



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

**REPORT OF EXAMINATION**  
*To Appropriate Public Waters of the State of Washington*

APPLICATION DATE	APPLICATION NO.
August 5, 2008	G4-35203

NAME		
City of West Richland		
ADDRESS/STREET	CITY/STATE	ZIP CODE
3801 W. Van Giesen	West Richland, WA	99353-5033

**PUBLIC WATERS TO BE APPROPRIATED**

SOURCE
Well
TRIBUTARY OF (IF SURFACE WATERS)

MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE	MAXIMUM ACRE-FEET PER YEAR
	1650	2661

QUANTITY, TYPE OF USE, PERIOD OF USE
1650 gallons per minute (gpm), 2661 acre-feet per year (ac-ft/yr) for year-round municipal supply.

**LOCATION OF DIVERSION/WITHDRAWAL**

APPROXIMATE LOCATION OF DIVERSION—WITHDRAWAL					
feet	and	feet	from the	of Section	, T. N., R. E.W.M.
LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP	RANGE	WRIA	COUNTY
SW¼	26	10 N.	27 E.W.M.	37	Benton
PARCEL NUMBER	LATITUDE	LONGITUDE	DATUM		
1-2607-100-0002-004					

**LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED**

[Attachment 1 shows location of the authorized place of use and point(s) of diversion or withdrawal.]

City limits of the City of West Richland.
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**DESCRIPTION OF PROPOSED WORKS**

A municipal water system supplied by a well, water transmission.
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**DEVELOPMENT SCHEDULE**

BEGIN PROJECT BY THIS DATE	COMPLETE PROJECT BY THIS DATE	WATER PUT TO FULL USE BY THIS DATE
June 30, 2015	June 30, 2018	June 30, 2021

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## PROVISIONS

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### MUNICIPAL PLACE OF USE

If the criteria in RCW 90.03.386(2) are not met and a Water System Plan/Small Water System Management Program 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/Small Water System Management Program has been approved after September 9, 2003, the place of use reverts to the last place of use described by the Department of Ecology in a water right authorization.

### HEALTH APPROVAL REQUIRED

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, 16201 E. Indiana Avenue, Suite 1500, Spokane Valley, WA 99216, (509) 329-2100.

### AUTHORITY TO ACCESS PROJECT

Department of 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.

### EASEMENT OF 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 change authorization by Ecology 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.

### 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 water right. 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.

### WELLS, WELL LOGS AND CONSTRUCTION STANDARDS

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

In addition to the required access port, the applicant shall install and maintain, in operating condition, an airline and pressure gage. The pressure gage shall be equipped with a standard tire valve and placed in a location accessible to Ecology personnel. The airline shall extend from land surface to the top of the pump bowls and the total airline length shall be reported to Ecology upon completion of the pump system.

### WELL HEAD PROTECTION

In accordance with chapter 173-160 WAC, wells shall not be located within certain minimum distances of potential sources of contamination. These minimum distances shall comply with local health regulations, as appropriate. In general, wells shall be located at least 100 feet from sources of contamination. Wells shall not be located within 1,000 feet of a solid waste landfill.

## WELL CONSTRUCTION STANDARD

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.

A completed well report of the well(s) shall be submitted by the driller to Ecology within 30 days of completing the well(s) authorized herein. All pump test data for the well(s) shall be submitted to Ecology as it is obtained.

## GROUNDWATER MONITORING PROVISIONS

1. Within 90 days of an approval for the application for Water Right Permit No. G4-35203, the City of West Richland (the City) shall:
  - a. Collect groundwater level data and report the data from existing City Well No. 7's observation well to Ecology.
2. Within 180 days of an approval for the application for Water Right Permit No. G4-35203, the City shall develop a Groundwater Monitoring Plan. The Draft Plan shall be provided to Ecology for review and comments. The Final Plan shall be appended to this authorization and become a required permit provision. Specifically:
  - a. The City shall plan for the construction or acquisition of an appropriate monitoring well in the vicinity of City Well No. 9.
    - i. An appropriate monitoring well shall be one that is completed in the upper SMBs in the vicinity of Well No. 9 and approved by Ecology for purposes of groundwater level monitoring.
  - b. Following construction or acquisition of an appropriate monitoring well, the City shall plan for the collection and reporting of the groundwater level data to Ecology on the same schedule given in Provisions #6 and #7 below.
  - c. The City shall implement the Groundwater Monitoring Plan no later than the filing of the Beginning of Construction (BC) Notice for the proposed well with Ecology or within five years following the issue of Permit No. G4-35203P, whichever comes first.
3. In addition to upper SMBa groundwater level monitoring required in items 1 and 2 above, the City shall report groundwater level data collected at Well No. 7 and the proposed well to Ecology. The City shall report pump elevations at City Well No. 7 and at the proposed well; the City shall also report any changes (lowering) in pump elevations to Ecology. Data reporting for Well No. 7 shall commence within 90 days of issuance of a permit under this application. Data reporting for the proposed well shall commence within 90 days of completion of construction.

Well No. 9 has an access port, but the access port is damaged and measurements currently cannot be taken.

