STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

March 13, 2012

City of Rainier
PO Box 258
Rainier WA 98576

Re: Water Right Change Application No. CG2-68892CL

Dear Sir or Madam:

Enclosed is a copy of the Department of Ecology's *Report of Examination.* This report contains our decision regarding your application.

Your application has been approved.

YOUR RIGHT TO APPEAL

You have a right to appeal this decision to the Pollution Control Hearing Board (PCHB) within 30 days of the date of receipt of this decision. 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 all of the following within 30 days of the date of receipt of this decision:

- File your appeal and a copy of this decision 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 decision 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.

ADDRESS AND LOCATION INFORMATION

Street Addresses	Mailing Addresses
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey, WA 98503	**Department of Ecology** Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608
Pollution Control Hearings Board 1111 Israel RD SW STE 301 Tumwater, WA 98501	**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://www1.leg.wa.gov/CodeReviser.

If you have any questions, please call (360) 407-6300.

Sincerely,

Michael J. Gallagher
Section Manager
Water Resources Program

Enclosures: Report of Examination
Your Right To Be Heard
Cc: Karl Johnson, Gray Osborne Consulting

By Certified Mail: 7009 3410 0000 1272 9924

File NR CG2-068891CL
WR Doc ID 4271085

DEPARTMENT OF ECOLOGY
State of Washington

State of Washington
REPORT OF EXAMINATION
FOR CHANGE TO A WATER RIGHT CLAIM

Added or Changed Point of Withdrawal/Diversion

PRIORITY DATE	WATER RIGHT NUMBER
1920	CG2-068891CL

MAILING ADDRESS	SITE ADDRESS (IF DIFFERENT)
CITY OF RAINIER PO BOX 258 RAINIER WA 98576	

Total Quantity Claimed for Withdrawal

WITHDRAWAL OR DIVERSION RATE	UNITS	ANNUAL QUANTITY (AF/YR)
50	GPM	80.6

Total withdrawals or diversions from all sources must not exceed the total quantity authorized for withdrawal or diversion listed above.

Purpose

	WITHDRAWAL OR DIVERSION RATE			ANNUAL QUANTITY (AF/YR)		
PURPOSE	ADDITIVE	NON-ADDITIVE	UNITS	ADDITIVE	NON-ADDITIVE	PERIOD OF USE (mm/dd)
Municipal	50		GPM	80		01/01 - 12/31

REMARKS

This Groundwater Claim has the same point of withdrawal as G2-28892 and G2-24973. G2-28892 and G2-24973 are partially non-additive to Groundwater Claim 068891.

IRRIGATED ACRES		PUBLIC WATER SYSTEM INFORMATION	
ADDITIVE	NON-ADDITIVE	WATER SYSTEM ID	CONNECTIONS
		70980	

Source Location

COUNTY	WATERBODY	TRIBUTARY TO	WATER RESOURCE INVENTORY AREA
THURSTON	GROUNDWATER	Deschutes	13-DESCHUTES

SOURCE FACILITY/DEVICE	PARCEL	WELL TAG	TWP	RNG	SEC	QQ Q	LATITUDE	LONGITUDE
Well 2	70203801800	ABR130	16N	01E	09	SENW	46.888333	-122.687778
Well 6	70201800100	ABY162	16N	01E	09	SWNW	46.889722	-122.692778

Datum: NAD83/WGS84

Place of Use (See Attached Map)

LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE

The place of use (POU) of this water right is the service area described in the most recent Water System Plan/Small Water System Management Program approved by the Washington State Department of Health, so long as the water system is and remains in compliance with the criteria in RCW 90.03.386(2). RCW 90.03.386 may have the effect of revising the place of use of this water right.

Proposed Works

Well 2: 6 inches in diameter and 120 feet deep

Well 6: 10 inches in diameter and 247 feet deep

Development Schedule

BEGIN PROJECT	COMPLETE PROJECT	PUT WATER TO FULL USE
Started	Completed	In full use

Measurement of Water Use

How often must water use be measured?	Monthly
How often must water use data be reported to Ecology?	Upon Request by Ecology
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

All wells constructed in the state must 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 that is unusable, abandoned, or whose use has been permanently discontinued must be decommissioned. Additionally, a well in disrepair that its continued use is impractical or is an environmental, safety or public health hazard must also be decommissioned.

