File NR CG1-*03622C
WR Doc ID 5681731

DEPARTMENT OF ECOLOGY
State of Washington

State of Washington
REPORT OF EXAMINATION FOR WATER RIGHT CHANGE

Changed Place of Use
Added or Changed Point of Withdrawal/Diversion

PRIORITY DATE	WATER RIGHT NUMBER
05/17/1954	GWC 3262 (G1-*03622CWRIS)

MAILING ADDRESS	SITE ADDRESS (IF DIFFERENT)
Marty Maberry/MDM Properties, LLC 816 Loomis Trail Road Lynden, WA 98264	

Total Quantity Authorized for Withdrawal or Diversion

WITHDRAWAL RATE	UNITS	ANNUAL QUANTITY (AF/YR)
72	GPM	57.6

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

Purpose

	WITHDRAWAL RATE			ANNUAL QUANTITY (AF/YR)		
PURPOSE	ADDITIVE	NON-ADDITIVE	UNITS	ADDITIVE	NON-ADDITIVE	PERIOD OF USE (mm/dd)
Irrigation	72		GPM	57.6		04/01-10/01

IRRIGATED ACRES		PUBLIC WATER SYSTEM INFORMATION	
ADDITIVE	NON-ADDITIVE	WATER SYSTEM ID	CONNECTIONS
60	0		

Source Location

COUNTY	WATERBODY	TRIBUTARY TO	WATER RESOURCE INVENTORY AREA
Whatcom	Groundwater		WRIA 1 (Nooksack)

SOURCE FACILITY/DEVICE	PARCEL	WELL TAG	TWP	RNG	SEC	QQ Q	LATITUDE	LONGITUDE
IW-1	400214070079	BHN686	40N	02E	14	SW SW	48.95140	-122.52599
IW-2	400214070079	BHN687	40N	02E	14	SW SW	48.95137	-122.52474
IW-3	400214070079	BHN689	40N	02E	14	SW SW	48.95185	-122.52469
IW-4	400214070079	BHN690	40N	02E	14	SW SW	48.95259	-122.52463
IW-5	400214070079	BHN691	40N	02E	14	SW SW	48.95375	-122.52779
IW-6	400214114260	BHN407	40N	02E	14	SW NW	48.95761	-122.52458
IW-7	400214114260	BHN408	40N	02E	14	SW NW	48.95780	-122.52454
HW-1	400214114260	BHE778	40N	02E	14	SW NW	48.95762	-122.52479

Future Well	400214086014	NA	40N	02E	14	SW SW	-	-
Future Well	400214070173	NA	40N	02E	14	NW SW	-	-
Future Well	400214026217	NA	40N	02E	14	NW SW	-	-
Future Well	400214347240	NA	40N	02E	14	NW SE	-	-
Future Well	400214470244	NA	40N	02E	14	NE SW	-	-

Datum: NAD83/WGS84

Place of Use (See Attached Map)

PARCELS (NOT LISTED FOR SERVICE AREAS)

400214070079, 400214114260, 400214347240, 400214070173, 400214470244, 400214086014, and 400214026217

LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE

400214070079 SW SW-EXC S 250 FT OF E 872 FT THEREOF-LESS RDS

400214114260 LOT B MONTE SHORT PLAT AS REC BOOK 6 SHORT PLATS PG 3

400214347240 N 1/2 OF TR AS MEAS ALG W LI DAF-THAT PTN OF TR LY NLY OF BERTRAND CREEK DAF-BEAP ON S SEC LI 1409.9 FT W OF SE COR-TH W ALG SD SLY LI 240.01 FT-TH N 1320 FT-TH W TO N-S SEC C/L-TH N ALG SD LI TO N LI OF SE 1/4 AS ESTAB IN CIVIL CAUSE 11571-TH ELY ALG SD LI TO NE COR OF W 1/2 SE-TH S TO POB-LESS RDS

400214070173 S 1/2 NW SW-LESS RDS.

400214470244 N 1/2 OF TR AS MEAS ALG W LI DAF-TR IN SE 1/4 DAF-BEAP 100 RODS W-80 RODS N OF SE COR-TH W PAR TO S LI TO WLY LI-TH NLY ALG SD WLY LI TO NW COR AS ESTAB IN CIVIL CAUSE 11571-TH ELY ALG SD ESTAB LI TAP 495 FT W OF ELY LI-TH SLY PAR TO SD ELY LI TAP 875.55 FT S-495 FT W OF NE COR-TH WLY 30 FT TAP 875.55 FT S-525 FT W OF NE COR-TH SLY PAR TO ELY LI 275 FT TO NLY LI OF BERTRANDA ESTATES DIV NO 2-TH WLY ALG SD NLY LI TO THREAD OF BERTRAND CREEK-TH WLY ALG THREAD OF SD CREEK TO ITS INTERS WI LI S OF POB-TH N TO POB-EXC THAT PTN LY IN NW SE

400214086014 S 250 FT OF E 872 FT OF SW SW-LESS RDS

400214026217 LOT A MONTE SHORT PLAT AS REC BOOK 6 SHORT PLATS PG 3-EXC PTN LY NLY-WLY OF LI DAF-BEG AT NW COR OF SD LOT A-TH S 01 DEG 1150 W ALG W LI OF SD LOT A 124.09 FT TO TPOB OF THIS LI DESC-TH FOL 7 COURSES N 81 DEG 51'55" E 32.71 FT-N 79 DEG 53'54" E 30.21 FT-S 85 DEG 18'22" E 240.77 FT-N 87 DEG 43'55" E 12.04 FT- N 45 DEG 14'20" E 15.89 FT-N 21 DEG 07'14" E 7.38 FT-N 02 DEG 28'48" E 337.66 FT TO N LI OF SD LOT A-TERMINUS OF THIS LI DESC

All in Township 40 North, Range 2 East, W.M.

Proposed Works

The proposed works includes eight irrigation wells (IW-1 through IW-7 and HW-1). The irrigation system is interconnected with 8-inch mains and 4- and 5-inch sub-mains. The farm consists of ten zones.

Development Schedule

BEGIN PROJECT	COMPLETE PROJECT	PUT WATER TO FULL USE
Started	December 31, 2016	December 31, 2021

Measurement of Water Use

How often must water use be measured?	Weekly
How often must water use data be reported to Ecology?	Annually (Jan 31)
What volume should be reported?	Total Annual Volume
What rate should be reported?	Annual Peak Rate of Withdrawal (gpm)

Provisions

Setback from Bertrand Creek
All additional or replacement wells constructed under this water right must be at least as far from Bertrand Creek as the authorized points of withdrawal identified in this Report of Examination.

Pumping from the Unlined Pond
The volume of water pumped from the unlined pond located in the SW ¼ NW ¼, Section 14, Township 40 North, Range 2 East, W.M. for use within the authorized place of use must not exceed the volume of water pumped into the pond from the authorized points of withdrawal. Metering data must be collected to verify this to be true.

