File No.:	G4-29150(A)
WR Doc ID:	5479599

State of Washington
REPORT OF EXAMINATION
FOR GROUND WATER RIGHT APPLICATION

PRIORITY DATE	APPLICATION NUMBER
November 7, 1986	G4-29150(A)

MAILING ADDRESS	SITE ADDRESS (IF DIFFERENT)
City of Oroville PO Box 2200 Oroville, WA 98844	

Quantity Authorized for Withdrawal or Diversion

DIVERSION RATE	UNITS	ANNUAL QUANTITY (AF/YR)
340	gallons per minute (gpm)	425

Purpose

PURPOSE	WITHDRAWAL OR DIVERSION RATE			ANNUAL QUANTITY (AF/YR)		PERIOD OF USE (mm/dd)
	ADDITIVE	NON-ADDITIVE	UNITS	ADDITIVE	NON-ADDITIVE	
Continuous Municipal Supply		Additive		Additive		Year-round

Source Location

WATERBODY	TRIBUTARY TO	COUNTY	WATER RESOURCE INVENTORY AREA
		Okanogan	49

SOURCE FACILITY/DEVICE	PARCEL	TWN	RNG	SEC	QQ Q	LATITUDE	LONGITUDE
Well #1	9940272889	40N	27E	28		48˚ 56’ 12.8”N	119˚ 26’ 24.8”W
Well #2	9940272881	40N	27E	28		48˚ 56’ 10.9”N	119˚ 26’ 25.1”W
Well #3	9940272889	40N	27E	28		48˚ 56’ 13.1”N	119˚ 26’ 28.2”W
Well #4	2110070600	40N	27E	21		48˚ 56’ 45.0”N	119˚ 26’ 9.3”W

Datum: NAD 83

Place of Use (See Maps, Figures 1 & 2)

LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE

Area served by the City of Oroville in its most recent approved Water System Plan. If the criteria in RCW 90.03.386(2) are not met and a Water System Plan was approved after September 9, 2003, the place of use of this water right reverts to the service area described in that document. If the criteria in RCW 90.03.386(2) are not met and no Water System Plan has been approved after September 9, 2003, the place of use reverts to the last place of use described by the Department of Ecology (Ecology) in a water right authorization.

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Proposed Works

The proposed water use is associated with an existing need for additional water to support the 20-year growth projection of the City of Oroville. The City will use existing wells, reservoirs, and pipelines to supply water. Additional infrastructure to support may be added over time within this authorization.

Development Schedule

BEGIN PROJECT	COMPLETE PROJECT	PUT WATER TO FULL USE
December 31, 2013	December 31, 2019	December 31, 2033

Measurement of Water Use

How often must water use be measured?	Weekly
How often must water use data be reported to Ecology?	Annually (Jan 31)
What volume should be reported?	Total Annual Volume
What rate should be reported?	Annual Peak Rate of Withdrawal (gpm)

Provisions

Wells, Well Logs and Well Construction Standards

The aquifer authorized for these water supply wells is the Oroville Aquifer.

All wells constructed in the state shall meet the construction requirements of WAC 173-160 titled "Minimum Standards for the Construction and Maintenance of Wells" and RCW 18.104 titled "Water Well Construction". Any well which is unusable, abandoned, or whose use has been permanently discontinued, or which is in such disrepair that its continued use is impractical or is an environmental, safety or public health hazard shall be decommissioned.

Required installation and maintenance of an access port as described in WAC 173-160-291(3).

Measurements, Monitoring, Metering and Reporting

An approved measuring device shall be installed and maintained for each of the sources identified by this water right in accordance with the rule "Requirements for Measuring and Reporting Water Use", WAC 173-173, which describes the requirements for data accuracy, device installation and operation, and information reporting. It also allows a water user to petition Ecology for modifications to some of the requirements.

Recorded water use data shall be submitted via the Internet. To set up an Internet reporting account, contact the Central Regional Office. If you do not have Internet access, you can still submit hard copies by contacting the Central Regional Office for forms to submit your water use data.

Easement and Right-of-Way

The water source and/or water transmission facilities are not wholly located upon land owned by the applicant. Issuance of a water right authorization by this Department does not convey a right of access to, or other right to use, land which the applicant does not legally possess. Obtaining such a right is a private matter between applicant and owner of that land.