All wells must be tagged with a Department of Ecology unique well identification number. If you have an existing well and it does not have a tag, please contact the well-drilling coordinator at the regional Department of Ecology office issuing this decision. This tag must remain attached to the well. If you are required to submit water measuring reports, reference this tag number.

Installation and maintenance of an access port as described in WAC 173-160- 291(3) is required.

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 at Southwest Drinking Water Operations, 243 Israel Road S.E., PO Box 47823, Tumwater, WA 98504-7823, (360) 236-3030.

Issuance of a Certificate of Change
Ecology will issue a Certificate of Change for the proposed change to this Water Right Claim following the 30-day appeal period for this ROE has passed.

Measurements, Monitoring, Metering and Reporting
An approved measuring device must be installed and maintained for each source identified by this water right in accordance with the rule "Requirements for Measuring and Reporting Water Use". 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.

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

Schedule and Inspections
Department of Ecology personnel, upon presentation of proper credentials, will 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.

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. CG2-068891CL, subject to existing rights and the provisions specified above.

Signed at Olympia, Washington, this 13th day of March 2012.

Michael J. Gallagher

Michael J. Gallagher, Section Manager

Your Right To Appeal

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INVESTIGATOR'S REPORT
Tammy Hall, Department of Ecology
Water Right Control Number CG2-068891CL

BACKGROUND

Description and Purpose of Proposed Change

On January 1, 2006, Sherry O'Dell, representing the City of Rainier, filed an *Application for Change of Water Right* to add a point of withdrawal to Water Right Claim 068891.

Water Right Claim (CL) 068891 was filed on May 26, 1974 for groundwater use from Well 2 for 50 gallons per minute (gpm) for municipal supply purposes. The annual quantity is unspecified.

See Attachment #1

Attributes of the Existing Water Right and Proposed Change

Table 1. Attributes of Ground Water Claim 068891 and Proposed Change.

	Existing	***Proposed***
Name	City of Rainier	Same
Priority Date	1920	
Change Application Date		01/30/2006
Instantaneous Rate	50 gpm	Same
Annual Quantity	Not specified	80.6 ac-ft/yr
Purpose(s) of Use	Municipal supply purposes	Same
Period of Use	Continuous	Same
Place(s) of Use	City of Rainier	The place of use (POU) of this water right is the service area described in the most recent Water System Plan/Small Water System Management Program approved by the Washington State Department of Health, so long as the water system is and remains in compliance with the criteria in RCW 90.03.386(2). RCW 90.03.386 may have the effect of revising the place of use of this water right

Table 2. Proposed Source of Withdrawal.

Source Name	*Parcel*	*Well Tag*	*Twp*	*Rng*	*Sec*	*QQ Q*	*Latitude*	*Longitude*
Well 6	70201800100	ABY162	16N	01E	09	SW NW	46.889722	-122.692778
Well 2	70203801800	ABR130	16N	01 E	09	SE NW	46.888333	-122.687778

Table 3. Existing Source of Withdrawal.

Source Name	*Parcel*	*WellTag*	*Twp*	*Rng*	*Sec*	*QQ Q*	*Latitude*	*Longitude*
Well 2	70203801800	ABR130	16N	01 E	09	SE NW	46.888333	-122.687778

Legal Requirements for Proposed Change

The following is a list of requirements that must be met prior to authorizing the proposed change in Groundwater Claim 068891.

Public Notice

The applicant published notice for this project proposal in *The Olympian* of Thurston County once a week for two consecutive weeks beginning April 27 and ending May 4, 2006. The Department of Ecology received no protests or letters of concern in response to this notice.

State Environmental Policy Act (SEPA)

A SEPA determination evaluates if a proposed withdrawal will cause significant adverse environmental impacts. A SEPA threshold determination is required for:

1) Surface water applications for more than 1 cubic feet per second (cfs). For agricultural irrigation, the threshold increases to 50 cfs, if the project isn't receiving public subsidies.
2) Groundwater applications requesting more than 2,250 gpm.
3) Projects with several water right applications where the combined withdrawals meet the conditions listed above.
4) Projects subject to SEPA for other reasons (e.g., the need to obtain other permits that are not exempt from SEPA).
5) Applications that are part of several exempt actions that collectively trigger SEPA under WAC 197-11-305.

This application does not meet any of these conditions and is categorically exempt from SEPA.

Water Resources Statutes and Case Law

RCW 90.03.380(1) states a water right put to beneficial use may be changed. The point of diversion, place of use, and purpose of use may be changed, as long as it would not harm or injure other water rights.

