

**STATE OF WASHINGTON**  
**DEPARTMENT OF ECOLOGY**  
**REPORT OF EXAMINATION FOR CHANGE**  
TO APPROPRIATE PUBLIC WATERS OF THE STATE OF WASHINGTON

- Surface Water (Issued in accordance with the provisions of Chapter 117, Laws of Washington for 1917, and amendments thereto, and the rules and regulations of the Department of Ecology.)
- Ground Water (Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Ecology.)

PRIORITY DATE June 12, 1989	APPLICATION NUMBER G1-25463	PERMIT NUMBER G1-25463P	CERTIFICATE NUMBER
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NAME Whatcom County PUD #1	(CITY) Ferndale	(STATE) Washington	(ZIP CODE) 98248
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**PUBLIC WATERS TO BE APPROPRIATED**

SOURCE  
Three wells and a pond

TRIBUTARY OF (IF SURFACE WATERS)

MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE 116	MAXIMUM ACRE FEET PER YEAR 92.8
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QUANTITY, TYPE OF USE, PERIOD OF USE

Industrial use – Continuously  
Fire Protection – As Needed

**LOCATION OF DIVERSION/WITHDRAWAL**

APPROXIMATE LOCATION OF DIVERSION--WITHDRAWAL

Well #1 - 1200 feet South and 1500 feet West from the NE corner of Section 7, T39N, R2E, W.M.  
Wells #3 and #4 - 1200 feet South and 2400 feet West from the NE corner of Section 7, T39N, R2E, W.M.  
Pond Well - 900 feet North and 600 feet East from the SW corner of Section 6, T39N, R2E, W.M.

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP N.	RANGE, (E. OR W.) W.M.	W.R.I.A.	COUNTY
Wells: NW 1/4, NE 1/4	7	39N	2E	01	Whatcom
Pond: SW 1/4 , SW 1/4	6	39N	2E	01	Whatcom

**RECORDED PLATTED PROPERTY**

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)
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**LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED**

See 'Attachment A' for a legal description of the new Place of Use.



## **DESCRIPTION OF PROPOSED WORKS**

A detailed description of existing and proposed withdrawal points is provided in the "Hydrogeology" section under the "Point of Withdrawal/Diversion Construction" subsection. This system is identified by the Washington State Department of Health by Public Water System ID # 95680.

### **DEVELOPMENT SCHEDULE**

BEGIN PROJECT BY THIS DATE:	COMPLETE PROJECT BY THIS DATE:	WATER PUT TO FULL USE BY THIS DATE:
Project Begun	August 18, 2031	August 18, 2031

### **REPORT**

#### **BACKGROUND INFORMATION**

On June 12, 1989, Oxy Corporation applied to the Department of Ecology for an industrial use and fire protection water right to appropriate 116 gpm for industrial use and fire protection. The water right application was assigned number G1-25463.

On November 15, 1990, water permit G1-25463P was issued to Oxy Corporation. The permit was approved for withdrawal of 116 gpm and 92.8 acre-feet per year from three wells in the NW ¼, NE ¼, Section 7, T39N, R2E, W.M.

On July 8, 1993, the Department of Ecology accepted a change application from Public Utility District No. 1 of Whatcom County. This change application requested to change the place of use and add an additional point of withdrawal/diversion from a pond.

#### **Attributes of the Original Permit**

Name on Certificate:	Oxy Corporation
Priority Date:	June 12, 1989
Instantaneous Quantity:	116 gallons per minute (gpm)
Annual Quantity:	92.8 acre-feet per year (afy)
Point of Withdrawal	NW ¼, NE ¼, Section 7, Township 39 North, Range 2 East W.M.
Purpose of Use:	Industrial and fire protection
Period of Use:	Continuously
Place of Use:	That portion of the NW ¼ of the NE ¼ of Section 7, Township 39 North, Range 2 East, of W.M., lying southwesterly of the Great Northern Railroad right-of-way. Less roads. Together with and subject to all easements, agreements, covenants and restrictions of record. Situate in Whatcom County, Washington.

#### **Proposed Change**

Name of Applicant:	Public Utility District No. 1 of Whatcom County
Date of Application for Change:	July 8, 1993
Added Point of Withdrawal/Diversion:	SW ¼, SW ¼, Section 6, Township 39 North, Range 2 East, W.M.
New Place of Use:	See legal description above
Notice of Publication:	October 25 and November 1, 1993
Protests:	None

#### **Purpose of the Change Application**

The purpose of this change application is to add a pond as an additional point of withdrawal/diversion for the water right, and to change the place of use. The pond is located downstream of the three wells that are the original points of diversion (details in Hydrogeology section).

#### **INVESTIGATION**

In considering this application, my investigation included, but was not limited to research and/or review of:

- The State Water Code
- The State Environmental Policy Act (SEPA)
- Washington State Department of Fish and Wildlife Comments
- Washington State Department of Health Comments
- Existing water rights on file for Whatcom PUD #1 Water System
- Records of other water rights in the vicinity
- Notes from site visit on March 22, 2005
- Correspondence from Mr. Steve Boessow at the Washington Dept. of Fish and Wildlife
- Topographic and local area maps
- 2004 Comprehensive Water System Plan for PUD No. 1 of Whatcom County
- Legal description for new Place of Use for Grandview-Northgate service area provided on October 26, 2006
- A letter from the PUD's counsel to Ecology written on August 11, 2006 relating the history of the project
- A letter from the PUD's counsel to Ecology written on August 16, 2006 relating to extension of the original permit development schedule

#### **State Water Code**

Chapters 90.03 and 90.44 RCW authorize the appropriation of public water for beneficial use and describe the process for obtaining water rights including the process to amend or change existing rights. Laws specifically governing the water right permitting process are RCW 90.03.250 through 90.03.340 and RCW 90.44.060. Changes or amendments to these rights are covered primarily under RCW 90.03.380 and RCW 90.44.100.