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Department of Health Requirements
Prior to any new construction or alterations of a public water supply system, the State Board of Health rules require public water supply owners to obtain written approval from the Office of Drinking Water of the Washington State Department of Health. Please contact the Office of Drinking Water prior to beginning (or modifying) your project at:

DOH/Division of Environmental Health Phone: (509) 329-2100
16201 E. Indiana Avenue, Suite 1500
Spokane Valley, WA 99216

Water Use Efficiency
Use of water under this authorization shall be contingent upon the water right holder's maintenance of efficient water delivery systems and use of up-to-date water conservation practices consistent with established regulation requirements and facility capabilities.

Proof of Appropriation
The water right holder shall file the notice of Proof of Appropriation of water (under which the Certificate of Water Right is issued) when the permanent distribution system has been constructed and the quantity of water required by the project has been put to full beneficial use. The Certificate will reflect the extent of the project perfected within the limitations of the permit. Elements of a proof inspection may include, as appropriate, the source(s), system instantaneous capacity, beneficial use(s), annual quantity, place of use, and satisfaction of provisions.

Schedule and Inspections
Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the project location, and to inspect at reasonable times, records of water use, wells, diversions, measuring devices and associated distribution systems for compliance with water law.

Cancellation of Permit No. G4-27565P
Water use under this authorization is contingent upon the City's proposal for the cancellation of Permit No. G4-27565P as mitigation for the approval of an equal quantity of water authorized under Application No. G4-29150(A). Thirty (30) days after the end of the appeal period for Report of Examination No. G4-29150(A), if No. G4-29150(A) remains valid for the quantities described herein, Ecology will cancel Permit No. G4-27565P and Change Application No. CG4-27565@1.

Findings of Facts
Upon reviewing the investigator's report, I find all facts, relevant and material to the subject application, have been thoroughly investigated. Furthermore, I concur with the investigator that water is available from the source in question; that there will be no impairment of existing rights; that the purpose(s) of use are beneficial; and that there will be no detriment to the public interest.

Therefore, I ORDER approval of Application No. G4-29150(A), subject to existing rights and the provisions specified above.

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Your Right To Appeal

You have a right to appeal this Order to the Pollution Control Hearing Board (PCHB) within 30 days of the date of receipt of this Order. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do the following within 30 days of the date of receipt of the Order.

- File your appeal and a copy of this Order with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this Order on Ecology in paper form - by mail or in person. (See addresses below.) E-mail is not accepted.

You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

Street Addresses	Mailing Addresses
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey, WA 98503 **Pollution Control Hearings Board** 111 Israel RD SW STE 301 Tumwater, WA 98501	**Department of Ecology** Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608 **Pollution Control Hearings Board** PO Box 40903 Olympia, WA 98504-0903

For additional information visit the Environmental Hearings Office Website: http://www.eho.wa.gov
To find laws and agency rules visit the Washington State Legislature Website: http://www.leg.wa.gov/CodeReviser

Signed at Yakima, Washington, this _____ day of _____ 2013.

_____
Mark Kemner, LHG, Section Manager
Water Resources Program/CRO
Department of Ecology

If you need this document in an alternate format, please call the Water Resources Program at 509-575-2490. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

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BACKGROUND

Site Visit

A site visit was conducted on December 12, 2012, by Ecology staff Anna Hoselton and Eric Hartwig, City of Oroville Superintendent Rod Noel, and City consultant Breean Zimmerman with Aspect Consulting.

Project Overview

The City of Oroville needs additional water rights to ensure it can meet the growth projections identified in its 2010 Water System Plan. This project fulfills this goal by:

1. Processing the 425 acre-feet (ac-ft) "A" portion of Application No. G4-29150(A) which has been on file with Ecology since November 7, 1986, and authorizing withdrawal from the City's four municipal wells.
2. Retaining the 930 ac-ft "B" portion of Application No. G4-29150(B) on file until additional mitigation can be secured to process the water right as an uninterruptible water right.
3. Cancelling 425 ac-ft authorized under City Permit No. G4-27565P, from wells that are not suitable for municipal supply, as mitigation for processing the "A" portion of Application No. G4-27565.
4. Using the overriding consideration of the public interest (OCPI) statute to ensure Application No. G4-29150(A) is reliable for public water supply and not subject to interruption under the instream flow rule for the Okanogan River, WAC 173-549. The equivalent authorization under Permit No. G4-27565P is similarly uninterruptible.

