DEPARTMENT OF ECOLOGY
State of Washington

STATE OF WASHINGTON
PROTESTED
REPORT OF EXAMINATION
FOR
INTERRUPTIBLE WATER RIGHT

WR File NR S1-28718
WR Doc ID 5119233

PRIORITY DATE	WATER RIGHT NUMBER
January 30, 2012	S1-28718

MAILING ADDRESS	SITE ADDRESS (IF DIFFERENT)
Skagit County Consolidated Diking Improvement District No. 22 PO Box 535 Conway, WA 98238	Fir Island Conway, WA 98238

Total Quantity Authorized for Diversion

DIVERSION RATE	UNITS	ANNUAL QUANTITY (AF/YR)
10.69	CFS	950

Purpose

PURPOSE	DIVERSION RATE			ANNUAL QUANTITY (AF/YR)		PERIOD OF USE (mm/dd)
	ADDITIVE	NON-ADDITIVE	UNITS	ADDITIVE	NON-ADDITIVE	
Irrigation	10.69	0	CFS	950	0	05/01-09/30

REMARKS

USE OF WATER UNDER THIS WATER RIGHT IS NOT ALLOWED WHEN THE ACTUAL FLOW OF THE SKAGIT RIVER (NEAR MOUNT VERNON) – USGS GAGE 12200500, IS LESS THAN THE MINIMUM INSTREAM FLOW FOR THAT CONTROL STATION, AS SPECIFIED IN WASHINGTON ADMINISTRATIVE CODE (WAC) 173-503-040. **DUE TO THE LIKELIHOOD OF INTERRUPTION, THIS WATER RIGHT SHOULD NOT BE RELIED ON TO GROW PERENNIAL CROPS THAT REQUIRE IRRIGATION TO SURVIVE.**

IRRIGATED ACRES		PUBLIC WATER SYSTEM INFORMATION	
ADDITIVE	NON-ADDITIVE	WATER SYSTEM ID	CONNECTIONS
0	2,400 [1]	NA	NA

The District is entitled to the use of waters developed by the drainage system, under RCW 85.08.630, and can irrigate land with those waters but this water right does not increase the amount of acreage that can be irrigated.

Source Location

COUNTY	WATERBODY	TRIBUTARY TO	WATER RESOURCE INVENTORY AREA
Skagit	Skagit River	Skagit Bay	3 – Lower Skagit/Samish

SOURCE FACILITY/DEVICE*	PARCEL	WELL TAG	TWN	RNG	SEC	QQ Q	LATITUDE	LONGITUDE
SF1 (Lee's)	P23218	NA	34N	3E	36	SW SE	48.3850	-122.3646
SF2 (Stuber's)	P15247	NA	33N	3E	1	SE	48.3740	-122.3625
SF3 (Grant Nelson's)	P15754	NA	33N	3E	12	NE	48.3666	-122.3590
SF4 (Lundeen's Cabins)	P16078	NA	33N	3E	24	SW SE	48.3274	-122.3678
NF1 (Darcy's House)	P123291	NA	33N	3E	2	SE SW	48.3712	-122.3937
NF2 (Garbage Dump or Old Bridge)	P15636	NA	33N	3E	10	SE NW	48.3651	-122.4129
NF3a (Short Road)	P15559	NA	33N	3E	9	SW SW	48.3583	-122.4427
NF3b (Billy Summers')	P15519	NA	33N	3E	8	SE SW	48.3589	-122.4563

Datum: NAD83/WGS84

*The items in parentheses are the common names used by the District to identify facility locations and do not necessarily reflect current ownership of those parcels.

Place of Use (See Attachment 1)

PARCELS (NOT LISTED FOR SERVICE AREAS)

LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE
Jurisdictional boundary of Skagit County Consolidated Diking Improvement District No. 22 (Fir Island)

Proposed Works

Centrifugal pump diversions from the North and South Forks of the Skagit River adjacent to Fir Island. Some pumps will discharge into existing ditches which will transmit and store the water for later diversion from the ditches to the fields. In some cases, the higher water level in the ditches will provide sub-irrigation benefits to adjacent fields. Other pumps will divert water from the river directly into individual irrigation systems.

Development Schedule

BEGIN PROJECT	COMPLETE PROJECT	PUT WATER TO FULL USE
Started	Completed	January 1, 2026

Measurement of Water Use

See Metering and Annual Reporting provisions

Provisions

Minimum Instream Flow

This authorization is subject to the following minimum flow provision as specified in WAC 173-503-040. It is subject to regulation by the Department of Ecology for protection of instream resources when gaged flows are less than the following minimum flow provisions at:

Control Station: Skagit River (near Mount Vernon) – USGS 12200500
River Mile: 15.7
Minimum Instantaneous Discharge

Month	Day	USGS Monitoring Station 12200500 Skagit River
May	1-31	12,000
June	1-30	12,000
July	1-31	10,000
August	1-31	10,000
September	1-30	10,000

Real-time discharge data for USGS station 12200500 can be obtained from the following web site: http://waterdata.usgs.gov/wa/nwis/uv/?site_no=12200500. Provisional data will be relied upon for regulation and any later revisions made to the data by the USGS will not be used as evidence of non-permitted water use by the water right holder.

Start of Irrigation Season Notification

Water Resources staff at the Department of Ecology Northwest Regional Office shall be notified 72 hours prior to the anticipated first startup for each irrigation season. In that notification, the District shall inform Ecology which diversion points will be utilized that irrigation season and what signal will be used to allow Ecology staff to determine if the pump is on or off when viewed from the public right-of-way.

Metering

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," Chapter 173-173 WAC.

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 the Department of Ecology for modifications to some of the requirements.

Annual Reporting
The District shall submit an annual letter report on the following conditions:

A summary of water use under the water right including:

- Identification of the points of diversion utilized,
- Volume diverted from each point of diversion,
- Peak pumping rate for each point of diversion, and
- Any reasons for non-compliance and corrective action that will be taken to prevent that from happening in the future.

This report shall be submitted by January 31st of each year to the Department of Ecology, Water Resources Program, Northwest Regional Office.

