

This Groundwater Technical Review and the included analysis help inform the Water Rights Section’s review of whether the proposed groundwater use will ensure the preservation of the public welfare, safety and health as described in ORS 537.525 and ORS 537.621. The Water Rights Section also considers other information sources when making its public interest determination, including watermaster input, any comments received, input from other agencies, other Commission rules not evaluated as part of the Groundwater Review, and other information.

PUBLIC INTEREST TECHNICAL REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date: 12/5/2025
FROM: Groundwater Section Joe Kemper
Reviewer's Name
SUBJECT: Application LL - 2009 Supersedes review of NA

Date Reviewed by GW Mgr. and Returned to WRSD: JTI 3/13/26

PUBLIC INTEREST PRESUMPTION: GROUNDWATER

OAD 690-310-0130 (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 if

(a) The proposed use is allowed in the applicable basin program established pursuant to ORS 536.300 and 536.340 or given a preference under ORS 536.310(12);

(b) Water is available;

(c) The proposed use will not injure other water rights; and

(d) The proposed use complies with the rules of the Commission.

Department staff review groundwater applications under OAR 690-310-0140 to determine whether the presumption is established and may modify or condition the proposed use 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:

A1. Application

Applicant’s Name: Westridge HOA, Inc. County: Crook

Applicant(s) seek(s) 0.245 cfs from 1 well(s) in the Deschutes Basin,
Lower Crooked subbasin

Proposed use Quasi-Municipal Seasonality: 1/1 to 12/31

A2. Well and aquifer data:

A2 a: Well identifiers, aquifer, rate, and location

POA Well	Well Log ID	Applicant's Well #	Proposed Aquifer	Proposed Rate (cfs)	Location (T/R-S QQ-Q)	Latitude	Longitude
1	PROP 734	WELL 3	Deschutes Fm	0.245	14S/15E-28 NE-NE	44.332229	-120.9276945
2							

A2 b: Well construction information by depth below land surface. All units in feet.

POA Well	Seal		Casing		Filter Pack		Open / Perforation / Screen		Well Bottom
	Min	Max	Min	Max	Min	Max	Min	Max	
1	0	30	0	85	0	N/A	70	85	85
2									

A2 c: Well construction information by elevation above mean sea level. All units in feet.

POA Well	Land Surface Elevation	Seal		Casing		Filter Pack		Open / Perforation / Screen		Well Bottom
		Min	Max	Min	Max	Min	Max	Min	Max	
1	2825	2825	2795	2825	2740	2825	N/A	2755	2740	2740
2										

A2 d: Information relevant to water levels, including land surface elevation, depth of first water, recent annual high level, and reference levels for permit conditions

POA Well	Depth of First Water from Well Log (ft bls)	Shallowest Static Water Level (ft bls)	Most Recent Annual High WL		Reference Levels for:				Well Tests			
					RSGL		Permit Conditions		(max yield on well log)			
			Depth (ft bls)	WL Date	Depth (ft bls)	Depth (ft bls)	Date	Pro- visional?	Yield (gpm)	Draw-down (ft)	Test Type	Duration (hours)
1												
2												

Use data from application for proposed wells.

“SWL” = static water level (most recent or representative SWL). “amsl” = above mean sea level. “bls” = below land surface

Comments: Well is proposed so no water level data, reference levels, or well yields are available.

A3. Description of hydrogeologic setting / conceptual model: The applicant's well is located at the bottom of the slope of the Crooked River canyon as the surface topography transitions to the flat depositional plane of the Crooked River. The canyon wall to the south consists of a recent landslide of the overlying Deschutes Fm material. This landslide likely extends below the current floodplain surface so that it is interbedded with the alluvium. Based on current geologic mapping, the alluvium and landslide is underlain at an unknown depth by either older Deschutes Fm strata or by the Prineville Basalt/Simtustus Fm sequence. Nearby well logs (e.g. DESC 60006, CROO 961, CROO 54814) do not show laterally continuous lithologies, indicating that the geologic sequence underlying the alluvium is heterogeneous. The well CROO 54814 was drilled within 50 feet of the proposed location for the proposed POA, and its more detailed stratigraphy and hydraulic response are the best indication of the groundwater flow system that the proposed POA would encounter. CROO 54814 encounters unconsolidated sediment for 40 feet and then multiple, partially consolidated units down to 176 feet. Water encountered from 9-72 feet had a SWL of 9 feet BLS, indicating that this upper portion is hydraulically connected to the adjacent Crooked River. CROO 54814 encountered a WBZ from 133-142 ft bls where the SWL dropped to 50 feet bls, indicating a deeper aquifer underlying the alluvial zone. Once the upper zone was sealed off (0-72 feet), the well yield dropped from 25 gpm to 7 gpm, which reportedly was insufficient for the applicant's purposes. This upper zone is assumed to be the target aquifer for this application. This is commensurate with the proposed construction of the POA.

