State of Washington

File No. G2-30596
WAC Doc ID: 5242318

DEPARTMENT OF ECOLOGY
State of Washington

REPORT OF EXAMINATION FOR WATER RIGHT APPLICATION

PRIORITY DATE	APPLICATION NUMBER
5/7/2012	G2-30596

MAILING ADDRESS	SITE ADDRESS (IF DIFFERENT)
Lucky Farms (att. Joanna Tran) 6332 NE 34th Portland, OR 97211	900 NW Carty Road, Ridgefield, WA

Quantity Authorized for Withdrawal

WITHDRAWAL RATE	UNITS	ANNUAL QUANTITY (AF/YR)
40	gallons per minute (gpm)	40.4

Purpose

PURPOSE	WITHDRAWAL OR DIVERSION RATE			ANNUAL QUANTITY (AF/YR)		PERIOD OF USE (mm/dd)
	ADDITIVE	NON-ADDITIVE	UNITS	ADDITIVE	NON-ADDITIVE	
Industrial	40		gpm	40.4		Continuously

Source Location

WATERBODY	TRIBUTARY TO	COUNTY	WATER RESOURCE INVENTORY AREA
Well (TGA aquifer)		Clark	27

SOURCE FACILITY/DEVICE	PARCEL	TWN	RNG	SEC	QQ Q	LATITUDE	LONGITUDE
Well BCR491	215338000	4N	1E	27	W½ SW¼	45.79777N	122.68084W

Datum: WGS84

Place of Use (See Map, Attachment 1)

PARCEL

215338000

LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE

A parcel of land in the Southwest quarter of Section 27, Township 4 North, Range 1 East of the Willamette Meridian, Clark County, Washington, described as follows: Beginning at the Southwest corner of said Section 27; thence North 1°30'34" East along the West line of said Southwest quarter of Section 27, for a distance of 924 feet to the True Point of Beginning; thence continuing North 1°30'34" East along said West line for a distance of 755.46 feet to the Southerly line of that certain tract of land conveyed to the State of Washington the 1st day of August 1968, records of Washington State Highway Department, thence South 73°42'38" East along said Southerly line for a distance of 1026.51 feet to the Westerly line of said Washington State tract of land; thence South 21°41'26" East along said Westerly line for a distance of 137.55 feet to the Northeast corner of that certain tract of land conveyed to Thomas T. and Cleo Armstrong, recorded under Auditor's File No. G 524368, records of Clark County, Washington; thence North 88°31'54" West along the North line of said Armstrong tract of land for a distance of 239.84

feet; thence south 1°30"34' West along the West line of said Armstrong tract for a distance of 168.41 feet; thence South 88°31'54" East along the South line of said Armstrong tract for a distance of 54.86 feet to the Northwest corner of that certain tract of land conveyed to R.W. Vanderpool, recorded under Auditor's File No. G 19548, records of Clark County, Washington; thence South 1°30'34" West along the West line of said Vanderpool tract of land for a distance of 198 feet to the Southwest corner thereof; thence North 88°31'54" West for a distance of 861.74 feet to the True Point of Beginning.

Proposed Works

The well (Unique ID BCR491) has an 8" casing and is 151 feet deep. Water will be piped to the facility where it will be used within the facility for various industrial purposes including germination and washing of the bean sprouts. Approximately 90% of the water from the facility will be discharged to a tributary within the Gee Creek watershed under a National Pollutant Discharge Elimination System (NPDES) permit.

The remaining water (10%) which is consumed via plant uptake and evaporation will be offset by purchasing flow mitigation water from Clark County Public Utilities Well # 34. This water will be introduced in the upper portions of Tributary 2, upstream of the project location.

Development Schedule

BEGIN PROJECT	COMPLETE PROJECT	PUT WATER TO FULL USE
Started	January 1, 2015	January 1, 2018

Measurement of Water Use

How often must water use be measured?	Monthly
How often must water use data be reported to Ecology?	Annually (Jan 31)
What volume should be reported?	Total Annual Volume used at the facility Total Annual Volume provided by CPU for mitigation
What rate should be reported?	Annual Peak Rate of Withdrawal (gpm) Constant Discharge Rate by CPU for mitigation

Provisions

Measurements, Monitoring, Metering and Reporting

An approved measuring device shall be installed and maintained for each of the sources identified by this water right in accordance with the rule "Requirements for Measuring and Reporting Water Use", WAC 173-173, 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 Southwest Regional Office. If you do not have Internet access, you can still submit hard copies by contacting the Southwest Regional Office for forms to submit your water use data.