The compliance spreadsheet (**Attachment 2**) must be thoroughly filled out for each point of diversion throughout the irrigation season. The spreadsheet includes the following columns that must be filled in each time a pump is started: Date, military time, minimum instream flow for that date, actual Skagit River flow, water meter reading, pumping rate, and who recorded the data. The spreadsheet also includes the following columns that must be filled in each time a pump is stopped: Date, military time, actual Skagit River flow, water meter reading, and who recorded the data. In addition to noting the meter reading upon every pump startup and shutdown, if a pump runs continuously, water meter readings must be recorded at least weekly per WAC 173-173-060. An electronic version of the spreadsheet must be submitted to Ecology along with any hard-copy data sheets.

District leadership shall work with all growers within the District's boundaries to ensure they have a legal source of irrigation supply, either through this authorization, developed water, or through previously issued water rights. The District must report annually on progress made to eliminate all unauthorized irrigation water use within the District's boundaries.

Compliance
If you are irrigating without a legal water right, in excess of an existing right, or outside of the terms of your water right, you are violating Revised Code of Washington (RCW) 90.03.400 and will be notified to immediately curtail your diversion of water. According to provisions of RCW 90.03.600, failure to comply with Washington's water code may result in the issuance of an Administrative Order and/or Notice of Penalty, with possible fines of up to $5,000 per day of illegal water use.

Inspections
Department of Ecology personnel, with proper credentials, will have access to the project location to inspect records of water use, diversions, measuring devices, and associated distribution systems for compliance with water law at all times.

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

Family Farm Irrigation
This authorization to use public waters of the state is classified as a Public Water Entity Permit in accordance with Chapter 90.66 RCW. This means the individual irrigators provided water under this water right and the associated irrigated land shall comply with the following definition: Family Farm - a geographic area including not more than 6,000 acres of irrigated agricultural lands, whether contiguous or noncontiguous, the controlling interest in which is held by a person having a controlling interest in no more than 6,000 acres of irrigated agricultural lands in the state of Washington which are irrigated under water rights acquired after December 8, 1977. Furthermore, the land being irrigated under this authorization must continue to conform to the definition of a family farm.

Department of Fish and Wildlife Requirement(s)
Pursuant to Chapter 77.55 RCW, a Hydraulic Project Approval permit must be obtained from the Washington State Department of Fish and Wildlife prior to beginning construction of the diversions.

The intake(s) must be screened in accordance with Department of Fish and Wildlife screening criteria (pursuant to RCW 77.57). Contact the Department of Fish and Wildlife, 600 Capitol Way N, Olympia, WA 98501-1091. Attention: Habitat Program, Phone: (360) 902-2534 if you have questions about screening criteria. http://wdfw.wa.gov/licensing/hpa/

No dam or weir may be constructed in connection with these diversions.

Easement and Right-of-Way
If the water source and/or water transmission facilities are not wholly located upon land owned by the water right holder, they are advised that issuance of a water right by this department does not convey a right of access to, or other right to use, land which the water right holder does not legally possess. Obtaining such a right is a private matter between applicant and owner of that land.

Proof of Appropriation
The water right holder 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 beneficial use. Once Ecology has accepted the Proof of Appropriation form, the applicant shall retain the services of a Certified Water Rights Examiner (CWRE) to verify the extent of the perfected right and prepare the necessary documentation to allow Ecology to issue a water right certificate for this project. The certificate will reflect the extent of the project perfected within the limitations of this authorization. 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. Information on hiring a CWRE is available on Ecology's website at: http://www.ecy.wa.gov/programs/wr/rights/cwrep.html or by calling the appropriate Ecology regional office.

Senior Water Rights
This authorization to make use of public waters of the state is subject to existing rights, including any tribal water rights held by the United States for the benefit of tribes, to the extent they may exist.

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 under certain conditions and that there will be no impairment of existing rights if water is only diverted when instream flows are being met as required by Chapter 173-503 WAC; that the purpose of use will be beneficial; and that there will be no detriment to the public interest.

Therefore, I ORDER approval of Application No. S1-28718, 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 Hearing 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 Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey, WA 98503	**Department of Ecology** Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608
Pollution Control Hearings Board 1111 Israel RD SW, Suite 301 Tumwater, WA 98501	**Pollution Control Hearings Board** PO Box 40903 Olympia, WA 98504-0903

Signed at Bellevue, Washington, this 19th day of November, 2015.

Thomas Buroker, 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
Application for Water Right: Skagit County Consolidated Diking Improvement District No. 22
Water Right Control Number: S1-28718
Investigators: Mr. Andrew Dunn and Mr. Jim Bucknell (RH2 Engineering, Inc.)

BACKGROUND

This report serves as the written findings of fact concerning Water Right Application Number S1-28718.

On January 30, 2012, Skagit County Consolidated Diking Improvement District No. 22 (District) filed a water right application with the State of Washington Department of Ecology. In the application, the District requested 10.69 cubic feet per second (cfs) for irrigation of up to 2,400 acres from four surface water diversions from the North and South Forks of the Skagit River. The requested water right is in addition to the waters developed by the drainage system and authorized for use under RCW 85.08.630.

On June 10, 2015, Ecology issued an interruptible temporary permit to the District to allow the District to irrigate when flows were met during the pendency of the application.

Cost Reimbursement

The application, including preparation of the temporary permit, was processed under a cost reimbursement process initiated under RCW 90.03.265(1). This report has been prepared by RH2 Engineering, Inc. (RH2) on behalf of the Department of Ecology.

Table 1 Summary of Requested Water Right

Applicant Name	Skagit County Consolidated Diking Improvement District No. 22
Date of Application	January 30, 2012
Place of Use	The jurisdictional boundaries of Skagit County Diking Improvement District No. 22, commonly referred to as Fir Island.

County	Waterbody	Tributary To	WRIA
Skagit	Skagit River	Skagit Bay	03 – Lower Skagit-Samish

Purpose	Rate	Unit	Af/yr	Begin Season	End Season
Irrigation of 2,400 acres	10.69	CFS	950	May	September

Source Name	Parcel	Well Tag	Twp	Rng	Sec	QQ Q	Latitude	Longitude
SF1 (Lee's)	P23218	NA	34N	3E	36	SW SE	48.3850	-122.3646
SF2 (Stuber's)	P15247	NA	33N	3E	1	SE	48.3740	-122.3625
SF3 (Grant Nelson's)	P15754	NA	33N	3E	12	NE	48.3666	-122.3590
SF4 (Lundeen's Cabins)	P16078	NA	33N	3E	24	SW SE	48.3274	-122.3678
NF1 (Darcy's House)	P123291	NA	33N	3E	2	SE SW	48.3712	-122.3937
NF2	P15636	NA	33N	3E	10	SE NW	48.3651	-122.4129

(Garbage Dump or Old Bridge)								
NF3a (Short Road)	P15559	NA	33N	3E	9	SW SW	48.3583	-122.4427
NF3b (Billy Summers')	P15519	NA	33N	3E	8	SE SW	48.3589	-122.4563

POD = Point of Diversion; cfs = cubic feet per second; af/yr = acre-feet per year; Sec. = Section; QQ Q = Quarter-quarter of a section; WRIA = Water Resource Inventory Area; E.W.M. = East of the Willamette Meridian; Datum: NAD83/WGS84.