Relationship to Other Home Place Water Rights
GWC 2787(A), GWC 3262, and SWC 2691 are authorized for a combined total of 227 gallons per minute (gpm) and 127.2 acre-feet per year (af/yr) (109.8 af/yr for the irrigation of 110 acres and 17.4 af/yr for industrial use) within the same place of use.

Wells, Well Logs and Well Construction Standards
All wells constructed in the state must meet the construction requirements of WAC 173-160 titled "Minimum Standards for the Construction and Maintenance of Wells" and RCW 18.104 titled "Water Well Construction". Any well which is unusable, abandoned, or whose use has been permanently discontinued, or which is in such disrepair that its continued use is impractical or is an environmental, safety or public health hazard must be decommissioned.

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

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

Measurements, Monitoring, Metering and Reporting
An approved measuring device must be installed and maintained for each of the sources identified by this water right in accordance with the rule "Requirements for Measuring and Reporting Water Use", WAC 173-173, which describes the requirements for data accuracy, device installation and operation, and information reporting. It also allows a water user to petition the Department of Ecology for modifications to some of the requirements.

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

Proof of Appropriation

The water right holder must file the notice of Proof of Appropriation of water (under which the superseding 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. 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.

Schedule and Inspections

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

Real Estate Excise Tax

This decision may indicate a Real Estate Excise Tax liability for the seller of water rights. The Department of Revenue has requested notification of potentially taxable water right related actions, and therefore will be given notice of this decision, including document copies. Please contact the state Department of Revenue to obtain specific requirements for your project. Phone: (360) 570-3265. The mailing address is: Department of Revenue, Real Estate Excise Tax, PO Box 47477, Olympia WA 98504-7477 Internet: http://dor.wa.gov/. E-mail: REETSP@DOR.WA.GOV.

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 the water right is eligible for change, the additional wells will tap the same body of public groundwater as the original wells; there will be no impairment of existing rights; the combined total withdrawal from the original and the additional wells will not enlarge the right; and there will be no detriment to the public interest.

Therefore, I ORDER approval of Application No. CG1-*03622C subject to existing rights and the provisions specified above.

Your Right To Appeal

You have a right to appeal this Order to the Pollution Control Hearings Board (PCHB) within 30 days of the date of receipt of this Order. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do the following within 30 days of the date of receipt of the Order.

File your appeal and a copy of this Order with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.

- Serve a copy of your appeal and this Order on Ecology in paper form - by mail or in person. (See addresses below.) E-mail is not accepted.

- You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

Street Addresses	Mailing Addresses
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey, WA 98503	**Department of Ecology** Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608
Pollution Control Hearings Board 1111 Israel RD SW Ste 301 Tumwater, WA 98501	**Pollution Control Hearings Board** PO Box 40903 Olympia, WA 98504-0903

Signed at Bellevue, Washington, this 6th day of July, 2015.

Tom 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
Water Right Control Number CG1-*03622C
MDM Properties, LLC

BACKGROUND

This report serves as the written findings of fact concerning Water Right Change Application Number CG1-*03622C.

Four water right change applications were filed on behalf of MDM Properties, LLC (MDM) for water rights associated with, or to be associated with, its Home Place and Axling Place operations. RH2 Engineering, Inc., (RH2) was chosen to process two of these water right change applications (CG1-*03622C and CG1-*04400C) through the cost reimbursement program. During processing, a decision was made to split CG1-*04400C into two change applications CG1-*04400C(A) and CG1-*04400C(B) to reflect the portion of the water right being moved to the Home Place and Axling Place, respectively. The remaining two change applications will be processed by the Department of Ecology (CS1-*07312C and CS1-*07520C) because they involve surface water to groundwater changes.

A number of objectives are desired to be achieved with the proposed transfers with the overarching goal of making MDM's water right documents cover existing uses and provide flexibility of operation, including the following.

1. Cease direct pumping from Bertrand Creek (CS1-*07312C and CS1-*07520C).
2. Split and transfer a water right currently owned by Main Street Investments to the Home Place and Axling Place properties (CG1-*04400C).
3. Change water rights associated with the Home Place to have the place of use (POU) cover the entire property (CG1-*03622C and CS1-*07312C).
4. Change water rights associated with the Axling Place to have the POU cover the entire property (CS1-*07520C).
5. Add a purpose of use to include industrial uses associated with a processing plant (CS1-*07312C).

Water Right G1-*04400C is currently owned by Jerry Blankers/West Main Street Investments, LLC, but will be purchased by MDM after the processing of the associated change applications.

EXISTING Water Right Attributes

Water Right Owner:	MDM Properties, LLC
Priority Date:	5/17/1954
Place of Use	S ½ NW ¼ SW ¼ and SW ¼ SW ¼, Section 14, Township 40 North, Range 2 East, W.M.

County	Waterbody	Tributary To	WRIA
Whatcom	Groundwater		1 (Nooksack)

Purpose	Rate	Unit	Af/yr	Begin Season	End Season
Irrigation of 60 acres	72	GPM	57.6	Irrigation Season	

Source Name	Parcel	Well Tag	Twp	Rng	Sec	QQ Q	Latitude	Longitude
IW-1	400214070079	BHN686	40N	02E	14	SW SW	48.95140	-122.52599

Af/yr = Acre-feet per year; GPM = Gallons per minute; Sec. = Section; QQ Q = Quarter-quarter of a section; WRIA = Water Resource Inventory Area; W.M. = Willamette Meridian; Datum in NAD83/WGS84.

REQUESTED Water Right Attributes

Applicant Name:	**Marty Maberry/MDM Properties LLC**
Date of Application:	3/13/2013
Place of Use	**400214070079** Legal description: SW SW-EXC S 250 FT OF E 872 FT THEREOF-LESS RDS **400214114260** Legal description: LOT B MONTE SHORT PLAT AS REC BOOK 6 SHORT PLATS PG 3 **400214347240** Legal description: N 1/2 OF TR AS MEAS ALG W LI DAF-THAT PTN OF TR LY NLY OF BERTRAND CREEK DAF-BEAP ON S SEC LI 1409.9 FT W OF SE COR-TH W ALG SD SLY LI 240.01 FT-TH N 1320 FT-TH W TO N-S SEC C/L-TH N ALG SD LI TO N LI OF SE 1/4 AS ESTAB IN CIVIL CAUSE 11571-TH ELY ALG SD LI TO NE COR OF W 1/2 SE-TH S TO POB-LESS RDS **400214070173** Legal description: S 1/2 NW SW-LESS RDS **400214470244** Legal description: N 1/2 OF TR AS MEAS ALG W LI DAF-TR IN SE 1/4 DAF-BEAP 100 RODS W-80 RODS N OF SE COR-TH W PAR TO S LI TO WLY LI-TH NLY ALG SD WLY LI TO NW COR AS ESTAB IN CIVIL CAUSE 11571-TH ELY ALG SD ESTAB LI TAP 495 FT W OF ELY LI-TH SLY PAR TO SD ELY LI TAP 875.55 FT S-495 FT W OF NE COR-TH WLY 30 FT TAP 875.55 FT S-525 FT W OF NE COR-TH SLY PAR TO ELY LI 275 FT TO NLY LI OF BERTRANDA ESTATES DIV NO 2-TH WLY ALG SD NLY LI TO THREAD OF BERTRAND CREEK-TH WLY ALG THREAD OF SD CREEK TO ITS INTERS WI LI S OF POB-TH N TO POB-EXC THAT PTN LY IN NW SE **400214086014** Legal description: S 250 FT OF E 872 FT OF SW SW-LESS RDS **400214026217** Legal description: LOT A MONTE SHORT PLAT AS REC BOOK 6 SHORT PLATS PG 3-EXC PTN LY NLY-WLY OF LI DAF-BEG AT NW COR OF SD LOT A-TH S 01 DEG 1150 W ALG W LI OF SD LOT A 124.09 FT TO TPOB OF THIS LI DESC-TH FOL 7 COURSES N 81 DEG 51'55" E 32.71 FT-N 79 DEG 53'54" E 30.21 FT-S 85 DEG 18'22" E 240.77 FT-N 87 DEG 43'55" E 12.04 FT- N 45 DEG 14'20" E 15.89 FT-N 21 DEG 07'14" E 7.38 FT-N 02 DEG 28'48" E 337.66 FT TO N LI OF SD LOT A-TERMINUS OF THIS LI DESC **All in Township 40 North, Range 2 East, W.M.**