B. BASIN PROGRAM:

OAR 690-310-0130 (1)(a)

B1. **Provisions of the** Deschutes (OAR 690-505) 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: Impacts to surface water are addressed by Deschutes Basin rules as defined in OAR 690-505.

B2. **Well(s) #** _____, _____, _____, _____, _____, are limited by an administrative restriction under the applicable basin program.

Comments: _____

C. WATER AVAILABILITY:

OAR 690-310-0130 (1)(b)

OAR 690-300-0010(57): “Water is Available” [...] means: [...]

- (d) The proposed groundwater source exhibits Reasonably Stable Groundwater Levels, as defined in OAR 690-008-0001; and
- (e) The total requested rate of groundwater allocation is obtainable by the expected yield of the well(s) proposed in the application given best available information; and
- (f) The proposed groundwater use does not have the Potential for Substantial Interference (OAR 690-009-0020(5)) with a surface water source [that does not have water available]

C1. Reasonably Stable Groundwater Levels

OAR 690-008-0001 (9): “Reasonably Stable Groundwater Levels” means that Annual High Water Levels, based on observed trends over time, remain within a range consistent with sustaining the function and character of a groundwater reservoir indefinitely, and:

- (a) The Annual High Water Levels as measured at one or more representative wells in a groundwater reservoir or part thereof:
 - (A) indicate no decline or an average rate of decline of less than 0.6 feet per year over any immediately preceding averaging period with duration between 5 and 20 years. Four Annual High Water Levels are required to calculate the rate of change; one must have been measured in the year to which the evaluation of reasonably stable applies, and at least one must have been measured between 5 and 20 years prior; and
 - (B) have not declined by more than 25 feet from a reference level to the level in the year to which the evaluation of reasonably stable applies. The reference level shall be the highest known water level unless Annual High Water Levels have been measurably increased by human activity, in which case the Department may set a different reference level using best available information.
- (b) If water level data are insufficient to perform either test in (a) for a given year, then the Department will presume that groundwater levels are not reasonably stable unless:
 - (A) the most recent evaluation of reasonably stable applies to a year within 5 years of the given year, in which case the Department may presume that the recent evaluation still applies; or
 - (B) groundwater has not yet been extracted or authorized for extraction from the groundwater reservoir, in which case the Department may presume that groundwater levels are reasonably stable.
- (c) The Department may evaluate Reasonably Stable Groundwater Levels for the year of the priority date of a groundwater right application or for a later year if more recent data are available.

C1a. If part (a) of 690-008-0001(9) has been superseded by a basin program rule as per 690-008-0001(9)(B)(d) proceed to C1c. List one or more representative wells in the proposed groundwater reservoir or part thereof that have sufficient data to evaluate part (a) of 690-008-0001(9). Both the Rate (OAR 690-008-0001(9)(a)(A)) and Magnitude (OAR 690-008-0001(9)(a)(B)) tests for a given well must be passed in order to find that the water levels are Reasonably Stable. It is not necessary to include all POAs proposed on this application into this table, as long as they all access the same part of the groundwater reservoir and have the same reasonable stability status indicated in C1b below. If some POAs are found to be reasonably stable while others are not, then all the POAs on the application should be included in the table below, with their POA number indicated in the second column. In that situation, the reviewer does not need to indicate in this table which wells are considered representative for determining reasonable stability status for different POAs, but they should describe those relationships in the comments below.

