STATE OF WASHINGTON

REPORT OF EXAMINATION FOR WATER RIGHT CHANGE

Water Right Control Number CG1-*09636C (GWC 7295)

Purpose [X] Place of Use [X] Point of Diversion/Withdrawal [X] Season [ ] Consolidation [ ]

PRIORITY DATE	CLAIM NO.	PERMIT NO.	CERTIFICATE NO.
August 6, 1968			07295

NAME
Snohomish County Public Utility District No. 1

ADDRESS/STREET	CITY/STATE	ZIP CODE
P.O. Box 1107	Everett, WA	98206-1107

PUBLIC WATERS TO BE APPROPRIATED

SOURCE	WRIA	COUNTY
Well	5	SNOHOMISH

TRIBUTARY OF (IF SURFACE WATERS)

MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE	MAXIMUM ACRE FEET PER YEAR
	30	60

QUANTITY, PURPOSE OF USE, PERIOD OF USE
60.00 acre-feet, MU, Year round as needed

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION--WITHDRAWAL
1350 feet east and 1620 feet north from the southwest corner of Section 26, T.32N., R.4E. W.M.

SOURCE	PARCEL	LATITUDE	LONGITUDE	QTR/QTR	SECTION	TOWNSHIP	RANGE
Sunday Lake Well #3				NE/SW	26	32	04E

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]

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 **Snohomish County PUD No. 1** 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.

DESCRIPTION OF PROPOSED WORKS

An existing well (DOH Source #04332-03; DOE Tag # ABG-638) that is currently authorized as the point of withdrawal under Certificate G1-27418C will be used as common point of withdrawal for G1-27418C and GWC 7295 (G1-*09636C). Additional connections served by the quantities approved herein will be tied into the existing infrastructure for Sunday Lake system.

STANDARD PROVISIONS

1. Quantities Approved

1.1. The amount of water authorized through this amendment to Groundwater Certificate (GWC) 7295 shall not exceed a 30 gallons per minute (gpm) instantaneous rate of withdrawal (Qi) or an annual quantity (Qa) of 60 acre-feet per year (afy).

1.2. The combined Qi and Qa of GWC 7295 and G1-27418C shall not exceed 130 gpm (ΣQi) and 100.5 afy (ΣQa), which are the authorized maximums of the individual rights.

2. Measurements, Monitoring, Metering and Reporting

2.1. An approved measuring device shall be installed and maintained for each of the sources identified by this water right in accordance with the rule "Requirements for Measuring and Reporting Water Use", WAC 173-173.

2.2. Water use data shall, at a minimum, be recorded weekly. The maximum rate of diversion/withdrawal and the annual total volume shall be submitted to the Department of Ecology by January 31st of each calendar year.

2.3. Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the records of water use that are kept to meet the above conditions, and to inspect at reasonable times any measuring device used to meet the above conditions.

2.4. Reported water use data shall be submitted via the Internet. To set up an Internet reporting account, access https://fortress.wa.gov/ecy/wrx/wrx/Meteringx/. If you do not have Internet access, contact the NWRO for forms to submit your data.

2.5. 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. Installation, operation and maintenance requirements are enclosed as a document entitled “Water Measurement Device Installation and Operation Requirements”. http://www.ecy.wa.gov/programs/wr/measuring/measuringhome.html

3. 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 Northwest Drinking Water Operations, 20435 72nd Avenue S, Suite 200, K17-12, Kent, WA 98032-2358, (253) 396-6750, prior to beginning (or modifying) your project.

4. 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

5. Water Use Efficiency

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

6. Issuance of Superseding Certificate

A superseding certificate shall be issued upon a showing by the applicant the proposed mitigation plan has been completed and that the proposed point of withdrawal (Sunday Lake Well 3) is capable of supplying the total Qi and Qa (130 gpm and 100.5 afy) approved through this change to GWC 7295.

7. Schedule and Inspections

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.

FINDINGS OF FACT AND ORDER

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 change of water right as recommended will not be detrimental to existing rights or the public welfare.

Therefore, I ORDER approval of the requested change to the purpose of use, place of use and point of withdrawal under Groundwater Change Application No. CG1-*09636C, subject to existing rights, completion of the mitigation as proposed by the applicant, and the provisions specified above.

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

- File your appeal with the Pollution Control Hearings 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 Coordinator P.O. Box 47608 Olympia WA 98504-7608		The Department of Ecology Appeals Coordinator 300 Desmond Dr SE Lacey WA 98503

3. And send a copy of your appeal to:

Andrew B. Dunn, LG, LHG
Section Manager
Water Resources Program -- Department of Ecology
3190 160th Avenue SE
Bellevue, WA 98008-5452

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 contact Doug Wood of Ecology at (425) 649-7077.

Signed at Bellevue, Washington, this _____ day of _____, 2008.

_____
Andrew B. Dunn, LG, LHG
Section Manager
Water Resources Program
NWRO

BACKGROUND

Description and Purpose of Proposed Change

Snohomish County Public Utility District No. 1 (PUD) seeks to transfer and to change the purpose and place of use of Ground Water Certificate (GWC) 7295 to serve water needs in the area surrounding Sunday Lake.

The Sunday Lake area lies within the service area of the PUD, but existing water rights held by the PUD in the area are not sufficient to serve ongoing growth in the area. Water for much of the new housing in the Sunday Lake area has been accommodated through the use of unregulated permit exempt wells.

GWC 7295 was issued to the Blue Spruce Grove partnership on June 2, 1972 based on an application filed on August 6, 1968. The original right was primarily intended to supply water to recreational lots, but by the mid 1970's many of the 342 lots had been developed as permanent homes. The Blue Spruce Grove partnership subsequently re-organized in 1985 as Blue Spruce Water District #10 after water quality concerns mandated the construction of a $385,000 water treatment system upgrade.

During the construction of the Granite Falls Regional Water Supply Project in 1993, the PUD contacted the commissioners of the Blue Spruce Water District with the intent of connecting the district to the new supply system. Although not originally receptive, by 1995 the district was facing an additional $1.1 million treatment system upgrade, and decided to allow the PUD to assume ownership of the Blue Spruce water system on April 1, 1995.