## State Environmental Policy Act (SEPA)

This water right change application is categorically exempt under SEPA WAC 197-11-305 and WAC 197-11-800(4).

### Washington State Department of Fish and Wildlife Comments

A copy of this change application was sent to the Department of Fish and Wildlife (WDFW) for their review. On March 30, 2005, the Department of Ecology received a letter from the WDFW stating that, "California Creek is a highly productive coho stream worthy of protection and restoration. Since this proposal does not withdraw additional water above the original water right WDFW waives comment on this application."

### Existing Rights for the Water System

There are currently seven water rights held by the PUD #1 (Table 1) as per their 2004 Water System Plan.

Table 1. Water Rights Held by the Whatcom County PUD #1						
Water Right Number	Type	Priority Date	Qi (gpm/cfs)	Qa (acre-feet per year)	Original Point of Withdrawal or Diversion	
2505-A	Irrigation of 70 acres	March 5, 1953	200 gpm	140	Well	
6000	Manufacturing	Dec 17, 1954	5 cfs	3622	Nooksack River	
S1-00707C	Municipal/Irrigation	April 16, 1965	50 cfs	22067/5600	Nooksack River	
S1-00708	Municipal	Sept 27, 1968	28 cfs	17880	Nooksack River	
G1-25463P	Industrial/Fire Protection	June 12, 1989	116 gpm	92.8	Three Wells	
G1-26325C	Fire Fighting	Sept 11, 1991	1350 gpm	as needed	Infiltration Trench/Pond	
Praxair exempt	Exempt Industrial	1996	Up to 5000 gpd	Up to 5.6 afy	Well	

### Other Water Rights in the Vicinity

In addition to those water rights held by the PUD #1 of Whatcom County, there are 15 water right certificates, zero water right permits, and 61 water right claims in Sections 6 and 7 in Township 39 North, Range 2 East and Sections 1 and 12 in Township 39 North, Range 1 East. These are listed below. There are also approximately 105 exempt water wells in the same legal delineation. It is likely that some wells counted as exempt here are actually associated with water right claims in Table 3. The true extent of the water right represented by a water right claim can only be determined in a county superior court in a general water right adjudication. Since this area has not been adjudicated, the extent of the water rights under claims listed in Table 3 is not known.

### Certificates

Table 2. Ground and Surface Certificates in the Source Area

Certificate No. Surface/Ground	Name on Certificate	Priority Date	Authorized Use	Instantaneous Quantity	Annual Quantity (afy)	POD Location
714 /Ground	Orchard Water Assoc	12/10/1945	Irrigation, Multiple Domestic	50 gpm	81	Sec. 07, Twp. 39N., R. 2E.
4850 / Surface	C.L. Smith	6/27/1951	Single Domestic	0.01 cfs	Unspecified	Sec. 12, Twp. 39N., R. 1E.
1995 / Ground	L. Hansen	2/8/1952	Irrigation, 20 acres	130 gpm	40	Sec. 07, Twp. 39N., R. 2E
2248 / Ground	H.F. Rasmussen	9/17/1952	Irrigation, 51 acres	160 gpm	76.5	Sec. 06, Twp. 39N., R. 2E
2505 / Ground	W.T. Handy	3/5/1953	Irrigation, 70 acres	200 gpm	140	Sec. 06, Twp. 39N., R. 2E
2184 / Ground	B. Ruffino	5/1/1953	Irrigation, 32 acres	320 gpm	64	Sec. 06, Twp. 39N., R. 2E
2042 / Ground	Delta Pacific LLC	5/14/1953	Irrigation, 15 acres	66 gpm	30	Sec. 01, Twp. 39N., R. 1E
7495 / Surface	L.P. Ferrill	10/15/1958	Irrigation, 18 acres	0.18 cfs	36	Sec. 01, Twp. 39N., R. 1E
4069 / Ground	Custer Wat. Association	7/20/1961	Multiple Domestic	50 gpm	73	Sec. 01, Twp. 39N., R. 1E
10859 / Surface	L.J. Pollett	7/14/1965	Irrigation, 25 acres	0.25 cfs	50	Sec. 01, Twp. 39N., R. 1E
7329 / Ground	US Dept of Interior, Bonneville Power Ad.	4/4/4967	Irrigation, 0.5 acres Heat Exchange	45 gpm	8	Sec. 01, Twp. 39N., R. 1E
6813 / Ground	Custer Wat. Association	8/26/1968	Multiple Domestic	85 gpm	75	Sec. 01, Twp. 39N., R. 1E
G1-20617C	J.W. Kimbrough	5/14/1973	Irrigation, 4 acres	35 gpm	53	Sec. 07, Twp. 39N., R. 2E
G1-21216C	Custer Wat. Association	2/1/1974	Multiple Domestic	100 gpm	90	Sec. 01, Twp. 39N., R. 1E
G1-26325C	J.I.J. Const. Co. Inc.	9/11/1991	Fire Protection	1350 gpm	Unspecified	Sec. 06, Twp. 39N., R. 2E

Permits

There are no permits in the designated sections other than the subject of this Report of Examination, G1-25463P.