County	Waterbody	Tributary To	WRIA
Whatcom	Groundwater		01 (Nooksack)

Purpose	Rate	Unit	Af/yr	Begin Season	End Season
Irrigation of 60 acres	72	GPM	57.6	April 1	October 1

Source Name	Parcel	Well Tag	Twp	Rng	Sec	QQ Q	Latitude	Longitude
HW-1	400214114260	BHE778	40N	02E	14	SW NW	48.95762	-122.52479
IW-1	400214070079	BHN686	40N	02E	14	SW SW	48.95140	-122.52599
IW-2	400214070079	BHN687	40N	02E	14	SW SW	48.95137	-122.52474
IW-3	400214070079	BHN689	40N	02E	14	SW SW	48.95185	-122.52469
IW-4	400214070079	BHN690	40N	02E	14	SW SW	48.95259	-122.52463
IW-5	400214070079	BHN691	40N	02E	14	SW SW	48.95375	-122.52779
IW-6	400214114260	BHN407	40N	02E	14	SW NW	48.95761	-122.52458
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Future Well	400214086014	NA	40N	02E	14	SW SW	-	-
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Future Well	400214026217	NA	40N	02E	14	NW SW	-	-
Future Well	400214347240	NA	40N	02E	14	NW SE	-	-
Future Well	400214470244	NA	40N	02E	14	NE SW	-	-

Af/yr = Acre-feet per year; GPM = Gallons per minute; Sec. = Section; QQ Q = Quarter-quarter of a section; WRIA = Water Resource Inventory Area; W.M. = Willamette Meridian; Datum in NAD83/WGS84.

Legal Requirements for Requested Change

The following is a list of requirements that must be met prior to authorizing the proposed change in POU and point of withdrawal of the subject water right.

Public Notice

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 *LYNDEN TRIBUNE* on June 5, 2013, and June 12, 2013.

No protests were received.

Consultation with the Department of Fish and Wildlife

The Department of Ecology must give notice to the Department of Fish and Wildlife (WDFW) of applications to divert, withdraw or store water. Mr. Steven Boessow, Water Rights Biologist, with WDFW was notified of the proposed decision on this pending water right change application via e-mail from RH2 on May 5, 2014. On May 15, 2014, Mr. Boessow responded that WDFW does not oppose this water right change because there will be no increase in the quantity of water withdrawn or acres irrigated.

Consultation with the Lummi Nation and Nooksack Tribe

The Lummi Nation and Nooksack Tribe were notified of the water right change application by Ecology. Neither the Lummi Indian Business Council (LIBC), nor the Nooksack Tribe provided comments on this change application.

State Environmental Policy Act

A water right application is subject to a State Environmental Policy Act (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 foot per second (cfs), unless that project is for agricultural irrigation, in which case the threshold is increased to 50 cfs, so long as that irrigation project will not receive public subsidies;
(b) It is a groundwater right application for more than 2,250 gpm;
(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); and
(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 this application does not meet any of these conditions, it is categorically exempt from SEPA and a threshold determination is not required.

Water Resources Statutes and Case Law

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

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

RCW 90.44.100 allows Ecology to amend a ground water permit to (1) allow the user to construct a replacement or additional well at a new location outside of the location of the original well, or to (2) change the manner or POU of the water, if:

(a) The additional or replacement well taps the same body of public ground water as the original well per RCW 90.44.100(2)(a);
(b) Where a replacement well is approved, the user must discontinue use of the original well and properly decommission the original well per RCW 90.44.100(2)(b)
(c) Where an additional well is constructed, the user may continue to use the original well, but the combined total withdrawal from all wells shall not enlarge the right conveyed by the original permit or certificate per RCW 90.44.100(2)(c); or
(d) Other existing rights shall not be impaired per RCW 90.44.100(2)(d).

When changing or adding points of withdrawal to groundwater rights (RCW 90.44.100), or when consolidating exempt wells with an existing permit or certificate (RCW 90.44.105), the wells must draw from the *same body of public groundwater*. Indicators that wells tap the *same body of public groundwater* include:

(a) Hydraulic connectivity;
(b) Common recharge (catchment) area;
(c) Common flow regime; and
(d) Geologic materials that allow for storage and flow, with recognizable boundaries or effective barriers to flow.

Cost Reimbursement Processing

This application is being processed under a Cost Reimbursement Agreement between the applicant and the Department of Ecology. The applicant selected RH2 to process this application on Ecology's behalf. The change application is being processed without requiring processing of previously filed water right change applications, as allowed under RCW 90.03.265, since the transfers will not diminish the water available to earlier pending applicants for changes or transfers from the same source of supply.

INVESTIGATION

Site Visit/Site Description

On December 12, 2013, Mr. Andrew B. Dunn and Mr. Jim Bucknell from RH2, and Mr. Tom Buroker from Ecology met with Mr. Allen Brown from MDM and Mr. Chuck Lindsay, their consultant from Associated Earth Sciences, Inc. (AESI) to perform the site visit. Before travelling to the proposed POU, we met at the company office and discussed general and specific farm operations and the proposed transfer.

Mr. Brown confirmed that over the past irrigation season (2013), which occurred after submittal of the change application and associated supporting documentation prepared by AESI (2013), only raspberries and blueberries have been grown on the Home Place property.

With respect to crop rotation, Mr. Brown indicated that MDM plans to have primarily raspberries and blueberries with occasional rotation of potatoes. Raspberries are often grown on a field for 5 to 10 years before being removed. Blueberries can be grown for many decades before they need to be removed. In the past, MDM has also planted strawberries in the rotation, but it has not done that in many years. When potatoes are grown, they are irrigated with travelling big gun sprinklers.