The PUD has, since 1995, included GWC 7295 within its water rights portfolio as documented in PUD resolution No. 4285 dated February 1995, Quitclaim Deed dated March 8, 1995. The PUD originally planned to incorporate the Blue Spruce water rights, along with rights acquired when it assimilated other Granite Falls area water systems, into a high production deep aquifer groundwater source. After expending money for drilling and testing of a deep well, the PUD in the early 2000's re-evaluated its plans, but has continued to reference these rights within its water system planning documents.

Through application for change CG1-*09636C, the PUD seeks to transfer the perfected portion of the original water right to an existing well located near the west end of Sunday Lake, located approximately 2 miles north of the Stillaguamish River (1/4 mile north of the alluvial plain) between the communities of Stanwood and Arlington, Washington. In order to mitigate any potential negative impacts to the water and fisheries resources of the lower (mainstem) reach of the Stillaguamish River, the PUD has offered to voluntarily relinquish other water rights it holds in the Granite Falls area.

Attributes of the Certificate and Proposed Change

Table 1: Summary of Proposed Changes to GWC 7295

Attributes	***Existing***	***Proposed***
Name	Blue Spruce Grove	Snohomish County PUD 1
Priority Date	August 6, 1968	
Change Application Date		October 23, 2007
Instantaneous Quantity	130 gallons per minute (gpm)	30 gpm
Annual Quantity	170 acre-feet per year (afy)	64.5 afy
Source	Infiltration Trench	Well
Point of Withdrawal	NW/NW T30N/R06E-11	NE/SW T32N/R04E-26
Purpose of Use	Community Domestic Supply	Municipal Supply
Period of Use	Year-round	Year-round
Place of Use	Plat of Blue Spruce Grove, Divisions 1 through 4 within Government Lots 5 and 6 of Sec. 11 and the west 2/3 of Government Lot 1 and the NW1/4NW1/4 of Sec. 12: All in T. 30 N., R 6 E., W.M.: Less road.	Area Served by Snohomish County PUD No. 1

Legal Requirements for Proposed Change

The following is a list of requirements that must be met prior to authorizing the proposed transfer and change to point of withdrawal, purpose of use, and place of use.

- **Public Notice**

  A notice of application was published by the PUD on December 2 and December 9, 2007 in ***The Herald*** newspaper of Everett, Washington.

- **State Environmental Policy Act (SEPA)**

A water right application is subject to a SEPA threshold determination (i.e., an evaluation whether there are likely to be significant adverse environmental impacts) if any one of the following conditions are met.

- It is a surface water right application for more than 1 cubic feet per second, unless that project is for agricultural irrigation, in which case the threshold is increased to 50 cubic feet per second, so long as that irrigation project will not receive public subsidies;
- It is a groundwater right application for more than 2,250 gallons per minute;
- It is an application that, in combination with other water right applications for the same project, collectively exceed the amounts above;

- It is a part of a larger proposal that is subject to SEPA for other reasons (e.g., the need to obtain other permits that are not exempt from SEPA);
- It is part of a series of exempt actions that, together, trigger the need to do a threshold determination, as defined under WAC 197-11-305.

Because this application does not meet any of these conditions, it is categorically exempt from SEPA and a threshold determination is not required.

Water Resources Case Law and Statutes

The Washington Supreme Court has held that Ecology, when processing an application for change to a water right, is required to make a tentative determination of extent and validity of the claim or right. This is necessary to establish whether the claim or right is eligible for change.

RCW 90.03.380(1) states that a water right that has been put to beneficial use may be changed. The point of diversion, place of use, and purpose of use may be changed if it would not result in harm or injury to other water rights.

RCW 90.03.570(1) and (2) state, that if specific conditions are fulfilled, a municipal water supplier is eligible for a change of water right as provided by RCW 90.03.380. This is true even if the right was not put to full beneficial use.

RCW 90.14.130 through RCW 90.14.180 state that water rights not exercised without sufficient cause for a period exceeding five years are relinquished.

RCW 90.14.140(1) defines the term "sufficient cause" and provides eleven specific categories that excuse nonuse and prevent relinquishment.

RCW 90.14.140(2) provides a list of exemptions to relinquishment that includes

- Determined Future Development exemption
    - RCW 90.14.140(2)(c) states that a water right not used for more than 5 years is exempted from relinquishment if it is claimed for a determined future development to take place within 15 years of the last beneficial use of water under the water right. In addition, a series of court cases provide additional guidance in assessing such a plan. In order to be valid, a determined future development plan must satisfy a series of tests as established in
        - The project must be sufficiently complex as to require more than 5 years to complete;
        - The plan must be determined and fixed within five years of the last beneficial use of the water;
        - The party exercising the plan must have equity in the water right;
        - The plan must remain fixed, and;
        - Affirmative steps must be taken to implement the plan within 15 years.
- Municipal Supply exemption
    - RCW 90.14.140(2)(d) exempts from relinquishment water rights claimed for municipal supply purposes.

RCW 90.44.100(2) requires that any well or wells added to a ground water permit must tap the same body of public ground water as the original well on the permit.

RCW 90.44.100 states that a ground water permit holder may construct wells or other means of withdrawal at a new location. The new well(s) may substitute or add to those at the original location.

RCW 90.44.100(1) states that a ground water permit can be amended to replace or add wells.

RCW 36.94.010(4) defines public utility districts and water districts as types of municipal corporation.

RCW 57.04.060 designates Water-Sewer Districts as municipal corporations.

References

This report was prepared using data and information pertinent to the subject application supplied by Snohomish County PUD No.1, from Department of Ecology records and databases, and from the following reports:

Carr, J.R., and Semsak, E.A. (AGI, 1994)

Sunday Lake Production Well 3 Construction and Testing Report, Snohomish, Washington; Prepared for Snohomish PUD No 1 by AGI, Inc., 9 pages plus figures and appendices.

Fiedler, G.H. and Wubbena, R.L. (EES, 1991)

North Snohomish County Coordinated Water System Plan; Prepared by Economic and Engineering Services Inc., 185 pages in 11 Sections, plus appendices and maps.

Thomas, B.E., Wilkinson, J.M., and Embrey, S.S. (USGS, 1997)

The Ground-Water System and Ground-Water Quality in Western Snohomish County, Washington; USGS Water Resources investigations Report 96-4312; Prepared by the US Geological Survey in cooperation with Snohomish County PUD No. 1 and Washington State Department of Ecology, 92 pages plus appendices and maps.

