Groundwater Application Review Summary Form

Application # G- 18856

GW Reviewer J. Woody **Date Review Completed:** 11-12-2019

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 Nov 12 ,20 19

TO: **Application** G- 18856

FROM: **GW:** J. Woody
(Reviewer's Name)

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)
☒ NO

☐ 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 _____ 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

MEMO

To: Kristopher Byrd, Well Construction and Compliance Section Manager

From: Joel Jeffery, Well Construction Program Coordinator

Subject: Review of Water Right Application G-18856

Date: November 19, 2019

The attached application was forwarded to the Well Construction and Compliance Section by Water Rights. Jen Woody reviewed the application. Please see Jen's Groundwater Review and the Well Log.

Applicant's Well #1 (WASH 60848) Based on a review of the Well Report, Applicant's Well #1 does not appear to comply with current minimum well construction standards (See OAR 690 Division 210). The water supply well report indicates that the well is cased and sealed to a depth of 427 feet. In order to meet the minimum well construction standards, the well must be cased and sealed to a minimum depth of 438 feet below land surface.

My recommendation is that the Department **not issue a permit** for Applicant's Well #1 (WASH 60848) unless it is brought into compliance with current minimum well construction standards or information is provided showing that it is in compliance with current minimum well construction standards.

Bringing Applicant's Well #1 (WASH 60848) into compliance with minimum well construction standards may not satisfy hydraulic connection issues.

FRENCH Kim R * WRD G-18856

From: GALL Ivan K * WRD
Sent: Thursday, April 09, 2020 10:58 AM
To: MCCORD Mike L * WRD; FRENCH Kim R * WRD
Cc: GALL Ivan K * WRD; WOODCOCK Douglas E * WRD
Subject: RE: Claremont Golf Club - Ron Nutting

Mike, thank you for looking into the matter further.
Kim, I concur with the assessment that this well is constructed in a manner that is protective of the resource. The question around the well construction should not prevent the issuance of a permit that lists WASH 60848 as the authorized POA.
Please let me know if you have any questions or need any further information.
Thanks- Ivan

Ivan Gall
FIELD SERVICES DIVISION ADMINISTRATOR
725 Summer Street NE, Suite A Salem, OR 97301 | Phone 503-986-0847

OREGON WATER RESOURCES DEPARTMENT

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From: MCCORD Mike L * WRD <Mike.L.Mccord@oregon.gov>
Sent: Thursday, April 9, 2020 9:28 AM
To: GALL Ivan K * WRD <Ivan.K.Gall@oregon.gov>
Subject: FW: Claremont Golf Club - Ron Nutting

Ivan, based on the assessment made by Jen and our discussions about this well it is my understanding that the well is constructed in a manner that is protective of the resource. The well construction issue should not prevent the issuance of a permit that lists WASH 60848 as the authorized POA.

From: WOODY Jennifer L * WRD
Sent: Monday, March 02, 2020 1:51 PM
To: GALL Ivan K * WRD <Ivan.K.Gall@oregon.gov>
Cc: IVERSON Justin T * WRD <Justin.T.Iverson@oregon.gov>
Subject: RE: Claremont Golf Club - Ron Nutting

I've attached the new materials from Ron Nutting.

There are not any new hydrogeologic data that lead me to change any of the groundwater review findings. That said, the gw review is not the subject of discussion.
The matter on hand appears to be: should WASH 60848 be sealed to 427 or 438?

The available site-specific information is the well log. Based on those descriptions, there may be a 2 foot thick interbed or flow top from 431-433. Given the variability in the various flow top thicknesses and extents through this area, it is unlikely the zone called out by the driller from 431-433 is a single aquifer with a unique head. From nearby work in Cooper-Bull Mountain, we know that thin isolated aquifers within the CRBG haven't been observed in this area. To what degree that is an artifact of geologic processes vs. well construction is unknown.

I understand that from a well construction perspective, requiring this well to be sealed to 438 is the most clear interpretation of the rules. I'm not sure increasing the seal 11 feet will change the hydraulics of how this well affects the groundwater flow system. We can discuss further if you like.
Jen

Jen Woody, RG
HYDROGEOLOGIST
725 Summer Street NE, Suite A Salem, OR 97301 | Phone 503-986-0855

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PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date 11/12/2019

FROM: Groundwater Section Jen Woody
Reviewer's Name

SUBJECT: Application G- 18856 Supersedes review of n/a
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: **Claremont Golf Club** County: **Washington**

A1. Applicant(s) seek(s) 0.89 cfs up to 26 acre-ft from 1 well(s) in the Willamette Basin, Tualatin River subbasin

A2. Proposed use pond maintenance Seasonality: year-round

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	WASH 60848	1	CRBG	0.89	1N/1W-28 SE ¼ NW ¼	1472' S, 2'E fr N ¼ S 28
2						
3						
4						
5						

* 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	293	448	-5.47	02/18/2014	508	0-120, 380-448	0-427	n/a	n/a	400	unk	pump

Use data from application for proposed wells.