Claims

**Table 3. Water Right Claims in the Source Area, Arranged by Location**

Water Right Claim	Long or Short Form	Name	Location
G1-161980CL	Long	Jack H. Stephens	T. 39N, R. 01E, Sec. 01
G1-132943CL	Long	Richard R. McBride	T. 39N, R. 01E, Sec. 01
G1-131448CL	Long	Citizens Fed. Savings and Loan	T. 39N, R. 01E, Sec. 01
G1-111703CL	Long	Robert J. Brandt	T. 39N, R. 01E, Sec. 01
G1-092367CL	Long	Jack H. Stephens	T. 39N, R. 01E, Sec. 01
G1-055956CL	Long	Alfred H. Allred	T. 39N, R. 01E, Sec. 01
G1-042610CL	Long	Joe C. Ferry	T. 39N, R. 01E, Sec. 01
G1-037397CL	Long	Frank J. Spring	T. 39N, R. 01E, Sec. 01
G1-028611CL	Long	Herman F. Stephens	T. 39N, R. 01E, Sec. 01
G1-014929CL	Long	John C. Hamilton	T. 39N, R. 01E, Sec. 01
G1-012699CL	Long	Dale Hamilton	T. 39N, R. 01E, Sec. 01
G1-011918CL	Long	Ladd P. Womack	T. 39N, R. 01E, Sec. 01
G1-126818CL	Short	Andrew Pekema	T. 39N, R. 01E, Sec. 01
G1-123914CL	Short	Andrew Pekema	T. 39N, R. 01E, Sec. 01
G1-111702CL	Short	Robert J. Brandt	T. 39N, R. 01E, Sec. 01
G1-104278CL	Short	Clifford W. Thompson	T. 39N, R. 01E, Sec. 01
G1-096049CL	Short	Matt A. Wiggum	T. 39N, R. 01E, Sec. 01
G1-072537CL	Short	Norman C. Rauch	T. 39N, R. 01E, Sec. 01
G1-069991CL	Short	Raymond L. Butler	T. 39N, R. 01E, Sec. 01
G1-070004CL	Short	Frances C. Tollefson	T. 39N, R. 01E, Sec. 01
G1-060835CL	Short	Edward B. Ross	T. 39N, R. 01E, Sec. 01
G1-053788CL	Short	Walter E. Stark	T. 39N, R. 01E, Sec. 01
G1-047217CL	Short	Herman F. Stephens	T. 39N, R. 01E, Sec. 01
G1-158373CL	Long	Alan E. Johnson	T. 39N, R. 01E, Sec. 12
G1-143325CL	Long	Russell W. Sweet	T. 39N, R. 01E, Sec. 12
G1-143326CL	Long	Russell W. Sweet	T. 39N, R. 01E, Sec. 12
G1-143327CL	Long	Russell W. Sweet	T. 39N, R. 01E, Sec. 12
G1-139013CL	Long	John E. Weden	T. 39N, R. 01E, Sec. 12
G1-083327CL	Long	Lester A. Bedlington	T. 39N, R. 01E, Sec. 12
S1-158374CL	Short	Alan E. Johnson	T. 39N, R. 01E, Sec. 12
G1-145275CL	Short	George L. Menge	T. 39N, R. 01E, Sec. 12
G1-143135CL	Short	George L. Menze	T. 39N, R. 01E, Sec. 12
G1-142796CL	Short	Charles R. Burleson	T. 39N, R. 01E, Sec. 12
G1-099419CL	Short	Lawrence F. Levien	T. 39N, R. 01E, Sec. 12
G1-081349CL	Short	Walter H. Irving	T. 39N, R. 01E, Sec. 12
G1-080726CL	Short	Tom C. Pomeroy	T. 39N, R. 01E, Sec. 12
G1-066860CL	Short	Harold L. Carter	T. 39N, R. 01E, Sec. 12
G1-064377CL	Short	Clarence Schmidt	T. 39N, R. 01E, Sec. 12
G1-058718CL	Short	Charles T. Smith	T. 39N, R. 01E, Sec. 12
G1-094800CL	Long	L.H. Leighton	T. 39N, R. 02E, Sec. 06
G1-036700CL	Long	Gertrude Sager	T. 39N, R. 02E, Sec. 06
G1-029671CL	Long	Alta M. Schuyler	T. 39N, R. 02E, Sec. 06
G1-010503CL	Long	Henry F. Rasmussen	T. 39N, R. 02E, Sec. 06
G1-010504CL	Long	Henry F. Rasmussen	T. 39N, R. 02E, Sec. 06
G1-083695CL	Short	Gregory Edin	T. 39N, R. 02E, Sec. 06
G1-083204CL	Short	Ronald J. Handy	T. 39N, R. 02E, Sec. 06
G1-067865CL	Short	Harold Christensen	T. 39N, R. 02E, Sec. 06
G1-060149CL	Short	Sidney M. Peuck	T. 39N, R. 02E, Sec. 06
G1-131968CL	Long	Irene E. Kinley	T. 39N, R. 02E, Sec. 07
G1-131969CL	Long	Irene E. Kinley	T. 39N, R. 02E, Sec. 07
G1-033547CL	Long	Donald D. Schnackenberg	T. 39N, R. 02E, Sec. 07
G1-028216CL	Long	Earl L. Powell	T. 39N, R. 02E, Sec. 07
G1-028387CL	Long	J.C. Baker	T. 39N, R. 02E, Sec. 07
G1-027361CL	Long	Kimbrough and Parr	T. 39N, R. 02E, Sec. 07
G1-022494CL	Long	John L. Boyd	T. 39N, R. 02E, Sec. 07
G1-013623CL	Long	Odin P. Berger	T. 39N, R. 02E, Sec. 07
G1-145619CL	Short	Gregory L. Pike	T. 39N, R. 02E, Sec. 07
G1-142022CL	Short	Julian M. Johnston Sr.	T. 39N, R. 02E, Sec. 07
G1-138965CL	Short	John A. Razevich	T. 39N, R. 02E, Sec. 07
G1-099420CL	Short	Gwendolyn M. Levien	T. 39N, R. 02E, Sec. 07
G1-084429CL	Short	Leon Maddux	T. 39N, R. 02E, Sec. 07