Beaton, Peter (DOH, 1996)

The Water Tap – WA Department of Heath Newsletter, January 1996 – Restructuring Case Histories; A written account of the background, proposal, and decision, to incorporate the Blue Spruce Grove Water District within the Snohomish PUD's Granite Falls Regional Water Supply Project.

INVESTIGATION

History of Water Use

GWC 7295 was originally intended to serve as many 340 connections in the Blue Spruce Grove community, located in Granite Falls, Washington area. At the time of the transfer to the PUD in 1995, Blue Spruce Water District was serving 240 permanent connections. An

examination of recent aerial photography (~2006) and property records available from Snohomish County indicates that the Blue Bruce Grove plat currently has approximately 260 developed lots.

Ground Water Permit 8963 was issued on February 24, 1969 in the amount of 1,000 gpm and 170 afy. The Proof of Appropriation (PA) for GWC 7295 reports that the maximum Qi achieved under the permit was 130 gpm. The PA does not indicate an annual quantity. It is reasonable, given the lack of documented Qa, to estimate that usage by 240 semi-rural residential connections was on the order of 55 afy based on 200 gallons per day per connection.

The Blue Spruce Grove Community Club in 1985 applied for a new water right which was issued in 1989 as certificate G1-24695C. The permit and certificate of G1-24695C specifies that quantities for both GWC 7295 and G1-24695C are not to exceed 175 gpm and 170 afy. Quantities under G1-24695C are therefore non-additive with respect to Qa and only partially additive with respect to Qi (130 of 175 gpm are non-additive). G1-24695P was transferred by assignment to the Blue Spruce Grove Water District in 1988.

The Proof of Appropriation for G1-24695C, filed January 17, 1989, states that Qi under both rights was a maximum of 180 gpm, thus fully utilizing the 130 gpm under GWC 7295 and slightly exceeding the additional 45 gpm allocated under G1-24695C.

Since 1995, when the right transferred, the 240 previously developed connections, and an additional 20 lots within the Blue Spruce Plat have been served through PUD's regional water distribution system. The original intent of the project, for which GWC 7295 was issued, continues therefore to be pursued.

Typical domestic water use in the Puget Sound region ranges from 160 to 300 gpd per connection. The semi-rural nature of the Granite Falls area (and of the Blue Spruce community specifically) is consistent with a water use duty of approximately 200 gpd/connection. This usage is lower than is typical of some similar areas, but still higher than urban areas (approximately 150 to 180 gpd/connection). Given that 240 homes were connected at the time of transfer (1996) system usage would have been approximately 60 acre-feet per year, including a system efficiency loss of 10%.

Plans for future development of GWC 7295 are specified in PUD Resolution 4285, which states that the right offers "a potential benefit to the District, as it relates to the development of future water resources in the larger basin." Beginning in 1996 the Blue Spruce Grove water rights were included in the PUD water system plan. Ecology has reviewed the 2002 plan and confirms that the Blue Spruce rights are listed in Table 7-2 under existing and forecast water rights[1].

In 1996 the PUD retained AGI Technologies to seek a new well to consolidate water rights acquired through directly serving several community water systems in the area of Granite Falls. A new well was drilled, but proved inadequate for PUD supply needs. The PUD continued to seek other well locations under the supervision of Mark Spahr, Senior Manager (water utilities) with the PUD from 1996 to 2002. In a 2003 letter to Ecology Mr. Clair Olivers, PUD Assistant Manager, reiterated that the PUD was committed to utilizing the Blue Spruce Grove water rights to supplement developed district sources and "provide alternate supply in the event of need for peaking or emergency supply".

The present application represents a continuation of the PUD plans for utilizing the Blue Spruce Grove water rights. The proposal here is to serve recent development in an area of the Stillaguamish Basin within which the PUD has a service commitment, but where much of the recent development has been served through construction of shallow permit exempt wells.

Based on the above review, it is determined that GWC 7295 was issued for domestic supply purposes, that the right was diligently developed by the Blue Spruce Water District through GWC 7295 (and through development of G1-24695C), that the PUD has subsequently continued to develop the original project, and to diligently pursue full development of the unperfected quantities associated with GWC 7295.

This investigation finds that the amount of perfected water available for the proposed change to GWC 7295 (G1-*09636C) is 30 gpm and 60 afy out of the 130 gpm and 170 afy certificated. The PUD seeks to transfer 30 gpm and 64.5 afy in its application and public notice.

The documentation provided by the PUD and information reviewed by Ecology from other sources indicates that up to 64afy have been applied to the project for which the water right was issued up the present date. Of this amount no more than 60 acres feet can be attributed to exercise of GWC 7295.

In order to mitigate any potential impacts to regulated water bodies in the proposed new well location, the PUD has proposed that any remaining quantities under GWC 7295 and G1-24695C, and perfected quantities under six other water rights acquired by the PUD in the Granite Falls area, be retired through voluntary relinquishment (see Table 2).

Table 2: Proposed Mitigation

System	WR #	Cert#	Qi (Cert)	Qa (Cert)	Qa (est.)*	WR Type†
Blue Spruce WD	G1-24695C		175	170		Primary/Suppl.
Jordan Trails	G1-*11179C	7709	150	81	23	Primary
Cedar Lane	G1-*09299C	7222	35	8		Primary
Cedar Lane	G1-*09300C	7223	35	8		Suppl.
Cedar Lane	G1-*09301C	7224	35	8		Suppl.
Cedar Lane	G1-23680C		150	142	28	Primary/Suppl.
Rainbow Springs	S1-0029C		45	50	3.3	Primary
Total			***495***	***303***	***54.3***	

* = Primary Qa available for change based on 200 gpd/connection
† = Primary mean Qi and Qa are additive; Suppl. Means either Qi or Qa is non-additive

Based upon estimated use of 200 gpd/connection, the annual quantity (Qa) beneficially used under the seven water rights proposed as mitigation is approximately 54.3 afy; an amount roughly equivalent to the amount (60 afy) of perfected water available for transfer under GWC 7295 . Pumping rates (Qi) are assumed to have been fully appropriated based on common practice and the submission of proof of appropriation documentation for these rights.

Proposed Use

The present application, while seeking a change in purpose of use from community domestic supply to municipal supply, does not change the purpose of for which the water right has been historically been used. GWC 7295 was issued to serve a community of up to 340 homes. The Blue Spruce Water District was organized as a municipal corporation so its water rights therefore served municipal supply purposes.