Legal Requirements for Approval of Appropriation of Water

Chapter 90.03 RCW authorizes the appropriation of public water for beneficial use and describes the process for obtaining water rights. Laws governing the surface water right permitting process are contained in RCW 90.03.250 through 90.03.340. In accordance with RCW 90.03.290, determinations must be made on the following four criteria in order for an application for water rights to be approved:

1. Water must be available
2. There must be no impairment of existing rights
3. The water use must be beneficial
4. The water use must not be detrimental to the public interest

Each of these four tests is addressed in the **INVESTIGATION** section.

Public Notices

RCW 90.03.280 requires that notice of a water right application be published once a week, for two consecutive weeks, in a newspaper of general circulation in the county or counties where the water is to be stored, diverted and used. Notice of this application was published in the *Skagit Valley Herald* on February 9 and 16, 2014. After discovering errors in the original publication, a corrected public notice was published in the *Skagit Valley Herald* on August 14 and 21, 2015. No protests were received.

Consultation with the Department of Fish and Wildlife

The Department of Ecology must give notice to the Washington Department of Fish and Wildlife (WDFW) of applications to divert water. On May 13, 2015, Mr. Andy Dunn of RH2 Engineering solicited comments from Mr. Steven Boessow (Water Rights Biologist) of WDFW on the water right application and Ecology's plan to issue a temporary permit. No response was received. Additional email notifications were sent to Mr. Boessow on July 13, 2015 and August 14, 2015, soliciting comments on the processing of the application. No response was received.

Consultation with area Tribes

The Swinomish Indian Tribal Community, Upper Skagit Tribe, and Sauk-Suiattle Tribe were notified by the Department of Ecology prior to initiation of the cost reimbursement process. The Swinomish Indian Tribal Community sent a protest letter dated May 15, 2012. In that letter, the Swinomish Indian Tribal Community identified that it was protesting this application based on concerns over impacts on instream flows and potential impairment of senior water rights.

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.

(a) 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;
(b) It is a groundwater right application for more than 2,250 gallons per minute;
(c) It is an application that, in combination with other water right applications for the same project, collectively exceed the amounts above;
(d) 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);
(e) 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 the application is for an agricultural irrigation project of less than 50 cubic feet per second that is not receiving public subsidies, it is categorically exempt from SEPA and a threshold determination is not required.

INVESTIGATION

Site Visits

Two site visits were performed as part of this investigation. The first was on May 19, 2015, to allow drafting of the Temporary Permit and the second was on June 16, 2015, and was undertaken to see the irrigation system in operation. Both site visits are described here:

On May 19, 2015, Jim Bucknell and Andy Dunn from RH2 Engineering, Inc. (RH2) met with the following representatives from Consolidated Diking Improvement District No. 22 (District); Greg Lee, Brad Smith, and David Hughes. During the site visit we discussed the application, anticipated pump locations, pumping rates, operation of the pumps, control of water in the ditches, and how individual irrigators pump from the ditches to irrigate. During the meeting it was determined that May 1 through September 30 was a more appropriate irrigation season than the June 1 through September 30 irrigation season requested on the application.

We visited 8 locations that are likely to be used as points of diversion along the North Fork (4 locations) and South Fork (4 locations) of the Skagit River surrounding Fir Island in the Skagit Delta (**Table 1**). No pumps had yet been installed for the irrigation season. Each site was located on an aerial photo and GPS coordinates were recorded. It appeared the limiting factor on suitable locations is the ability to get water under the roads that often are located just inside the dike. At all locations the pumps are located on the river-side of the dike and are not viewable from the public right-of-way.

Fir Island is drained throughout the year by a combination of pumping plants and tide gates. The pumping plants are only utilized during periods of excessive precipitation and or elevated Skagit River levels due to flow or tides. Typically, all water leaves the dike through tide gates during the irrigation season. For this reason, the flow of water leaving the system cannot be easily measured.

When water is being pumped from the river into the ditches, a high volume, low pressure pump is used. When water is being pumped from the river directly into an irrigation system, a low volume, high pressure pump is used.

Fir Island generally slopes from north to south, but also slopes away to the east and west from Dry Slough, which forms a north to south low ridge running down the center of the island that splits the island. There are four "watersheds" on the island based on the current configuration of the ditch system. Going from east to west, the first watershed includes all ground located east of Dry Slough and bordered on the east by the dike along the South Fork of the Skagit River. Within this watershed, the South Fork Diversion 1 (at the north end of the island) is the primary pumping plant for adding water to the ditches. The South Fork Diversions 2 and 3 are used with high-head pumps to pump directly into the irrigation system in the fields closest to those diversions. The South Fork Diversion 4 sometimes is pumped into nearby ditches, since it is located near the downstream extent of the eastern ditch system, and it is sometimes pumped directly into the irrigation system for use on fields in the immediate vicinity. The second watershed is located just west of Dry Slough and the North Fork Diversion 1 is used to add water to the ditch. The third watershed is located east of Fir Island Road and west of the second watershed and North Fork Diversion 2 is used to add water to the ditch. The fourth watershed is located west of Fir Island Road and water is added to the ditch system by either North Fork Diversion 3a or 3b. However, these two diversions are not used at the same time.

Water is added to the ditches based on demand by irrigators and also to maintain the water level. Once the water level is elevated and the surrounding bank storage is filled, it takes less water to maintain the water level in the ditch system.

During the irrigation season, the District installs check dams in the ditch system to try to maintain water in the ditches as opposed to letting it escape from the system. They typically install one about ½ way down the ditch and another near the tail of the ditch. It is desirable to maintain the ditches at a level that is approximately 1 foot lower than the lowest field elevation in the area.