Consequently, the City shall be required to repair the access port on Well No. 9 and commence monitoring and reporting within the timeframe given in Section 2(c), above, for implementation of the Groundwater monitoring plan for the monitoring well associated with Well No. 7 and No. 9. As with Well No. 7 and the proposed well, the City shall also report the pump or pump bowl elevations to Ecology and any changes (lowering) in pump or pump bowl elevations at Well No. 9 to Ecology.

4. Prior to or concurrent with the construction of the proposed production well authorized under Permit No. G4-35203P the City shall construct or acquire an appropriate groundwater level monitoring well. Specifically:

- a. An appropriate monitoring well(s) shall be one developed into the upper SMBs at a location and to a depth, to be approved by Ecology and occurring between the proposed well and the NE¼ of Section 33, T. 10 N., R. 27 E.W.M.
5. The City shall establish permanent monitoring point(s) for all of the groundwater level monitoring wells required herein and report the elevations or heights (to the tenth foot) of the monitoring points above the land surface to Ecology.
6. **Minimum monitoring frequency for all groundwater level monitoring required above shall be no less than one groundwater level measurement per week per well** for the purpose of capturing both short-term effects from pumping, recharge and longer-term changes in land-use, groundwater development and climate. “Period ground-water-level measurements are those made at scheduled intervals (weeks, months, or years)...”, “Potential drawbacks to [less frequent or more widely spaced] periodic monitoring are that hydraulic responses to short-term stresses may occur between measurements and may be missed, extreme water-level fluctuations cannot be determined with certainty, and apparent trends in water levels potentially are biased by the choice of measurement frequency.” (Taylor, Alley, 2001,USGS Circ1217)
7. **Groundwater level data shall be reported to Ecology’s Central Region Office, Water Resources Program, Technical Unit staff, on a quarterly basis on or before April 15<sup>th</sup>, July 15<sup>th</sup>, October 15<sup>th</sup>, and January 15<sup>th</sup> of each year.** Contact information is as follows:

Anna Hoselton: Phone (509-454-7887); Email [ahos461@ecy.wa.gov](mailto:ahos461@ecy.wa.gov))

Or a designated alternate at:

WA Dept of Ecology  
Water Resources Program/CRO  
15 West Yakima Avenue Suite 200  
Yakima, WA 98902-3452

Groundwater level data shall be formatted in a Microsoft Excel electronic spreadsheet in both numerical and graphical form. Following the initial data submittal, continuing data submittals shall be appended to the existing spread sheet so the entire period of record is presented.

8. The City may petition Ecology for a reduction of monitoring requirements after a minimum of five years of water level monitoring data has been collected at each monitoring well required herein. Upon receipt of such petition, Ecology will review the data record and determine whether monitoring should continue as originally required herein or whether the monitoring frequency may reasonably be reduced by amendment to the permit. “Typically, collection of water-level data over one or more decades is required to compile a hydrologic record that encompasses the potential range of water-level fluctuations in an observation well and to track trends with time. Systematic long-term collection of water-level data offers the greatest likelihood that water-level fluctuations caused by variations in climatic conditions and water-level trends caused by changes in land-use or water management practices will be ‘sampled’.” (Taylor, Alley, 2001,USGS Circ 1217)

**Note:** The above schedule assumes the City is using manual measurement methods. Automated measuring systems are available and can be used to meet or exceed the minimum data collection requirements listed above.

#### **WATER SHORTAGE RESPONSE PLANNING PROVISIONS .**

9. The City shall include an analysis of groundwater level monitoring data in each water system plan update under its Water Shortage Response Plan as required in WAC 246-290-100(4)(f)(ii). Water Shortage Plans, following Ecology review and comments through water system plan review, shall be appended to this authorization and become a required permit provision. The Water Shortage Response Plan shall, at a minimum, include the following measures:
  - a. If monitoring data indicates, how pumping at City Well No. 9 could be modified to minimize effects on the upper SMBa.

- b. If monitoring data indicates, how pumping at City Well No. 7 and/or at the proposed well associated with Water Right Application No. G4-35203 could be modified to minimize effect on the upper SMBa.
  - c. How City service could be extended to affected domestic well owners with upper SMBa wells.
  - d. Coordination efforts with Benton County that could be implemented to control groundwater withdrawals or limit new building permits within the area affected by upper SMBa declines.
  - e. Technical assistance that can be provided to City customers that may reduce upper SMBa declines.
10. The compliance dates in Provisions 1-9 may be extended by Ecology upon written request by the City and for good cause shown.

**WELL DRILLING PROVISIONS ADDITIONAL TO Chapter 173-160 WAC, Minimum Standards For Construction And Maintenance of Wells**

11. The City shall provide their project manager and well driller with a copy of the permit provisions to ensure compliance with permit construction provisions.
12. The proposed production well, to be located within the SW¼ Section 26, T. 10 N., R. 27 E.W.M., is authorized to be drilled. The well must comply with the following construction requirements and restrictions:
- a. Un-perforated casing shall be set or placed (not driven) to a depth corresponding with the Pomona Member flow interior (the basalt flow colonnade portion) of the Saddle Mountains Formation as determined by on-site Geologist logging and X-Ray Fluorescence Analysis (XRF) sampling.
  - b. The well annulus shall be at least four inches greater in diameter than the permanent casing.
  - c. The well casing annulus shall be permanently sealed with neat cement grout. The sealing material shall be placed in the annulus by pumping to seal the entire annulus from the bottom of the casing to the land surface.
  - d. The cement grout shall be allowed to cure for a minimum of 72 hours prior to any subsequent drilling unless otherwise approved, in writing and in advance of drilling, by Ecology's Well Construction Coordinator and appended to the permit.
  - e. The borehole shall terminate at or above a depth that corresponds to the top of the Priest Rapids Member of the Wanapum Formation as determined by on-site Geologist logging and X-Ray Fluorescence Analysis (XRF) sampling.