Table 1
Summary of Application No. G4-29150(A)

Attributes	*Proposed*
Applicant	City of Oroville
Application Received	November 7, 1986
Instantaneous Quantity	340 gpm
Annual Quantity	425 ac-ft
Source	City Well Nos. 1, 2, 3, 4
Purpose of Use	Continuous Municipal Supply
Period of Use	Year-Round
Place of Use	City of Oroville service area

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Legal Requirements for Application Processing
The following requirements must be met prior to processing a water right application:

- **Public Notice**
  Public notice of the application was given in the Okanogan Valley Gazette-Tribune, Oroville, Okanogan County, Washington on November 29, 2012, and December 6, 2012. The protest period ended on January 5, 2013. Due to errors in this public notice, another public notice was published on March 14, 2013, and March 21, 2013. The protest period ended on April 20, 2013.

  There were no protests received during the 30 day protest periods. In addition, no oral or written comments were received.

- **State Environmental Policy Act (SEPA)**
  According to WAC 197-11-800, this application is categorically exempt being for a groundwater discharge of less than 2,250 gpm. The development of new growth under this permit is likely a mix of exempt and non-exempt actions, which are difficult to fully predict. If these actions trigger SEPA permitting, it will likely be in the City of Oroville or possibly Okanogan County jurisdiction. As likely lead agency for a future permitting action, the City consulted with its planning coordinator Chris Branch regarding the appropriate SEPA review for this application.

  Under WAC 197-11-060(5)(a), "*lead agencies shall determine the appropriate scope and level of detail of environmental review to coincide with meaningful points in their planning and decision-making processes*".

  Issuance of a water right permit would aid in the City's permitting process by clarifying the amount of water available for the project. Under WAC 197-11-070, a lead agency may agree that a water right permit can issue in advance of a final SEPA determination, which the City supports.

  City contractor Aspect Consulting also contacted Okanogan County Planning regarding the City's proposed application and approach. One SEPA document that has already been completed that will be served by Application No. G4-29150(A) is the Veranda Beach Development. This is the development that Permit No. G4-27565P was intended in part to serve, before the wells proved to be unsuitable for public use and the City instead extended a water line to serve the development. Veranda Beach completed SEPA and Okanogan County issued a Mitigated Determination of Non-Significance (MDNS) in 2004, and again in 2011 based on project amendments. Under WAC 197-11-600(4)(b), an agency may rely on or incorporate by reference an existing environmental document.

  Based on the above analysis, Ecology concludes that Application No. G4-29150(A) is in compliance with SEPA.

- **Water Resources Statutes and Case Law**
  RCW 90.44.060 specifies that new groundwater permits are processed in the same manner as in the surface water code, RCW 90.03.250 through RCW 90.03.340. Paramount among these statutes is the requirement in RCW 90.03.290 that a new permit can only issue if water is available, and the proposed use is beneficial, will not impair existing rights or be detrimental to the public welfare.

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This Water Right Application is being processed under the Hillis Rule, Washington Administrative Code (WAC) 173-152-050(1)(a)(iii) (public health and safety and unreasonable treatment costs).

WAC 173-549-020(4) requires that all future consumptive rights be conditioned to minimum instream flows.

RCW 90.54.020(3)(a) allows Ecology to waive instream flow protection in case-specific situations where the public interest is served:

> "*Withdrawals of water which would conflict therewith shall be authorized only in those situations where it is clear that overriding considerations of the public interest will be served*."

RCW 90.03.250 specifies requirements for application content when filing for new groundwater rights. City contractor Aspect Consulting prepared an initial draft of this Report of Examination (ROE) as part of Ecology's pilot front-loaded application process. Ecology reviewed and modified this ROE prior to reaching a final decision.

INVESTIGATION

Project Description

The City proposes to surrender an existing permit, Permit No. G4-27565, in exchange for a new water right of equal quantity to meet growth demands. Permit No. G4-27565, having a priority date of August 17, 1981, authorizes 340 gpm up to 425 ac-ft per year. Application No. G4-29150 was filed on November 7, 1986 for 1,000 gpm and 1,355 ac-ft. Following negotiations between Ecology and the City on this project, the City requested that Application No. G4-29150 be split into an "A" and "B" portion, with the "A" portion being equal to the authorized quantities proposed to be cancelled under Permit No. G4-27565 as described in Table 1.

Permit No. G4-27565 was intended to serve a planned development called Veranda Beach (aka Puget Properties, aka Legends Resorts). Permit No. G4-27565 was assigned to the City of Oroville in 1996. The permit was for four groundwater wells on the east bank of Lake Osoyoos and the wells were intended to capture shallow groundwater discharging to the lake or induced capture of lake water. A vicinity map showing the locations of the City's existing wells, and the permitted wells for Veranda Beach is provided on Figure 1.