Irrigation is typically carried out by a portable pump/motor combination on a trailer using a centrifugal pump. Once pumped, water is routed through temporary pipe or soft hose to the desired point of use. The most common irrigation method is traveling big gun sprinklers with ¼ mile of hose, however there are some minor handline and drip systems installed within the District.

On June 16, 2015, Andy Dunn from RH2, performed a second site visit without being accompanied by any District representatives. The District was granted a 24-hour drought permit that ran from 5:00 AM June 16-17, 2015. A decision was made to perform the pumping site visit during this time due to the anticipated low flows this season and likelihood that pumping might not be possible until very late in the season, if at all.

During the site visit, which occurred in the afternoon, there were three pumps diverting water from the Skagit River into the District's ditch system. Those were sites NF1, NF3a, and SF1 (**Table 2**).

Table 2. Operational Pumps Observed During June 16, 2015 Site Visit

Site	Common Name	Power Supply	Motor	Pump Make	Pump Model	Pump Impeller Diameter (inches)
NF1	Darcy's House	Electric Generator	25 HP, 1,170 RPM	Berkeley	B8GPBMS	11.5

NF3a	Short Road	Diesel Motor	1,750 RPM	Berkeley	B6JQMB (B6JQBM)	10.25
SF1	Lee's Pump	Electric	25 HP, 1,180 RPM	Berkeley	B8GPBM	11.76

The ditches within watersheds 1, 2, and 4 were charged with water due to the pumping, whereas the ditch in watershed 3 had a lower water level. The site visit occurred approximately 9 hours after pumping commenced.

None of the pumps had water flow meters attached, so instantaneous diversion rate could not be measured directly. Pump curves were located on the Internet for these particular models, but not necessarily for the pump impeller diameters identified on the nameplates.

At site SF1, power consumption was measured during operation of the pump and motor. The pump motor was consuming 1 unit (assumed to be a Kwh) every 4 minutes, or 0.25 units per minute. If the pumping rate is assumed to be 1,800 gpm, then the volume pumped can be approximated using power meter data with each Kwh equal to 7,200 gallons pumped.

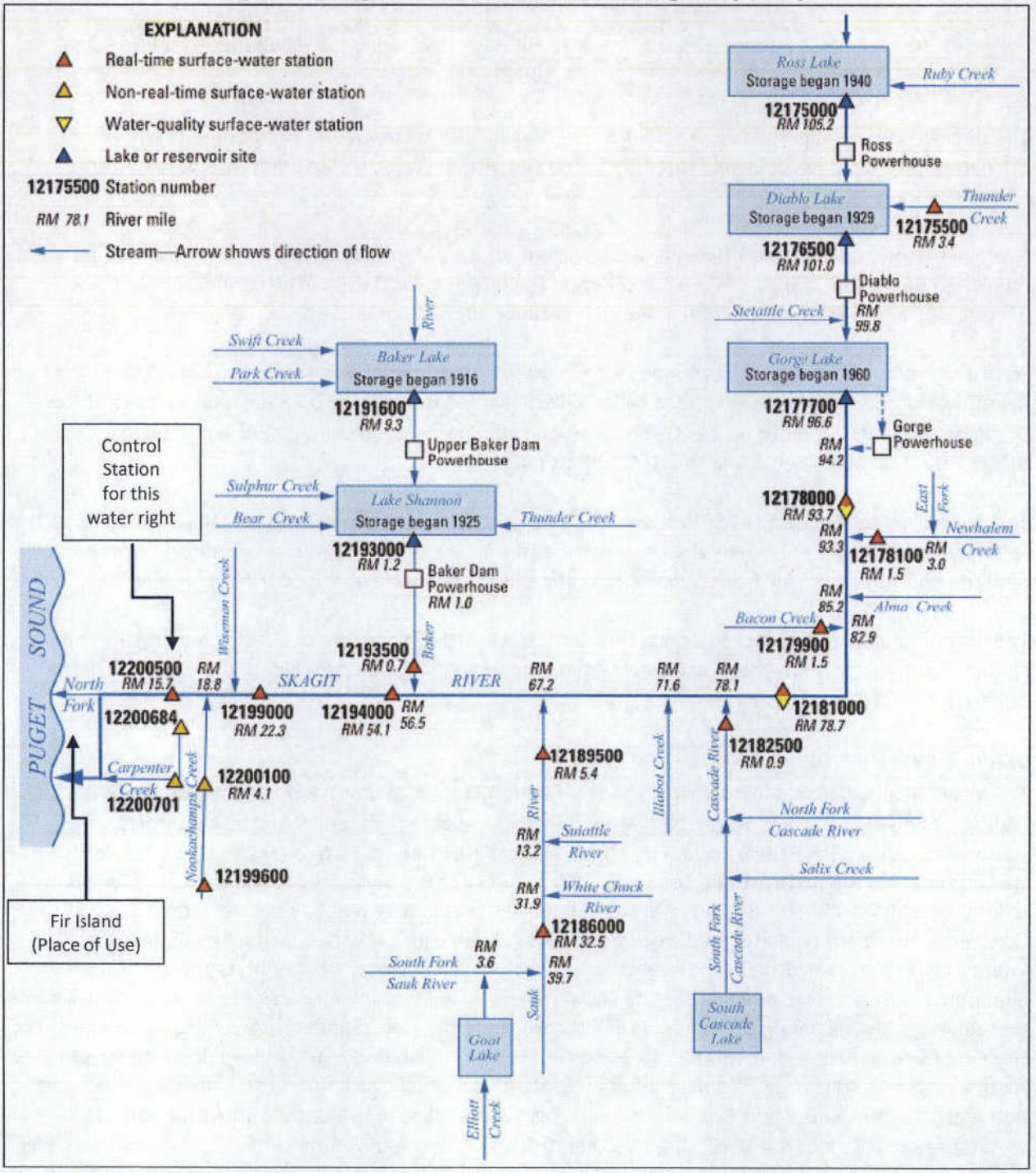
The power line to the pump at SF1 crosses Skagit City Road. When tuned in to an AM radio station, the radio signal turns to static when driving under the power line when the motor is in operation. This is how the operators can tell if this pump is operating from the inside of the dike when driving by.

The irrigation methods observed during this site visit consisted primarily of full-size moving big gun sprinklers, however there was also a single small-size moving big gun sprinkler and some hand line impact sprinklers.