**Note:** To assure correct casing and sealing depth, it is highly recommended that a minimum of one sample of basalt drill cuttings (chip samples) be collected from the second and third basalt flows encountered during drilling and sent to the Washington State University (WSU) or equivalently qualified laboratory facility for XRF analysis during drilling. Alternatively, the applicant may find that drilling a small diameter pilot hole and XRF analysis of critical interval samples for geologic stratigraphic identification prior to construction of the production well is preferred.

13. The applicant shall require the driller to collect and retain drill cuttings for the applicant and Ecology to submit for laboratory analysis as follows:

- a. The driller shall collect and retain basalt chip samples starting with the first basalt encountered and every ten foot interval thereafter and at significant changes in lithology to the bottom of the well. The depth from which each sample is taken shall be recorded on the sample container. Gross sample size should be large enough to provide a net minimum of 8 oz each, or preferably, the equivalent of a full 5.5" x 8.5" cloth sample bag or a heavy duty zip-lock type quart sized plastic bag. Drill cuttings (chip samples) should be washed, free of fines and reasonably dry prior to submittal to Ecology and for lab analysis. Split samples shall be provided to Ecology.
14. Drill cuttings (chip samples) from selected critical intervals shall be submitted for laboratory X-Ray Fluorescence Analysis (XRF) method for bulk rock and mineral analyses and include the following 27 major and trace elements: Si, Al, Ti, Fe, Mn, Ca, Mg, K, Na, P, Sc, V, Ni, Cr, Ba, Sr, Zr, Y, Rb, Nb, Ga, Cu, Zn, Pb, La, Ce, Th.
  15. Drill cuttings (chip samples) shall be stratigraphically logged by a professional Geologist, licensed in the State of Washington, and familiar with the local basalt formations. A copy of the stratigraphic log shall be provided to Ecology within 30 days of the completion of drilling activities.
  16. Upon filing of the Beginning of Construction (BC) Notice with Ecology for the proposed production well associated with Permit No. G4-35203P, the City shall provide the following to Ecology prior to drilling:
    - a. An up-dated inventory of local area wells to include Sections 2 and 3 of T. 09 N., R. 27 E.W.M and the entire S½ of T. 10 N., R. 27 E.W.M., organized by individual Section (to compare with original Ecology review focused on Sections 2 and 3 of T. 09 N., R. 27 E.W.M and Sections 28, 29, 32, and 33 of T. 10 N., R. 27 E.W.M.).
  17. The City shall notify Ecology technical staff of when pump testing of the proposed well will take place a minimum of two weeks prior to testing. The City shall meet or exceed Washington Department of Health, August 2001, Water System Design Manual, Appendix E Recommended Pumping Test Procedures for:
    - a. Fracture Flow Aquifers (pgs: E-7 and E-8)
    - b. Aquifers of Limited Extent (pg: E-8)
    - c. Multiple Wells/Tandem Wells (DOH should be consulted during the pumping test development process) (pg E-9)
    - d. Step Drawdown Pumping Test Procedure (pgs: E-16 through 18)
    - e. Constant Rate Discharge Pumping Test Procedures (pgs: E-19 through E-21)
  18. The City shall submit to Ecology, all raw test data and the compiled interpreted results for items 17 a-e above, within 90 days after the completion of testing. To avoid duplication of documents, Ecology will accept the Washington Department of Health Source Approval Packet for the proposed well provided that all raw test data and the compiled interpreted results for item 17 a-e are contained therein.

## METERING

19. Water use data shall be recorded daily and maintained by the property owner for a minimum of five years. The maximum daily rate of withdrawal and the annual total volume shall be submitted to the Department of Ecology by January 31st of each calendar year. Ecology is requiring a higher recording frequency than specified in WAC 173-173 for effecting water system planning.
20. Recorded water use data shall be submitted via the Internet. To set up an Internet reporting account, contact Department of Ecology, Water Resources Program, Central Region Office. If you do not have Internet access, you can still submit hard copies by contacting the Central Region Office for forms to submit your water use data.
21. WAC 173-173 describes the requirements for data accuracy, device installation and operation, and information reporting. It also allows a water user to petition the Department of Ecology for modifications to some of the requirements.

## OTHER PROVISIONS

22. If the city were not to exercise any portion of Certificate No. 3082-A in a given year then the annual quantity authorized under Certificate No. 4768-A could increase by as much as 336 acre-feet, which would bring the total annual quantity among the rights to 4661 acre-feet for that year.
23. Violation or failure to comply with any of the above listed terms and/or conditions may result in the immediate termination of this authorization and issuance of administrative orders to cease and desist, and may also subject any violators to civil penalties.