Mr. Brown drew out the approximate locations of the mainlines and sub-mains on aerial photographs of the property. He also identified an area where they are currently growing blueberries that occupies approximately 10 acres of the existing farm. The farm includes five irrigation zones in its present configuration. He also explained that water for irrigation is currently routed to a pond near the north end of the property to facilitate removal of iron from the water and the water is then pumped out of that pond into the irrigation system. The pond is unlined. Mr. Brown explained that upcoming food safety rule changes will make it less desirable to irrigate from an open pond, so they are in the process of determining how they can remove iron when pumping directly from the wells. Piping on the farm ranges in diameter from 8-inch-diameter mains to 4- and 5-inch-diameter sub-mains. Mr. Brown said

they maintain about 70 pounds per square inch (psi) of pressure in the mains and about 10 to 12 psi in the driplines. In addition to the pumps associated with the 10 points of withdrawal/diversion, there is one pump house located near the treatment pond that contains sand filters for particle removal and plumbing to allow for introduction of fertilizer into the irrigation system (fertigation). They also have the ability to aerate the water by pumping it into the air before it falls into the pond. Most of the points of withdrawal do not have meters installed, with the only exception being Well HW-1 for which source approval is being sought.

All of the points of diversion/withdrawal that serve water to this farm can be turned on or off independently to meet the irrigation need and demand. The irrigation season is weather dependent, but is typically from April through September. All irrigation is demand-based as opposed to simply being on a regular schedule. No irrigation was occurring during the site visit due to it occurring outside of the irrigation season.

For all raspberries and blueberries on this property, water is delivered through drip irrigation. Typically, there are two drip tapes running along a row. The drip tape is 7/8-inch-diameter drip tape with emitters every 2 feet. Either there are two drip tapes buried on either side of the plant, or one is buried and one is hanging from the trellis. Rows are typically spaced at 11-foot centers to allow for mechanical harvesting.

Each proposed well, horizontal well, and surface water diversion was visited to confirm the location and the GPS coordinates provided in the change application. The precise location of Well IW-2 could not be determined since pallets were stacked on top of the well vault. Depth to water measurements were taken at accessible wells during the site visit using an electronic water level probe, which are discussed in the Hydrogeology section of this investigation.

All company water use comes from the on-site wells and surface water diversions.

The home located within the proposed POU receives water from the City of Lynden.

History of Water Use

Information on the history of water use under this water right was pieced together from a variety of sources, including two affidavits, pump curves, aerial photos, Landsat imagery, irrigation guides, the site visit, and weather records.

The POU encompasses roughly 58 acres of existing parcels 400214070079, 400214070173, and 400214086014, all owned by Maberry Land Holdings, LLC and Marty Maberry. The POU is described on the water right certificate as the south ½ of the northwest ¼ of the southwest ¼, and the southwest ¼ of the southwest ¼ of Section 14, Township 40 North, Range 2 East, W.M.

Affidavit

One affidavit, by Mr. Marty Maberry, relating to knowledge of farming and irrigation practices on the Home Place under GWC 3262 (G1-*03622C) was provided with the change application. The affidavit was signed and notarized on February 26, 2013. In that affidavit, Mr. Maberry, states that he is familiar with the farming and irrigation operations on the property and the operational, historical, farming, irrigation, and general water use practices described in the AESI report (2013), are "true and correct" to the best of his knowledge.

Instantaneous Rate

MDM provided pump curves for each well at the Home Place. Well IW-1 is identified as the existing point of withdrawal for this right, even though the description of the location for the original well from the water right record is slightly different. This well has a 5 horsepower (hp) submersible pump (Berkeley 6T5-115) installed. The pump curve indicates that, at the best efficiency point, the pump will produce 122 gpm at a total dynamic head of 119 feet. Therefore, it is reasonable to conclude that the instantaneous rate of 72 gpm, as authorized under this water right, has been maintained through beneficial use from well IW-1 and is available for transfer.

Irrigated Acres

Aerial photos of the Home Place property were provided with the application packet (AESI, 2013). These aerial photos were labeled with the following dates: 1951, 1961, 1975, 07/15/1998, 07/15/2004, 07/31/2005, 09/6/2006, 04/30/2009, 06/25/2009, and 08/25/2011. The aerial photos from 1998 to present were also viewed using Google Earth™.

The aerial photos were reviewed to determine the number of acres irrigated historically. The oldest aerial photo reviewed was from 1951, which predates the issuance of the permit by approximately 3 years. In the 1951 aerial photo, there are single-family homes in the southeast and northwest corners of the POU, along with a barn located near the southwest corner of the POU. The single-family home located in the northwest corner of the POU and the barn located near the southwest corner of the POU in the 1951 aerial photos are not present in the 1961 and later aerial photos of the area. The 1975 and more recent aerial photographs show that over time the number of buildings in the southeast corner of the property, which is where the processing plant is located, increased up to the current configuration. The number of irrigated acres within the POU has decreased with each expansion of the area used for the processing plant.

Over the history of the water right, the minimum number of acres that has been irrigated, based on the aerial photographs, is approximately 50 acres from 2009 through 2013.

Annual Volume

Based on review of the aerial photos and Landsat imagery, it is determined that 50 acres has been irrigated under this water right.

Mr. Maberry recalls that primarily raspberries and occasionally strawberries were the crops grown in the POU prior to when Maberry Land Holdings LLC purchased the property in 1960. The irrigation methods in use during this time period were movable big gun and handlines. Since the purchase of the property, MDM has typically grown raspberries with occasional rotation crops of strawberries, blueberries, and potatoes in the POU. The raspberries have been irrigated using a micro-drip irrigation system since the late 1990s and big gun/handline irrigation methods have been used for the potato rotation crop.

There are currently no water meters installed on the points of withdrawal. Therefore, RH2 relied on the Washington Irrigation Guide (WIG, 1985), older irrigation guides (1982 and 1969), weather data, and Water Resources Guidance GUID-1210 to estimate the highest annual volume of water pumped under this water right.

The first thing to be determined is the crop irrigation requirement (CIR). This is the amount of water that the crop would need to not experience any stress due to water availability. Given that the Home Place is equidistant between the two closest WIG stations (Blaine and Clearbrook) we decided to average the crop irrigation requirements for those stations. The average of the data from the WIG (1985) suggests that, with a 2-year return interval, the CIR for a raspberry crop is 16.53 inches, for a potato crop is 7.62 inches, and for a strawberry crop is 1.99 inches. From the WIG data, it is apparent that the highest water use crop grown within the POU is raspberries.

The WIG (1985) CIR estimates are for an average year and are based on almost 30 years of weather data collected from 1951 to 1980. The University of Washington – Climate Impacts Group has predicted that over the next 10 to 30 years, average air temperatures in the Pacific Northwest will be 2 to 3 degrees Fahrenheit higher than the 1970 to 1999 averages and that less precipitation will occur during the summer months due to global climate changes affecting Washington State. The available weather data shows that the period of May through September was on average 1.6 degrees Fahrenheit warmer from 2009 through 2013, than the average temperature from the Blaine and Clearbrook stations provided in the WIG (**Table 1**). Therefore, it is apparent that, because the WIG values are based on weather data from 1951 to 1980, utilizing the WIG estimated CIR would result in underestimating the amount of irrigation water an irrigator has actually been using over at least the last 5 years.