Skagit River Hydrology

The Skagit River is located in northwestern Washington State in Water Resource Inventory Areas (WRIAs) 3 and 4. The river's watershed lies within Snohomish, Skagit, and Whatcom Counties, Washington, as well as British Columbia, Canada. The watershed spans from the crest of the North Cascades to Skagit Bay (Drost and Lombard, 1978). The largest tributaries include the Cascade River (confluence at Marblemount), Sauk River (confluence at Rockport), and Baker River (confluence at Concrete). There are two large hydropower projects within the watershed including Puget Sound Energy's Baker River Hydroelectric Project, which includes dams on the Baker River forming Lake Shannon and Baker Lake, and Seattle City Light's Skagit River Hydroelectric Project, which includes dams on the Skagit River forming Gorge Lake, Diablo Lake, and Ross Lake (**Figure 1**). After exiting the foothills, the river flows across a relatively flat area referred to as the Skagit Lowland before discharging into the marine water of Skagit Bay. The river bifurcates into a north and south fork at river mile 8.1. The land between the forks and Skagit Bay is Fir Island, which is the place of use under this water right. The watershed upstream of the USGS Gage 12200500 Skagit River near Mount Vernon, WA (located at river mile 15.7) is 3,093 square miles, of which 400 square miles is located in Canada. The average water year discharge for the period of 1941 through 2013 is 16,570 cfs, which is equivalent to 12,010,000 af/yr. The maximum recorded discharge for the period of record (October 1940 through September 2013) of 152,000 cfs occurred on November 25, 1990, and the minimum recorded discharge of 2,740 cfs occurred on October 26, 1942 (United States Geological Survey, 2013).

Figure 1. Skagit Basin Schematic Flow Diagram (USGS)



Skagit River Regulation

The State of Washington adopted Chapter 173-503 WAC in 2001. WAC 173-503-040 includes the establishment of stream management units and control stations for five stream management units. This water right application requests to divert water from the Skagit Mainstem stream management unit, which includes the reach of the Skagit River from the mouth of Skagit River including tidal fluctuations to the headwaters. The control station within this stream management unit is USGS gage 12200500, which is referred to as the Skagit River near Mount Vernon, WA and is located at river mile 15.7 (**Figure 1**). Even though the proposed points of diversion are located downstream of the control station, the diversions are still interruptible based on the actual flow measured at the control station. **Figure 2** shows the established minimum instream flows for this control station during the irrigation season.

Figure 2. Minimum Instream Flows at Skagit River near Mount Vernon, WA (USGS Gage 12200500) (WAC 173-503-040) and Percent of Time Minimum Instream Flows NOT met 1941 through 2014

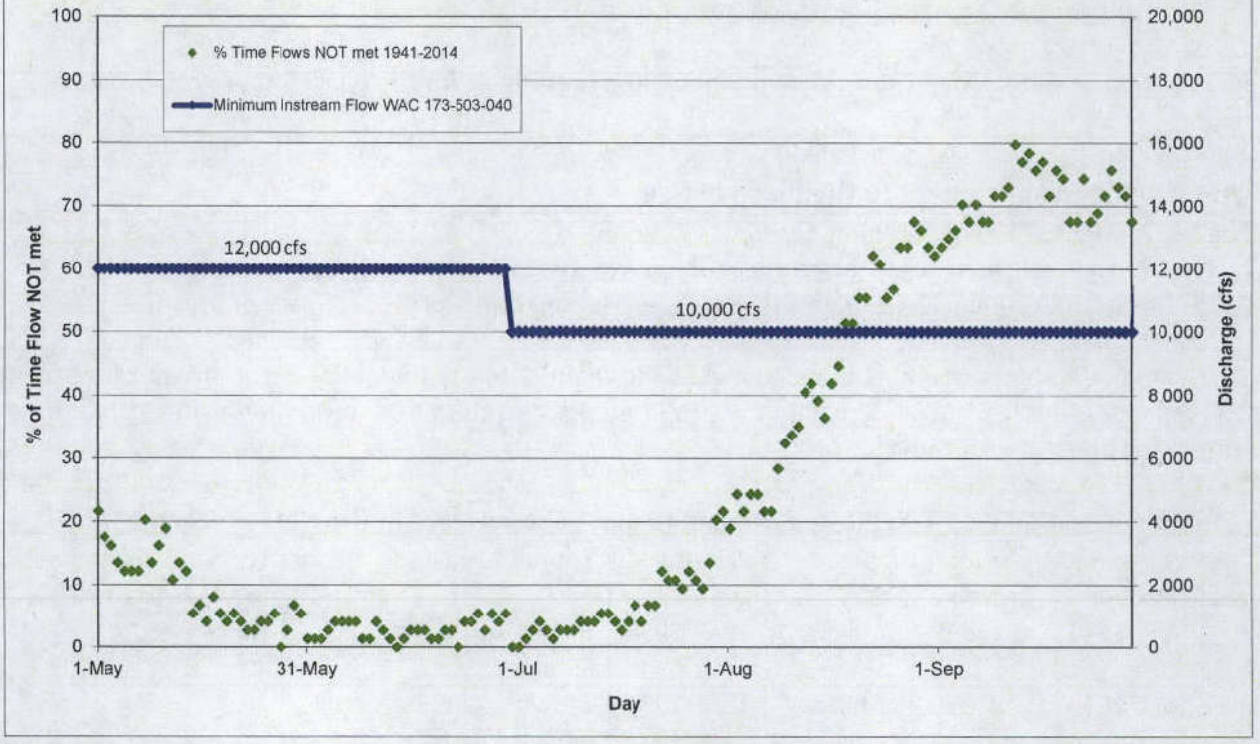


Figure 2 also shows the historic percentage of time that the minimum instream flows are not met for each particular day of the year over the period of record (1941 – 2014), which spans 74 years. This figure shows that, in May, the actual discharge of the river should be greater than minimum instream flows in approximately 9 out of 10 years. In June, the actual discharge of the river should be greater than the minimum instream flows in approximately 19 out of 20 years. By mid-August the actual discharge of the river should be greater than the minimum instream flow in 5 out of 10 years. By late September, the actual discharge of the river should be greater than the minimum instream flows in only 2 out of 10 years. This graph shows that the District should be prepared to shut-off on any particular day and the likelihood of having to shut off generally increases as the irrigation season progresses. Based on the

likelihood of interruption and acknowledging that this is not a firm source of supply, it is advised that the District take this into consideration when farmers plan which crops to grow each season.