## Site Visit

The site visit was conducted on March 22, 2005. Present were Mr. Tom Anderson, general manager of the Whatcom PUD #1, Andrew Dunn, hydrogeologist with this office, and myself. We first observed the new point of withdrawal, which consists of a seven foot diameter well connected to an adjacent spring-fed pond via gravel filtration. The well is situated in a pumphouse, and there are two pumps in the well. The first primary pump had an indicated capability of 1760 gpm at 250 horsepower, but the applicant indicated the pump is actually capable of 3000 gpm. The second smaller pump (15 horsepower) is present to keep the system pressurized. The pond is located next to California creek, separated from it by a large berm. There is an overflow channel, through which water flows into the creek when water in the pond exceeds a certain level.

Wells 1, 3 and 4 were also visited. See *Hydrogeology* section for more details about existing and new points of withdrawal.

## Topographic and Local Area Maps

The Bertrand Creek USGS 1:24,000 scale topographic map, dated 1972, and maps provided by the applicant were used during this investigation.

## 2004 Comprehensive Water System Plan

Chapter six of the PUD's most recent water system plan contains water resource and water right data, and was used for this report.

## Current Water Use

Table 4. Monthly Well Production (gal.)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Jan	---	75,978	---	82,100	93,710	148,020	197,950	236,838	185,060	178,920	254,400
Feb	---	63,021	232,620	104,580	---	100,530	157,120	---	177,700	195,970	221,100
Mar	221,900	115,685	115,615	290,600	240,200	171,360	145,500	435,662	255,690	197,180	210,226
Apr	179,155	100,560	102,575	171,715	131,000	153,030	175,370	181,434	320,560	253,300	221,600
May	138,756	144,425	92,290	202,025	185,085	186,110	157,460	228,566	387,790	429,200	256,600
Jun	102,179	110,990	144,720	199,720	142,535	142,940	207,235	221,000	413,090	493,400	277,100
Jul	---	182,085	83,320	181,820	151,180	184,390	268,045	289,200	405,680	559,900	365,300
Aug	220,655	205,490	170,580	223,110	191,790	235,630	273,480	231,400	403,430	741,550	---
Sep	86,428	132,655	184,490	208,110	144,560	203,290	161,050	223,850	395,737	487,250	---
Oct	106,145	131,490	129,610	169,520	145,420	151,150	181,870	---	260,363	282,760	---
Nov	87,950	93,190	112,020	176,570	131,590	132,910	181,274	468,705	191,400	282,410	---
Dec	60,883	105,480	91,700	140,820	179,750	148,130	258,406	388,445	326,230	198,130	---
Total	1,204,051	1,461,049	1,459,540	2,150,690	1,736,820	1,957,490	2,364,760	2,905,100	3,722,730	4,299,970	1,806,326
Mo. Avg.	133,783	121,754	132,685	179,224	157,893	163,124	197,063	290,510	310,228	358,331	258,047
Afy	3.7	4.5	4.5	6.6	5.3	6	7.3	8.9	11.4	13.2	

Table 4. Water withdrawn by the current wells for G1-25463P from the time the right was acquired by the PUD in March 1996 through July 2006

## HYDROGEOLOGY

The following information is taken from the Hydrogeologic Report for Change Application G1-25463 by Andrew Dunn, staff hydrogeologist. Table and figure numbers herein refer to those in this section only:

### Background

On July 8, 1993, the Department of Ecology received a change application submitted by the Public Utility District No. 1 of Whatcom County to change ground water permit G1-25463P. This water right change application requests to add a pond as an additional point of withdrawal. The proposed pond is located in the SW ¼, SW ¼, Section 6, Township 39N, Range 2E, W.M., Whatcom County, Washington, which is in WRIA 1.

On March 22, 2005, Paul Fabiniak (Ecology report writer) and I (Ecology hydrogeologist) performed a site visit to the area during which we met with Tom Anderson, Manager of the Public Utility District No. 1 of Whatcom County.

### Geographic Setting of the Grandview Area, Whatcom County, Washington

The site is located at an elevation of approximately 60 to 110 feet above sea level in the headwaters of the California Creek watershed. The site is located on the base of the northeastern edge of the Mountain View Upland. The highest point on the upland, located to the southwest of the site, is approximately 360 feet above sea level.