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### FINDINGS OF FACT AND ORDER

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Upon reviewing the investigator's report, I find all facts, relevant and material to the subject application, have been thoroughly investigated. Furthermore, I find the appropriation of water as recommended will not be detrimental to existing rights or to the public interest.

Therefore, I ORDER approval of Application No. G4-2503 subject to existing rights and the provisions specified above.

You have a right to appeal this ORDER. To appeal this you must:

- File your appeal with the Pollution Control Hearing Board within 30 days of the "date of receipt" of this document. Filing means actual receipt by the Board during regular office hours.
- Serve your appeal on the Department of Ecology within 30 days of the "date of receipt" of this document. Service may be accomplished by any of the procedures identified in WAC 371-08-305(10). "Date of receipt" is defined at RCW 43.21B.001(2).

Be sure to do the following:

- Include a copy of this document that you are appealing with your Notice of Appeal.
- Serve and file your appeal in paper form; electronic copies are not accepted.

#### 1. To file your appeal with the Pollution Control Hearings Board:

Mail appeal to:

OR

Deliver your appeal in person to:

The Pollution Control Hearings Board  
PO Box 40903  
Olympia WA 98504-0903

The Pollution Control Hearings Board  
4224 – 6th Ave SE Rowe Six, Bldg 2  
Lacey WA 98503

#### 2. To serve your appeal on the Department of Ecology:

Mail appeal to:

OR

Deliver your appeal in person to:

The Department of Ecology  
Appeals & Application for Relief Coordinator  
PO Box 47608  
Olympia WA 98504-7608

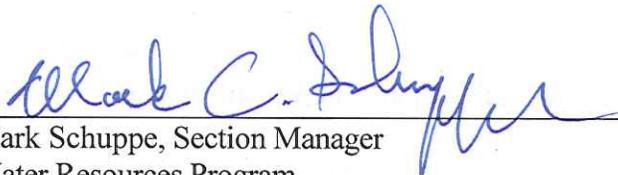
The Department of Ecology  
Appeals & Application for Relief Coordinator  
300 Desmond Dr SE  
Lacey WA 98503

**3. And send a copy of your appeal packet to:**

Mark Schuppe  
Department of Ecology  
Central Region Office  
15 West Yakima Avenue, Ste 200  
Yakima, WA 98902-3452

*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 5<sup>th</sup> day of May 2010.

  
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Mark Schuppe, Section Manager  
Water Resources Program  
Central Region Office

**BACKGROUND**

**Project Description**

On August 5, 2008, the City of West Richland (the City), in Benton County, Washington, filed an application for new water right from three points of withdrawal located within the SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> of Section 26, T. 10 N., R. 27 E.W.M. and the NW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> of Section 27, T. 10 N., R. 27 E.W.M. The application proposed to withdraw an additive 1500 gallons per minute (gpm) and a non-additive 2575 acre-feet per year (ac-ft/yr) continuously for municipal supply.

On November 25, 2008, Department of Health (DOH) sent the Department of Ecology (Ecology) a letter requesting Ecology expedite the City's Water Right Application No. G4-35203 to replace and address the high nitrate levels in the City's Well No. 4.

On March 23, 2009, this application was amended proposing to withdraw an additive 1650 gpm and a non-additive 2661 ac-ft/yr from only one point of withdrawal located within the SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> of Section 26, T. 10 N., R. 27 E.W.M.

WAC 173-152-050(2)(a) provides for expedited processing of water right change applications prior to applications submitted at an earlier date, provided Ecology determines immediate action is necessary for preservation of public health or safety.

On July 30, 2009, the application was again amended to one point of withdrawal located within the SW<sup>1</sup>/<sub>4</sub> of Section 26, T. 10 N., R. 27 E.W.M.

Drinking water for the City of West Richland comes from seven wells and an intertie with the City of Richland. According to the City of West Richland's Draft 2009 Water System Plan, the seven wells have the following capacities:

- Well No. 1     250 gpm
- Well No. 2     600 gpm
- Well No. 3     360 gpm
- Well No. 6     425 gpm
- Well No. 7     1,100 gpm
- Well No. 9     1,450 gpm
- Well No. 10    1,000 gpm
- Well No. 11    Not yet drilled (well authorized through this application)

The intertie with the City of Richland provides water authorized under Surface Water Right No. S4-30976P, also known as the Quad Cities water right. All the City wells are connected through a telemetry system which operates the pumps based on the reservoir levels.

**Summary of West Richland's Water Rights**

According to the City of West Richland's water use data from their 2009 Draft Water System Plan Update (DWSP), in 2008 they reported a use of approximately 2826 ac-ft/y. (3.7% of this use was estimated as unaccounted for water). Using population growth estimates and estimated average day demand (ADD) figures from the City of West Richland's DWSP, we were able to approximate how much ac-ft/yr the City would be using in the 6-year and 20-year projections:

Year	ADD	Ac-ft/yr
2007	1,616	2607
2013	1,872	3020
2027	2,853	4602

The City has a number of inchoate water rights. The 2003 Municipal Water Law (MWL) was recently challenged in King County Superior Court. In a decision on June 11, 2008, the King County Superior Court declared three sections of the law unconstitutional. Ecology has since appealed this decision and a decision from the Court is pending. The Court found the defining terms “municipal water supplier” and “municipal water supply purposes,” and the section of the statute providing that certificates for municipal water rights issued based on system capacity are in “good standing”.