Despite lengthy and costly efforts, the City and previous developers were unable to develop a reliable source of supply consistent with the source limitations of the Permit. The costs of well, pipeline, and infrastructure development activities performed from 1990-2011 and described in the attached "City of Oroville, Priority Processing Request for New Application No. G4-29150" dated June 12, 2012, are in excess of $1.5 million dollars.

Although initial housing has been developed, substantial development to the east is still planned under Permit No. G4-27565.

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In 1996, the City filed change Application No. CG4-27565@1 to initiate transfer of the permit to the City's existing wells. The City invested considerable time and expense in implementing the well drilling and aquifer testing effort to support processing of CG4-27565@1. While Ecology has not made a formal decision on Application No. CG4-27565@1, it has provided written technical assistance that the wells authorized under Permit No. G4-276565 are not in the same body of public groundwater as the City's four production wells (Ingrid Ekstrom, Technical Memo, April 24, 2008). The state of Washington water code provides a process for this kind of unforeseen circumstance (e.g., the aquifer capacity and quality are unreliable for municipal use) and Ecology has adopted rules to priority process the required permitting action (see WAC 173-152-050(1)(a)(iii)). The Veranda Beach planned development is within the City's retail service area. This area is within the City's water service area (see Figure 2) and is also covered by other City water rights. This application requests to serve the entirety of the City's service area, consistent with the provision of the 2003 Municipal Water law (see RCW 90.03.386(2)). As stated in RCW 43.20.260, the City has a duty to serve high quality and reliable water service to customers within its retail service area.

City of Oroville's Water Rights

City of Oroville currently holds five Water Right Certificates, one Permit, and two pending Applications for municipal supply. The following summarizes the City of Oroville's existing Water Right Certificates, Permits, and pending Applications:

Certificates:

- GWC32-D, associated with well No's. 1 and 4, having an instantaneous withdrawal (Qi) of 675 gallons per minute (gpm) and an annual withdrawal (Qa) of 1,095 acre-feet per year (ac-ft/yr), having a priority of November 1, 1941.
- G4-27168C, associated with well No's. 3 and 4, having a Qi of 1000 gpm and a Qa of 1,095 ac-ft/yr, priority of November 14, 1980.
- G4-27169C, associated with well No's. 1 and 4, having a Qi of 600 gpm and a Qa of 968 ac-ft/yr, priority of November 14, 1980.
- G4-27211C, associated with well No's. 2 and 4, having a Qi of 500 gpm and a Qa of 807 ac-ft/yr, priority of December 12, 1980.
- CG4-03015C(A), associated with well No's. 1, 2, 3, and 4, having a Qi of 68.75 gpm and a Qa of 55 ac-ft/yr, priority of March 31, 1955. The change authorization approving well No's. 1, 2, 3 & 4 provisioned this water right to instream flows on the Similkameen River.

Permits:

- G4-27565P, associated with Veranda Beach, having a Qi of 340 gpm and a Qa of 425 ac-ft/yr, priority of July 17, 1981.

Pending applications:

- G4-28656, a water right application assigned to City of Oroville from a smaller water system (North End Water Users Association) when it joined the Oroville water system. This water right application requests a Qi of 300 gpm with a priority date of April 1, 1985.
- G4-29150(A), subject of this report, requesting Qi of 340 gpm and a Qa of 425 ac-ft/yr, this application has a priority date of November 7, 1986.
- G4-29150(B), the remaining portion of the original application, requesting 660 gpm and 930 ac-ft/yr with a priority date of November 7, 1986.

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Total withdrawals authorized under all certificates and permits are equivalent to a Qi of 3,183.75 gpm and a Qa of 1,575 ac-ft/yr.

City of Oroville's Water System Plan

The Department of Health approved a Group A water system plan (WSP) in 2010 for PWS ID# 64400Y and a maximum of 1,554 connections. In 2008, Oroville served a population of approximately 3,100 which equaled approximately 1,393 connections. The WSP suggests the Oroville water service area population will increase to approximately 5,600 by the end of the 20-year planning period (2029). The information contained in this application (dated November 7, 1986), provides an estimated population of 2,300 by the year 2006, which is not only dated but also exceeded by the population served by Oroville in 2008.