Well Log ID	POA Well #	Reference Level for Evaluation of Reasonable Stability (ft bls)	Rate Test	Magnitude Test	Water Levels Reasonably Stable
CROO 3226	N/A	3.7	Insufficient Data	Pass	Reasonably Stable
CROO 961	N/A	N/A	Insufficient Data	Insufficient Data	Insufficient Data
CROO 2130	N/A	N/A	Insufficient Data	Insufficient Data	Insufficient Data
CROO 3244	N/A	N/A	Insufficient Data	Insufficient Data	Insufficient Data

Comments: The following adjacent observation wells are accessing the deeper alluvial aquifer (coarse alluvium at 200-250 feet BLS) and are not representative of the target aquifer: CROO 434, CROO 955, CROO 51607, CROO

C1b. Summary finding for this application. Check only one primary finding. It is possible that different proposed POAs could access different parts of the GW reservoir, and for some of those parts to be Reasonably Stable while others are not. In that case, summary finding for the application should be “Not Reasonably Stable,” and the reviewer should indicate which POAs access part(s) of the groundwater reservoir that are Reasonably Stable. OAR 690-008-0001(9)(a): *Annual High Water Levels as measured at one or more representative wells in a groundwater reservoir or part thereof*:

Are Reasonably Stable

Groundwater has not yet been extracted or authorized for extraction from the groundwater reservoir

Are Not Reasonably Stable

If some Proposed POAs are Reasonably Stable, list the Reasonably Stable POAs here: _____

Sufficient data are not available to evaluate reasonable stability

List representative wells identified during review that could be measured in order to overcome a finding of Insufficient Data: _____

Comments: The target aquifer consists primarily of alluvium of the Crooked River corridor and likely has an efficient hydraulic connection with the stream. Observation wells CROO 961, CROO 2130, CROO 3244, and CROO 3226 are all constructed into the target aquifer. Groundwater measurements at these wells show small magnitude seasonal variation that either correspond to river stage or irrigation season when canals discharge water into the alluvium. Each observation well shows no appreciable year-on-year decline for its period of record. Considering basic hydrogeologic observations of alluvial aquifers and the available observation well data, it's reasonable to conclude that the target aquifer would not show year on year declines that would exceed the decline thresholds as defined in OAR 690-008-0001 (9). Although the water level records do not explicitly meet the definition of Reasonably Stable, there still is a preponderance of evidence that the target aquifer is reasonably stable.

C1c. OAR 690-008-0001(d): Evaluation for reasonably stable water levels per superseding basin program rules OAR 690-_____ for the _____ administrative basin.

Comments: _____

C2. Well Yield

C2a. OAR 690-300-0010(57)(e): Is the total requested rate of groundwater allocation obtainable by the expected yield of the well(s) proposed in the application given best available information?

Yes **No**

Comments: The applicant requested 0.245 cfs (110 gpm). There are few wells drilled in the area, but applicant's previously permitted well (CROO 3226) had a reported yield of 400 gpm and was sufficient to meet the applicant's needs.

C3. Groundwater Interference with Surface Water

OAR 690-300-0010(57): “Water is Available”, when used in OAR 690-310-0080, 690-310-0010 and 690-310-0130, means [...]:
(f) The proposed groundwater use does not have the Potential for Substantial Interference (OAR 690-009-0020(5)) with a surface water source [that is not available for further appropriation]

OAR 690-009-0040: (1) When evaluating a Proposed Groundwater Use, Hydraulic Connection and the Potential for Substantial Interference with a surface water source shall be determined by the Department according to these rules. These determinations shall be based upon the application of generally accepted hydrogeologic principles using best available information concerning the hydrologic system of interest and the well(s) under consideration.

(a) Appropriate information that is provided in the application or in the public comment period for the application shall be considered in the process of making these determinations.

(b) Best available information may include, but is not limited to, pertinent water well reports, aquifer test analyses, hydrologic and geologic studies and reports, groundwater and surface water elevation data, available numerical and analytical groundwater flow models, and any other information that is used in applying generally accepted hydrogeologic principals and methodologies.