Prior to the King County Superior Court decision, water rights certificates issued before September 9, 2003, for municipal water supply purposes based on system capacity (“pumps and pipes”) were in “good standing” under the MWL. At this time, the “good standing” status of water rights held by both public municipal water suppliers and private water suppliers is in question and is currently pending before the state Supreme Court.

**Table 1**  
Summary of Application No. G4-35203

<i>Attributes</i>	<i>Proposed</i>
Applicant	City of West Richland
Date of Application	August 5, 2008
Instantaneous Quantity	1650 gpm
Annual Quantity	2661 ac-ft/yr (non-additive)
Source	Lower Portion of the Saddle Mountain Aquifer
Point of Diversion/Withdrawal	SW¼ of Section 26, T. 10 N., R. 27 E.W.M. (Well No. 11)
Purpose of Use	Municipal
Period of Use	Year round
Place of Use	City limits of the City of West Richland

**Legal Requirements for Application Processing**

The following requirements must be met prior to processing a water right application:

- **Public Notice**  
Notice of the application was published in the Tri-City Herald on April 1, 2009 and April 8, 2009. One comment and protest letter was received from I.W. Brewer on May 2, 2009. A second publication was also published in the Tri-City Herald on August 10, 2009 and August 17, 2009. No comments or protests were received during the 30-day comment period.
- **State Environmental Policy Act (SEPA)**  
According to WAC 197-11-800(4), environmental review under SEPA is categorically exempt for this project. Proposed ground water appropriations are exempt if the withdrawal is 2,250 gpm or less.
- **Water Resources Statutes and Case Law**  
RCW 90.44.100(2) requires that the combined total withdrawal from the original well and any additional well shall not enlarge the right defined by the original permit or certificate.

## INVESTIGATION

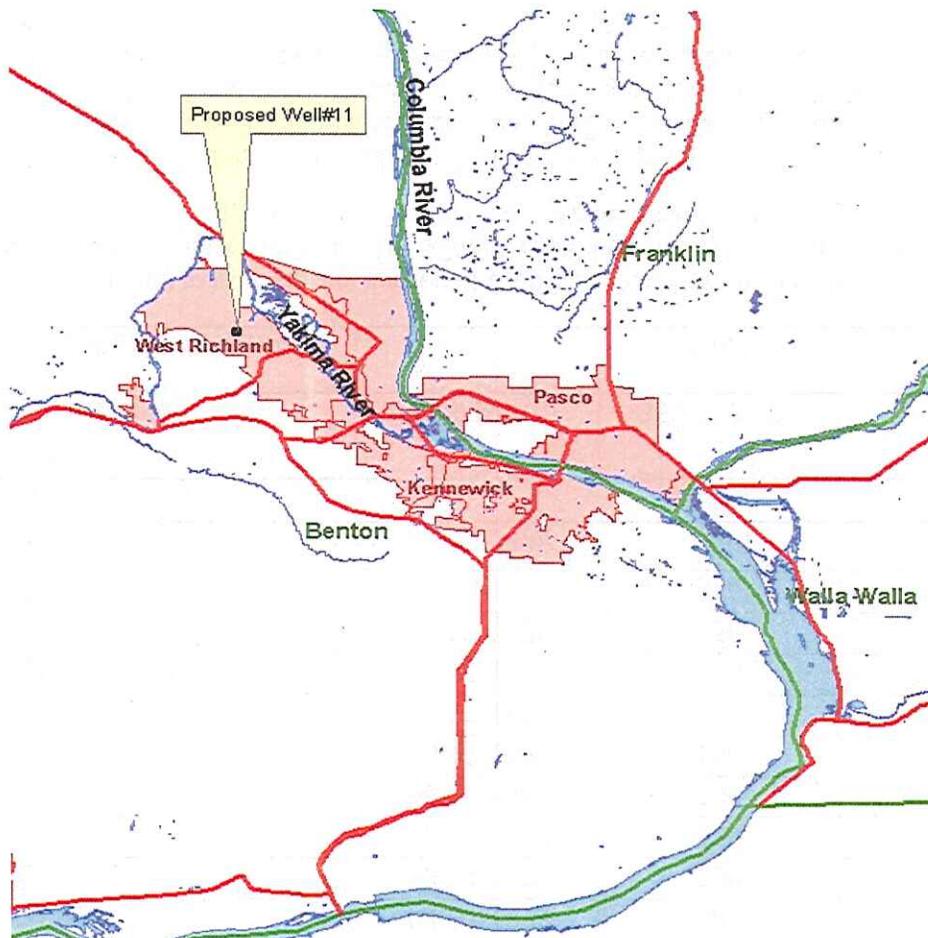
The author of this Report of Examination (ROE) conducted the investigation. In considering this application and to meet the above listed legal requirements, the investigation included but was not limited to research and/or review of:

- The State Water Code, administrative rules, and policies.
- Existing water rights on file.
- Well reports.
- Notes from site visit conducted on July 30, 2009.
- Any relevant communication.
- Aerial photographs.
- Hydrogeologist's Technical Memorandum (March 29, 2010, Hoselton).
- City of West Richland's Draft 2009 Comprehensive Water System Plan.
- Other studies, reports, and file notes.