[1] The 2002 Snohomish Water System Plan includes Blue Spruce Community Association water right G1-24695C (175 gpm; 130 afy) as a primary (additive) right when it is fact supplemental (non-additive) and tied to GWC 7295 for primary Qa.

When a superseding certificate is issued for GWC 7295 (G1-*09636C), it should be amended to state that right serves municipal supply purposes.

Measuring and Reporting Water Use

RCW 90.03.360 requires that the owner of any water diversion maintain substantial controlling works and a measuring device. It must be constructed and maintained to permit accurate measurement and practical regulation of the flow of water diverted. Technical requirements for the measuring and reporting of water use are described in Chapter 173-173 WAC. The present change decision contains provisions requiring the measuring and reporting of the quantities of water withdrawn or diverted.

Well Tags

Chapter 173-160 WAC contains requirements for well drillers, system operators and/or owners to tag new and existing wells with identification tags supplied by Ecology. The well identification program creates a standard system to identify all newly constructed or existing wells, so that property owners and various agencies can readily share well data. In addition, Ecology field staff use the well tag to identify the well. Accordingly, the present decision contains provisions requiring each well to be tagged with a unique identification number.

Other Rights Appurtenant to the Place of Use

Snohomish County PUD No. 1 holds rights to surface and ground water rights in the Snohomish (WRIA 7) and Stillaguamish (WRIA 5) River Basins (Table 3). The water rights included in Sultan River project are jointly held by the PUD and the City of Everett. Some of the Qa associated with hydro power (PO is the only use code) are non-consumptive and may not therefore be used to serve other uses.

Many of the PUD rights are pre-1970 surface water rights that do not have annual quantities (Qa) specified.

Table 3: Water rights held by Snohomish County PUD

Basin

WRIA 7 - Snohomish Basin

Sultan River Hydroelectric/Regional Supply Project

File #	Cert #	Name	Priority Dt	Purpose ±	Qi (cfs)	Qi_A† (gpm)	Qi_N (gpm)	Qa_A‡ (afy)	Qa_N (afy)
S1-*07097C	732	SnoPUD/City of Everett	5/3/1946	PO	556.0	249,549.5		250,200.0	
R1-00733C	7096	SnoPUD/City of Everett	5/3/1946	PO,DM				113,700.0	
S1-23398C	S1-23398C	SnoPUD/City of Everett	6/15/1979	PO,DM	1,500.0	423,695.5	249,549.5	506,800.0	
R1-23397C	R1-23397C	SnoPUD/City of Everett	6/15/1979	PO				39,560.0	113,700.0
				Subtotal	**2,056.0**	**673,245.0**	**249,549.5**	**910,260.0**	**113,700.0**

Lake Stevens Regional Supply

File #	Cert #	Name	Priority Dt	Purpose ±	Qi (cfs)	Qi_A† (gpm)	Qi_N (gpm)	Qa_A‡ (afy)	Qa_N (afy)
S1-*07584C	4648	SnoPUD	12/28/1946	DM	0.5	224.4		362.0	
G1-*00782C	168	SnoPUD	3/23/1948	MU		1,200.0		700.0	
G1-*00783C	169	SnoPUD	3/23/1948	DS		1,200.0		700.0	
				Subtotal	**0.5**	**2,624.4**	**0.0**	**1,762.0**	**0.0**

WRIA 5- Stillaguamish Basin

Sunday Lake Water System

File #	Cert #	Name	Priority Dt	Purpose ±	Qi (cfs)	Qi_A† (gpm)	Qi_N (gpm)	Qa_A‡ (afy)	Qa_N (afy)
G1-27418C	G1-27418C	SnoPUD	2/9/1994	DM		100.0		40.5	
				Subtotal	**0.0**	**100.0**	**0.0**	**40.5**	**0.0**

Kayak Point Water System

File #	Cert #	Name	Priority Dt	Purpose ±	Qi (cfs)	Qi_A† (gpm)	Qi_N (gpm)	Qa_A‡ (afy)	Qa_N (afy)
G1-23278C	G1-23278C	Iliad, Inc.	12/20/1978	DM		70.0		72.0	
G1-24415C	G1-24415C	David Dorland	12/14/1983	DM		37.0		42.0	
G1-25989C	G1-25989C	Kayak Water Dev. Co.	11/29/1990	DM		300.0		156.0	
				Subtotal	**0.0**	**407.0**	**0.0**	**270.0**	**0.0**

Granite Falls Regional Supply

File #	Cert #	Name	Priority Dt	Purpose ±	Qi (cfs)	Qi_A† (gpm)	Qi_N (gpm)	Qa_A‡ (afy)	Qa_N (afy)
G1-*09360C	6488	SnoPUD	4/4/1968	DM		300.0		15.0	
G1-20625C	G1-20625C	SnoPUD	5/17/1973	DM		200.0			319.5
G1-26382C	G1-26382C	SnoPUD	11/14/1991	DM		33.0		5.4	
				Subtotal	**0.0**	**533.0**	**0.0**	**20.4**	**319.5**

Granite Falls - Standby/Reserve

File #	Cert #	Name	Priority Dt	Purpose ±	Qi (cfs)	Qi_A† (gpm)	Qi_N (gpm)	Qa_A‡ (afy)	Qa_N (afy)
S1-00293C	S1-00293C	Rainbow Springs Water Co	3/15/1967	DM	0.1	44.9		50.0	
G1-*09299C	7222	BIENDL J (Cedar Lane)	3/13/1968	DM		35.0		8.0	
G1-*09300C	7223	BIENDL J (Cedar Lane)	3/13/1968	DM		35.0			8.0
G1-*09301C	7224	BIENDL J (Cedar Lane)	3/13/1968	DM		35.0			8.0
G1-*09636C	7295	Blue Spruce Grove	8/6/1968	DM		130.0		170.0	
G1-*11179C	7709	Jordan Maintenance	8/24/1970	DM		150.0		81.0	
G1-23680C	G1-23680C	Cedar Lane Water Association	9/16/1980	DM		150.0		134.0	8.0
G1-24695C	G1-24695C	Blue Spruce Grove	8/19/1985	DM		45.0	130.0		170.0
				Subtotal	**0.1**	**624.9**	**130.0**	**443.0**	**194.0**
				Total	**2,056.5**	**676,909.4**	**249,549.5**	**912,352.9**	**114,019.5**

± PO=Power; DM=Multiple Domestic; DS=Single Domestic: MU=Municipal

Qi_A/Qa_A=Additive Quantity; Qi_N/Qa_N=Non-additive Quantity

† Qi in gpm for surface water rights calculated as CFS x 448.83; ‡ Qa for unquantified SW rights calculated based on continuous diversion

Hydrologic/Hydrogeologic Evaluation

An examination of available well completion reports and hydrogeological studies of the area reveals that the existing PUD well serving the Sunday Lake area is completed in a confined aquifer consisting of sand, gravel and silt of likely glacial origin. Groundwater within the aquifer flows to the west and south of the well location, with water discharging to the Stillaguamish Valley alluvial aquifer and directly to Puget Sound.