Currently, the City has a total source capacity of 2,300 gpm. According to the City's current water system plan, dated 2010, current well capacities and water right Qi is adequate for the 20-yr planning period, but Qa will be exceeded sometime after the 6-year planning period. Below are tables from the 2010 water system plan summarizing supply capacity, projected demand, and current water rights.

Table 5-1: Supply Capacity Evaluation[1]

Element	Existing	6 Year	20 Year
Total supply Capacity, All City wells[1]	**2,300 gpm**	**2,300 gpm**	**2,300 gpm**
Approx. Max Day Demand[2]	978 gpm	1,273 gpm	1,714 gpm
Excess (Deficiency)	1,422 gpm	1,027 gpm	586 gpm
Capacity with largest source out of service[3]	**1,700 gpm**	**1,700 gpm**	**1,700 gpm**
Approx. Max Day Demand	978 gpm	1,273 gpm	1.714 gpm
Excess/(Deficiency)	722 gpm	427 gpm	(14 gpm)

[1] *This table does not consider water rights. Figures in this table are from **Table 3-10**.*
[2] *Refer to **Table 3-10** for individual zone demands.*
[3] *Present well pump capacities. Includes Well #4 diminished capacity of 600 gpm instead of original capacity of 1,000 gpm.*

Table 5-2: Supply Capacity

	# of ERUs	Annual Source Production (MG/year)	ADD (gal/day)	MDD (MG/day)	PHD (GPM)	Source Capacity (MG/day)[2]	Source Capacity (gpm)	Water Rights Qi (gpm)	Water Rights Qa (MG/year)[1]
Oroville									
Current	2,845	248.08	680,000	1.41	1,911	3.31	2,300	2,775	356.80
6-year	3,709	323.24	886,000	1.83	2,422	3.31	2,300	2,775	356.80
20-year	5,009	435.20	1,192,000	2.47	3,146	3.31	2,300	2,775	356.80

[1] *Does not include pending permits and certificates.*
[2] *Present well pump capacities. Includes Well #4 diminished capacity of 600 gpm instead of original capacity of 1,000 gpm.*

Priority Processing

This Water Right Application is being processed under the Hillis Rule, Washington Administrative Code (WAC) 173-152-050(1)(a)(iii) (public health and safety). The Department of Health, in a letter dated August 21, 2012, supported the priority processing of this application.

In 2003, the Washington State Legislature (Legislature) adopted a new standard for public health and safety in RCW 90.03.580; namely, *"a change in source is required to meet drinking water quality standards and avoid unreasonable treatment costs".* Whereas previously, public health and safety

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emergencies were typically associated with issues such as well failures or contaminated groundwater, the Legislature now identified an economic lens through which to evaluate public health emergencies.

Ecology acted on the Legislature's intent in its 2010 amendments to the Hillis Rule, Chapter 173-152 WAC by adopting the same standard for priority processing of new water rights in response to a public health and safety emergency. WAC 173-152-050(l)(a)(iii) specifies that an application can be processed ahead of senior applicants if "a *change in source is required to meet drinking water quality standards and avoid unreasonable treatment costs".* The following findings support that a change in source is required to meet drinking water quality standards and avoid unreasonable treatment costs.

- The unconsolidated aquifer *"is likely susceptible to water quality impacts from land use (agricultural contamination and unsewered residential development), and would be vulnerable to decreased capacity during times of low rainfall"* (Golder, 2007[1]).
- Water quality tests taken in 2006 in the Veranda Beach well exceeded secondary contaminant standards for iron, manganese, TDS, conductivity, turbidity, and color[2].
- Treatment of these contaminants would be expensive, costing the city hundreds of thousands of dollars. City residents would not likely accept water quality in violation of so many aesthetic standards without treatment. Filtration (e.g., green sand or membrane) is the typical method of removal of the constituents found in the Veranda Beach aquifer, which is very expensive. Such treatment plants are harder to operate, more prone to mechanical failure, and would require higher operator certification levels than the City's existing well system.
- Initial microscopic particulate analysis results on the Veranda Beach well were done during low lake levels, but these may not reflect contamination risk when high lake levels are present (Golder, 2007).
- There is uncertainty whether the Veranda Beach well will sustain a reliable pumping rate of 75 gpm when Lake Osoyoos levels drop and may be as low as 20 gpm (Golder, 2007).
- The lack of reliable water supply from Veranda Beach wells may require the City to pump directly from the lake to meet Washington State Department of Health (DOH) minimum source standards. A lake diversion would require filtration and treatment, which would be very expensive, over $2 million dollars according to DOH. Such treatment plants are harder to operate, more prone to mechanical failure, and would require higher operator certification levels.