## Site Visit

The City of West Richland is located in Benton County, bordering Franklin County to the west, in south central Washington.

Figure 1: Vicinity Map



In considering this application, the investigation included a site visit conducted on July 30, 2009, by Breean Zimmerman, Anna Hoselton, Dan Haller, and Candy Graff, all from Department of Ecology, and Roscoe Slade, City of West Richland's Public Works Director, were present.

The new proposed well (Well No. 11 as referred to by the City of West Richland) is to replace Well No. 4. Well No. 4 was taken off the City's system in October 2005 when the maximum contaminant level of 10 parts per million (ppm) was exceeded for nitrates.

The City of West Richland currently withdraws water from seven wells (Well Nos. 1, 2, 3, 6, 7, 9, and 10) providing water to six pressure zones (Zones 1 – 6). These wells are at varying depths ranging from 250 feet to 1,200 feet and pump water from either the upper or lower Saddle Mountains Formations of the Columbia River Basalt Group.

The proposed Well No. 11 will be drilled on property currently owned by Mackay Family Properties and McDonald Trustee. The location of Well No. 11 will allow for a second source of potable water to pressure zone 2 of the City's water system. Currently, there are no wells serving pressure zone 2. The City of West Richland plans to combine pressure zones 1 and 2 in order to improve service pressure, increase fire flow availability, and provide source backing in these two pressure zones.

**Existing Water Rights**

**Table 2**  
Water Rights Summary – water rights for municipal purposes

<b>Water Right Number</b>	<b>Priority Date</b>	<b>Qi (gpm)</b>	<b>Qa (ac-ft/yr)</b>
CG4-24640(B)P	01/13/1977	250	420
CG3-00349C@1	08/17/1971	500	450
CG4-23893C@3	04/02/1975	1400	507
CG4-26491P@1	12/04/1979	700	376
CG4-26268C	06/05/1979	250	85
CG4-04768-A	06/25/1962	500	*169
CG4-24124C	10/17/1975	160	60
CG4-24174C	01/17/1977	250	22
CG4-25902C	06/15/1978	500	1444
CG4-26280C@1	07/02/1979	950	792
CG4-03082-A	05/08/1956	310*	*336
G4-35203P	07/30/2008	1650	2661
<b>Total (of all rights above)</b>		<b>7110</b>	<b>*4325</b>
S4-30976P (Quad Cities – City of West Richland portion)	09/23/1991**	359 (0.8 cfs)	194
<b>Grand Total (of all rights above)</b>		<b>7469</b>	<b>*4519</b>

\*Note: If the City were not to exercise any portion of Certificate No. 3082-A in a given year then the annual quantity authorized under Certificate No. 4768-A could increase by as much as 336 acre-feet, which would bring the total annual quantity among the rights to 4661 acre-feet for that year.

\*\*Note: Permit No. S4-30976P issued to Cities of Richland, Kennewick, Pasco, and West Richland in the amount of 178 cubic feet per second and 96,169 acre-feet. West Richland's allocation as of 2007 is summarized in the 2008 Regional Water Forecast and Conservation Plan Update. This quantity will increase over time in planning updates and is projected to increase to 1.3 cubic feet per second and 307 acre-feet by 2027.

The maximum instantaneous quantity at each well:

- Well No. 2     900 gpm
- Well No. 3     450 gpm
- Well No. 6     450 gpm
- Well No. 7     1,100 gpm
- Well No. 9     1,560 gpm
- Well No. 10    1,000 gpm
- Well No. 11    1,650 gpm

The combined withdrawal of the City of West Richland's existing water rights, listed above, shall not exceed 7,110 gpm and 4,325 ac-ft/yr\*.

The City of West Richland also has one other water right, Certificate No. G4-28034C, that is a water reuse right predating the 1995 Reclaimed Water Act (RCW 90.46). This water right authorizes 200 gpm, 150 ac-ft/yr from March 1 to November 15 for the purposes of irrigation of 16 acres and continuously for surface application of treated sewage lagoon effluent.

## Hydrologic/Hydrogeologic Evaluation

The proposed well site is located within a region of intense folding and faulting (figure 1) defined along its south-southwest side by a linear series of small doubly plunging anticlinal folds referred to as the “rattles.” The rattles extend in a southeasterly direction off the larger Rattlesnake Ridge, a NW-SE trending anticlinal structure within the Yakima Fold Belt. Along the north-northeast side, the area of interest is defined by the Horn Rapids (horn) structure, an anticlinal fold that follows the regional Olympia-Wallula Lineament (OWL) trend as far as West Richland where it turns abruptly north (Reidel, S.P., personal communication, 12/14/2009). Both the rattles and the horn structures are paralleled on their NE flanks by SW dipping (Newcomer, et.al, 2002) thrust faults, following the same NW-SE trend, having developed as a result of reverse motion along the fault planes. Liikala (1994) and Newcomer, et.al., (2002) add a lost lake synclinal structure between the rattles and the horn, also following the NW-SE trend, while Reidel suggests a tear fault to the S-SE of the horn structure and extends the horn fold to the SE (personal communication, 2009). The numerous and complex structures are locally noteworthy as they effect the course of the Yakima River by forcing its flow northward around the horn structure and are likewise expected to affect controls on groundwater flow within the local basalt aquifer systems. (Technical Memorandum, March 29, 2010, written by Anna Hoselton.)