(2) A determination of Hydraulic Connection is a prerequisite for a determination of the Potential for Substantial Interference.

(3) A determination of the Potential for Substantial Interference with a surface water source shall at a minimum include application of the generally accepted hydrogeological principles described in “Streamflow Depletion by Wells – Understanding and Managing the Effects of Groundwater Pumping on Streamflow” by P. M. Barlow and S. A. Leake, 2012.

(4) The Potential for Substantial Interference with a surface water source exists if the well(s) under consideration will, over the full term of the proposed or authorized groundwater use, obtain water from Streamflow Depletion.

OAR 690-009-0020(4): “Hydraulic Connection” means saturated conditions exist allowing water to move between two or more sources of water, either between groundwater and surface water or between groundwater sources.

OAR 690-009-0020 (7) “Streamflow Depletion” means a reduction in the flow of a surface water source due to pumping a hydraulically connected groundwater source. Streamflow Depletion encompasses:

- (a) captured groundwater that would otherwise discharge to a surface water source; or
- (b) induced infiltration from a surface water source to the hydraulically connected groundwater source.

C3a. OAR 690-009-0020(5): “Potential for Substantial Interference”, or “PSI”, means that a groundwater use will cause streamflow depletion based on the assessments described in OAR 690-009-0040, and therefore may cause or has caused substantial interference with or undue interference with a surface water source, based on the definitions in OAR 690-008-0001.

Summary of surface water sources evaluated for hydraulic connection and Potential for Substantial Interference. For hydraulic connection and potential for substantial interference, a value of 1 means yes, and blank means no.

POA Well	WRD Streamcode	Streamcode Surface Water Name	Water Availability Basin (WAB)	WAB Watershed ID	Hydraulically Connected	Potential for Substantial Interference
1	0519801170	Crooked River	CROOKED R > DESCHUTES R - AB DRY R	30530507	Yes	Yes

Comments: _____

List all surface water sources identified to have PSI and their associated Water Availability Basin:

WRD Streamcode	Streamcode Surface Water Name	Water Availability Basin (WAB)	WAB Watershed ID
0519801170	Crooked River	CROOKED R > DESCHUTES R - AB DRY R	30530507

Comments: Impacts to surface water are addressed by the Deschutes Mitigation Program as defined in basin program rules (OAR 690-505). The proposed use will have a localized impact in the Crooked River ZOI.

D. INJURY:

OAR 690-310-0130 (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 if... (c) The proposed use will not injure other water rights.

To make a finding of injury to an existing water right, the Department must make a finding of “Substantial Interference” as defined in OAR 690-008-0001(10). The finding of “Substantial Interference” with a surface water right is made by the Water Rights Services Division based on the evaluation in section C3. Sections D1 and D2, below, address the finding of “Substantial Interference” with a groundwater right.

OAR 690-008-0001(10): “Substantial or Undue interference”, means the spreading of the cone of depression of a well to intersect a surface water source or another well, or the reduction of the groundwater levels as a result of pumping or otherwise extracting groundwater from an aquifer, which contributes to:

- (b) The groundwater level being drawn down to the Economic Pumping Level of the senior appropriator(s); or*
- (c) One or more of the senior groundwater appropriators being unable to obtain either the permitted or customary quantity of groundwater, whichever is less, from a reasonably efficient well that fully penetrates the aquifer where the aquifer is relatively uniformly permeable. However, in aquifers where flow is predominantly through fractures, full penetration may not be required as a condition of substantial or undue interference.*

D1a. OAR 690-008-0001(10): Will the proposed groundwater use result in substantial or undue interference with an existing groundwater user?

Yes No **No, as long as the permit is conditioned as indicated in item F below.**

Comments: The closest groundwater user is located ~1100 feet away. The proximity of adjacent surface water sources (Crooked River and irrigation ditches) will provide significant recharge to the aquifer. This will likely prevent the resulting cone of depression from spreading such that the proposed use would cause significant or undue interference.

E. OTHER RULES OF THE COMMISSION:

OAR 690-310-0130 (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 if...(d) The proposed use complies with the rules of the Commission.