The City notes that an additional criteria under the public health and safety priority processing standard is the following:

> *"Inadequate water rights for a public water system to serve existing hook-ups or to accommodate future population growth or other future uses do not constitute a public health or safety emergency. The application must specifically propose to correct the actual or anticipated cause(s) of the emergency."*

[1] On November 6, 2007, Golder produced a Technical Memorandum for the City that evaluated drilling and testing of several wells on the Veranda Beach site.

[2] City testing of the Veranda Beach well found iron at 1.34 milligrams per liter (mg/L) (MCL = 0.3); manganese at 0.211 to 0.326 mg/L (MCL = 0.05); TDS at 534 mg/L (MCL = 500); conductivity at 748 µmhos/cm (MCL = 700); turbidity at 4.8 NTU (MCL = 1.0); color at 22 color units (MCL = 15).

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This criterion is met for the City's proposal, which is a source substitution request for the same quantity. The City proposes to split Application No. G4-29150 into an "A" and a "B" portion, and only process the "A" portion equal to what it is surrendering in Permit No. G4-27565. The City's proposal does not allow the City to accommodate future population growth beyond what Permit No. G4-27565 allows for, but rather provides a more reliable supply source and other associated benefits that will be discussed in detail throughout this report.

Four Statutory Tests

This Report of Examination (ROE) evaluates the application based on the information presented above. To approve the application, Ecology must issue written findings of fact and determine that each of the following four requirements of RCW 90.03.290 has been satisfied:

1. The proposed appropriation would be put to a beneficial use;
2. Water is available for appropriation;
3. The proposed appropriation would not impair existing water rights; and
4. The proposed appropriation would not be detrimental to the public welfare.

Beneficial Use

In the Supreme Court case *Ecology v. Grimes* (1993)[3], the Court held that:

> *"for the purposes of appropriated water rights, 'beneficial use' has two elements:*
>
> *(1) the purposes or types of activities for which the water may be used and*
>
> *(2) the amount of water that may be used as limited by the principle of 'reasonable use' "*

The use of water for municipal supply purposes is defined in statute as a beneficial use (RCW 90.54.020(1)).

Permit No. G4-27565P provided for the following water quantities: 2 ac-ft of water for domestic and irrigation supply for 150 lots, approximately 14,000 ft^2 each and 0.5 ac-ft of water for domestic supply for each of the 250 condominium units. The City's requested quantity of water (340 gpm and 425 ac-ft/yr) is consistent with that being surrendered under Permit No. G4-27565P, for which Ecology already determined a reasonable and beneficial use. Further, this quantity of water is reasonable for the City's 20-year growth projections, peak flow, and fire flow demands.

Availability

One criterion for issuing a new water right is whether water is available for appropriation in the quantities requested, including both legal and physical availability. As noted in Ecology's 2008 technical memorandum, recharge of the Oroville aquifer tapped by the City's wells is dominated by water derived from the Similkameen River during high seasonal flows, with aquifer recharge occurring when flows exceed 4,000 cubic-feet per second (cfs). Review of monthly mean discharge data for the Similkameen River near Nighthawk (USGS Gaging Station 12442500) indicates that mean monthly flows have exceeded 4,000 cfs for at least one month of every year since 1929, with the exception of 1941

[3] http://www.ecy.wa.gov/programs/wr/caselaw/images/pdf/grimes.pdf.

when the maximum mean monthly flow was about 3,400 cfs. This reliable annual recharge apparently replenishes the aquifer each year, and there are no reports of groundwater declines in the aquifer. The sands and gravels comprising the Oroville aquifer are highly productive, and the City's wells are capable of producing the requested quantities. Based on these considerations water is physically available for appropriation.

However, the Okanogan and Similkameen Rivers are subject to minimum instream flow requirements (WAC 173-549), and any water right issued after adoption of the rule, including groundwater in continuity with surface water, is subject to interruption when flows fall below the minimum values. To address the instream flow requirements, the City proposes to voluntarily surrender Permit No. G4-27565P in exchange for an equal quantity of water under the new appropriation (Hydrogeologic Assessment, Morrice, 2013). Permit No. G4-27565P with a priority date of July 17, 1981, at the time was subject to WAC 173-549 and notes the permit quantities to be deducted from the 10 cfs reserve[4] for the Upper Okanogan River.