## Statutory Tests for Issuing a New Groundwater Permit

RCW 90.44.060 specifies that “Applications for permits for appropriation of underground water shall be made in the same form and manner provided in RCW 90.03.250 through 90.03.340”. RCW 90.03.250 through 90.03.340 is the appropriation portion of the Surface Water Code that describes the statutory process for filing an application for a water right, Ecology’s requirements for investigation of the application, and responsibilities of the applicant to perfect the right as issued. In particular, RCW 90.03.290 provides that:

“When an application complying with the provisions of this chapter and with the rules of the department has been filed, the same shall be placed on record with the department, and it shall be its duty to investigate the application, and determine”:

- Whether the water is requested for beneficial use(s);
- Whether the water requested is available for appropriation;
- Whether the proposed use of water will impair existing rights; and
- Whether the proposal would be detrimental to the public welfare.

## Beneficial Use

RCW 90.54.020 (1) states that uses of water for domestic, stock watering, industrial, commercial, agricultural, irrigation, hydroelectric power production, mining, fish and wildlife maintenance and enhancement, recreational, and thermal power production purposes, and preservation of environmental and aesthetic values, and all other uses compatible with the enjoyment of the public waters of the state, are declared to be beneficial. The City of West Richland provides domestic water use, residential irrigation of lawns, parks and ballfields, commercial and industrial uses and other public health and safety uses that are consistent with RCW 90.54.020(1).

## Water Availability

Below is an insert from this Hydrogeologic analysis, a Technical Memorandum written by Anna Hoselton, on March 29, 2010, *Impairment Discussion* on Page 9 of 25.

“...because the applicant has requested an annual quantity that is non-additive to the portfolio of rights for which the City has already received authorization, no additional volume of water will be withdrawn from the aquifer system than that which has been previously authorized. In effect this authorization, if approved, will function similar to that of an additional point of withdrawal or replacement well in that only additional pumping capacity to fully utilize the City’s existing authorizations is requested.”

Water is currently available to supply the City’s existing sources and this authorization will not further deplete the aquifer system beyond the City’s current authorized withdrawals.

The lower Saddle Mountains aquifer has not been closed by rule and is not subject to a federal or Tribal reservation of water.

## **Impairment Considerations**

A Hydrogeologic analysis was conducted to determine whether the proposed withdrawal of groundwater would impair existing water rights. It is necessary to consider the hydrologic effects of the proposed well and withdrawals on other water right holders competing for the same source of water.

Below is an insert from this Hydrogeologic analysis, a Technical Memorandum written by Anna Hoselton, on March 29, 2010, *Impairment Discussion* on Pages 9 and 11 of 25.

“Largely because the proposed well is located inside the boundaries of a sizeable agricultural area held by a partnership there are no *nearby* wells owned by non-partnership or non-City interests.”

“...while the City’s portfolio of groundwater rights carries priority dates that span between 1956 and 1979, any authorization for the proposed well will be junior to area rights established earlier than the priority date given to G4-35203. As a result, if approved to withdraw the requested non-additive volume, an authorization under G4-35203 may be regulated in favor of area senior rights to prevent impairment”.

However, a number of wells, closest in proximity, were considered and analyzed for any potential impairment. Please refer to the Technical Memorandum referenced above located in the subject water right application file.

## **Public Welfare Considerations**

Analysis of whether this application meets the requirement under RCW 90.03.290 that the City’s proposed use of water will not be detrimental to the public welfare involves comparison of the current City pumping regime with what will occur if the proposed application is approved. The 1971 Water Resources Act, RCW 90.54, provides the most comprehensive list of legislative policies that guide the consideration of public interest in the allocation of water. These policies generally require a balancing of the state’s natural resources and values with the state's economic well-being. Specifically, the policies require allocation of water in a manner that preserves instream resources, protects the quality of the water, provides adequate and safe supplies of water to serve public need, and makes water available to support the economic well-being of the state and its citizens. The public interest criteria provide for the greatest level of discretion afforded to Ecology in the permit process and invoke the general environmental and water management policies enacted by the Legislature.

Currently, the City’s ability to meet the public health and safety needs of a growing populace is restricted by the contamination of Well 4 with nitrates. The removal of Well 4 from service reduces the ability of the City to meet peak water use events, fight fires, respond to power outages, and effectively plan for growth. The requested point of withdrawal will allow City of West Richland to provide safe and reliable water service to their existing service area. The proposal has a non-additive annual quantity to existing water rights and will not result in negative environmental impacts.

## **Consideration of Protests and Comments**

One comment and protest letter was received from Ike W. Brewer on May 2, 2009. Mr. Brewer had concerns with the declining static water level in his well and concerns with depletion of the aquifer.

Ecology believes Mr. Brewer's concerns have been addressed through provisioning the water right requiring the City of West Richland to case and seal the well, proposed in the subject water right application, into the lower SMBa. Mr. Brewer’s well is completed in the upper SMBa.

For further details relating to Mr. Ike Brewer’s protest please see Technical Memorandum, Anna Hoselton, March 29, 2010, located in this water right application file.