E1. OAR 690-200, 690-210 and 690-215: Well Construction

Identify any notable well construction deficiencies or hydrogeologic considerations to support review by Well Construction & Compliance.

E1a. Well #: _____ Logid: _____

E1b. Well construction deficiency or other comment is described as follows: _____

E2. OAR 690-310-0260: Water Rights Within or Above State Scenic Waterways

E2a. Scenic Waterway Interference & General/Local Surface Water Evaluation for Deschutes Ground Water Study Area

The source of appropriation is within or above the Deschutes Scenic Waterway

Use the Scenic Waterway condition (Condition 7J).

PREPONDERANCE OF EVIDENCE FINDING UNDER ORS 390.835:

Department has found that there is a preponderance of evidence that the proposed use of groundwater will measurably reduce the surface water flows necessary to maintain the free-flowing character of the Deschutes Scenic Waterway in quantities necessary for recreation, fish and wildlife.

E2b. Localized Impact Finding

The proposed use of groundwater will have a localized impact to surface water in the Crooked River/Creek Subbasin.

If the localized impact box above is checked, then the water use under any right issued pursuant to this application is presumed to have a localized impact on surface water within the identified subbasin. Mitigation of the impact, originating from within the Local Zone of Impact identified by the Department, will be required before a permit may be issued for the proposed use.

If the localized impact box above is not checked, then the water use under any right issued pursuant to this application is presumed to have a general (regional) impact on surface water. Mitigation of the impact, originating anywhere within the Deschutes Basin above the Madras gage, will be required before a permit may be issued for the proposed use.

E3. Other Relevant Rules of the Commission:

Comments: _____

F. RECOMMENDED MODIFICATIONS OR CONDITIONS:

OAR 690-310-0140(2): If the Department determines that the presumption is not established, the Department shall determine whether the proposed use will impair or adversely affect the public welfare, safety and health under ORS 537.525 and may either:

- (a) Propose denial of the application upon a finding that the use will impair or adversely affect the public welfare, safety and health;*
- or*
- (b) Make specific findings to demonstrate that even though the presumption is not established, the proposed use will not impair or adversely affect the public welfare, safety and health and propose approval of the application with appropriate modifications or conditions.*

Based on the findings in sections A-D above, the following conditions are recommended if the permit is approved:

Large Water-Use Reporting. 7RLN.

REFERENCES:

Gannett, M. W. and Lite, K. E., 2013, Analysis of 1997-2008 Groundwater Level Changes in the Upper Deschutes Basin, Central Oregon, USGS Scientific Investigations Report 2013-5092, 34p., <https://pubs.er.usgs.gov/publication/sir20135092>

Gannett, M. W., Lite Jr, K. E., Morgan, D. S., and Collins, C. A., 2001, Ground-Water Hydrology of the Upper Deschutes Basin, Oregon, USGS Water-Resources Investigations Report 00-4162, 74 p., <https://pubs.usgs.gov/wri/wri004162/pdf/WRIR004162.pdf>

Groundwater Information System (GWIS). Oregon Water Resources Department. https://apps.wrd.state.or.us/apps/gw/gw_info/gw_info_report/gw_search.aspx Accessed 12/5/2025

Lite, K. E. and Gannett, M. W., 2002, Geologic Framework of the Regional Ground-Water Flow System in the Upper Deschutes Basin, Oregon. USGS Water-Resources Investigation Report 02-4015, 44 p., <https://pubs.er.usgs.gov/publication/wri024015>