Table 1. Weather Comparison of WIG Averages to Actual Data

	Temperature (degrees F)			Precipitation (inches)		
Irrigation Season	WIG Average	Actual	Difference (Actual - WIG)	WIG Average	Actual	Difference (Actual - WIG)
2009	58.65	61.01	2.36	10.42	8.02	-2.40
2010		59.37	0.72		14.35	3.93
2011		59.23	0.58		11.05	0.63
2012		59.91	1.26		8.64	-1.78
2013		61.90	3.25		11.70	1.28

- Irrigation season is considered to be May through September.
- Annual data is average of the Clearbrook and Blaine weather stations.
- Weather data was obtained from www.wrcc.dri.edu.

Station Circular 512 (Irrigation Water Requirements Estimates for Washington, November 1969) and EB1513 (Irrigation Requirements for Washington Estimates and Methodology, 1982) show that, for the Bellingham station (closest location to the site), the crop irrigation requirement will increase as the return period increases. These documents show an increase of 1 to 3 inches going from the 2-year to the 5-year and 10-year return intervals.

Publication EB1513 presents CIR estimates for various crops (based on average weather data from 1948 through 1973) and 2-, 5-, 10-, and 20-year return intervals to account for climatic variability. Publication EB1513 states that the CIR 2-year return period values will be adequate on the average, once every 2 years. Similarly, the 5-year, 10-year, and 20-year CIR values will be adequate on the average 4 of 5 years, 9 of 10 years, and 19 of 20 years, respectively. Again, it should be noted that these CIR values and return periods are based on weather data collected from 1948 through 1973 and, as discussed above, likely underestimate the current CIR values and return interval time periods due to ongoing global climate change.

Publication EB1513 indicates that, for Bellingham (closest location to site), the raspberry crop CIR increased by approximately 17 percent going from the 2-year to the 10-year return interval. Increasing the WIG raspberry CIR by 17 percent results in a 19.34 inch CIR for raspberries. RH2 has assumed that increasing the WIG values to represent the anticipated 10-year return interval for the crop is a reasonable way to estimate the actual CIR for this water right.

Ecology guidance document 1210 indicates that the efficiency of the trickle/drip micro-irrigation methods utilized by MDM to irrigate raspberries ranges between 70 percent and 95 percent, with an average of 88 percent (Ecology Guidance 1210).

Table 2 contains calculations of the annual volume based on the WIG. One is using the values directly from the WIG and the second is adjusting the WIG values upward to account for climate change and a longer return interval, as discussed above.

Table 2. Annual Volume Calculated Using Various Methods

Method	CIR (inches)	Application Efficiency	TIR (inches)	TIR (feet)	Volume (af/yr)
WIG 2-year return interval	16.53	88%	18.78	1.57	78.5
Adjusted WIG 10-year return interval	19.34	88%	21.98	1.83	91.5

- Crop is raspberries.
- Irrigation method is trickle/drip.
- WIG value is average of Clearbrook and Blaine Stations.
- 10-year return interval is the WIG times 1.17.
- 50 acres of irrigation.
- Application efficiency and percent consumptive use equal to the average values provided in Ecology Guidance 1210.
- Water right limit is 57.6 af/yr.

However, since the water right is limited to an annual volume of 57.6 af/yr, it is reasonable to conclude that the full annual volume granted with the original water right has been used and not lost due to non-use without sufficient cause, even though less than the originally authorized acres are being irrigated.

Proposed Use

The primary purposes of these change/transfer applications are to consolidate the water rights onto agricultural property owned by MDM Properties and to make the existing points of withdrawal common to the water rights where appropriate.

Proposed Place of Use

The proposed POU is approximately 124 acres located in Section 14, Township 40 North, Range 2 East, W.M. The proposed POU is referred to as the Home Place POU for the purposes of this report. The Home Place POU includes the three tax parcels that comprise the existing POU and four additional tax

parcels which form a contiguous block of primarily agricultural property. A summary of the property ownership in the Home Place POUs is presented in **Table 3**.

Table 3. Summary of Land Ownership in Proposed Place of Use
Water Right G1-*03622C

Tax Parcel No.	Parcel Owner	Gross Acres	Irrigable Acres
400214070079	Maberry Land Holdings LLC	33.81	28.00
400214114260	Maberry Land Holdings LLC	28.25	27.80
400214347240	Maberry Land Holdings LLC	23.75	23.25
400214070173	Maberry Land Holdings LLC	19.55	19.25
400214470244	Maberry Land Holdings LLC	10.80	6.00
400214086014	Marty & Debbie Maberry	4.40	2.60
400214026217	Maberry Land Holdings LLC	3.18	3.10
Totals		123.74	110.0

The Home Place POU includes seven tax parcels which are all owned by representatives of MDM (**Table 3**). The proposed POU has a total area of approximately 124 acres, of which roughly 110 acres are irrigable (**Table 3**).

Other Rights Appurtenant to the Place of Use

The Department of Ecology's Water Resources Explorer was used to determine what rights might be appurtenant to the proposed POU.

Besides the water right that is the subject of this report of examination for change, MDM holds one other irrigation water right, which is also going through a similar change (SWC 2691), within the proposed POU (**Table 4**). There are also two water right claims within the proposed POU that are for domestic and lawn and garden uses that were originally filed by William A. Maberry and are listed in **Table 4**.

Table 4. Water Rights Appurtenant to the Proposed Place of Use Held By MDM Properties

Water Right Name	Water Right Number	Purpose of Use	Notes
Melvin Cowin	GWC 3262 (G1-*03622C)	Irrigation	Subject of this Report of Examination.
Marshall Bayes	SWC 2691 (S1-*07312C)	Irrigation	Concurrently going through change application process.

William A. Maberry	G1-137156CL	Domestic and Lawn and Garden	Not being changed. Likely represents a permit-exempt well.
William A. Maberry	G1-137157CL	Domestic and Lawn and Garden	Not being changed. Likely represents a permit-exempt well.

In addition to the water rights that are already appurtenant, MDM is currently going through a water right change application process to move a portion of GWC 2787 (Vermeulen) to the proposed POU for irrigation under change application CG1-*04400C.

There are three water right certificates and one permit whose POU includes the proposed POU that are not owned by MDM. These water rights are listed in **Table 5**, along with the purposes of use.

Table 5. Water Rights Appurtenant to the Proposed Place of Use Not Held By MDM Properties

Water Right Name	Water Right Number	Purpose of Use
Delta Water Association	GWC 2418	Municipal
Delta Water Association	G1-24815C	Municipal
Berthusen Road Water Association	G1-20260C	Municipal
City of Lynden	S1-28116P	Domestic [1]
[1] To alleviate a public health emergency arising from the contamination of groundwater with ethylene dibromide (EBD) and 1,2-dichloropropane (1,2-DCP).		

All four of these water rights are for municipal/domestic water supply purposes. The overlap of these rights with the proposed POU does not present a problem since the purposes of use are different.