The Washington Supreme Court has held that Ecology is required to make a tentative determination of extent and validity of the claim or right when processing an application for change to a water right. This is necessary to establish whether the claim or right is eligible for change. (*R.D. Merrill v. PCHB* and *Okanogan Wilderness League v. Town of Twisp.)*

RCW 90.03.380(1) states a water right put to beneficial use may be changed. The point of diversion, place of use, and purpose of use may be changed as long as other water rights are not impaired.

RCW 90.44.100 allows Ecology to amend a ground water permit(or claim) to allow the user to construct a replacement or additional well at a new location outside of the location of the original well, or to change the manner or place of use of the water, if:

(a) For replacement wells, the user must discontinue use of the original well and properly decommission the original well.
(b) For additional wells, use from the original well can continue, but the combined total withdrawal from all wells must not enlarge the right.
(c) Other existing rights must not be impaired.
(d) The wells must draw from the *same body of public groundwater*. Sources in the same *body of public groundwater are*:
    - Hydraulically connected.
    - Have a common recharge (catchment) area.
    - Share a common flow regime.

INVESTIGATION

The material reviewed in support of this application included the following:

- The State Surface Water Codes, administrative rules, and policies.
- Department of Ecology's Water Right Tracking System (WRTS) database.
- Topographic and local area maps.
- Telephone interviews and e-mail correspondence from Jon Hinton, of Gray and Osborne, Inc., representing the City of Rainier.
- The City of Rainier's Draft Water System Plan Update, Gray and Osborne, August 2010.
- Notes from a site visit on January 23, 2012.
- Hydrogeologic memorandum written by Tammy Hall, licensed hydrogeologist with Water Resources Southwest Regional Office, dated January 26, 2012.
- The Draft WRIA 13 Watershed Plan.

Project Location and Site Description

The City of Rainier is in Thurston County, about 15 miles southeast of Olympia. The City is located along State Highway 507, between Yelm and Tenino.

The City of Rainier owns and operates a municipal water system that serves the town and portions of unincorporated Thurston County. The City's Water Facilities Inventory (WFI) form dated December 18, 2009 indicates 670 full-time residential connections and 20 non-residential connections with a population of about 1,675 people (Gray & Osborne, Inc, 2010).

History of System

The first settlers arrived to the Rainier area in 1890. The original water system consisted of two 6-inch diameter wells, Wells 1 and 2, each producing 50 gpm. The water system was originally operated by private entities until Rainier incorporated in 1948 and purchased the system.

Wells 1 and 2 (Claims 68892 and 068891, respectively) were are believed to have been drilled in early 1920. These wells served the City's needs until Well 3 was drilled in 1970[1].

Major improvements resulted from an inspection of the Town's water system in 1973 by Washington Department of Health. These improvements included drilling Well 4 [2](in 1975) and adding a booster pump station (in 1976) to increase water pressure in the northern part of the service area.

In 1995, the City drilled Well 6[3] near Well 3. Wells 4 and 3 currently serve as the City's primary water sources.

Intent of Proposed Change

The City of Rainier would like to add Well 6 to Claim 068891. Well 2 draws from a shallower aquifer and is located in a older residential neighborhood with a limited protection zone. Well 2 will be disconnected from the distribution system but will be maintained by the City as an emergency source to use if needed.

Proposed Use

The purpose of use will remain "municipal supply." Well 6 is considered an additional point of withdrawal. Water use after the change will stay the same. The City of Rainier will need to manage withdrawals so that the combined pumping rate from both wells does not exceed the authorized amount under 068891CL.

Other Rights Appurtenant to the Place of Use

The City of Rainier (System Id. No. 70980) serves residential and commercial customers in the City's service area. Groundwater withdrawals are authorized by three claims, two permits, and one certificate. All the city's sources are located within no more than 2,800 feet from one another. Details of the City's water rights are summarized in Table 4.

