above findings, we believe that Mr. Harcombe's request is consistent with the general policies of the Willamette Basin Program. The approval of the exception ensures that issuance of the new ground water permit will result in a substantial public benefit.

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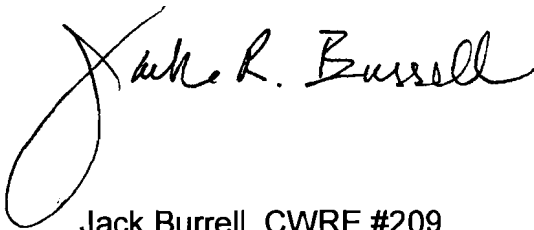
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In exchange for the approval of the proposed exception to the basin rules, Mr. Harcombe will voluntarily relinquish the existing surface water right under T-9111.

Based on the public benefit and watershed improvement achieved through this proposed exchange, Mr. Harcombe is hopeful that the Commission will allow the Water Resources Department to further consider his ground water application.

We are enclosing the application for a Ground Water Permit and a check for the required \$500 exception appeal fee. Please call with any questions, comments, or to request additional information regarding the request or the enclosed application.

Sincerely,



Jack Burrell, CWRE #209

ATTACHMENT NO. 1—Surface Water Permit T-9111 and Map

ATTACHMENT NO. 2—Well Log

ATTACHMENT NO. 3—New Ground Water Application Map

ATTACHMENT NO. 4—Pump Test on Existing Well

ATTACHMENT NO. 5—Oregon Conservation Plan map

ATTACHMENT NO. 6—email from Alex Farrand, ODFW

ATTACHMENT NO. 7—email from Dave Jepsen, Director of ODFW Conservation and Recovery Program

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