

STATE OF OREGON

COUNTY OF UMATILLA

PERMIT FOR AQUIFER STORAGE AND RECOVERY (ASR)

THIS ASR PERMIT IS HEREBY ISSUED TO:

McCarty Ranch
c/o Mike McCarty
26943 McCarty Ranch Lane
Echo, OR 97826

The specific limits and conditions of the use are listed below.

APPLICATION FILE NUMBER: ASR PERMIT #003

PREVIOUS ASR TESTING AUTHORIZATIONS: ASR LIMITED LICENSES #008, #013, #021

SOURCE OF WATER: 1 WELL AUTHORIZED UNDER CERTIFICATE 67878

POINT OF DIVERSION:

ALLUVIAL WELL: NE ¼ SE ¼, SECTION 15, T2N, R27E, W.M; 1,380 FEET NORTH, 210 FEET WEST FROM THE SE CORNER OF SECTION 15, T2N/R27E

ASR WELL LOCATION:

ASR WELL (UMAT 456/455/55306/55580): SW ¼ SW ¼, SECTION 14, T2N, R27E, W.M.; 1,320 FEET NORTH, 460 FEET EAST FROM THE SW CORNER OF SECTION 14, T2N/R27E

MAXIMUM DIVERSION RATE: 6.14 CUBIC FEET PER SECOND (2,756 GPM)

MAXIMUM INJECTION RATE: 6.14 CUBIC FEET PER SECOND (2,756 GPM) AT THE ASR WELL

MAXIMUM VOLUME OF STORAGE: 905.3 MILLION GALLONS (2,778.3 ACRE-FEET)

MAXIMUM WITHDRAWAL RATE: 3.65 CUBIC FEET PER SECOND (1,640 GPM) OF STORED WATER THROUGH THE ASR WELL

MAXIMUM STORAGE DURATION: ONGOING

This ASR permit is issued with the following conditions:

- 1) **Record of Use:** The permittee shall maintain a record of injection and recovery, including the total number of hours of injection and recovery and the total metered quantity injected and recovered. The record of use may be reviewed by Department staff upon request.
- 2) **Modification/Revocation:** The Department shall notify the permittee in writing and allow the permittee to respond when considering the following actions:

(A) The Department may modify the ASR permit for any of the following reasons:

(i) to reflect changes in Oregon Health Authority (OHA, formerly DHS) and Oregon Department of Environmental Quality (DEQ) water quality or treatment standards;

(ii) to address needed technological changes as requested by OHA or DEQ to minimize constituents regulated under OAR 333-061-0030 (ORS 448.131 and 448.273) or OAR 340-40 (ORS 468B.165);

(iii) upon written request from the permittee for minor adjustments to the authorization in the permit.

(iv) upon written request from the permittee for changes to the limits for the recovery of stored water. Any person operating an ASR project under a permit, upon approval by the Director, may recover up to 100 percent of the water stored in the aquifer storage facility if valid scientific data gathered during operations under the limited license or permit demonstrate that the injected source water is not lost through migration or other means and that groundwater otherwise present in the aquifer has not been lost irretrievably as a result of aquifer storage or recovery.

(B) The Director may revoke or modify the ASR permit for any of the following reasons:

(i) to prevent or mitigate substantial interference with other water rights, minimum perennial streamflows established prior to the granting of the ASR permit, or aquifer water quality; or

(ii) to address any other unintended, injurious effects of the ASR activity.

(C) The Department shall offer an additional public comment opportunity consistent with the notice and comment provisions of OAR 690-350-020 prior to modifying the permit.

3) Compliance with Other Laws: The injection of acceptable water into the aquifer, as well as its storage and recovery under this permit, shall comply with all applicable local, state or federal laws. This shall include but not be limited to compliance with the DEQ Underground Injection Control registration program as authorized under the Safe Drinking Water Act (40 CFR 144.26). Also, discharges to waterways must be in compliance with all DEQ requirements.

