File NR CG2-23738@1
WR Doc ID 5481641

DEPARTMENT OF ECOLOGY
State of Washington

# State of Washington
# REPORT OF EXAMINATION FOR WATER RIGHT CHANGE

Added or Changed Point of Withdrawal/Diversion

**PRIORITY DATE**
March 4, 1975

**WATER RIGHT NUMBER**
CG2-23738@1

**MAILING ADDRESS**
CARROLLS WATER ASSOCIATION
PO BOX 44
CARROLLS WA 98609

**SITE ADDRESS (IF DIFFERENT)**

## Total Quantity Authorized for Withdrawal or Diversion

| WITHDRAWAL OR DIVERSION RATE | UNITS | ANNUAL QUANTITY (AF/YR) |
|---|---|---|
| 40 | GPM | 45 |

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

## Purpose

| PURPOSE | WITHDRAWAL OR DIVERSION RATE ADDITIVE | WITHDRAWAL OR DIVERSION RATE NON-ADDITIVE | UNITS | ANNUAL QUANTITY (AF/YR) ADDITIVE | ANNUAL QUANTITY (AF/YR) NON-ADDITIVE | PERIOD OF USE (mm/dd) |
|---|---|---|---|---|---|---|
| Municipal | 40 | | | | 45 | 01/01 - 12/31 |

| IRRIGATED ACRES ADDITIVE | IRRIGATED ACRES NON-ADDITIVE | PUBLIC WATER SYSTEM INFORMATION WATER SYSTEM ID | PUBLIC WATER SYSTEM INFORMATION CONNECTIONS |
|---|---|---|---|
| | | 11300 | |

## Source Location

| COUNTY | WATERBODY | TRIBUTARY TO | WATER RESOURCE INVENTORY AREA |
|---|---|---|---|
| COWLITZ | GROUNDWATER | N/A | 26-COWLITZ |
| COWLITZ | GROUNDWATER | N/A | 26-COWLITZ |
| COWLITZ | GROUNDWATER | N/A | 26-COWLITZ |

| SOURCE FACILITY/DEVICE | PARCEL | WELL TAG | TWP | RNG | SEC | QQ Q | LATITUDE | LONGITUDE |
|---|---|---|---|---|---|---|---|---|
| WELL 2 | WD1910009 | BCR634 | 07N | 01W | 19 | SENW | 46.078076 | -122..858075 |
| WELL 3 | WD1910001 | ALL155 | 07N | 01W | 19 | SENW | 46.077916 | -122.858437 |
| WELL 5 | 6007503 | BCR645 | 07N | 01W | 19 | SWSW | 46.071976 | -122.866159 |

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

S02: 6-inches in diameter and 322 feet deep
S03: 6-inches in diameter and 320 feet deep
S05: 8-inches in diameter and 195 feet deep

## Development Schedule

| BEGIN PROJECT | COMPLETE PROJECT | PUT WATER TO FULL USE |
|---|---|---|
| Started | Completed | November 1, 2019 |

## Measurement of Water Use

| | |
|---|---|
| How often must water use be measured? | Bi-weekly |
| 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) |

Bi-weekly means every two weeks

## 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 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 must 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.

**Measurements, Monitoring, Metering and Reporting**

An approved measuring device must 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 the Department of Ecology for modifications to some of the requirements.

**Water Level Measurements**
In order to maintain a sustainable supply of water and ensure that your water source is not impaired by future withdrawals, static water levels should be measured and recorded monthly using a consistent methodology. Static water level is defined as the water level in a well when no pumping is occurring and the water level has fully recovered from previous pumping. Static water level data should include the following elements:

- Unique Well ID Number
- Measurement date and time
- Measurement method (air line, electric tape, pressure transducer, etc.)
- Measurement accuracy (to nearest foot, tenth of foot, etc.)
- Description of the measuring point (top of casing, sounding tube, etc.)
- Measuring point elevation above or below land surface to the nearest 0.1 foot
- Land surface elevation at the well head to the nearest foot.
- Static water level below measuring point to the nearest 0.1 foot.

**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.

**Water Use Efficiency**
The water right holder is required to maintain efficient water delivery systems and use of up-to-date water conservation practices consistent with RCW 90.03.005.

**Proof of Appropriation**
The water right holder must 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.

**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. CG2-23738@1 subject to existing rights and the provisions specified above.