A4. **Comments:** Reported water levels indicate the well was flowing artesian.

A5. ☐ **Provisions of the** Willamette 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:

A6. ☐ **Well(s) #** _____, _____, _____, _____, _____, tap(s) an aquifer limited by an administrative restriction.
Name of administrative area: **none apply**
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) **7I, large water use reporting**;
   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~~ **a single aquifer within the Columbia River Basalt Group** 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): _____

B3. **Groundwater availability remarks:** The applicant's proposed wells will produce from the Columbia River Basalt Group (CRBG), a series of lava flows with a composite thickness that ranges up to 800 feet in this area (Conlon et al., 2005). Each flow is characterized by a series of internal features, including a thin rubble zone at the contact between flows and a thick, dense, low porosity and low permeability interior zone. In some cases, sedimentary layers were deposited during the time between basalt flow emplacements. A flow top, sedimentary interbed and flow bottom are collectively referred to as an interflow zone. Unconfined groundwater occurs near the weathered top of the basalts, but most water occurs in interflow zones at the contacts between lava flows. CRBG flow features result in a series of stacked, thin aquifers that are confined by dense flow interiors. The low permeability of the basalt flow interiors usually results in little connection between stacked aquifers, which generally results in tabular aquifers with unique water level heads.

Nearby water level data are sparse, but water levels reported at the subject well indicate stability at the current level of use. Water use and water level monitoring conditions are recommended to protect existing users.

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
1	**Columbia River Basalt Group Aquifer**	☒	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐

Basis for aquifer confinement evaluation: The static water level rises above the water bearing zone, indicating the aquifer is confined.

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 ft msl	SW Elev ft msl	Distance (ft)	Hydraulically Connected? YES	NO	ASSUMED	Potential for Subst. Interfer. Assumed? YES	NO
1	**1**	**Willow Creek**	**298**	**230**	**2530**	☐	☒	☐	☐	☒
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐

Basis for aquifer hydraulic connection evaluation: The subject well is cased and sealed to more than 200 feet below the streambeds of Willow and Thomson Creeks located within a mile. Hydraulic connection within a mile is not expected.

Water Availability Basin the well(s) are located within: 73545: Rock Cr> Tualatin 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 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 ☒ 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?
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐

C3b. **690-09-040 (4):** Evaluation of stream impacts <u>by total appropriation</u> 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 #		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?
			☐			☐		☐		☐
			☐			☐		☐		☐
			☐			☐		☐		☐
			☐			☐		☐		☐

Comments: The proposed well is cased and sealed below streambeds located within one mile. Hydraulic connection is not expected.

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-Distributed Wells

Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													

Distributed Wells

Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
(A) = Total Interf.													
(B) = 80 % Nat. Q													
(C) = 1 % Nat. Q													
(D) = (A) > (C)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
(E) = (A / B) x 100		%	%	%	%	%	%	%	%	%	%	%	%

(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: N/A

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:** N/A

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.

US Geological Survey Topographic Map, Linnton Quadrangle.

OWRD water level and well log databases, includes reported water levels.