Under the City's proposal, flow that would otherwise be withdrawn will remain in the shallow groundwater in the vicinity of Veranda Beach, which will then recharge and improve flows in Lake Osoyoos and ultimately the Okanogan River. An equal quantity of water will be withdrawn from the City's wells from a shallow aquifer fed by the Similkameen River, which also flows into the Okanogan River approximately 4 miles downstream of the outlet of Lake Osoyoos. At the confluence of the Similkameen and Okanogan Rivers, the City's new application is water budget neutral with respect to authorized permit quantities and with an intervening benefit to Lake Osoyoos and the upper Okanogan River and would not trigger the instream flow rule in the Okanogan River.

The proposed appropriation would result in additional withdrawals from wells in continuity with the Similkameen River, and effects of pumping on flows in the Similkameen River would not be directly offset by surrendering Permit No. G4-27565P. As a result the right could still be subject to instream flow requirements for the Similkameen River, but City has requested an OCPI determination from Ecology (see OCPI section below for additional details).

Potential for Impairment

The potential for impairment of nearby groundwater wells was evaluated by estimating drawdown in water levels in the well closest to the City's wells, specifically the well authorized by Certificate No. G4-*03455CWRIS, which is about 700 feet northwest of City Well No. 3. For the purpose of this analysis, it was assumed that groundwater would be withdrawn from City Well No. 3 at the maximum requested rate of 340 gpm over a period of 283 days, until the Qa of 425 ac-ft/yr is exhausted. This is a very conservative assumption, as in reality the additional water use would likely be spread among the four City wells rather than concentrated in a single well.

The effects of the Similkameen River (located about 550 feet west of Well No. 1) acting as a constant head source was accounted for by use of an image well. Applying the assumptions and values described in the 2013 hydrogeology memorandum, located in this Water Right No. G4-21950(A), results in an estimated maximum drawdown at the well authorized by Certificate No. G4-*03455CWRIS of about 0.3 feet at the end of the 283 days of continuous pumping.

[4] WAC 173-549 was amended in 1984, in which subsection 173-549-030, *Future allocations-Reservation of surface water for beneficial uses,* was deleted from the rule.

This amount of drawdown is not expected to result in impairment of other groundwater wells. There are no indications that the City's current groundwater withdrawals are causing unacceptable drawdown interference or impairment of either the City's or other nearby wells. Finally, the Oroville aquifer receives significant recharge each year from the Similkameen River during the spring freshet, such that long term aquifer depletion is unlikely to occur.

Overriding Consideration of Public Interest (OCPI)

An overriding consideration of the public interest (OCPI) determination under RCW 90.54.020(3)(a) must be made to permit a water right that would otherwise be subject to curtailment when adopted minimum instream flows are not met. In this case, the City seeks an OCPI determination in order to provide a reliable, year-round municipal supply of water which is in the public interest. To address the instream flow requirements, the City proposes to voluntarily surrender Permit No. G4-27565P in exchange for an equal quantity of water under the new appropriation. As described in the section on priority processing, the City can develop the sources authorized under Permit No. G4-27565P, incurring unreasonable treatment costs, which is not in the public interest according to the Legislature in RCW 90.03.580(3).

Under the City's proposal to surrender Permit No. G4-27565P, flow that would otherwise be withdrawn will remain in the shallow groundwater in the vicinity of Veranda Beach, which will then recharge and improve flows in Lake Osoyoos and then the upper reaches of the Okanogan River. An equal quantity of water authorized in the existing permit will be withdrawn from the City's wells from a shallow aquifer fed by the Similkameen River, which also flows into the Okanogan River. There will be a small impact to approximately the lower 2 miles of the Similkameen River. The impact to the Similkameen River equates to less than 0.5% (percent) depletion during low flow periods. At the confluence of the Similkameen and Okanogan Rivers, the City's new application is water budget neutral with respect to authorized permit quantities, with an intervening benefit to Lake Osoyoos and the upper Okanogan River. Protecting instream flows is in the public interest.

The City of Oroville's water service area is much more extensive than the city limits, see figure 2. Oroville provides water service along the both the west and east shores of Lake Osoyoos. RCW 90.54.020(8) encourages development of water supply systems, such as Oroville, which provide water to the public generally in regional areas within the state. Regional water systems versus small, private individual water systems are in the public interest.