## **CONCLUSIONS**

Approval of this request, under Ground Water Application No. G4-35203 as provisioned above, will not cause impairment to existing rights or detriment to the public welfare. Water is legally and physically available and water use will be beneficial.

## RECOMMENDATIONS

Based on the above investigation and conclusions, I recommend Water Right Application No. G4-35203 be authorized in the amounts and within the limitations listed below and subject to the provisions beginning on Page 2.

### Purpose of Use and Authorized Quantities

The amount of water recommended is a maximum limit and the water user may only use that amount of water within the specified limit that is reasonable and beneficial.

- Year round municipal supply
- 1650 gallons per minute
- 2661 acre-feet per year

### Point of Withdrawal

SW $\frac{1}{4}$ , Section 26, Township 10 North, Range 27 E.W.M.

### Place of Use

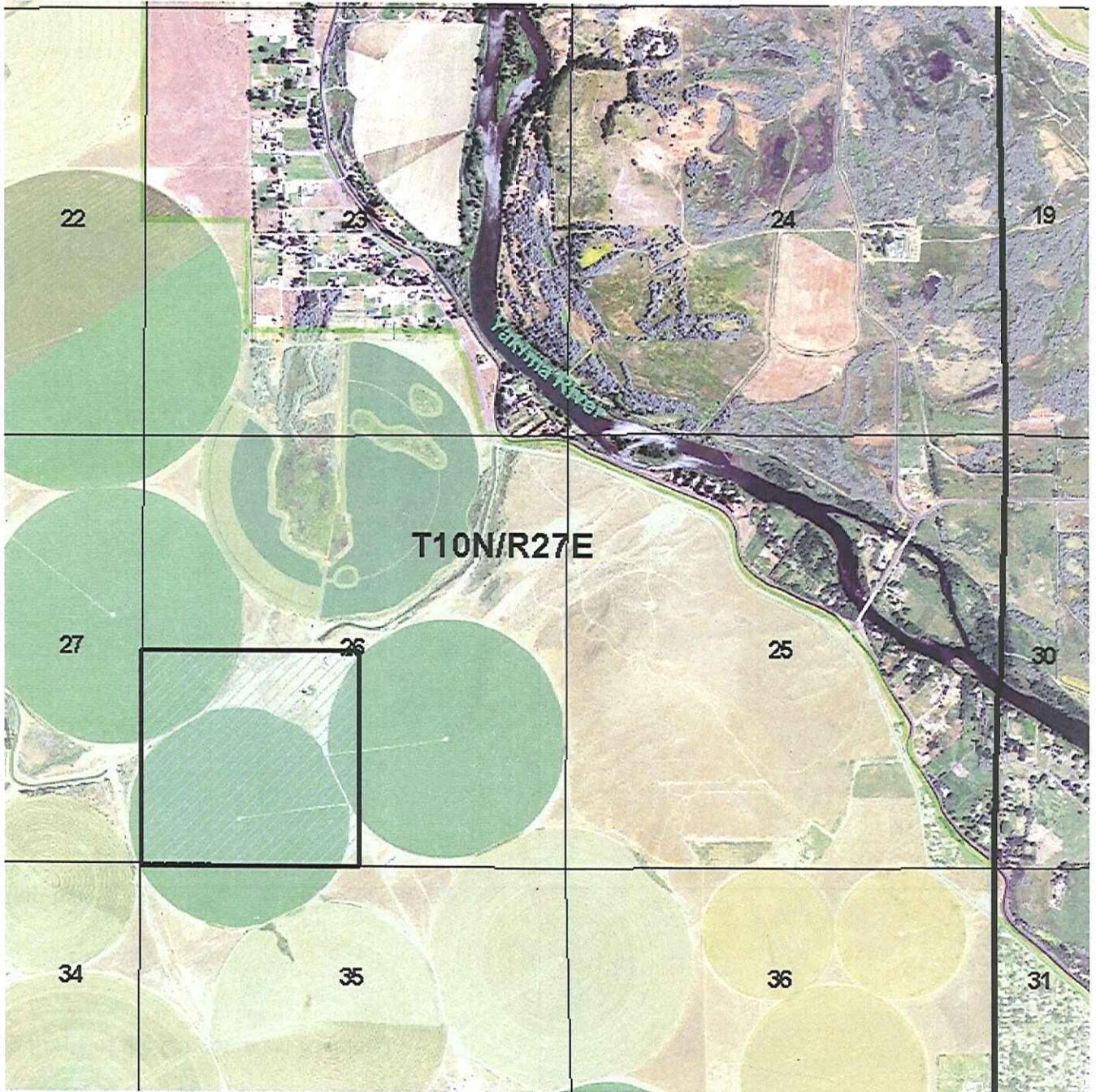
City limits of the City of West Richland.

Report by: Breean Zimmerman  
Breean Zimmerman, Water Resources Program

5/4/2010  
Date

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# City of West Richland G4-35203



<ul style="list-style-type: none"> <li> township</li> <li> City of West Richland</li> <li> Area of Proposed Well</li> <li> sections</li> </ul>	<p>1,000 500 0 1,000</p> <p>Feet</p>		<p>DEPARTMENT OF <b>ECOLOGY</b> State of Washington</p> <p>Created by: Breean Zimmerman</p>
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