Proposed Use and Basis of Water Demand

The proposed use is irrigation. In a project description document submitted with the application, the District indicated that they plan to irrigate up to 2,400 acres annually. For the 2006 irrigation season, it was calculated that the assortment of crops grown had an average total irrigation requirement of 1.64 feet, which equals a total irrigation season demand of approximately 3,975 afy. The farmers within the District irrigate a variety of crops, typically on a rotational basis, including potatoes, cereal grains, corn silage, vegetables, seed crops, apples, strawberries, and other crops. Most of the crops are irrigated using traveling big gun sprinklers with some crops being irrigated with impact sprinklers (handlines and wheel-lines) and drip systems. The District indicates that it can reliably provide 3,025 afy of developed water from its drainage system. Therefore, they have requested an additional 950 afy (4.75 inches or 0.4 feet per acre) under this application to make up the difference. This additional annual volume requested is reasonable for the region and variety of crops grown.

An irrigation season of May 1 through September 30 is reasonable for the typical crops grown in this region.

Other Rights Appurtenant to the Place of Use

The Department of Ecology's Water Resources Explorer (https://fortress.wa.gov/ecy/waterresources/map/WaterResourcesExplorer.aspx accessed on June 10, 2015) was used to identify water rights that are appurtenant to the proposed place of use.

There are five water right certificates and eight water right claims that identify irrigation as a purpose of use and whose place of use falls within the proposed place of use of the requested water right. These water rights are listed in **Table 3**.

Table 3. Irrigation Water Rights Appurtenant to the Proposed Place of Use Not Held By the District

Water Right Number	Water Right Name	Priority Date	Source	Qi	Qa (afy)	Irrigated Acres
SWC 1543	Joe B. McMillan	10/5/1939	Brown's Slough	1.3 cfs	NS	65
SWC 1544	Joe B. McMillan	10/5/1939	Brown's Slough	1.3 cfs	NS	65
GWC 1577	C. A. McCormick	2/16/1953	Well	64 gpm	20	10
SWC 8836	Polstra/Marquand	2/13/1962	Dry Slough	0.5 cfs	100	50
S1-00224C	Hulbert Brothers	2/15/1972	Keekealla Slough	1 cfs	80	100
G1-108577CL	Josephine Hansen	NS	Well	NS	NS	NS
G1-119061CL	Leona E. Weaver	NS	Well	NS	NS	NS
G1-125573CL	Hubert Johnson	NS	Well	NS	NS	NS
G1-144231CL	Joseph A. Fiamengo	NS	Well	NS	NS	NS

S1-054173CL	William M. Summers	1975	Skagit River	1.6 cfs	277	72
S1-301167CL	L. Larson	1905	Skagit River	NS	25.17	12
S1-302325CL	Herbert Johnson	<1917	Skagit River	0.45 cfs	25	284
S1-302326CL	Herbert Johnson	<1917	Skagit River	5 cfs	78	234

SWC – surface water certificate
GWC – ground water certificate
G1 – ground water
S1 – surface water
CL - Claim
NS – Not Specified
cfs – cubic feet per second
gpm – gallons per minute

In addition to the water rights identified in **Table 3** above, the Public Utility District No. 1 of Skagit County (PUD) holds municipal water rights that include the entire county as the place of use. The PUD provides irrigation water within its service area through its distribution system. Issuance of an overlapping interruptible water right to the District within the proposed place of use does not present a problem.

In addition, the District has the exclusive right to capture and use water developed by the drainage system under RCW 85.08.630. The water right requested is in addition to the developed water.

Impairment Considerations

Impairment is an adverse impact on the physical availability of water for a beneficial use that is entitled to protection. A water right application may not be approved if it would:

- Interrupt or interfere with the availability of water to an adequately constructed groundwater withdrawal facility of an existing right. An adequately constructed groundwater withdrawal facility is one that (a) is constructed in compliance with well construction requirements and (b) fully penetrates the saturated zone of an aquifer or withdraws water from a reasonable and feasible pumping lift.
- Interrupt or interfere with the availability of water at the authorized point of diversion of a surface water right. A surface water right conditioned with instream flows may be impaired if a proposed use or change would cause the flow of the stream to fall to or below the instream flow more frequently or for a longer duration than was previously the case.
- Interrupt or interfere with the flow of water allocated by rule, water rights, or court decree to instream flows.
- Degrade the water quality of the source to the point that the water is unsuitable for beneficial use by existing users (e.g., via sea water intrusion).

The diversions under this water right will be subject to the minimum instream flows set in WAC 173-503-040, and the water right will be provisioned to protect the established minimum instream flows. The provision will prevent this water right from impairing the minimum instream flows.

The most recent rating curve for the USGS gage 12200500 Skagit River near Mount Vernon, WA shows that at a flow of between 12,000 cfs and 10,000 cfs, which is the range of minimum instream flow levels during the irrigation season, the stage of the river will drop by approximately 0.045 feet for every 100 cfs decrease in flow.

This application requests to divert up to 10.69 cfs. This diversion can only be exercised when the actual flow in the river exceeds the established minimum instream flow. This diversion rate is equal to approximately 0.1 percent of the Skagit River discharge when minimum instream flow levels are equal to 10,000 cfs and might lower the river by approximately 0.0048 feet This reduction in river discharge and stage is likely not large enough to physically impair any existing senior water rights

Water Availability

For water to be available for appropriation, it must be both physically and legally available.

Physical availability

For water to be physically available for appropriation, there must be surface water present in quantities and quality and on a sufficiently frequent basis to provide a reasonably reliable source for the requested beneficial use or uses.

The Skagit River is a perennial river that flows past the proposed points of diversion at all times. Therefore, water is physically available for appropriation from this source, even if it is not considered to be a firm source of supply.