The Sunday Lake well is separated from surface water bodies by at least one, and in places two, aquitards that limit vertical impacts. A bedrock ridge separates the aquifers of the Sunday Lake area from surface water bodies east of the ridge, including Pilchuck Creek (Figure 1).

Figure 1 provides a schematic SW to NE cross-section from the Stillaguamish River valley the Pilchuck Creek valley, located east of Interstate 5. The cross-section illustrates the flow of groundwater from glacially deposited unconsolidated sediments to the alluvial aquifer beneath the Stillaguamish River valley. Geological unit symbols have the following meanings: Qvr=Vashon Recessional Outwash; Qvt=Vashon Till; Qva=Vashon Advance Outwash; Qtb=Transitional Beds; Qu=Unclassified pre-Vashon deposits; Qal=Stillaguamish Valley alluvial aquifer; Tbr=Tertiary Bedrock (sandstone and shale).

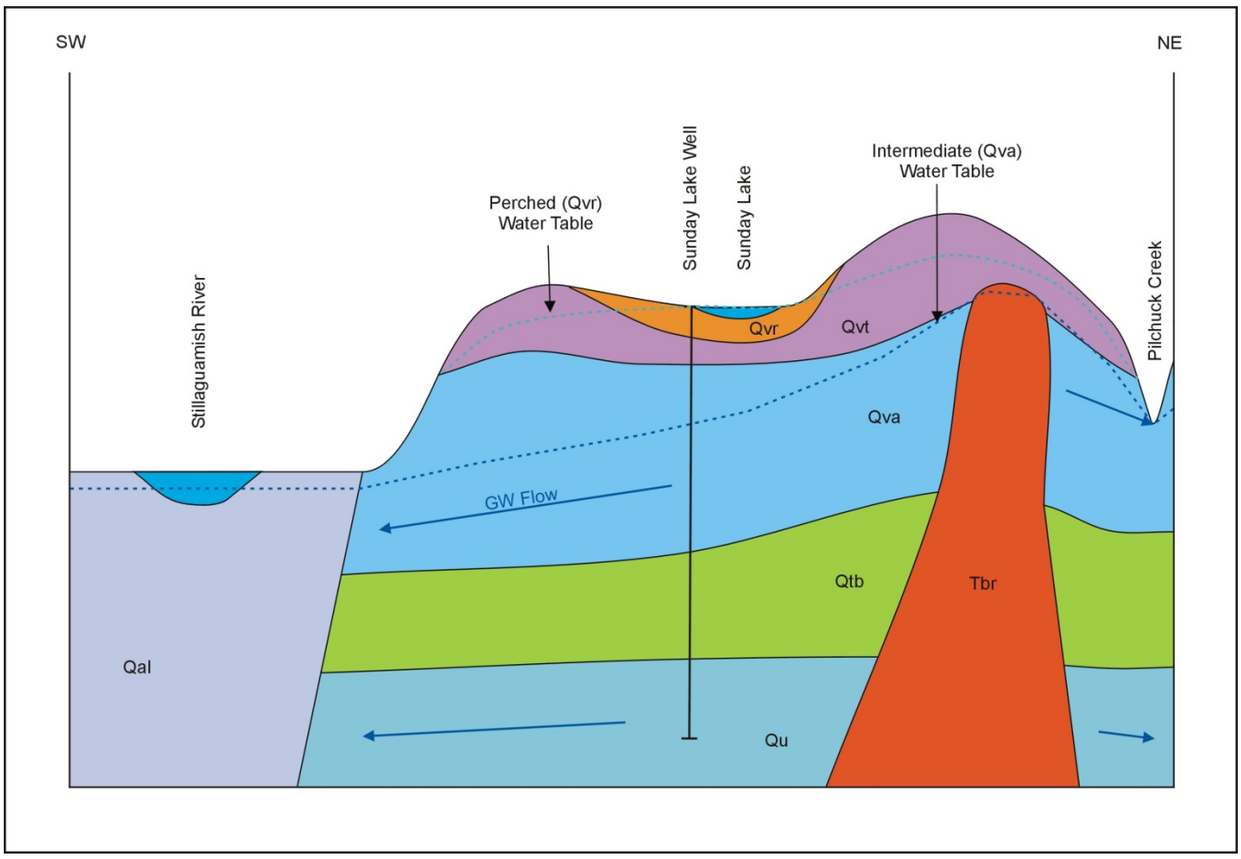

Figure 1: Schematic NE-SW Cross-Section through Sunday Lake area (modified after Thomas et al., 1997).

During a site examination conducted on September 9, 2008, the relationship between the Sunday lake well and surface water bodies was investigated. It was observed that the lake level was at or near maximum levels with wetland vegetation (cattails) growing in shallow near-shore areas around the lake.

Cattails are typically associated with lakeshore and wetland areas where saturated and/or inundated soil conditions are stable. It is therefore likely that the lake is not in direct hydraulic contact with a water table that fluctuates to any significant degree.

The area surrounding Sunday Lake has been mapped as being underlain by recessional glacial outwash deposits (Qvr). Completion logs for wells in the area surrounding the lake indicate that Qvr is underlain by glacial till (Qvt). Underlying the till are the Vashon Outwash deposits (sand and gravel), the Transitional beds (silt, clay with occasional lenses of sand), and unclassified unconsolidated material of varius composition deposited prior to the last glacial advance (older than 17,000 years).