## Your Right To Appeal

You have a right to appeal this Order to the Pollution Control Hearings 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**<br>Attn: Appeals Processing Desk<br>300 Desmond Drive SE<br>Lacey, WA 98503 | **Department of Ecology**<br>Attn: Appeals Processing Desk<br>PO Box 47608<br>Olympia, WA 98504-7608 |
| **Pollution Control Hearings Board**<br>1111 Israel RD SW Ste 301<br>Tumwater, WA 98501 | **Pollution Control Hearings Board**<br>PO Box 40903<br>Olympia, WA 98504-0903 |

Signed at Olympia, Washington, this 15th day of November 2013.

Michael J. Gallagher

Michael J. Gallagher, Section Manager

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.

INVESTIGATOR'S REPORT
Tammy Hall, Department of Ecology
Water Right Control Number CG2-23738@1

## BACKGROUND

On October 20, 2012, Everett L. Timmereck, representing Carrolls Water Association (CWA) filed *Application for Change of Water Right* CG2-23738@1. CWA proposes to add Well S05 as an additional Point of Withdrawal (POW) under G2-23738.

GWC 2686, issued August 2, 1994 authorizes the withdrawal of 40 gallons per minute (gpm) and 45 acre-feet (ac-ft) (non-additive) per year for multiple domestic supply.

### Description and Purpose of Proposed Change

Table 1. Attributes of the Existing Water Right and Proposed Change

| | ***Existing*** | ***Proposed*** |
|---|---|---|
| **Name** | Carrolls Water Association | Same |
| **Priority Date** | 3/4/1975 | |
| **Change Application Date** | | 10/20/2012 |
| **Instantaneous Rate (gallons per minute, gpm)** | 40 | Same |
| **Annual Quantity (acre-ft per year, ac-ft/yr)** | 45 (non-additive) | Same |
| **Purpose(s) of Use** | Multiple domestic supply | Municipal supply purposes |
| **Period of Use** | Year-round | Same |
| **Place(s) of Use** | Area served by Carrolls Water Association, Inc. | 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 Sources of Withdrawal

| *Source Name* | *Parcel* | *Tag* | *Twp* | *Rng* | *Sec* | *QQ Q* | *Latitude* | *Longitude* |
|---|---|---|---|---|---|---|---|---|
| S02 | WD1910009 | BCR634 | 07N | 01W | 19 | SE ¼ NW ¼ | 46.078076 | -122..858075 |
| S03 | WD1910001 | ALL155 | 07N | 01W | 19 | SE ¼ NW ¼ | 46.077916 | -122.858437 |
| S05 | 6007503 | BCR645 | 07N | 01W | 19 | SW ¼ SW ¼ | 46.071976 | -122.866159 |

Table 3. Existing Source of Withdrawal

| *Source Name* | *Parcel* | *Tag* | *Twp* | *Rng* | *Sec* | *QQ Q* | *Latitude* | *Longitude* |
|---|---|---|---|---|---|---|---|---|
| S02 | WD1910009 | BCR634 | 07N | 01W | 19 | SE ¼ NW ¼ | 46.078076 | -122..858075 |
| S03 | WD1910001 | ALL155 | 07N | 01W | 19 | SE ¼ NW ¼ | 46.077916 | -122.858437 |

## Legal Requirements for Proposed Change

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

## Public Notice

RCW 90.03.280 requires notice of a water right application be published once a week for two consecutive weeks in a newspaper of general circulation in the county where the water is withdrawn. An original public notice for this project proposal was posted in *The Daily News,* published in Cowlitz County on February 23 and March 2, 2013. The Department of Ecology did not receive any 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 can be changed, as long as other water rights will not be harmed or injured.

The Washington Supreme Court has held that when Ecology processes an application for change to a water right, they are required to make a tentative determination. A tentative determination establishes the extent and validity of the claim or water right to verify that it is eligible for change. (*R.D. Merrill v. PCHB* and *Okanogan Wilderness League v. Town of Twisp.)*

### *Same Body of Public Groundwater*

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 Ground Water Codes, administrative rules, and policies.
- Department of Ecology's Water Right Tracking System (WRTS) database.
- Topographic and local area maps.
- Notes from a site visit on July 30, 2013.
- Hydrogeology memo written by Tammy Hall, licensed hydrogeologist, with Water Resources Southwest Regional Office, dated September 25, 2013.

### Project Location and Site Description

CWA is in Cowlitz County in Water Resources Inventory Area (WRIA) 26, the Cowlitz. CWA's service area is situated in unincorporated Cowlitz County, roughly five miles south of Kelso.

CWA operates as a Group A (Water System ID 11300) water system currently serving 177 active connections.