### Point of Withdrawal/Diversion Construction

Table 1 describes the wells and the structure at the pond that has been used or is proposed to be used to withdraw water under this water right. The location of all wells and the pond can be seen in the figure on page one of this ROE.

**Table 1. Well Construction Information**

Well	Casing Diam. (in)	Approx. Top of Casing (TOC) Elevation (ft)	Depth of Well (ft)	Depth of Screened Interval (ft)	Elevation of Screened Interval (ft)	Depth to Water below TOC (ft)	Approx. Elevation of Potentiometric Surface (ft)	Date of Water Level Measurement
1 AGK-350	6	105	108	98 to 108	7 to -3	48	57	9/19/1988
3	6	110	157	152 to 157	-42 to -47	48.25	61.75	5/23/1989
4	16	110	148	112 to 144	-2 to -34	42.25 39	67.75 71	8/9/1988 4/29/1991
Pond	84	65	?	?	?	2 (est)	63 (est)	3/22/2005

Well 1 (Unique well ID AGK-350) is used to provide potable water to the buildings within the industrial park for domestic and industrial uses. The water is pumped from the well, treated with chlorine, piped to a 30,000 gallon storage tank, and then routed through some pressure tanks before being released into the distribution system. Tom Anderson indicated that the chlorine treatment is required due to the long residence time in the storage tank. Well 1 was approved as a point of withdrawal in the original report of examination and 116 gpm and 92.8 acre-feet per year was approved for industrial use. This well has a water meter installed that read 21,777,000 gallons on the date of the site visit. On the power box inside the pump house it documented that the pumping rate for this well had been measured at 93.6 gpm on both March 30, 2001 and April 6, 2004.

Wells 3 and 4 are approximately 5 feet apart and are located within the same pump house. Well 3 is used to keep the fire suppression system "charged" at the correct operating pressure. Well 4 will provide the system with the rate of flow necessary when actively fighting a fire in the industrial park, if they should need it. The original report of examination for G1-25463 (10/3/1990) indicated that Well 4 could pump at a rate of approximately 2100 gpm. Wells 3 and 4 were approved as points of withdrawal in the original report of examination along with their use for fire protection. However, the only limit given on the water right document was for the Industrial use. In case of a fire, any rate or quantity of water can be used to put the fire out. During the site visit we could not measure the depth to water, but someone had documented the depth to static water level as 39 feet below the top of the casing on April 29, 1991, by writing it on the face of the pressure gage. Neither Well 3 nor Well 4 has a water meter installed.

Tom Anderson expressed Public Utility District No. 1 of Whatcom County's desire to have the pond approved as a point of withdrawal under their water right. Their thinking was that if an industrial user did not require potable water for their process, then the pond water could be used out of the fire protection pipes for that purpose. This would reduce the demand on the potable water system and would also reduce the amount of chlorine that they need to use.

The point of withdrawal/diversion at the pond represents the gray area between surface water and ground water rights. One ground water certificate (G1-26325C) already exists for the pond at the same location as the proposed withdrawal/diversion. When the pond was originally excavated I do not believe that it was directly connected to California Creek. However, a man-made change to the location of California Creek and tributary streams now directly connects the pond to the stream network. The structure that the pumps are completed in is actually an 84 inch diameter concrete casing, constructed at the edge of the pond. Gravel was imported and placed around the casing to filter the water. So, water moves from the pond through the gravel filter and into the large diameter casing before being pumped into the fire protection or proposed water distribution system. Hydrogeologically the withdrawal/diversion structure is similar to a shallow well being drilled next to a surface water body.

#### California Creek Surface Water Basin

The California Creek watershed is approximately 22.8 square miles in size. California Creek itself has a total length of approximately 9 miles (Division of Water Resources, 1960). California Creek drains to the northwest into the saltwater of Drayton Harbor, just south of the City of Blaine and the Canadian border.

California Creek is inhabited by coho salmon and resident game and non-game fish (Boessow, 2005).

The minimum flow documented at the gage site prior to 1960 was 0.33 cfs measured on August 19, 1958. For the 1954 irrigation season the lowest flow measured was 0.8 cfs (Division of Water Resources, 1960).

The Department of Ecology has established a manual staff gage for California Creek just downstream of Valley View Road (SE ¼, SE ¼, Section 27, T40N, R1E, W.M.). Unfortunately, a rating curve has not been developed for this site, due to vegetation growth in the stream channel, so the stage height can not accurately be correlated to a stream discharge. The most recent stage measured for this site was 3.96 feet on March 1, 2005. The drainage area feeding the creek upstream of this stream gage is approximately 11 square miles in size and the elevation of the stream gage is approximately 15 feet above sea level (Division of Water Resources, 1960). Since the newly collected data does not convert the stage to a discharge, I am unsure how the current measurements compare to the older 1950s era data.

From the assembled data it appears that the lowest flows in California Creek typically occur during August and the highest flows occur during the winter months.

The pond that is proposed as a point of withdrawal is currently connected to California Creek. A spring-fed stream flows to the north off of the Mountain View Upland before entering the pond at its southeastern end. The pond has an overflow structure to the northwest of the proposed withdrawal/diversion structure that allows water from the pond to flow directly into California Creek. At the time of the site visit a beaver had constructed a dam at the overflow structure, which raised the water level in the pond by approximately one foot, making the pond surface elevation approximately 3 to 4 feet higher than the level of California Creek adjacent to the pond. It is unknown if the pond discharges directly to the creek all year round or if the water level in the pond drops in the summer and eliminates surface outflow. The close proximity of the pond and California Creek combined with the higher water level elevation of the pond suggests that in addition to any surface water flow, ground water seepage from the pond also discharges into the creek.