4) Water Quality Conditions and Limits:

(A) The permittee shall minimize, to the extent technically feasible, practical and cost-effective, the concentration of constituents in the injection source water that are not naturally present in the aquifer;

(B) Except as otherwise provided in (C) of this condition and condition (6)(A), if the injection source water contains constituents regulated under OAR 333-61-030 (ORS 448.131 and .273) or OAR 340-40 (ORS 468B.165) that are detected at greater than 50 percent of the established levels (MCLs or MMLs in the cited rules), the permittee shall employ technically feasible, practical and cost-effective methods to minimize concentrations of such constituents in the injection source water;

(C) Constituents that have a secondary contaminant level or constituents that are associated with disinfection of the injection source water may be injected into the aquifer up to the standards established under OAR 333-061-030 (ORS 448.131 and .273);

(D) The Department may, based upon valid scientific data, further limit certain constituents in the injection source water if the Department finds that those constituents will interfere with or pose a threat to the maintenance of the water resources of the state for present or future beneficial uses;

(E) If during the course of ASR testing, a constituent which is regulated under OAR 333-61-030 (ORS 448.131 and .273) or OAR 340-40 (ORS 468B.165) is detected above the 50% level prescribed in condition (4)(B) or the 100% level prescribed in condition (4)(C) or the level prescribed in condition (6)(A), the permittee shall immediately stop injection activities upon receipt of lab data and notify the Department within five days. Injection may recommence after constituent levels return to acceptable levels pursuant to conditions (4)(B), (4)(C) or (6)(A).

5) Water Quality Sampling:

(A) The permittee shall sample and analyze injection source water for the constituents and at the frequency described in the current, approved monitoring program. At the time of permit issuance, the approved plan is described in the annotated document titled "McCarty Ranch Aquifer Storage and Recovery Permit Application and Supplemental Information" (copy of record dated December 1, 2015).

(B) The permittee shall use the current, approved Groundwater Sampling Field Form to document sampling activities (page 109 of the permit application copy of record dated December 1, 2015). Modifications to this plan may be proposed to the Department in writing for review, and written approval or denial.

6) Nitrate Monitoring Program:

(A) The maximum concentration of nitrate in the injection source water shall not exceed 9.5 mg/l.

(B) Nitrate monitoring using a nitrate meter will be performed in accordance with the following guidelines:

(i) Permittee shall calibrate the nitrate meter in accordance with manufacturer's recommendation that a one-point (slope factor) calibration occur once per week.

(ii) Permittee shall collect and submit a recharge water sample for nitrate testing by a laboratory weekly during the first two weeks of the injection cycle. Lab testing may be discontinued for the duration of the injection cycle unless the on-site meter results indicate that injection water nitrate concentrations are equal to or greater than 7.0 mg/L. Weekly lab tests would then be required as a verification measure until nitrate concentrations dropped below 7.0 mg/L.

(iii) Permittee shall measure and store nitrate concentrations of recharge water using the field instrument at a frequency of once per hour during the recharge period.

(iv) Permittee shall compare field nitrate measurements to laboratory measurements to check the accuracy and precision of the field instrument. If the allowable variation exceeds the upper limit established in Groundwater Solutions, Inc. September 2004 report "Nitrate Meter Accuracy and Precision Evaluation for Madison Farms ASR Limited License #007" for two consecutive weekly comparisons between the nitrate meter and laboratory results, the deviation must be corrected. If the laboratory measured nitrate concentrations are greater than 8.5 mg/l, recharge

will be terminated immediately until the deviation between the field and laboratory measurements is corrected.

(C) Permittee shall program the nitrate-monitoring instrumentation to automatically shut down recharge if the nitrate concentration exceeds 9.5 mg/l.

(D) If recharge is shut down by an exceedance of the nitrate criteria, the permittee shall demonstrate to DEQ and OHA through field measurement that the recharge water does not exceed 9.25 mg/l or through the submittal of laboratory results that the recharge water does not exceed the 9.5 mg/l limit prior to restarting recharge.

(E) After each season of recharge, the permittee may present information to the Department for re-evaluation of allowable variation of the field instrument and maximum nitrate values.

7) Water Level Monitoring:

(A) The permittee shall monitor groundwater levels in wells in the manner described in the approved ASR water-level monitoring plan. At the time of this permit issuance, the approved plan is described in the annotated document titled "McCarty Ranch Aquifer Storage and Recovery Permit Application and Supplemental Information" (copy of record dated December 1, 2015). The permittee shall use the current, approved ASR tracking form to document water-level monitoring (pages 114 to 120 in the copy of record dated December 1, 2015). Modifications to this plan may be proposed to the Department in writing for review, and written approval or denial.