As a condition for the use of water under this water right, the applicant shall comply with the terms and conditions of the NPDES permit which is expected to be issued by the Department of Ecology for this project in 2013.

CPU will read the water meter at Well # 34 every 2 months when they read customer meters in the area. The applicant shall obtain the meter data from CPU and it shall be included in the water use reports submitted to Ecology as required above.

The applicant has proposed a mitigation plan with the intent of this project meeting the criteria for a water budget neutral project. That mitigation plan involves the purchase of water from Clark Public Utilities for discharge into a tributary of Gee Creek upstream of the project location. Should the applicant wish to modify the mitigation plan in the future, the applicant shall notify Ecology of the desired modification and may not implement the modification without the written approval of the Department of Ecology.

Instream Flow Limitations
Department of Fish and Wildlife Requirement(s)

The WDFW intake screening requirements only apply to the diversion of surface water. This project will use ground water at the site and the CPUD mitigation water at the upstream location will also be withdrawn from a well. Therefore, intake screening criteria do not apply. The discharge location specified in the NPDES permit will discharge water to the ground in proximity to the tributary of Gee Creek but will not provide a direct discharge to the creek and, therefore, no screening is needed to prevent the entry of fish.

Easement and Right-of-Way
Not applicable. The applicant owns the land where both the point of withdrawal and the place of use are located so there are no easement or right-of-way issues associated with this water right application.

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

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

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

Findings of Facts
Upon reviewing the investigator's report, I find all facts, relevant and material to the subject application, have been thoroughly investigated. Furthermore, I concur with the investigator that water is available from the source in question; that there will be no impairment of existing rights; that the purpose(s) of use are beneficial; and that there will be no detriment to the public interest.

Therefore, I ORDER approval of Application No. G2-30596, 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 111 Israel RD SW STE 301 Tumwater, WA 98501	**Pollution Control Hearings Board** PO Box 40903 Olympia, WA 98504-0903

Signed at Lacey, Washington, this 23rd day of July 2013.

Michael J. Gallagher

Michael J. Gallagher, LHG - Section Manager
Water Resources Program/SWRO
Department of Ecology

BACKGROUND

Project Description

This project proposes to withdraw water from an existing on-site well (BCR-491) and pipe it to the industrial bean sprout facility. Mung beans are placed in a tray and water is allowed to flow over them for several minutes four times a day. The bean sprouts are ready to harvest in 5 days. Approximately 90 percent of the water will then be discharged to settling ponds for the removal of solids and then directly discharged into a tributary within the Gee Creek watershed as specified by the terms of an NPDES permit. The remaining 10 percent of the water constitutes the consumptive impact which will be mitigated by the direct introduction of water from Clark Public Utilities into a tributary of Gee Creek upstream of the project location. The intent of the project proponent is for this project to be water budget neutral. The applicant desires to maintain the ability to propose another form of mitigation in the future, such as the purchase and retirement of an existing water right in the basin. If such an opportunity presents itself, any change in the mitigation strategy would be subject to the prior written approval of Ecology.

Additional details of the mitigation proposal are included below in the project description under the INVESTIGATION section of this report of examination.

Table 1, below, illustrates the key attributes of water right application G2-30596 for the Lucky Farms project.

Table 1
Summary of Application No. G2-30596

Attributes	*Proposed*
Applicant	Lucky Farms
Application Received (Priority Date)	5/7/2012
Instantaneous Quantity	40 gpm
Source	Well (BCR491)
Point of Withdrawal	W ½ SW ¼, Sec. 27, T4N, R1E, W.M.
Purpose of Use	Industrial
Period of Use	Continuously
Place of Use	A parcel of land in the Southwest quarter of Section 27, Township 4 North, Range 1 East of the Willamette Meridian, Clark County, Washington, described as follows: Beginning at the Southwest corner of said Section 27; thence North 1°30'34" East along the West line of said Southwest quarter of Section 27, for a distance of 924 feet to the True Point of Beginning; thence continuing North 1°30'34" East along said West line for a distance of 755.46 feet to the Southerly line of