### Intent of Proposed Change

The intent of CG2-23738@1 is to add Well S05 as a source under G2-23738. This *Application for Change* was filed on November 1, 2012 after CWA submitted a Source Approval to Washington Department of Health Southwest Drinking Water Operations to add it to their water system. The capacity of the other wells in the system had diminished and the water system was having problems keeping up with demand. A temporary permit was issued by Ecology on December 6, 2012 to allow CWA to use S05 until this *Application for Change* was processed.

Well S05 was the original POW under the water right when the certificate was first issued. However, in 1994 Ecology approved a change (CG2-23738) to change the POW to Well S02 at Fulbright place. The Report of Examination (ROE) stated that the well had failed and no longer produced water. The ROE also specified that CWA was responsible for properly "abandoning the well (S05) in accordance state

regulations" (Ecology, 1993). Well S03 was added as an additional POW in 2007 through a Showing of Compliance.

## History of Water Use

Quantities authorized in G2-23738 are non-additive. Currently, CWA pumps most of their water from the wells on Fishpond Road (S01 and S04).

Metering data from Wells S02, S03, and S05 is incomplete. S02 has been off-line since about 2007 and only recently has been put back into service. It was used at about 47 gpm until 2005 or 2006, based on interviews. It now only produces about 5 gpm well because the screen is likely clogged with iron.

S05 was pumped only about 4.3 ac-ft from October 2012 to Feb 2013. Production of this well has significantly declined.

Metering data for S03 from January 2008 until February 2012 showed annual use ranged from about 6 ac-ft in 2011 to a high of 19 ac-ft for 2010.

## Proposed Use

The purpose of use will remain "municipal supply." CWA is a municipal water supplier as defined in RCW 90.03.015. CWA will need to manage withdrawals so that the combined pumping rate from S02, S03, and S05 do not exceed the authorized amount under CG2-23738@1.

## Other Rights Appurtenant to the Place of Use

CWA holds three water right certificates which authorize withdrawal from two wells. Details of these certificates are summarized below in Table3.

Table 3. Water rights held by Carrolls Water Association.

| *Certificate Claim -* | *Name* | *Priority date* | *Source* | *Purpose of use* | *Rate(Qi) GPM or CFS* | *Annual Quantity (Qa) ac-ft/year* |
|---|---|---|---|---|---|---|
| GWC 7379A | Carrolls Water Assoc, Inc. | 5/4/1970 | S01 | Community Domestic Supply | 100 gpm | 34 |
| G2-23738 | Same | 3/4/1975 | S02<br>S03 | Same | 40 gpm | 45[1] |
| G2-28985 | Same | 12/29/1993 | S02 | Multiple Domestic Supply | 7 gpm | 45[2] |

[1]34 ac-ft non-additive, 11 ac-ft additive. Well S03 added in 2009 under a Showing of Compliance.
[2]Non-additive to existing water rights.

## Hydrologic/Hydrogeologic Evaluation

CWA's service area is situated on the east bank of the Columbia River, along I-5, roughly five miles south of Kelso. Most houses served by the water system are perched near the top of the Oligocene-age volcanic rocks overlooking the river. The remainder of the service area is a small wedge of shallow

alluvial deposits positioned between the volcanic uplands and the Columbia River and underlain by the same volcanic rocks (DNR interactive geologic map).

All wells in the area, including the CWA wells, are completed in a fragmented bedrock aquifer in the Oligocene-age volcanic deposits. This unit typically shows various degrees of alteration, has limited permeability, and poor aquifer properties. Wells typically yield between 10 to 50 gpm and range from 50 to 400 feet deep (Myers, 1970; Weigle and Foxworthy, 1962; WADOE, 1972).

Recharge to this unit is from direct infiltration from precipitation and from storm runoff. (Myers, 1970; WADOE, 1972).

### *Site Conditions*

The well reports for all the CWA wells show they range from 200 to 322 feet deep and are completed in fractured bedrock.

Currently, withdrawals are authorized by Wells S02 and S03 which are about the same depth and roughly 100 feet apart. The wells are situated on top of the hill overlooking the Columbia River about 175 vertical feet about the valley floor. Both S02 and S03 are considered good producers, but S02 was over-pumped and now only produces about 5 gpm likely due to clogging of the screens. Well S02 has bacterial contamination and water pumped undergoes treatment by chlorination in a large 3,000 gallon reservoir tank at the well head. Well S03 is being pumped at about 12 gpm currently.