Hydrologic/Hydrogeologic Evaluation

A separate hydrogeologic memorandum was prepared by Andrew B. Dunn, L.G., L.HG., focusing on the same body of public groundwater test and impairment (RH2 Engineering Technical Memorandum, April 25, 2014). A summary of that memorandum is presented here and more detail can be obtained from the memorandum, located in the water right file.

The points of withdrawal and POU involved in this water right change application lie on the geographic feature commonly referred to as the Lynden Terrace. The Lynden Terrace is a slightly elevated but gently sloping region located in northern Whatcom County to the north of the Nooksack River Lowland.

The existing and proposed water right points of withdrawal fall within the Bertrand subbasin (WRIA 1 Initiating Governments, 2002) and are completed within the Sumas outwash aquifer. At the Home Place, the Sumas outwash deposit can be from 30 to 50 feet thick. The original points of withdrawal/diversion for the two subject water right change applications originally associated with the Home Place are a surface water diversion from Bertrand Creek and a large-diameter well (Well IW-1) with a concrete casing (36 inches in diameter). The remaining Home Place wells that are requested to be included as points of withdrawal include classic dug and drilled wells and a new type of well, referred to as a horizontal well, that consists of a 48-inch-diameter vertical pump chamber and a long (650-foot) buried horizontal perforated PVC collector pipe located within the saturated portion of the aquifer. While water well logs do not exist for every well (e.g., Wells IW-1, IW-5, IW-6, and IW-7 do not have well logs),

it is a safe assumption that all wells located on the Home Place are completed in the Sumas outwash aquifer since deeper wells drilled into the underlying glaciomarine drift often encounter saline water and lack production necessary for irrigation.

The groundwater contours created by Cox and Kahle (1999) include the project site. These contours show groundwater flow to the southeast toward the mainstem of Bertrand Creek. This groundwater flow direction was confirmed by water level measurements made during the December 12, 2013, site visit.

Pumping Impacts on Surface Water Bodies

Groundwater is directly connected to surface water in the Bertrand Creek subbasin. The original and all proposed points of withdrawal on the Home Place intercept groundwater that is ultimately destined to naturally discharge to Bertrand Creek in the vicinity of where Loomis Trail Road crosses the creek (**Figure 1**).

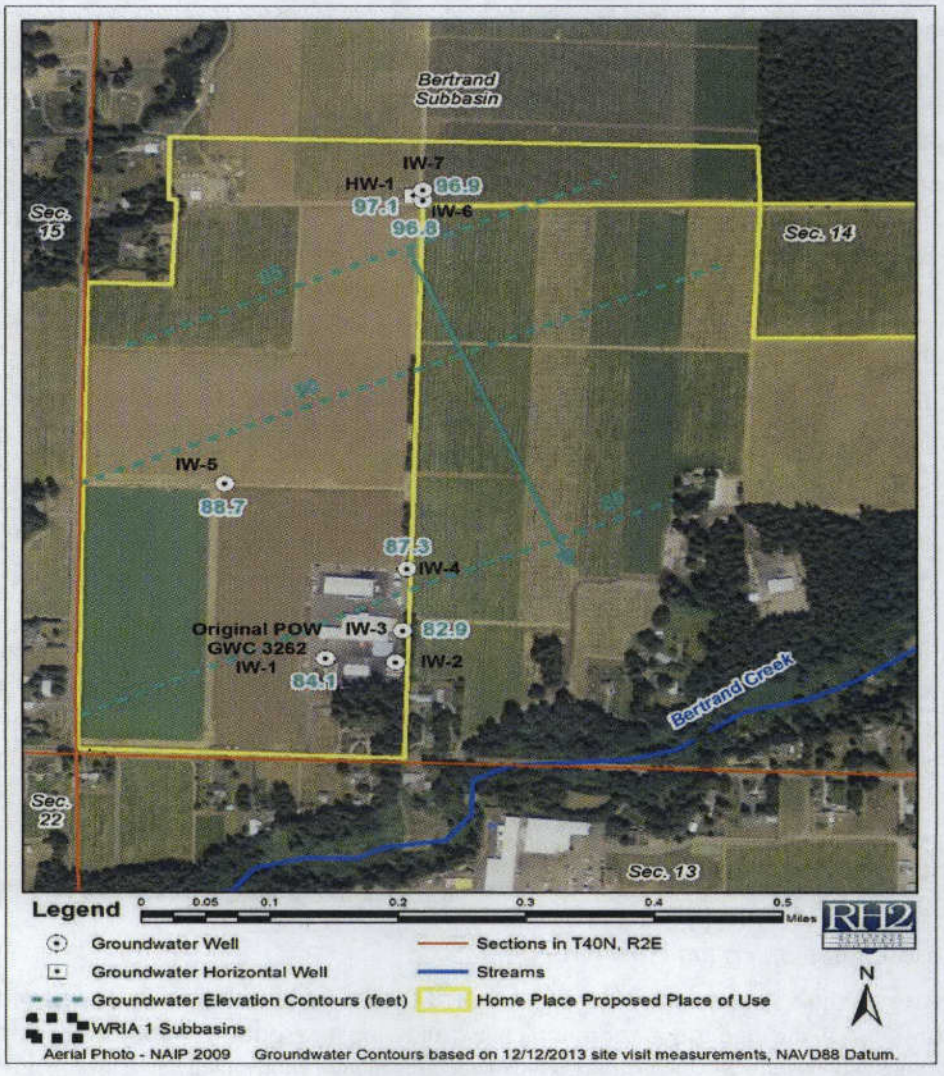


Figure 1. Well Locations and Groundwater Flow Direction – Home Place

Same Body of Public Groundwater

In order for requested additional points of withdrawal to be added to a groundwater right, all points of withdrawal must tap the same body of public groundwater. Based on the analysis performed in the memorandum, it has been determined that the body of water being tapped by the existing point of withdrawal, under the existing water right proposed for change, is the Sumas Outwash aquifer in continuity with Bertrand Creek. Points of withdrawal at Wells IW-1, IW-2, IW-3, IW-4, IW-5, IW-6, IW-7, and HW-1 are all tapping the same body of public groundwater (i.e., the aquifer that is hydraulically connected to Bertrand Creek) for the following reasons:

1. All of the points of withdrawal are currently tapping or will tap the shallow Sumas outwash aquifer.
2. All existing and proposed points of withdrawal are located within the Bertrand Subbasin.
3. The Sumas outwash aquifer is hydraulically connected to Bertrand Creek.

Pumping Impacts on Neighboring Wells

Nearby water rights were reviewed to determine the approximate distance between the proposed wells and existing wells for purposes of calculating the anticipated interference drawdown in the neighboring wells. In addition to the existing on-site wells (Wells IW-1, IW-2, IW-3, IW-4, IW-5, IW-6, IW-7 and HW-1), MDM has requested the ability to add additional wells in the future on the remaining parcels within the proposed POU that do not currently have wells on them (Parcels 400214026217, 400214070173, 400214086014, 400214347240, and 400214470244). Since exact locations for the future wells have not been specified, analysis for impact was completed assuming that the wells are located on the edge of the parcel boundaries closest to any neighboring wells with which they could interfere. This "worst-case" assumption is made to be as protective of neighboring well users as possible. The closest water rights, not held or operated by MDM, to either the closest existing well or the potential future points of withdrawal were approximately 450 and 150 feet away, respectively.