	that certain tract of land conveyed to the State of Washington the 1st day of August 1968, records of Washington State Highway Department, thence South 73°42'38" East along said Southerly line for a distance of 1026.51 feet to the Westerly line of said Washington State tract of land; thence South 21°41'26" East along said Westerly line for a distance of 137.55 feet to the Northeast corner of that certain tract of land conveyed to Thomas T. and Cleo Armstrong, recorded under Auditor's File No. G 524368, records of Clark County, Washington; thence North 88°31'54" West along the North line of said Armstrong tract of land for a distance of 239.84 feet; thence south 1°30"34' West along the West line of said Armstrong tract for a distance of 168.41 feet; thence South 88°31'54" East along the South line of said Armstrong tract for a distance of 54.86 feet to the Northwest corner of that certain tract of land conveyed to R.W. Vanderpool, recorded under Auditor's File No. G 19548, records of Clark County, Washington; thence South 1°30'34" West along the West line of said Vanderpool tract of land for a distance of 198 feet to the Southwest corner thereof; thence North 88°31'54" West for a distance of 861.74 feet to the True Point of Beginning.

Legal Requirements for Application Processing
The following requirements must be met prior to processing a water right application:

- **Public Notice**

Legal notice of this water right application was published in *The Reflector*, a weekly newspaper published in Battle Ground, Clark County, Washington. It was published on 5/23/2012 and 5/30/2012. No protests were received on this application.

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

This water right application is categorically exempt from the requirements of SEPA under WAC 197-11-800(4).

However, the bean sprout facility underwent SEPA review by Clark County Environmental Services. The applicant submitted the environmental checklist for this project on February 11, 2013. Based on their review, Clark County expected to issue a Determination of Non-Significance (DNS) for the proposal. This is allowed by State law and Clark County Code, section 40.570.040(E)--Optional DNS process. The means that the County believes that any adverse environmental impacts associated with the project can be addressed by applying the County Code. The County issued the SEPA notice on March 26, 2013. The comment period closed on April 10, 2013. Clark County issued the Determination of Non-Significance (DNS) for this project on April 13, 2013.

- **Expedited Processing**

Based on the provisions of RCW 43.21A.690 and RCW 90.03.265, this application has been processed by RH2 Engineering, Inc., under Ecology Cost-Reimbursement Agreement No. C1000190; Work Assignment Number RH2005. The applicant has proposed a mitigation plan to offset all impacts to Gee Creek due to the projects consumptive use. The subject application will not diminish the water available to earlier pending applications from the same source of supply. Therefore, this application meets the criterion for expedited review under RCW 90.03.265(1)(b).

INVESTIGATION

A site visit was conducted on August 29, 2012. In attendance were Ms. Joanna Tran, the applicant, her consultant Ms. Jill Van Hulle of Pacific Groundwater Group, and Andrew Dunn and Jim Bucknell of RH2 Engineering. The project description and site description contain information from the application supporting documents as well as from the site visit.

Project Description

The Lucky Farms operation consists of the well, a well pump house, two large buildings on the site which will become the bean sprout production facilities, and two retention ponds located on the 12.59 acre site (Attachment 1). The applicant plans to operate in the smaller of the two buildings first but hopes to move into the larger building at a later date. The water requested in this application is sufficient to supply the larger facility when needed. Both buildings have been plumbed with water supply and drain/waste lines.

Water that is pumped from the well is used to wash the mung beans, to get the beans to sprout, to rinse the sprouts, and also for sanitization. After water is used in the facility, it will be run through mechanical screens to remove any large solids and then routed to the settling ponds for additional particle removal before being discharged to the receiving surface water body. At the time of the site visit the applicant had excavated two retention ponds which will serve as settling basins for the water before it is discharged to the creek. The ponds are unlined however they appear to be excavated into relatively low permeability silt or clay. Based on our field observations, any water that does happen to seep into the ground would be expected to flow in the subsurface toward the ravine to the north and discharge to the creek. Depending on the requirements of the Water Quality Program's NPDES discharge permit and the temperature of the water at the discharge point, the discharge water might also be cooled before discharge to avoid impacting the receiving surface water body. The applicant is advised that use of water under this water right is subject to compliance with the terms and conditions of the NPDES permit and all other pertinent state and local permits.