All of the original points of withdrawal and the proposed pond are all located within the California Creek subbasin as defined by the WRIA 1 watershed planning group (2001) (Figure 2).

## **Hydrogeology of the Grandview Area, Whatcom County, Washington**

The two geographic settings described above also have different geologic features that influence the ground water hydrology. The two different settings are the Mountain View Upland and the Custer Trough. The Custer Trough contains a thin unconfined aquifer consisting of sand that was deposited as distal glacial outwash by the glacier that advanced and retreated during the Sumas Stade (Cox and Kahle, 1999). The Sumas outwash overlies a very thick (several hundred feet) sequence of glaciomarine drift or marine silt and clay dominated deposits. Most wells in the Custer Trough tap ground water in the Sumas outwash aquifer.

**Table 2. Geology of the Grandview Area**

<b>Unit Name</b>	<b>Description</b>	<b>Age</b>	<b>Typical Thickness</b>
Sumas Outwash	Dominantly sand with little gravel. Occurs in the Custer Trough below an elevation of approximately 80 feet. Unconfined aquifer. Most common aquifer tapped in the Custer Trough in this area.	10,000 to 11,000 years old	0 to 35 feet
Everson Glaciomarine Drift and Vashon Glacial Till	Dominantly silt and clay with gravel and sand. Occasionally clamshells. Primarily aquitard	18,000 to 11,000 years old	40 to several hundred feet
Vashon Advance Outwash (or Deming Sand per Didricksen, 1997)	Sand and Gravel. Unconfined to confined aquifer. Most common aquifer tapped on the Mountain View Upland in this area.	18,000 to 13,500 years old	100 feet
Non-glacial unit	Layers of sand, silt, and some gravel. Primarily aquitard	> 18,000 years old	Several hundred feet

The Mountain View Upland consists of glacial and non-glacially derived deposits as described in Table 2. Most wells in this part of the upland, including the three Public Utility District No. 1 of Whatcom County, withdraw water from the unconfined to confined sand and gravel aquifer I have referred to as the Vashon Advance Outwash and Didricksen (1997) referred to as the Deming Sand.

Didricksen (1997) created three cross sections that run through the area containing all of the wells and the pond relating to this change application. The cross sections of interest are A-A', B-B', and F-F' (Appendix B). Didricksen identifies that the geologic units contained on the Mountain View Upland Portion of the site consists primarily of Bellingham Drift (unit Qb) (glaciomarine drift) overlying Deming Sand (unit Qd) (fluvial deposit). She also shows a thin layer of a unit she calls "Sand & Gravel over Drift" (unit Qbg) which occurs above the Bellingham Drift on the lower elevations of the Mountain View Upland. Within the Custer Trough, Didricksen identifies that the thin "Outwash Sand and Gravel" (unit Qso) is found at the ground surface and is underlain by the Bellingham Drift and possibly the Deming Sand.

Didricksen's Deming Sand unit is what I have referred to as the Vashon Advance Outwash. Either way the name of the unit is less important than its composition, which is defined above and can be seen in the well logs and cross sections in Appendices A through C.

### Aquifer Recharge

The aquifer(s) tapped by all of the original points of withdrawal are recharged by infiltration of water on the Mountain View Upland.

### Ground Water Flow Directions

Ground water generally flows from higher areas of the Mountain View Upland toward the lower-lying area that contains California and Dakota Creeks and is referred to as the Custer Trough (Figure 1). Ground water captured by the original wells under this water right would naturally discharge to California Creek if it had not been captured. Ground water flow is not fully contained within one aquifer, but instead moves between different aquifers and through aquitards.

The pond is located slightly downstream from where the ground water naturally flowing past the original points of withdrawal would likely discharge to the stream network.

### Ground Water Levels over Time

Using the limited water level information that exists for the original points of withdrawal, it appears that the ground water levels have not declined or increased significantly since the wells were drilled (Table 1).

### Aquifer Testing

No aquifer testing was performed or deemed necessary for this change application.

### Conclusions for Water Right Hydrogeologic and Hydrologic Assessment

Since this report is being prepared for a change to an existing ground water right, the hydrogeologic questions posed in RCW 90.03.380 and RCW 90.44.100 that must be answered by the Department of Ecology are as follows:

1. Is the proposed point of diversion and original points of withdrawal within the same source of water?
2. Will approval of this water right impair any existing water right holders?
3. Will approval of this water right change be detrimental to the public welfare?

### Same Source of Water

The original wells and the proposed pond are considered to be water within the same source for the following reasons:

1. The wells and pond are all located within the California Creek subbasin as defined by the WRIA 1 watershed planning group.
2. The wells and pond are located in relatively close proximity, within 4250 feet of each other.
3. The water level elevation of the pond is similar to the static water level elevation measured in the wells.