Well S05, the new well to be added, is 200 feet deep and perforated from 100 to 200 feet below ground surface. Well S05 is situated roughly 3,000 feet southwest of Well S03 and less than 500 feet east of the Columbia River. Well S05 is fast to drawdown when pumping and recharges slowly. Although it produced as much as 30 gpm in the past, production has declined significantly and now only yields around 5 gpm because of likely boundary conditions at a distance. Well S05 is under tidal influence.

Pumping schedules of the wells are managed by timers, triggered when water levels in the reservoir drop to a certain level. The system operator monitors the pumping rates and adjusts the timers when necessary.

All three wells are completed in the fractured bedrock aquifer, the same body of public groundwater. The construction details of Wells S02, S03, and S05 are summarized in Table 4.

Table 4. Construction details of Wells S02, S03, and S05

| ***Well Id*** | ***Well S02***[3] | ***Well S03***[4] | ***Well S05***[5] |
|---|---|---|---|
| ***Well Tag*** | BCR634 | ALL155 | BCR645 |
| ***Date Drilled*** | 7/1/1983 | 11/26/2005 | 10/8/1974 |
| ***Well elevation (ft above mean sea level, msl)*** | +200 | +210 | +25 |
| ***Well diameter (inches, in)*** | 6 | 6 | 8-inches to 45 feet bgs<br>6-inches from 45 to 200 feet bgs |
| ***Completed depth (ft below top of casing)*** | 322 | 320 | 200 |
| ***Approximate elevation, ft below msl*** | -122 | -110 | -170 |
| ***Perforated interval, ft bgs ft below msl*** | 77-321 feet<br>+123 to -121 | N/A | 100-120<br>140-160<br>180-200<br>-75 to -170 |
| ***Static water level, ft bgs*** | 70 | 116 | 12.82 |
| ***ft above msl*** | +130 | 94 | +12.18 |
| ***Date measured*** | 7/1/1983 | 11/26/2005 | 7/12/2012 |
| ***Pumping capacity*** | 5 | 27.5 | 5[6] |
| ***Water bearing formation*** | Fragmented bedrock aquifer | Same | Same |

[3]Driller's report, 1983
[4]Driller's report, 2005
[5]Driller's report, 1974
[5]This well produced 30 gpm as recent as one year ago, but production has declined significantly.

## Impairment Considerations

### *Impacts to Existing Water 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 that only impacts to "qualifying withdrawal facilities" fit the legal definition of impairment. This definition means wells can be affected as long they are not impaired. 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.

It is not likely withdrawals from well S05 will affect area users. The amount of water being pumped under G2-23738 will not increase and no wells are located between the existing points of withdrawal (Wells S02 and S03) and the new well to be added (Well S05).

## References

Arrowhead Engineering, 2012, Source Approval Report, Proposed Well S05 for Carrolls Water Association System ID#11300, August 3, 2012

Washington Department of Natural Resources Interactive Geology Map, http://www.dnr.wa.gov/ResearchScience/Topics/GeosciencesData/Pages/geology_portal.aspx

Weigle, J.M.; Foxworthy, B.L., 1962, Geology and ground-water resources of west-central Lewis County, Washington, Washington Division of Water Resources Water Supply Bulletin 17.

Myers, D.A., 1970, Availability of ground water in western Cowlitz County, Washington; Washington State Department of Ecology Water-Supply Bulletin 35, 63p.

### *Impacts to Surface Water*

This change will not affect regulated surface water in the WRIA. The CWA wells are not hydraulically connected to surface streams with closures or regulated flows set by WAC.

CWA draws water from wells completed in a fractured bedrock aquifer with limited connectivity to the Columbia River. The CWA wells are in a tidally influenced area and not of concern for hydraulic capture.

### Public Interest Considerations

Approving CG2-23738@1 is not detrimental to the public interest and consistent with Chapter 90.54 RCW and WAC 173-526.

### *Consideration of Protests and Comments*

No protests were filed against this application.

## RECOMMENDATIONS

Based on the above investigation and conclusions, I recommend that this request for a water right be approved in the amounts and within the limitations listed below and subject to the provisions listed above

### *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:

- 40 gpm
- 45 acre-feet per year
- Municipal Supply Purposes

Points of Withdrawal

- Wells S02 and S03: SE ¼ NW ¼, Section 19, Township 7 North, Range 1 W.W.M.
- Well S05: SW ¼ SW ¼, Section 19, Township 7 North, Range 1 W.W.M.