Legal availability

To determine whether water is legally available for appropriation, the following factors are considered:

- Regional water management plans – which may specifically close certain water bodies to further appropriation.
- Existing rights – which may already appropriate physically available water.
    - Volume of water represented by senior water rights, including federal or tribal reserved rights or claims;
    - Water right claims registered under Chapter 90.14 RCW;
    - Groundwater uses established in accordance with Chapter 90.44 RCW, including those that are exempt from the requirement to obtain a permit; and
    - Potential riparian water rights, including non-diversionary stock water.
- Fisheries and other instream uses (e.g., recreation and navigation). Instream needs, including instream and base flows set by regulation. Water is not available for out of stream uses where further reducing the flow level of surface water would be detrimental to existing fishery resources.
- Ecology may deny an application for a new appropriation in a drainage where adjudicated rights exceed the average low flow supply, even if the prior rights are not presently being exercised. Water would not become available for appropriation until existing rights are relinquished for non-use by state proceedings.

While the Skagit River has minimum instream flows in Chapter 173-503 WAC, it is not closed to further consumptive appropriation. This basin has not yet been adjudicated and the extent of federal and tribal

reserved rights has not been quantified. **Figure 2** shows that, in all years, there is anticipated to be water available above the minimum instream flow levels during at least a portion the irrigation season.

WAC 173-503-050 specifies that 200 cfs is available to be appropriated for consumptive uses after adoption of the minimum instream flow rule in April 2001. To date, just under 62 cfs of interruptible consumptive water rights have been issued as either a permit or temporary permit in WRIAs 3 and 4 (**Table 4**).

Table 4. Accounting of Interruptible Water Rights

Water Right Number	Stage	Name	Priority Date	Instantaneous Rate (cfs)
GWC 3959 [1] (G1-*03767C)	Certificate	City of Anacortes	9/13/1954	17.3
S1-*18219P [1]	Permit	Skagit County PUD No. 1	10/30/1963	4
S1-24876	Permit	Kenneth Baumgardner	6/10/1986	1.22
S1-25129 [1]	Permit	Skagit County PUD No. 1	11/16/1987	13.15
S1-27862 [1]	Permit	Skagit County PUD No. 1	10/22/1997	6.6
S1-28607	Preliminary/Temporary Permit	Skagit County DID 15	2/3/2009	8.912
S1-28718 (subject application)	**Temporary permit**	**Skagit County CDID 22**	**1/30/2012**	**10.69**
			Total	61.872
			Total Interruptible Allocations Authorized under WAC 173-503-050	200
			Remaining after this allocation	138.128

GWC – Ground Water Certificate
SWP – Surface Water Permit
[1] These water rights were part of the 1996 Memorandum of Agreement – Regarding Utilization of Skagit River Basin Water Resources for Instream and Out of Stream Purposes; signed by the City of Anacortes, Public Utility District No. 1 of Skagit County, Skagit County, Upper Skagit Indian Tribe, Swinomish Indian Tribal Community, Sauk-Suiattle Indian Tribes, Washington State Department of Ecology, and Washington State Department of Fish and Wildlife.

Therefore, water is legally available for appropriation under certain specific conditions and at certain specific times, as per Chapter 173-503 WAC and the provisions cited above.

Beneficial Use

The proposed use of water for irrigation is defined in statute (RCW 90.54.020(1)) as a beneficial use.

Public Interest Considerations

The proposed new permit will allow the water right holder to divert only at times when it has been determined that there is flow in excess of what is needed for preservation of environmental and aesthetic values in the Skagit River, as per Chapter 173-503 WAC.

Consideration of Protests and Comments

In response to this application, the Department of Ecology received a protest from the following party:

Protestant	Date of Protest
Swinomish Indian Tribal Community	May 14, 2012

The Swinomish Indian Tribal Community has objected to the proposed water right and requests that the application either be denied or deferred pending adjudication of the Tribe's Federal rights based on the following points:

1. The potential for the water right to adversely affect senior water rights, including senior instream flow rights, and harm fisheries resources in the Skagit River and the Skagit estuary.
2. Concern that the water right holder will not cease diverting when minimum instream flows are not met.
3. Concern that the amount of water being pumped out of the ditches will be different than the amount of water being pumped into the ditches from the Skagit River and that somehow will make it impossible to determine if the total allowable withdrawal limit provided for within the Skagit Rule will be exceeded.
4. Concern that the water right will impair federally reserved Tribal Treaty and/or other senior water rights due to reductions in streamflows associated with this water use.

Each point will be addressed here.

Point 1 – The priority data of this water right is January 30, 2012, which was determined based on the date the application was accepted by Ecology. The priority date will prohibit the holder of this water right from impairing any senior water right, including the instream flow water rights established in 2001 under WAC 173-503. Even though the points of diversion are located downstream of the control station for this stream management unit, consistent with the language in WAC 173-503-040, this water right will be interruptible based on the flow at that control station and that provision has been included on this water right.

Point 2 – The water right holder will be required to display a signal flag that is visible from the public right-of-way whenever a pump is diverting from the Skagit River under this water right. This signal will allow Ecology staff and others to easily check the status of pumping when driving through the area. Also, the District will need to fill out and submit pumping records for each diversion location for each irrigation season that identifies when the pump was operated and what the minimum instream flows in the Skagit River were at the time the pump was started and stopped and how that compares with the minimum instream flows for those days. If the District is out of compliance, Ecology can proceed with compliance, which could include fines up to $5,000 a day per violation (RCW 90.03.600). Ecology feels these three steps are sufficient to prevent the District from diverting when minimum instream flows are not met.

Point 3 – The District will be required to meter the water diverted from the Skagit River either into the ditch system or directly into irrigation equipment, which will be the extent of this water right. The District already has the ability to capture and allocate the developed water in their ditch network for beneficial use, such as irrigation, under RCW 85.08.630. So, the amount of water to debit from the total Skagit River allocation identified in WAC 173-503-050 will be the instantaneous rate of this water right.

Point 4 - In consideration of senior water right holders, including tribal water rights asserted by the Swinomish Indian Tribal Community to the extent they may exist, a provision is included on this water right. There is no current adjudication of the Swinomish Indian Tribal Community's water rights underway. Regardless, if a senior right is being impaired, the District will have to cease diversions under this water right.

Conclusions

The facts in this investigation support findings that water is both physically and legally available, that the proposed diversion will not impair existing water rights (since it will be subject to minimum instream flows), that the proposed use is beneficial, and that the proposed permit will not prove detrimental to the public interest.