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[1] Although Well 3 has been in continuous use since 1970, withdrawals were not authorized until 1994. Currently withdrawals are authorized by Ground Water Permit (GWP) (Superseding) G2-28841 dated April 16, 2009.
[2] Withdrawals from Well 4 are authorized by GWC G2-23347C, issued March 31, 1989.
[3] Withdrawals from Well 6 are authorized by GWP (Superseding) G2-24973, dated March 12, 2004. [4]The subject Application for Change.
[5]Application for Change CG2-068891CL proposes add Well 6 to this claim.
[6]Well 6 was added through a Showing of Compliance on October 13, 2011.
[7]Application for Change CG2-69299CL proposes to add Well 6 to this claim.
[8]Well 3 was added through a Showing of Compliance on October 13, 2011.
*These claims had no annual amounts listed on them. The annual quantity was calculated based on continuous pumping rate of 50 gpm.

Table 4. The City of Rainier's Water Rights. CL=Claim, P=Permit, C=Certificate

Certificate/Permit/ Claim #	*Source*	*Instantaneous Rate(Qi) GPM*	*Annual Quantity (Qa) ac-ft/year*		*Location: QQ-Q T. 16 N., R. 1 E.*	
			Additive	**Non-additive**	**Sec 9**	**Sec 4**
068891CL[4]	Well 2	50	80.6 *		SE NW	
68892CL[5]	Well 1	50	80.6 *		SE NW	
G2-28892P	Wells 3 & 6[6]	200	50	110	SW NW	
G2-23347C	Well 4	50	72		SW NW	
69299CL[7]	Well 5	40	30			NE SE
G2-24973P	Wells 3 & 6[8]	85	5.5		SE NW	
Total		475	318.7	110		

System Demand and Water Use

The City of Rainier's current Water System Plan estimates average daily demand in 2011 to be 183,906 gallons a day or about 206 ac-ft/year. The City's 20-yr planning horizon shows projected demand in 2030 as 237,966 gallons a day or about 266.6 ac-ft per year. The City's current water right portfolio authorizes 318.7 ac-ft per year which is more than enough annual quantity to meet demands for the next 20 years. (Gray and Osborne, 2010)

Hydrologic/Hydrogeologic Evaluation

General area geology

The project area is in southeastern Thurston County in the Tenalquot Prairie area.

Tenalquot Prairie is a glacial outwash plain, consisting typically of deep, well-drained, coarse-grained soils (US Soil Conservation Service, 2009). The prairie was formed from a series of glacial advances and retreats, the most recent occurred about 13,500 to 15,000 years ago is known as the Vashon Stade of the Fraser Glaciation. These events resulted in deposition of a thick sequence of unconsolidated deposits. (Noble and Wallace, 1966)

Vashon glacial deposits are characterized by an assemblage of recessional outwash, lodgement till and other ice-contact deposits, and advance outwash deposits. A typical glacial sequence consists of the following types of deposits, which are listed oldest to youngest:

- Recessional outwash (Qvr). Recessional outwash was deposited by meltwater streams flowing from the glacier as it receded. As a result, these deposits are poorly sorted, consisting of sand and gravel, but also often containing cobble and boulder size materials. Recessional outwash sequences typically become finer grained upward and are highly permeable. In the project area, recessional outwash is exposed on the ground surface.

- Glacial till (Qvt). Glacial till is poorly sorted and consists mostly of sand and silt, although it may also contain boulders. Till tends to be compacted as it is deposited directly by the grinding of the glacier. Till behaves as a confining unit that restricts groundwater flow.

- Advance outwash (Qva). Advance outwash is deposited by streams at the front of the advancing glacier. It is similar to recessional outwash; however, advance outwash generally becomes finer with depth. Although deposits are fairly permeable, some portions are dense and compacted from the overriding glacier as it advances.

Kitsap Formation (Qf) underlies the Vashon deposits. It is a fine-grained unit composed mostly of clay and silt, with some localized layers of sand and gravel. It may include some till-like deposits or minor amounts of peat and wood. It behaves as a confining unit, separating the Vashon-age deposits from the deeper Salmon Springs drift (Qc). This unit averages about 50 feet thick in the Rainier area (Drost, 1998).

Salmon Springs drift, penultimate deposits, and other undifferentiated glacial deposits older than Vashon-age are collectively referred to as the Qc unit (Drost, 1998). This unit underlies the Qf and serves as one of the most widely used groundwater source in Thurston County.

Recharge to all aquifers is by precipitation and vertical leakage between aquifers. Groundwater moves in the direction of decreasing groundwater elevation from areas of recharge to areas of discharge. Normally the direction of groundwater within aquifers is horizontal; however downward vertical flow occurs in recharge areas (flow between aquifers) and upward flow occurs in discharge areas (surface water). Because of the vertical flow component of groundwater, all aquifers and surface water are hydraulically connected and considered the same body of public groundwater.