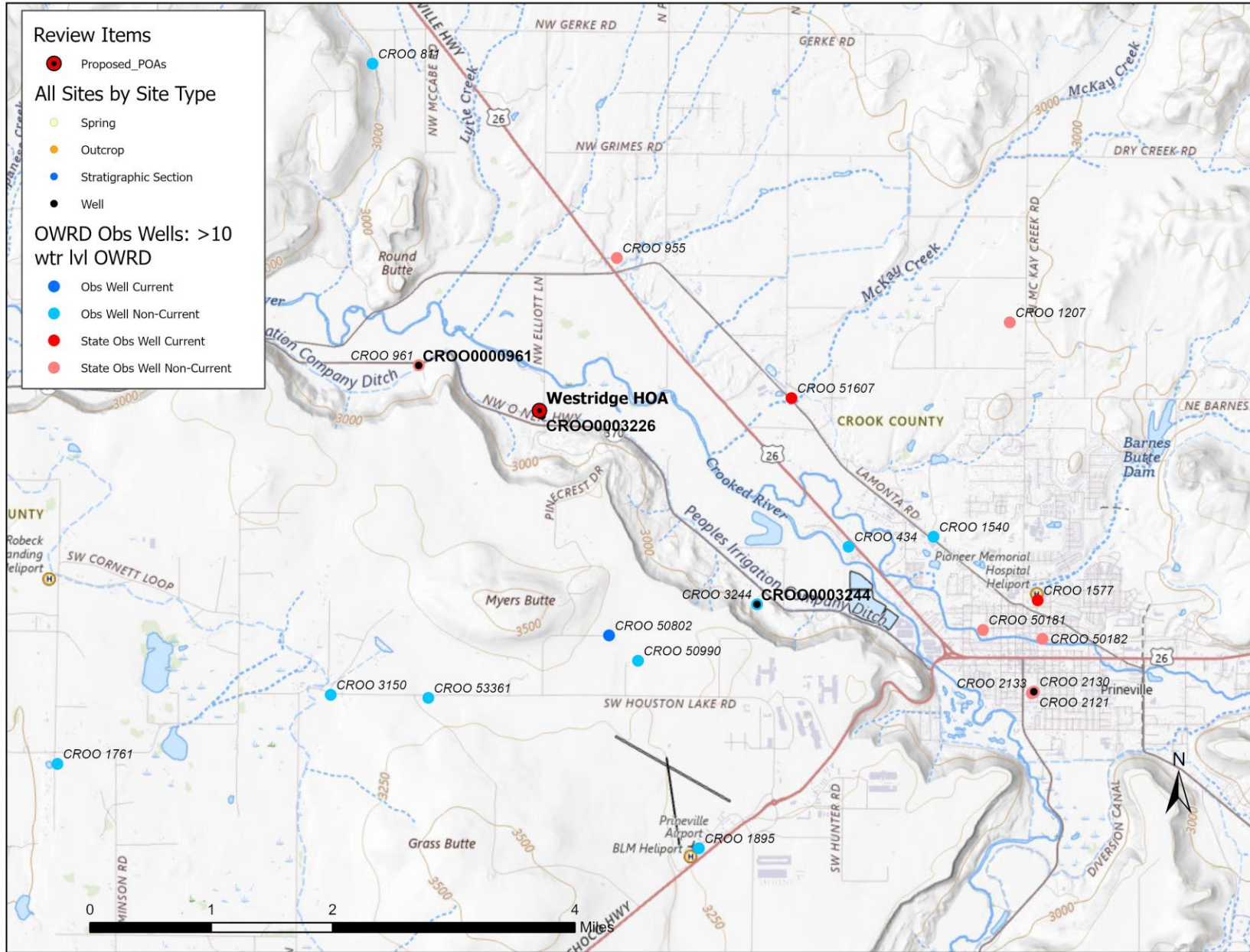
McClaghry, J. D., et al. Geologic Map of the North Half of the Lower Crooked River Basin, Crook, Deschutes, Jefferson, and Wheeler Counties, Oregon, scale 1:63,360, 64" x 60". DOGAMI Bulletin 108

Robinson, J. W., and Don Price. 1964. Ground Water in the Prineville Area, Crook County, Oregon. USGS Water Supply Paper, <https://doi.org/10.3133/wsp1619P>.

Sherrod, D. R., Taylor, E. M., Ferns, M. L., Scott, W. E., Conrey, R. M. and Smith, G. A., 2004, Geologic Map of the Bend 30-x-60-Minute Quadrangle, Central Oregon. U. S. Geological Survey Geologic Investigations Series Map I-2683. 49p., <https://pubs.usgs.gov/imap/i2683/>

ATTACHMENTS:

Well Location Map



Water-Level Measurements in Nearby Wells

Observation Well Data