The stream draining the lake (Jackson Gulch Creek) was stagnant in its upper reaches which are underlain by either glacial till (Qvt) or recessional glacial deposits (Qvr). An examination of Jackson Gulch Creek where it has eroded to expose Qva sands reveals little flow (~ 0.1 cfs) immediately below the till and no flow from approximately halfway through the Qva to where Jackson Gulch Creek enters the Stillaguamish alluvial plain. This implies that water levels in the Qva at the time of the examination are below the level where they contribute to stream flows in Jackson Gulch Creek.

The minimal amount of flow observed in the upper reaches of the Qva exposed portion of the creek are consistent with interflow resulting from recent (August) rainfall rather than from intercepting the aquifer. This is supported by a field observation that eroded banks above the creek were dry where flows were observed.

Well logs for the area surrounding Sunday Lake provide evidence that Qva water levels typically are below the level of till during most of the year and particularly during the summer months. The effect of such a gap in water levels would be a decoupling of any upward pumping impacts to perched shallow aquifers and surface water bodies from wells completed in deeper aquifers.

Wells completed in deeper aquifers (Qtb, Qu) have water levels that often exceed those recorded for wells completed in Qva. This is likely a product of the steep gradient in Qva down to the alluvial aquifer in the Stillaguamish River valley, approximately ¼ mile south of Sunday Lake.

The Stillaguamish River alluvial aquifer likely cross-cuts and acts as a sink for groundwaters within the deeper aquifers. Direct evidence of a steep gradient at or near the interface between the deeper aquifer layers and the alluvial aquifer were not found in wells logs. A steep gradient is however likely, since wells within the alluvial aquifer penetrate as deeply or deeper than wells completed within the Qtb and Qu aquifers beneath plateau areas north of the valley.

A requirement under RCW 90.44.100(2) for amendments to groundwater rights is that a new point of withdrawal taps the same body of public groundwater. Ecology Water Resources Program Policy 2010 (Defining and Delineation of Water Source) defines a source of water as follows:

Source of water: Surface waters and/or groundwater in hydraulic connection, meeting the following four conditions:

- They share a common recharge area.
- They are part of a common flow regime.
- They are separable from other water sources by effective barriers to hydraulic flow.
- They are an independent water body for the purpose of water right administration, as determined by Ecology.

The aquifer currently utilized by the Sunday Lake well is a tributary to the Stillaguamish Valley alluvial aquifer, and through it, the Stillaguamish River. The original point of withdrawal was an infiltration trench tapping the alluvial aquifer of the South Fork of the Stillaguamish River. They share the same recharge area, are part of a common flow regime, are not separated by effective barriers to flow, are administered together through Chapter 173-505 WAC as a single independent body of water.

For the purpose of the present change application it is therefore determined that both the original and proposed new point of withdrawal under Certificate 7295 utilize the same body of public ground water.

Impairment Considerations

Impairment of Minimum Instream Flow Water Rights

GWC 7295 was issued prior to the adoption of Stillaguamish Rule (Chapter 173-505 WAC). Thus any impacts to instream flows within the Stillaguamish River of the water as exercised at the original approved point of withdrawal are not affected by the rule.

Any impacts to Stillaguamish River flows that would result from a change must be less than or equal to the impacts that would result from exercise of the right at the original point of withdrawal.

The request here is to transfer only those quantities under GWC 7295 that have been beneficially used at the original point of withdrawal. Since the original point of withdrawal was an infiltration trench adjacent to the channel of the Stillaguamish River and the proposed new point of withdrawal is a well completed in a tributary upland aquifer where aquifer flow contributes directly to the alluvial aquifer (and thus to river flows), impacts of groundwater pumping at the new location are therefore deemed to be equal or less than those impacts associated with the original point of withdrawal.

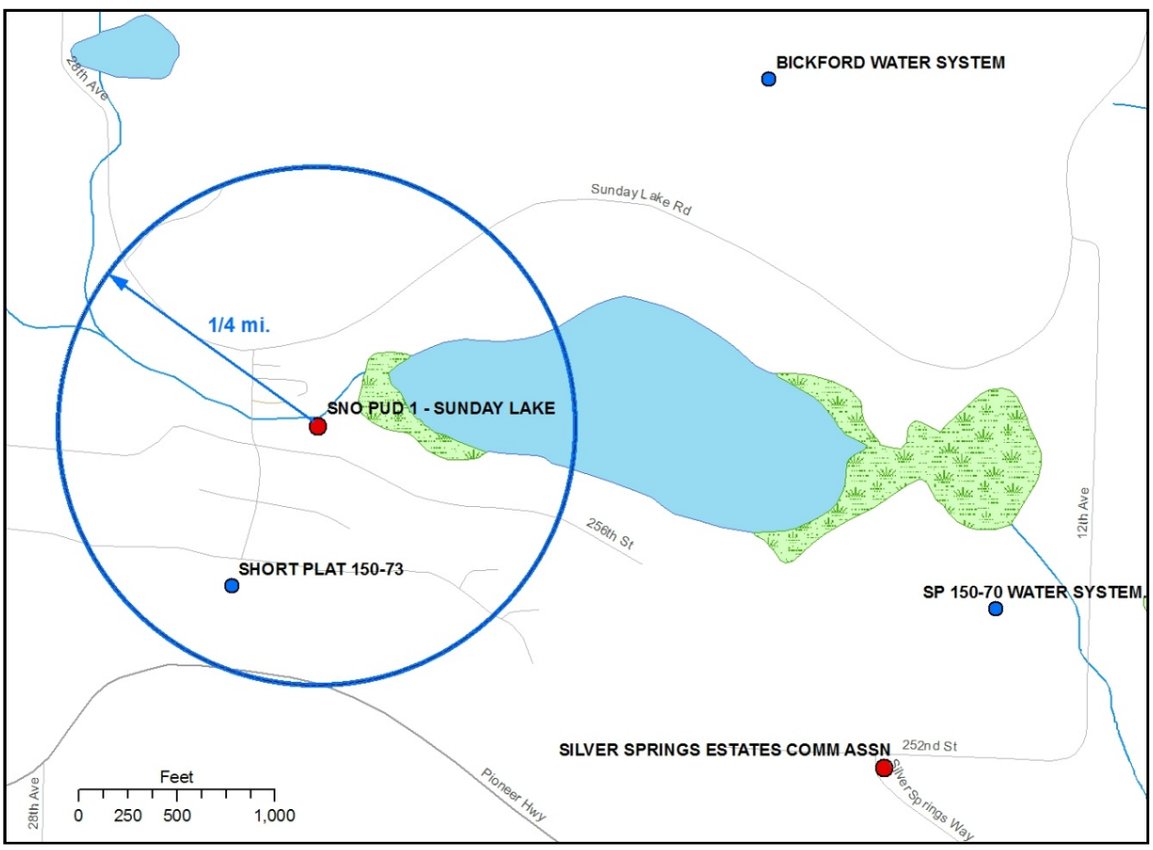

Figure 2: Public Water Systems in the Sunday Lake area

Impairment of other water rights

There is one public water system well within a one-quarter mile radius of the Sunday Lake well (Figure 2). The short plat 150-73 Water System is a four connection Group B Public Water System (DOH ID 39932). The source is a six-inch well completed at a depth of 89 feet in the Qva aquifer. This well would not likely be affected by existing or proposed additional pumping in the deeper (Qu) aquifer in which the Sunday Lake well is completed.