Site conditions

The City of Rainier's wells are located within a short distance from one another in the central area of town. The land surface is relatively flat . Vashon recessional outwash (Qvr) and Vashon till (Qvt) are exposed on the ground surface in the project area (Drost, 1998).

Well 2 is about 1,500 feet southeast of Well 6. Both wells are considered the same body of public groundwater. Groundwater elevation data in Drost (1998) shows groundwater in the area of the City's wells has both northeast and northwest components, flowing both to the Deschutes and Nisqually Rivers.

A well report is not available for Well 2, but information of Washington Department of Health's database (Sentry) indicates it is 120 feet deep. Well 6 was drilled in 1996 to a completed depth of 250.5 feet below ground surface (bgs). Details of Wells 2 and 6 are summarized in Table 5.

Table 5. Details of Wells 2 and 6.

	Well 2	**Well 6**
Well Tag	ABR130	ABY162
Date Drilled	unknown	3/12/1996
Well head elevation (ft above mean sea level, msl)	428	428
Completed depth (ft below ground surface, bgs)	120	247
Screened intervals (ft bgs) Ft r below msl	Unknown	235-250.5
Hydrologic unit	Qva	Qc
Static water level (ft bgs), ft above msl Date measured	109[8] No date given	95[9] 03/12/1996
Pumping capacity (gpm)	50	200

[8]Gray and Osborne, 2010
[9]Driller's log.

Impairment Considerations

Impacts to area users

Water right changes have greatest potential to affect wells completed in the same aquifer near the new point of withdrawal.

WAC 173-150-060 specifies impacts to "qualifying withdrawal facilities" fit the legal definition of impairment. This allows wells to be affected but impacts are not considered impairment. Qualifying withdrawal facilities are wells completed in the same aquifer as the new point of withdrawal. The well must span the aquifer's entire saturated thickness and the pump elevation must allow variation in seasonal water levels.

Ecology's water right database (WRTS) was queried for claims, certificates, and permits in about ½ mile from Well 6. The search identified no permits or certificates within this radius. A total of twenty claims for water use were found in about one mile from Well 6.

Ecology's well log database identified 40 water wells drilled in about one mile from Well 6. These wells range from about 50 feet to about 300 feet deep, drawing water from both the Qvr and Qc units.

Because Well 6 and Well 2 are only about 1,500 feet apart, area users should not be affected by this change.

Impacts to surface water

Approving this change should not result in impairment of surface water in either the Nisqually or Deschutes Rivers.

Watershed Planning-WRIA 13 Deschutes

Watershed planning under RCW 90.82 took place from 1999 to 2004. A Draft plan was presented for approval to the planning group, however, the Plan fell one vote short for of the unanimous vote needed to proceed onto the next level of adoption. Because it was not approved, the planning process was terminated. Ecology does not plan to amend the existing rule (Ecology, 2006).

One recommendation of the plan was to use water right changes valid water right to meet new needs for water. Approving this proposed change is consistent with the recommendations of the WRIA 13 Draft Watershed Plan and Chapter 173-513 WAC.

Public Interest Considerations

Adding Well 6 to Claim 068891 is not detrimental to the public interest and consistent with Chapter 173-513 WAC and RCW 90.54.

The change will not cause new impacts to regulated surface water or groundwater.

Consideration of Protests and Comments

No protests were filed against this application.

RECOMMENDATIONS

Based on my investigation and conclusions, I recommend the change to Claim 068891 be approved for the amount listed below. Approval of this application is subject to the provisions beginning on Page 2.

Purpose of Use and Authorized Quantities

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

- 50 gpm
- 80.6 ac-ft
- Municipal supply

Point of Diversion

- SW¼ NW¼, Section 9, Township 16 North, Range 1 E.W.M.

Place of Use

- As described on Page 1 of this Report of Examination.