(B) Transducer and airline data shall be verified and corrected with manual measurements if an e-tape can be lowered past obstructions to the water level. In the event a pump is pulled, wells shall be equipped with an unobstructed, dedicated measuring tube pursuant to figure 200-5 in OAR 690-200.

8) Recovery: The availability of stored water for recovery is based on the following factors:

(A) Available stored water is determined on a well-by-well basis. The permittee may recover up to 98% of the quantity injected under this permit during the water year that the water was injected. After that water year, the availability of stored water shall be further diminished each water year such that the permittee may only recover up to 98% of any water year-to-water year storage carryover. For example, water year 2016 lasts from October 1, 2015 through September 30, 2016. Data collected by the permittee may be useful in consideration of modifications to this recovery provision under the permit.

(B) Any water withdrawn from the ASR well identified in this permit shall first be debited against the quantity available from the aquifer by virtue of the Butter Creek Critical Ground Water Area allocation. When that allocation is depleted at the ASR well, any water withdrawn from the ASR well shall be considered a draft of ASR stored water. This permit does not authorize withdrawal of more water than was injected.

(C) The availability of stored water is a running account that is subject to determination at any time.

9) Annual Reporting: The permittee shall provide the Department a written report of ASR operations for each water year by February 15th of the following water year. The first report shall be due in 2017 and include results from water year 2016. Modifications to this reporting plan may be proposed to the

Department in writing for review, approval or denial. The report shall include an accounting of total volumes injected and recovered and the following:

- (A) Transducer data files in electronic format
- (B) ASR well flow rates in electronic format
- (C) Nitrate data in electronic format
- (D) Groundwater sampling field forms (page 107 in the copy of record dated December 1, 2015)
- (E) Laboratory analytical reports in PDF format and electronic data deliverables (EDDs) in Excel or delimited text format (to be produced by the analytical laboratory)
- (F) Nitrate meter field service report
- (G) Completed ASR tracking form, as specified in the ASR Permit application documents (pages 114 to 120 in the copy of record dated December 1, 2015)

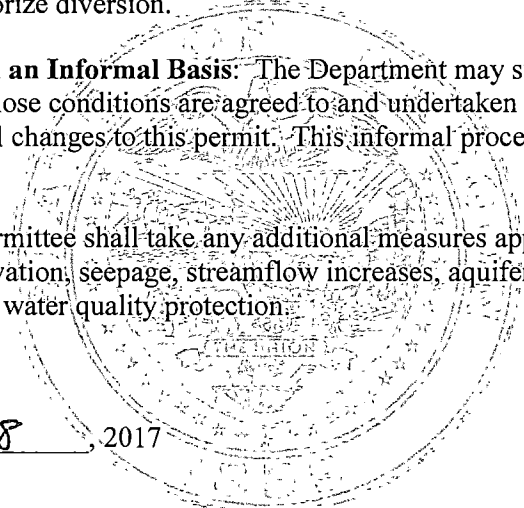
10) **Protection for Existing Water Users:** In the event of conflicts with existing appropriators, the permittee shall conduct all testing so as to mitigate the injurious effects. In addition, the permittee shall cooperate with the efforts of the Department to protect existing water rights and the water quality of existing users that rely upon the receiving aquifer and the injection source water.

11) **Use of Recovered Water:** The permittee shall use any recovered water for the purposes described in the base water rights that authorize diversion.

12) **Additional Conditions on an Informal Basis:** The Department may suggest additional conditions to the permittee. Provided that those conditions are agreed to and undertaken by the permittee, the Department may forego formal changes to this permit. This informal process does not extend to obligation reductions.

13) **Other Measures:** The permittee shall take any additional measures appropriate to address ASR-related issues of landslide activation, seepage, streamflow increases, aquifer boundary determination, aquifer storage efficiency, and water quality protection.

Issued August 18, 2017



E. Timothy Wallin

E. Timothy Wallin for Thomas M. Byler, Director
Water Resources Department