With the exception of the above Group B well, there are no public water system wells within a ½ mile radius of the Sunday Lake well. Three additional public water system wells are located with a 1 mile radius of the Sunday Lake well (Figure 2). Two of these are completed at depths that indicate they may be completed in the same aquifer as the Sunday Lake well; the Bickford, SP 150-157, and Silver Springs Estates Community Water Systems.

When the PUD drilled the Sunday Lake well in 1994, it tested the impacts of pumping across the approximately 2/3 mile that separated it from the Silver Springs system well (AGI, 1994). The results of this analysis indicated that there would be no measurable impact or interference between the two wells. The addition of 30 gpm to the Sunday Lake well through this change is expected to have a similar impact on wells in the deeper, pre-Qva, aquifer present beneath the Sunday Lake area.

Several private wells within the Sunday Lake area are completed within the Qva aquifer. An increase in pumping capacity of 30 gpm from a deeper aquifer, as proposed in this application, will not likely have a measurable impact on wells completed in the Qva.

Public Interest Considerations

Effects on Fisheries Resources

The proposal to add quantities perfected under GWC 7295 to the Sunday Lake well will result in changes to groundwater flow within the source aquifer and through induced leakage to shallower aquifers present beneath the Sunday Lake area.

Streams in the Sunday Lake area of significant importance to fisheries are Pilchuck Creek and the Stillaguamish River. As discussed above, the proposed mitigation will result in a net positive impact through additional flows within the Stillaguamish River. The additional flows will offset any impact to fisheries resulting from the additional pumping within the source aquifer for the Sunday Lake well. The bedrock separating the Sunday Lake well and Pilchuck Creek will prevent pumping from impacting the creek.

Other Potential Impacts

The most likely impact of a 30 gpm increase in pumping at the Sunday Lake well would be an increase in downward leakage from the Qva aquifer to compensate a decrease in storage associated with 30 gpm of increased pumping in the deeper aquifer.

The decoupling of the Qva aquifer from surface water bodies on the plateau has the consequence of ensuring that all leakage impacts from pumping of the deeper aquifer propagate upward only as far as the Qva aquifer, and from there intersect potential discharge to the Stillaguamish alluvial aquifer.

Exercise of both the original water right and of the proposed change affect flows of the Stillaguamish River through changes to water flow and balance of the alluvial aquifer.

The Ecology well database has records of 37 water wells within Section 26, T32N, R04E, including 18 that were completed within the last 10 years. While these wells typically serve individual homes, some are serving or have been constructed to serve new multiple home developments in the area.

The principal purpose for the proposed change is to allow the PUD to serve some, but not all of the new construction in the Sunday Lake area. This growth cannot be accommodated through more efficient usage of the PUD's existing Sunday Lake water right (G1-27418C; 100 gpm, 40.5 afy), as this right currently is not authorized by the Department of Health to serve any additional homes.

Information supplied by the PUD indicates that the Sunday Lake system currently serves 187 homes. Approval of the present application in the amount of 30 gpm and 60 afy would allow the PUD to serve approximately 448 connections assuming usage of 200 gpd/connection (261 additional homes).

The exempt well reservation for the Stillaguamish Basin (WAC 173-505-090) can easily provide water to the approximately 261 additional connections that would be accommodated through approval of the present application for change. As of the beginning of 2008, approximately 3% of the reservation had been allocated (~ 94,500 gpd). The reservation allows for up to 5 cfs (3.23 MGD) from the full basin with 2 cfs (1.29 MGD) from the North Fork and 1.5 cfs (0.97 MGD) from the South Fork of the Stillaguamish River, thus leaving 1.5 cfs or 0.97 MGD from the mainstem reach of the river.

Exempt wells, while capable of serving the additional connections, would not however be subject to water use efficiency and public health and safety requirements which are applicable for a public water system.

Given that the proposed change would have no likely impact to closed surface water bodies, no un-mitigated impact to flows of regulated streams in WRIA 5, and that the public health and safety would be better protected by the PUD than through supplying water with unregulated private wells, it is determined that the public interest would better served through approval of the proposed change.

Consideration of Protests and Comments

No protests were filed against this application.

CONCLUSIONS

Ecology's investigation finds that the proposed transfer of perfected quantities under GWC 7295 (G1-*09636C), including mitigation proposed by the applicant, will not impair existing rights, and will not have a negative impact on fisheries resources of the Stillaguamish River or the public interest. The quantities sought are available for change and the proposed use is deemed to be beneficial.

RECOMMENDATIONS

Based on the above investigation and conclusions, I recommend that the request for change to G1-*00936C be approved in the amounts and within the limitations listed below and subject to the provisions beginning on Page 2, et seq.

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:

- 30 gpm
- 60 acre-feet per year
- Municipal Supply

Point of [Diversion Withdrawal]

NE¼ SW¼, Section 26, Township 30 North, Range 6 E.,W.M.

Place of Use

As described on Page 1 of this Report of Examination.