Interference drawdown was calculated using a transmissivity of 18,678 gallons per day per foot (gpd/ft) based on pump test results of a well at MDM's Axling Place property and published values and a storage coefficient of 0.2 since it is an unconfined aquifer. If the instantaneous rate (72 gpm) of this water right is pumped continuously for 183 days (which would be more than the water right limit), the maximum anticipated interference drawdown at a distance of 100, 500, and 1,000 feet is 2.8 feet, 1.3 feet, and 0.8 feet, respectively, with a maximum radius of influence of 2,264 feet. These data indicate that the anticipated interference drawdown drops off rapidly with distance from the pumping well.

Impairment Considerations

Impairment of Minimum Instream Flow Water Rights

The term "instream flow" is used to identify a specific stream flow (typically measured in cfs) at a specific location for a defined time, and typically following seasonal variations. Instream flows are usually defined as the stream flows needed to protect and preserve instream resources and values, such

as fish, wildlife, and recreation. Instream flows are most often described and established in a formal legal document, typically an adopted state rule.

Once established by rule, a minimum flow constitutes an appropriation with a priority date as of the effective date of the rule establishing the minimum flow (RCW 90.03.345). Thus, a minimum flow set by rule is an existing right which may not be impaired (RCW 90.03.345; RCW 90.44.030). Minimum flows for the Nooksack River Basin are established by Chapter 173-501 WAC.

The proposed changes will cause no greater impact on minimum instream flows established in Chapter 173-501 WAC than exist with the originally approved well locations. Therefore, the change will not cause any impairment of minimum instream flows.

Impairment, Qualifying Groundwater Withdrawal Facilities, and Well Interference

There are three concepts that are important when considering whether a withdrawal of water from a well would impair another existing water right. The concepts are defined as follows:

- Impairment is an adverse impact on the physical availability of water for a beneficial use that is entitled to protection, i.e., water rights that are both senior and junior in priority to the right the applicant seeks to change.
- Qualifying groundwater withdrawal facilities are defined as those wells which, in the opinion of the Department of Ecology, are adequately constructed. An adequately constructed well is one that (a) is constructed in compliance with well construction requirements; (b) fully penetrates the saturated thickness of an aquifer or withdraws water from a reasonable and feasible pumping lift (WAC 173-150); (c) the withdrawal facilities must be able to accommodate a reasonable variation in seasonal pumping water levels; and (d) the withdrawal facilities including pumping facilities must be properly sized to the ability of the aquifer to produce water.
- Well interference may occur when several wells penetrate and withdraw groundwater from the same aquifer.

As discussed in the Hydrologic/Hydrogeologic Evaluation section, no impairment is expected to occur in neighboring wells as a result of pumping in the wells associated with this water right change application, for the following reasons:

1. The aquifer is very thin and most wells fully penetrate the aquifer (typically a depth of less than 50 feet with a saturated thickness of less than 30 feet).
2. The hydraulic conductivity of the aquifer is only moderate.
3. The aquifer is unconfined, which results in a higher storage coefficient (specific yield) than if the aquifer was confined.

Pumping a well completed at the base of a thin aquifer with a moderate hydraulic conductivity and high storage coefficient will tend to create a steep cone of depression around the well. This steep cone of depression often reduces the ability to pump these wells at a high rate for a long enough duration to impact neighboring wells.

On January 9, 2014, Ecology was asked if it had received any complaints from well owners near the Home Place farm related to declining water levels, excessive seasonal drawdowns, and wells pumping

air. On the same day, Ms. Kasey Cykler, Ecology WRIA 1 Watermaster, responded that Ecology had not received any complaints in that area.

Public Interest Considerations

The changes proposed by the applicant will not be detrimental to the public interest.

Consideration of Protests and Comments

The only comments received on this change application were submitted by WDFW. On May 15, 2014, WDFW provided a letter stating it does not oppose the approval of this change application. The letter emphasizes the importance of fish in Bertrand Creek and acknowledges that these changes will not increase the quantity of water being used nor will it increase the number of acres being irrigated. No protests were filed against this change application.

Conclusions

The subject water right is eligible for change, the additional wells will tap the same body of public groundwater as the original wells; there will be no impairment of existing rights; the combined total withdrawal from the original and the additional wells will not enlarge the right; and there will be no detriment 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:

- 72 gpm (additive)
- 57.6 acre-feet per year (additive)
- Irrigation of 60 acres (additive)
- April 1 to October 1

Points of Withdrawal

SOURCE FACILITY/DEVICE	PARCEL	WELL TAG	TWP	RNG	SEC	QQ Q	LATITUDE	LONGITUDE
IW-1	400214070079	BHN686	40N	02E	14	SW SW	48.95140	-122.52599
IW-2	400214070079	BHN687	40N	02E	14	SW SW	48.95137	-122.52474
IW-3	400214070079	BHN689	40N	02E	14	SW SW	48.95185	-122.52469
IW-4	400214070079	BHN690	40N	02E	14	SW SW	48.95259	-122.52463
IW-5	400214070079	BHN691	40N	02E	14	SW SW	48.95375	-122.52779
IW-6	400214114260	BHN407	40N	02E	14	SW NW	48.95761	-122.52458
IW-7	400214114260	BHN408	40N	02E	14	SW NW	48.95780	-122.52454
HW-1	400214114260	BHE778	40N	02E	14	SW NW	48.95762	-122.52479
Future Well	400214086014	NA	40N	02E	14	SW SW	-	-
Future Well	400214070173	NA	40N	02E	14	NW SW	-	-
Future Well	400214026217	NA	40N	02E	14	NW SW	-	-
Future Well	400214347240	NA	40N	02E	14	NW SE	-	-
Future Well	400214470244	NA	40N	02E	14	NE SW	-	-

Note: All additional or replacement wells constructed under this water right must be at least as far from Bertrand Creek as the authorized points of withdrawal identified in this Report of Examination.

Place of Use

As described on Page 2 of this Report of Examination.

Water Rights Associated with the Same Place of Use

Table 6 lists all of the state-issued water rights that are held by MDM and associated with the Home Place POU. Water right changes are being simultaneously processed for all of the water rights listed. This table is intended to assist the water right holder and later Ecology investigators to more easily understand the attributes and limitations on the portfolio of state-issued water rights associated with the Home Place POU. This table does not account for any permit-exempt groundwater rights that might be used within the place of use.