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:

- 10.69 cfs
- 950 af/yr
- Irrigation of 2,400 acres
- May 1 through September 30
- Subject to minimum instream flows at the Skagit River near Mount Vernon, WA (USGS 12200500) Control Station

Points of Diversion

Source Name	Parcel	Twp	Rng	Sec	QQ Q	Latitude	Longitude
SF1 (Lee's)	P23218	34N	3E	36	SW SE	48.3850	-122.3646
SF2 (Stuber's)	P15247	33N	3E	1	SE	48.3740	-122.3625
SF3 (Grant Nelson's)	P15754	33N	3E	12	NE	48.3666	-122.3590
SF4 (Lundeen's Cabins)	P16078	33N	3E	24	SW SE	48.3274	-122.3678
NF1 (Darcy's House)	P123291	33N	3E	2	SE SW	48.3712	-122.3937

NF2 (Garbage Dump or Old Bridge)	P15636	33N	3E	10	SE NW	48.3651	-122.4129
NF3a (Short Road)	P15559	33N	3E	9	SW SW	48.3583	-122.4427
NF3b (Billy Summers')	P15519	33N	3E	8	SE SW	48.3589	-122.4563

Place of Use
Jurisdictional boundary of Skagit County Consolidated Diking Improvement District No. 22 (Fir Island)

Jim Bucknell 11/19/2015

Jim Bucknell – RH2 Engineering, Inc. *Date*

11/19/2015

Andrew B. Dunn, L.G., L.HG., CWRE – RH2 Engineering, Inc. *Date*

Buck Smith 11/19/2015

Buck Smith L.G., L.HG. – Department of Ecology *Date*

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

Selected References

HDR Engineering, Inc., February 2008, *Prospectus for the Skagit Delta Agricultural Water Management Pilot*, Skagit Basin Comprehensive Irrigation District Management Plan Phase III.

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United States Geological Survey, 2013, Water-Data Report 2013, 12200500 Skagit River near Mount Vernon, WA, Puget Sound Basin, Lower Skagit Subbasin. Accessed at http://wdr.water.usgs.gov/wy2013/pdfs/12200500.2013.pdf

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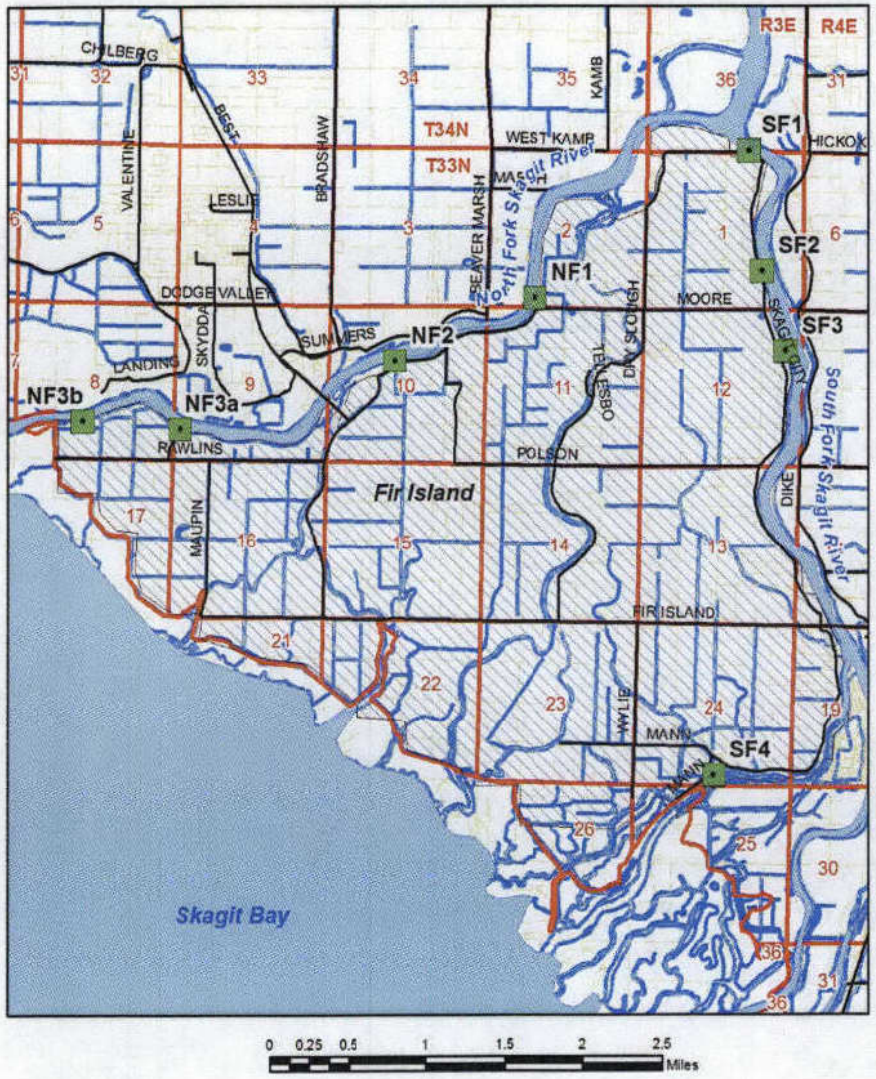

Skagit County Consolidated
Diking Improvement District No. 22
Water Right Number S1-28718
WRIA 3 - Skagit County

Site Map

Legend

- Point of Diversion
- Road
- Place of Use
- Sections
- Parcels
- County
- Streams and Ditches

Place of use and point(s) of diversion/withdrawal are as defined on the cover sheet under the headings,'SOURCE LOCATION' and 'PLACE OF USE.'

Attachment 1

20___ - Water Right Minimum Instream Flow Compliance and Metering

Diversion Site Name: _____

Actual Skagit River Flow. USGS Skagit River at Mount Vernon gage (http://waterdata.usgs.gov/wa/nwis/uv/?site_no=12200500)
Water cannot be diverted when the actual flow in the Skagit River is either less than 12,000 cfs in May and June, or less then 10,000 cfs in July, August, and September.
Submit data to Ecology by January 31st of the following year and upon Ecology's request for verification of compliance with the terms of the permit.

Pump Started							Pump Stopped				
Month and Day	Military Time	Minimum Instream Flow	Actual Skagit River Flow	Meter Reading	Flow Rate	Recorded By	Month and Day	Military Time	Actual Skagit River Flow	Meter Reading	Recorded By
	(00:00-24:00)	(cfs)	(cfs)	Units = _____	Units = _____	(Print Name)		(00:00-24:00)	(cfs)	Units = _____	(Print Name)