Report by: _____ _____

Douglas H. Wood, LHG (WA #952) Date
Water Resources Program

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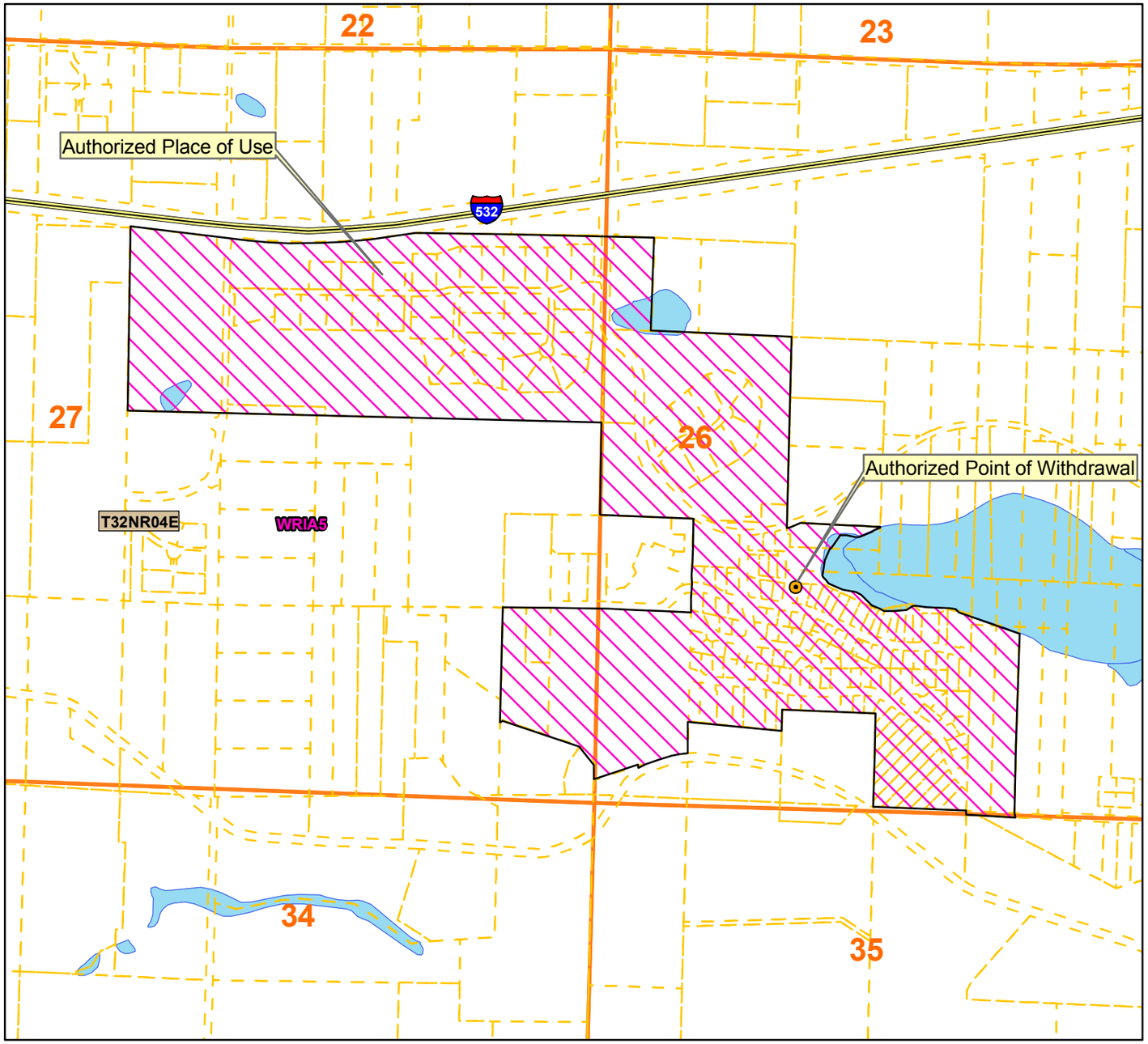
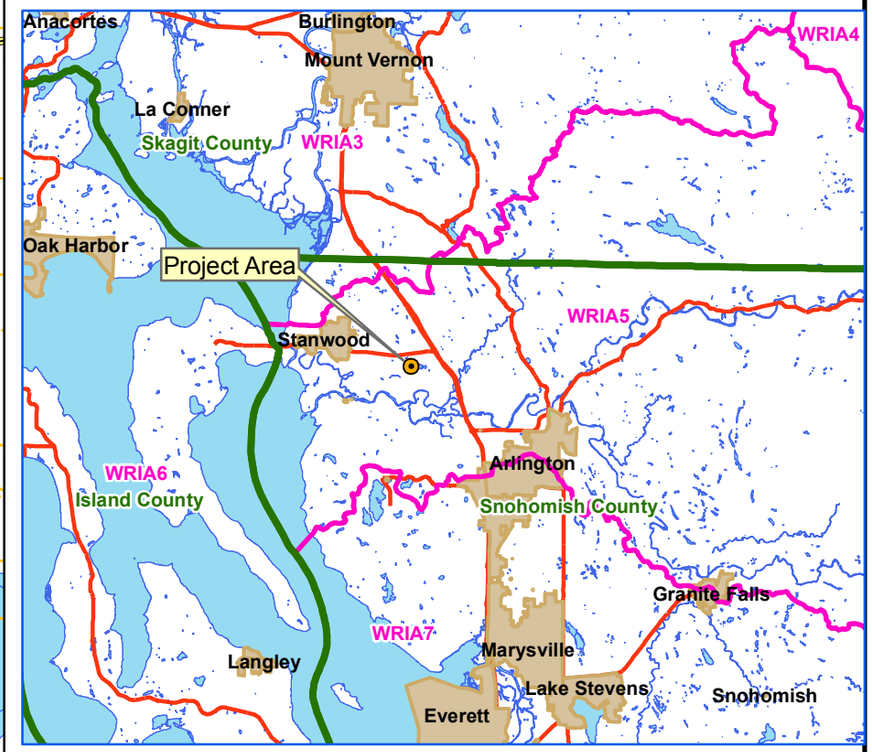
Snohomish Cnty PUD 1
Water Right Number CG1-*09636CWRIS
Sec. 26 T 32N, R 04E W.M.
WRIA 5 - Snohomish County

DEPARTMENT OF ECOLOGY
State of Washington





5 2.5 0 5 10 Miles

Legend

- County
- WRIA
- cities
- Highways
- Local Roads
- Townships
- Sections
- Authorized Point of Withdrawal
- Authorized Place of Use

1,500 750 0 1,500 3,000 Feet

Place of use and point(s) of diversion/withdrawal are as defined on the cover sheet under the headings, 'LOCATION OF DIVERSION/WITHDRAWAL' and 'LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED.'

Attachment 1