4. *Ground water captured by the original wells would naturally discharge to California Creek. Water captured at the proposed pond would naturally discharge to California Creek, either as surface water or as ground water seepage.*

#### ***Impairment Analysis***

*Allowing the water right holder to pump water from the edge of the pond as opposed to pumping entirely from the three existing wells will not impair any water right holders for the following reasons:*

1. *Pulling some water from the pond will actually shift some of the streamflow reduction of California Creek a little downstream compared to pumping from the existing wells.*
2. *No water right holder, other than the Public Utility District No. 1 of Whatcom County relies on the pond as the source of water from exercise of their water rights.*
3. *The nearest certificated downstream appropriator diverting surface water from California Creek is located over 7200 feet downstream.*
4. *The nearest documented ground water certificate is located approximately 2000 feet from the pond and no other water wells were seen in close proximity to the pond during the site visit.*

#### ***Public Interest***

*No detriment to the public interest could be identified during this hydrogeologic investigation that would result from approval of this water right application.*

#### ***Recommendations***

*Based on the conclusions of this report, I feel that hydrogeologically this application can be approved. However, if there are other factors that require the application to be denied, it must be denied regardless of the hydrogeologic conclusions.*

#### **REPORT OF EXAMINATION FINDINGS**

In accordance with state law, the following considerations must be addressed during the process of evaluating this change request:

The following tests must be addressed when processing a request for a change in point of withdrawal and place of use:

- Is water available at the new point of withdrawal/diversion?
- Will the change create an enlargement of the original right?
- Does the additional point of withdrawal/diversion tap the same body of public ground water as the original point(s) of withdrawal?
- Will the change cause impairment to other existing rights?
- Will the public interest be impaired?
- What are the protestors concerns?

#### **Water Availability**

Based upon observations of the capabilities of the new well and characteristics of the adjacent pond during the field exam, in conjunction with the hydrogeologic assessment made above, it can be concluded that water is available at the new point of withdrawal/diversion for the specified quantities.

#### **Potential for Enlargement**

This investigation has determined that Groundwater Permit G1-25463P is in good standing. Adding the additional point of withdrawal/diversion will not result in an enlargement of the right because no additional water beyond that approved for the permit will be withdrawn from any combination of the new and original sources. Therefore, approval of this change will not result in the enlargement of groundwater permit G1-25463P.

#### **Same Body of Public Ground Water**

Based upon the information and analysis provided in the hydrogeologic assessment above, it can be concluded that the new point of withdrawal/diversion is in the same body of public groundwater as the original points of withdrawal.

#### **Impairment of Other Rights**

As stated in the hydrogeologic assessment above, no impairment of other rights will occur upon approval of this change.

#### **Public Interest**

No detriment to the public interest could be identified during the investigation of this application for change. The change is not speculative in nature, as it is occurring as part of an ongoing project.

#### **Protests**

No protests were received during the statutory 30-day protest period.

#### **DISCUSSION**

Based upon the detailed history provided by the applicant, the development of the permit has been pursued with due diligence, and reasonable progress is being made in fulfilling the original intent of the project. This detailed history is provided in a letter from counsel for the PUD dated August 11, 2006. It contains a detailed account of development of the Grandview Light Industrial Zone and surrounding property from 1989 to August of 2006. From the outset, the intention of the original applicant, Oxy Corporation, was to connect their water system to the neighboring Jantzen system and allow the Whatcom PUD #1 to acquire and run the project as a water district. This information served as a

basis for determining that the place of use expansion is not an enlargement of the intent of the project. This letter will be permanently included in the file for future reference.

## RECOMMENDATIONS

I recommend the request for change to G1-25463P be approved, subject to the provisions listed below:

The amount of water granted is a maximum limit that shall not be exceeded and the water user shall be entitled only to that amount of water within the specified limit that is beneficially used and required.

### Metering Provision:

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

Water use data shall be recorded weekly. The maximum annual instantaneous rate of diversion/withdrawal and the annual total volume shall be submitted to Ecology by January 31st of the following year.

The following information shall be included with each submittal of water use data: owner, contact name if different, mailing address, daytime phone number, Permit/Certificate/Claim No., source name, volume including units, Department of Health WFI water system number and source number(s) (for public drinking water systems), and well tag number (for ground water withdrawals). In the future, Ecology may require additional parameters to be reported or more frequent reporting. Ecology prefers web based data entry, but does accept hard copies. Ecology will provide forms and electronic data entry information.

Chapter 173-173 WAC describes the requirements for data accuracy, device installation and operation, and information reporting. It also allows a water user to petition Ecology for modifications to some of the requirements. Installation, operation and maintenance requirements are enclosed as a document entitled "Water Measurement Device Installation and Operation Requirements".

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.

### Proof of Appropriation:

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

### Water Level Monitoring:

In order to protect the resource, static water level (SWL), represented by depth to water for existing and replacement wells shall be measured at least once each month. Measurements shall be taken after the pump has been shut off a reasonable time to allow water level to return to normal. Ecology's Water Resources program (NWRO) shall be notified if a below normal seasonal drop is measured in SWL, otherwise this data shall be maintained and be made available to Ecology upon request.

### Well Decommissioning

Any approved points of withdrawal under this water right that are no longer planned to be used shall be properly decommissioned within a reasonable amount of time.

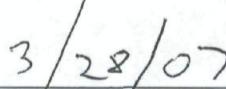
## CONCLUSIONS

In accordance with chapters 90.03 and 90.44 RCW, I conclude that ground water permit G1-25463P is in good standing and is eligible for change. I have determined that the change to G1-25463P will not enlarge the permit and the water use will be beneficial. Approval of this change request will not cause impairment of existing rights or be detrimental to the public interest. Based on these conclusions, this change request should be approved subject to existing rights and the above-indicated provisions and a superseding permit should be issued.