Place of Use

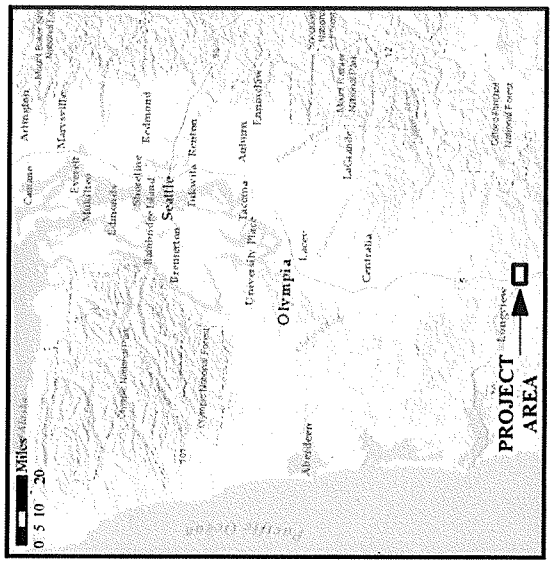
- As described on Page 1 of this Report of Examination.

*Tammy Hall* — *Date* 11/14/2013

*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.*

## ATTACHMENT 1

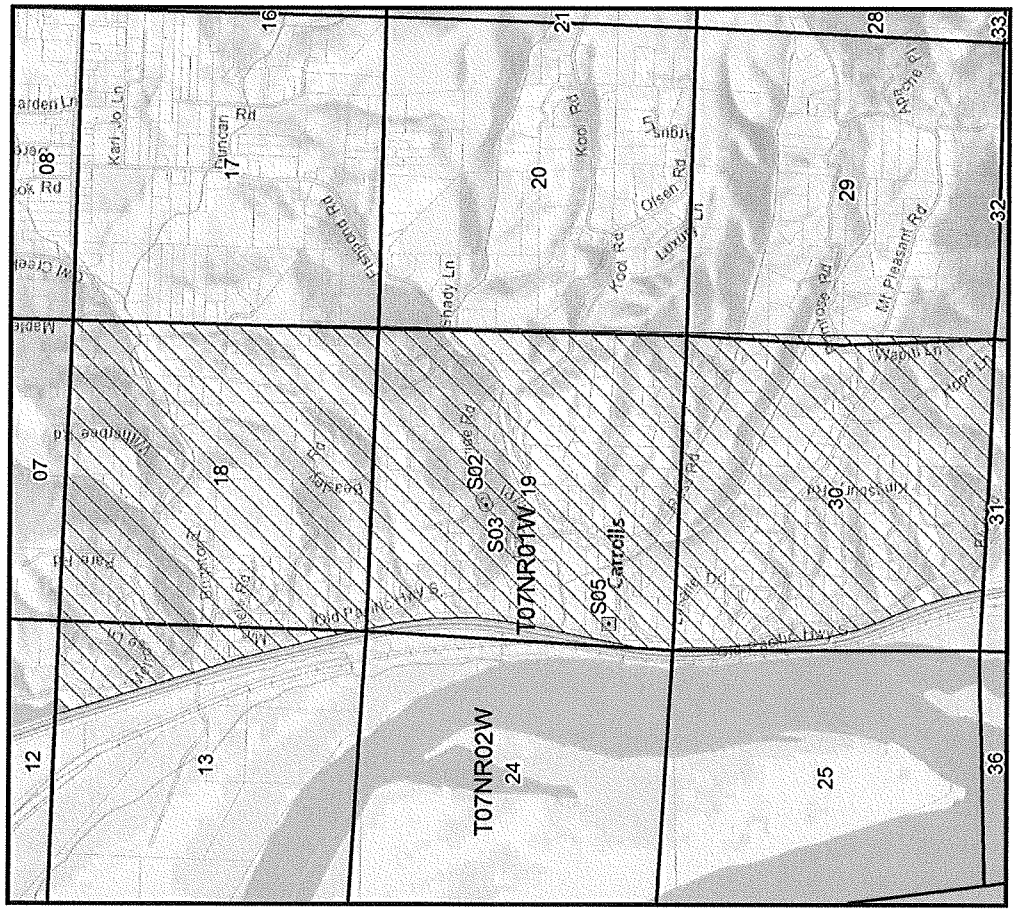
**Water Right Change Application CG2-23738@1,**
Sec. 19, T07N/R01W
WRIA 26 - Cowlitz County




**Legend**

- POINT OF WITHDRAWL (POW)
- PROPOSED NEW POW
- PLACE OF USE
- SECTIONS
- PARCELS

Comments:

Place of use, points of withdrawal/diversion are as defined on the cover sheet under the heading, "LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED."

*Map Created 7/25/2013*