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

Water Availability Analysis

Detailed Reports

ROCK CR > TUALATIN R - AT MOUTH

WILLAMETTE BASIN

Water Availability as of 10/31/2019

Watershed ID #: 73545 (Map) Exceedance Level:80%

Date: 10/31/2019 Time: 3:10 PM

Water Availability Calculation

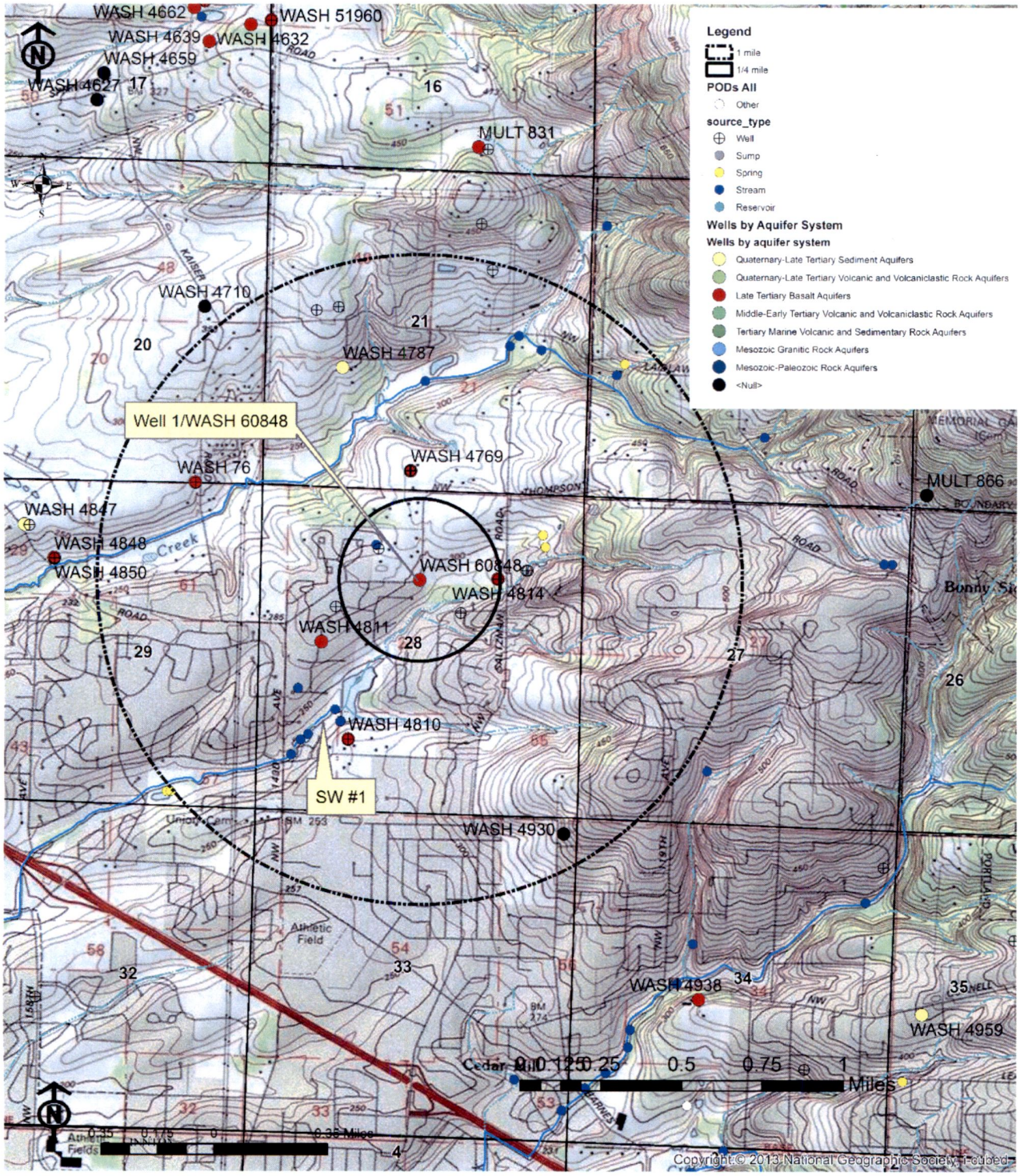
Monthly Streamflow in Cubic Feet per Second

Annual Volume at 50% Exceedance in Acre-Feet

Month	Natural Stream Flow	Consumptive Uses and Storages	Expected Stream Flow	Reserved Stream Flow	Instream Flow Requirement	Net Water Available
JAN	105.00	1.31	104.00	0.00	2.50	101.00
FEB	141.00	1.62	139.00	0.00	2.50	137.00
MAR	115.00	0.91	114.00	0.00	2.50	112.00
APR	60.10	0.73	59.40	0.00	2.50	56.90
MAY	23.80	2.84	21.00	0.00	2.50	18.50
JUN	12.30	3.52	8.78	0.00	2.50	6.28
JUL	2.58	4.93	-2.35	0.00	2.50	-4.85
AUG	2.72	4.22	-1.50	0.00	2.50	-4.00
SEP	3.68	2.21	1.47	0.00	2.50	-1.03
OCT	4.57	0.23	4.34	0.00	2.50	1.84
NOV	4.02	0.48	3.54	0.00	2.50	1.04
DEC	47.40	1.31	46.10	0.00	2.50	43.60
ANN	81,500.00	1,470.00	80,100.00	0.00	1,810.00	78,400.00

Well Location Map

G-18856 Claremont Golf
1N/1W- Section 28 SE 1/4 NW 1/4



Water-Level Trends in Nearby Wells