Tammy Hall — 3/13/2012

Tammy Hall — *Date*

If you need this publication in an alternate format, please call Water Resources Program at (360) 407-6600. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

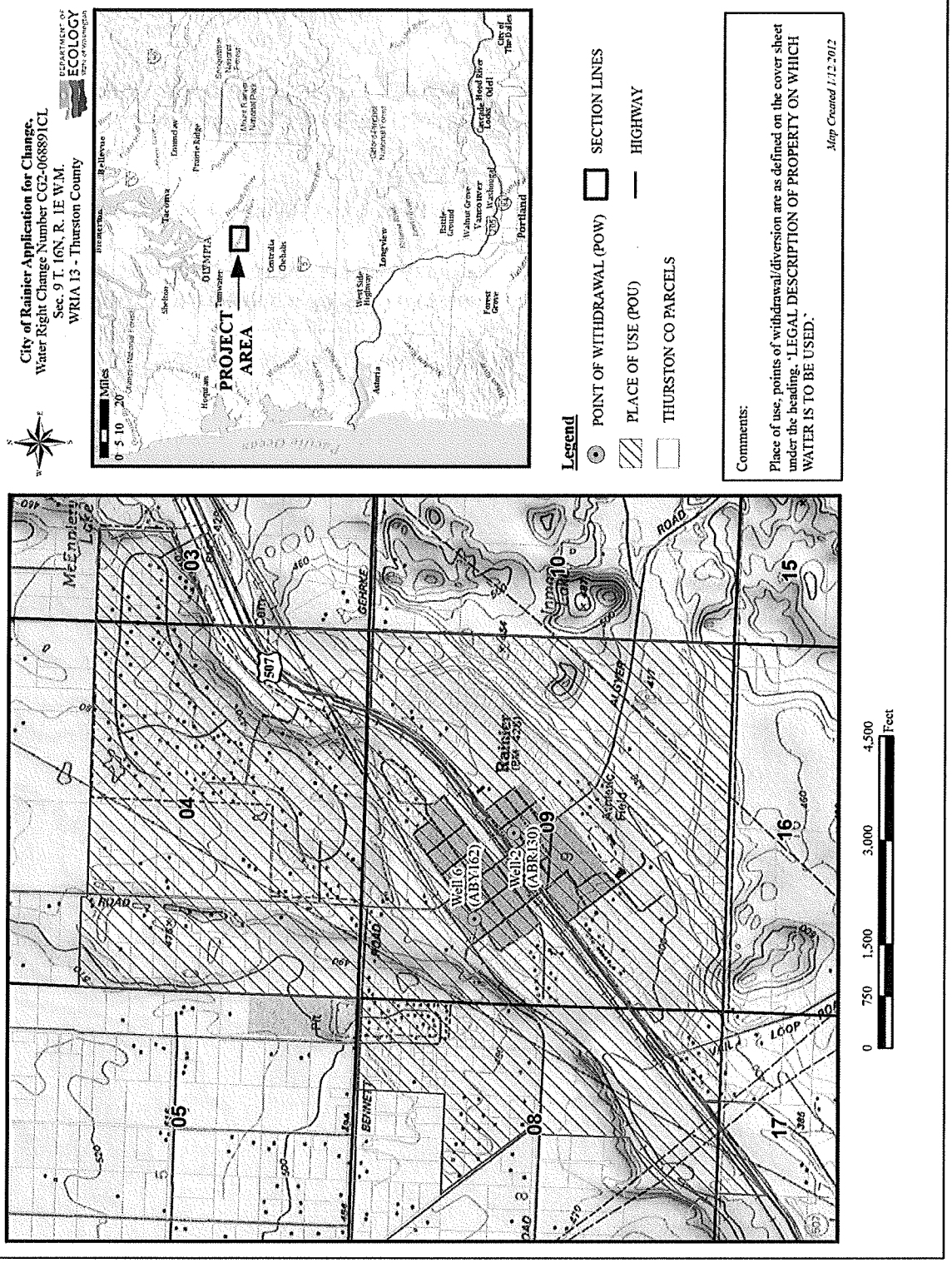
References:

Department of Ecology, 2006, Report to the Legislature: Progress on Watershed Planning and Setting Instream Flows, December 2006.

Drost, B.W., Turney, G.L., Dion, N.P., and Jones, M.A., 1998, *Hydrology and Quality of Ground Water in Northern Thurston County, Washington*: US Geological Survey Water-Resources Investigations Report 92-4109 (revised).

Gray & Osborne, 2010, Comprehensive Water System Plan, City of Rainier, August 2010.

Noble, J.B., and Wallace, E.F., 1966, Geology and ground-water resources of Thurston County, Washington: Washington Division of Water Resources Water-Supply Bulletin No. 10, vol. 2, 141 p.

U.S. Soil Conservation Service, 2009, *Soil Survey for Thurston County, Washington.*

ATTACHMENT 1