Water quality is better at the four City wells in the Oroville aquifer compared to the shallow aquifer near Veranda Beach, which has past documentation of high levels of iron, manganese, turbidity and other inorganics. These chemical signatures add to the high treatment costs and higher operator certification levels associated with continuing to develop the Veranda Beach source under Permit No. G4-27565P. It is in the public interest to meet drinking water quality standards and avoid unreasonable treatment costs.

By Veranda Beach contributing to the City of Oroville's water right portfolio, this will allow the City to continue to grow under its existing water rights versus the Veranda Beach demand being attributed to Oroville's existing water rights. The City's proposal does not allow the City to accommodate future population growth beyond what the existing permit allows for but rather allows for a source substitution. This translates to continued growth for the City of Oroville under its existing water rights which will create economic benefits to Okanogan County. Based on the Office of Financial Management (OFM) Input – Output calculator and using the Office of Columbia River (OCR) Sullivan Lake project as a

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proportionate indicator, whether 425 ac-ft remains as an existing Veranda Beach permit or Oroville is issued a new 425 ac-ft water right; a 425 ac-ft water right will:

- Create approximately $63 million dollars in tax base benefit.
- Create 67 short-term jobs.
- Create 79 long-term jobs.

When all the public interest benefits are compared to the potential harm to instream flows on the Similkameen River, it becomes evident that the potential benefits outweigh the potential harm. Ecology determines it is the public interest to override any minor detriment to the instream flows in the Similkameen River. Therefore the use of an OCPI determination on the subject application is appropriate. Ecology Director, Maia Bellon, made an affirmative OCPI determination on August 5, 2013, allowing Ecology to issue this new groundwater Permit No. G4-29150(A) exempt from instream flows as prescribed in WAC 173-549, providing for an affordable, reliable, year-round water supply for the City's water service area customers.

Consultation

On July 31, 2012, the City met with the Washington State Department of Health (DOH) regarding the City's proposal. DOH concurred that they support the project and issued a letter of support on August 21, 2012.

On September 4, 2012, Ecology and the City met with the Washington State Department of Fish and Wildlife (WDFW) regarding the subject proposal by the City of Oroville. The effect of the City's proposal is similar to a downstream transfer, which is a policy WDFW generally supports. WDFW did not raise any concerns with the project, and on August 9, 2013, WDFW provided a letter stating such.

Ecology and the City met with the Confederated Tribes of the Colville Reservation regarding the subject proposal by the City of Oroville. On January 17, 2013, the Colville Tribe stated they had no concerns with this proposal.

Ecology sent a letter dated January 30, 2013, to United States Bureau of Reclamation, (Reclamation) requesting a release of waters for wells in the vicinity of the Similkameen River, tributary to the Okanogan River, tributary to the Columbia River, and upstream of Priest Rapids Dam where Reclamation has established a reserve of water for use in the Yakima Basin. Ecology informed Reclamation that the project would not create any additional diversionary authority by virtue of cancellation of Permit No. G4-27565P. On February 19, 2013, Reclamation informed Ecology that only wells in bank storage required a release. None of the City's wells are in bank storage. The City demonstrated to DOH approximately 10 years ago that their wells were not groundwater under the influence of surface water.

CONCLUSIONS

The conclusions based on the above investigation are as follow:

1. The proposed appropriation for municipal use is a beneficial use of water;
2. The 340 gpm, 425 ac-ft/yr is available for appropriation;
3. The new appropriation will not impair existing water rights; and
4. The new appropriation will not be detrimental to the public interest.

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RECOMMENDATION

Based on the information presented above, the author and reviewer recommends that the request to appropriate 340 gallons per minute (gpm) up to 425 ac-ft/yr be approved in the amounts described, limited, and provisioned on page 1 through 3 of this report.

Report by: _____ _____
Breean Zimmerman, Aspect Consulting Date

Report by: _____ _____
Melissa Downes, Water Resources Program Date

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Figures:
Figure 1 – Aspect Map; City of Oroville Vicinity Map & Well Locations
Figure 2 – Varela Map; City of Oroville Water Service Area

References[5]:
Department of Ecology. *Well Log Database*. http://apps.ecy.wa.gov/welllog/

Ekstrom, I. 2008. *Technical Memo for Water Right Change application CG4-27565@1, April 24, 2008.* Dept. of Ecology.

Morrice, J. 2013. *Technical Memo for Water Right Application No. G4-29150(A), May 23, 2013.* Aspect Consulting.

Varela, M. & B. 2010. *City of Oroville Water System Plan.* December 2010. Varela and Associates.

[5] Additional references are cited within the listed references.

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