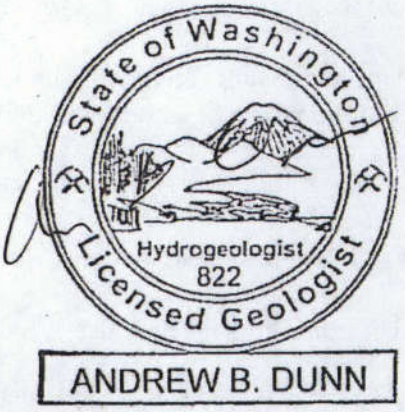
Table 6. Summary of Recommended Water Right Change Decisions, Associated with MDM Properties, LLC Home Place

Water Right	Qi (gpm)	Total Qa (af/yr)	Additive Irrigated Acres	Industrial Use (af/yr)	Irrigation Use (af/yr)	Season of Use	Place of Use	Points of Withdrawal
GWC 3262 (G1-*03622C) (Cowin)	72	57.6	60	0	57.6	04/01 – 10/01	Home Place	IW-1, IW-2, IW-3, IW-4, IW-5, IW-6, IW-7, and HW-1
GWC 2787(A) (G1-*04400C) (Vermeulen)	70	35	17.5	0	35	04/15 – 10/01		IW-6, IW-7, and HW-1
SWC 2691	85	34.6	32.5	17.4	17.2	04/15		IW-1, IW-2,

CS1-*07312C (Bayes)						– 10/01		IW-3, IW-4, IW-5, IW-6, IW-7, and HW-1
Total	227	127.2	110	17.4	109.8			

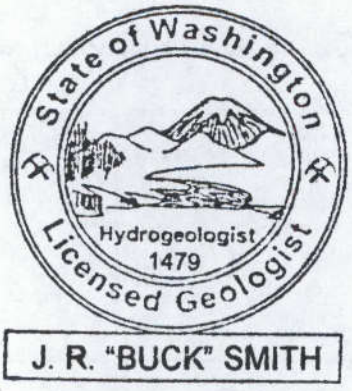
Report by: Jim Bucknell

Jim Bucknell – RH2 Engineering, Inc. Date



Report by:

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



Reviewed by: Buck Smith 7/1/15

Buck Smith, L.G., L.HG. - Water Resources Program Date

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REFERENCES

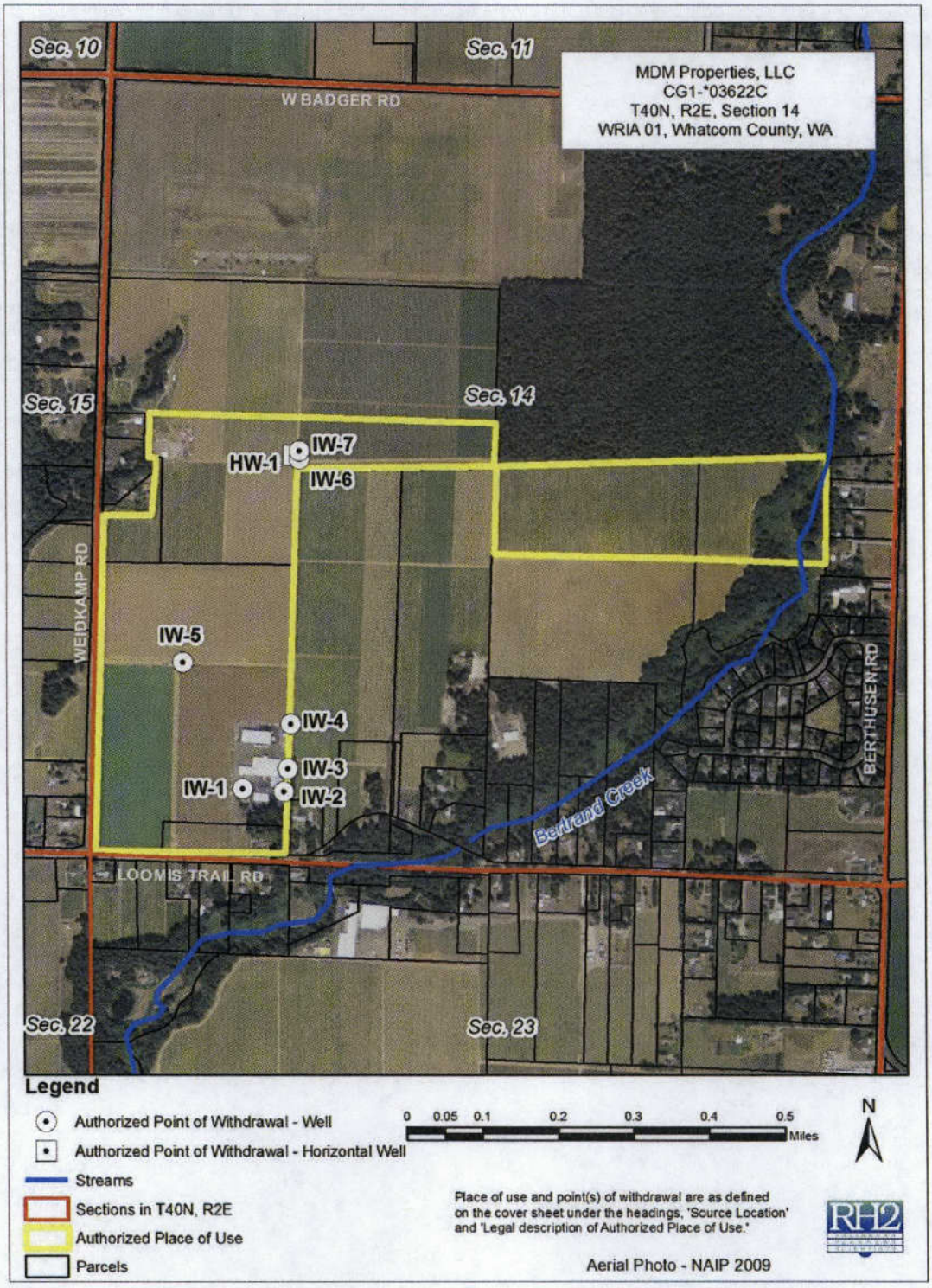
Associated Earth Sciences, Inc., March 1, 2013, Project Summary, Water Right Change/Transfer Application G1-03622C, Whatcom County, Washington.

RH2 Engineering, Inc., May 1, 2014, Hydrogeologic Report for MDM Properties, LLC, Change Applications.

Washington State Department of Fish and Wildlife, May 15, 2014, Comment Letter Re: CG1-*03622C.

Notes and photos from site visit by Andrew B. Dunn, L.G., L.HG., RH2 Engineering, Inc., on December 12, 2013.

ATTACHMENT


MDM Properties, LLC
CG1-*03622C
T40N, R2E, Section 14
WRIA 01, Whatcom County, WA
Sec. 10
Sec. 11
W BADGER RD
Sec. 15
Sec. 14
IW-7
HW-1
IW-6
WEIDKAMP RD
IW-5
IW-4
IW-3
IW-1
IW-2
BERTHUSEN RD
Bertrand Creek
LOOMIS TRAIL RD
Sec. 22
Sec. 23
Legend
Authorized Point of Withdrawal - Well
Authorized Point of Withdrawal - Horizontal Well
Streams
Sections in T40N, R2E
Authorized Place of Use
Parcels
0 0.05 0.1 0.2 0.3 0.4 0.5
Miles
N
Place of use and point(s) of withdrawal are as defined on the cover sheet under the headings, 'Source Location' and 'Legal description of Authorized Place of Use.'
Aerial Photo - NAIP 2009
RH2