REPORT BY:

  
Paul Fabiniak

DATE:

3/28/07

**Attachment A for Change to Water Right Permit G1-25463P:**  
**Place of Use Legal Description**

**Legal Description for: Grandview-Northgate Water System Service Area**

**Created by: Whatcom County Planning & Development Services**

Starting at a point in the SW  $\frac{1}{4}$  of the NW  $\frac{1}{4}$  of Section 8, Township 39 North, Range 2 East, W.M. on the westerly property line of the Burlington Northern Sante Fe Railroad right-of-way and the northerly right-of-way line of Brown Road (being also the northerly line of Ferndale City Limits), thence in a northwesterly direction along said railroad property right-of-way line to the South line of the NE  $\frac{1}{4}$  of the NE  $\frac{1}{4}$  of Section 7, Township 39 North, Range 2 East, W.M. Thence running West along the South line of the NE  $\frac{1}{4}$  of the NE  $\frac{1}{4}$  of said Section 7 to the SE corner of the NW corner of the NW  $\frac{1}{4}$  of Section 7. Thence North along the East line of the NW  $\frac{1}{4}$  of the NW  $\frac{1}{4}$  to a point 330 feet South of the North line of the NE  $\frac{1}{4}$  of the NW  $\frac{1}{4}$  of Section 7. Thence East at right angles 180 feet, thence North parallel to said West line of the NE  $\frac{1}{4}$  of the NW  $\frac{1}{4}$  to the North Section line of Section 7. Thence running in a Westerly direction along the North section line of Section 7, Township 39 North, Range 2 East, W.M., to the Northwest corner of Section 7, also being the Southeast corner of Section 1, Township 39 North, Range 1 East, W.M. Thence continuing West along the South section line of said Section 1 to intercept with the centerline of Vista Drive, County Road No. 42 (formerly known as the Blaine Ferndale Road). Thence following the centerline of Vista Road and traveling in a Northwesterly direction across the SE  $\frac{1}{4}$  of Section 1 to intercept with the Westerly line of the NW  $\frac{1}{4}$  of the SE  $\frac{1}{4}$ . Thence running in a Northerly direction along said Westerly line of the NW  $\frac{1}{4}$  of the SE  $\frac{1}{4}$  to the Northwest corner of said NW  $\frac{1}{4}$  of the SE  $\frac{1}{4}$ , thence running East along the North line of said NW  $\frac{1}{4}$  of the SE  $\frac{1}{4}$  to the Northeast corner of said quarter-quarter. Thence in a Northerly direction along the West line of the East half of the NE  $\frac{1}{4}$  of said Section 1 to intercept with the centerline of Portal Way. Thence running in a Southeasterly direction along the centerline of Portal Way to intercept with the South line of the NW  $\frac{1}{4}$  of Section 6, Township 39 North, Range 2 East, W.M. Thence running at right angle to the centerline of Portal Way and in a Northeasterly direction to intercept the centerline of Interstate Highway No. 5 (I-5). Thence following the centerline of said Interstate Highway No. 5 to intercept with the South line of the NW  $\frac{1}{4}$  of the SE  $\frac{1}{4}$  of Section 6. Thence running in an Easterly direction along the said South line to the West line of the NE  $\frac{1}{4}$  of the SE  $\frac{1}{4}$  of Section 6 and proceeding in a Northerly direction along said West line to intercept with the North line of said quarter-quarter. Thence running in an Easterly direction along said North line to the East line of Section 6, also being the West line of Section 5, Township 39 North, Range 2 East, W.M. Thence proceeding in a Southerly direction on the aforesaid West line of Section 5 to a point 300 feet, more or less, South of the North line of the SW  $\frac{1}{4}$  of the SW  $\frac{1}{4}$  of Section 5. Thence in an Easterly direction and parallel to the South line of the SW  $\frac{1}{4}$  of the SW  $\frac{1}{4}$  of Section 5 a distance of 528 feet (32 rods), more or less, thence South parallel to the West line of the SW  $\frac{1}{4}$  of the SW  $\frac{1}{4}$  to a point 825 feet (50 rods) North of the South line of the SW  $\frac{1}{4}$  of the SW  $\frac{1}{4}$ . Thence running East to the East line of the SW  $\frac{1}{4}$  of the SW  $\frac{1}{4}$ , thence running South along said East line to the South line of Section 5. Proceed in the same Southerly direction along the East line of the NW  $\frac{1}{4}$  of the NW  $\frac{1}{4}$  of Section 8, Township 39 North, Range 2 East, W.M., to the South line of the NW  $\frac{1}{4}$  of the NW  $\frac{1}{4}$  of said Section 8, thence running West along said South line to the centerline of Interstate Highway No. 5 (I-5). Following the centerline of the Interstate Highway in a southerly curving line to the interception of the Northwesterly right-of-way line of Portal Way and the Ferndale City Limits. Thence Northwesterly along the Northeasterly right-of-way line of Portal Way/Ferndale City Limits to the intercept with the Northerly right-of-way line of Brown Road, County Road No. 36. Thence running West along the Northern right-of-way line of Brown Road to the intercept with the Westerly right-of-way property line of the Burlington Northern Sante Fe Railroad and the Point of Beginning in Section 8, Township 39 North, Range 2 East, W.M.