The site visit included a visit to the Clark Public Utilities (CPU) Well No. 34 pump house (location coordinates 45.80776N, 122.65426W) near a tributary to Tributary 2a where the mitigation water will be provided from the CPU regional water system. According to Steven Prather, Water Quality Manager with CPU, the delivery of 3 gpm will be supplied from the system side of the well swing check valve. A pressure regulating valve will reduce the pressure to 35 to 40 psi. The flow will then be metered and run through activated carbon cartridge filter(s) and discharged to the concrete basin located on the north side of the pump house. From the concrete basin, the 3 gpm will flow through a 12-inch diameter drain

pipe approximately 150 feet to an outlet structure in a tributary to Tributary 2a (Attachment 2 and 3). The water meter will be read every 2 months when CPU reads customer meters in the area. During the site visit the pressure reduction valve, meter, and activated carbon filter were on-site and awaiting installation. The tributary stream and discharge point could not be observed during the site visit because they occur on private property.

Additional Consultations

On January 9, 2013, RH2 Engineering sent e-mails to the Washington State Department of Fish and Wildlife (WDFW) and the Lower Columbia Fish Recovery Board (LCFRB) regarding this water right application. No responses were received. RH2 sent follow-up e-mails to both entities on March 7, 2013, and received the responses described below.

RH2 consulted with Mr. Steve Boessow, Water Rights Biologist, of the WDFW to find out if WDFW has any concerns about this proposed water use. Mr. Boessow responded via email on March 15, 2013. In his response he indicated that, "WDFW does not oppose the issuance of tis application. This application offers replacement water of the small consumptive impact consistent with the WRIA 27 Watershed Plan."

At Ecology's request, RH2 also consulted with the LCFRB to inform them the water right application was being processed under cost reimbursement and discuss the fact that this application is consistent with the LCFRB Plan because it is fully mitigated. Mr. Jeff Breckel, Executive Director, responded via email on March 8, 2013. In his response he indicated that, "I have asked the WRIA 27-28 Planning Unit members for any comments they may have, but I think this water right application is consistent with the WRIA 27-28 Watershed Plan and Mitigation Strategy." No additional comments were received from the planning unit members.

Site Description

The Lucky Farms property occupies 12.59 acres immediately west of Interstate 5 and south of the Gee Creek Rest Area just outside the City of Ridgefield in Clark County, WA (Attachment 1). The topography of the area including the proposed place of use can best be described as a dissected plain. The majority of the usable property is relatively flat and has been cleared of most trees and shrubs so that it is now primarily pasture or field. The well and all buildings are located on this flat upland area. The upland is bordered on the north by a steep-walled ravine with dense mature vegetation. The uppermost portions of the channel in the bottom of the ravine was dry, although it did appear that during periods of heavy precipitation and runoff there would be flow in the channel. Starting at a point approximately northeast of the Lucky Farms well, diffuse groundwater seepage was observed providing what is likely year round headwater flow for the small stream, which is a tributary to Tributary 2. Tributary 2 is a tributary to Gee Creek. Iron bacteria are believed to be present where the groundwater emerges from the subsurface due to observation of orange-brown colored gelatinous slime in that area. While the entire length of the tributary on the Lucky Farms property was not walked, flow in the channel generally appeared to be increasing with distance downstream.

At the site, the 8-inch diameter well that is the proposed point of withdrawal was observed. The well had affixed to the casing the unique identification number BCR491, which is consistent with the number

indicated on the water well report. Also observed was the piping to supply water to the facility and the drain/waste lines which will discharge water to the two settling ponds constructed near the top of the slope leading down to the tributary to Tributary 2. There are two large buildings on site. The applicant intends to relocate their existing bean sprout growing operation from Portland, Oregon to this location and will begin production in the smaller of the two buildings and plans to expand into the larger building in the future. The water right requested in this application is sufficient to provide water to either facility.

The location of the proposed surface water discharge point from the facility had not been determined at the time of the site visit and therefore could not be visited specifically.

Hydrogeologic Investigation

The hydrogeology of the Gee Creek watershed has been documented by PGG in the material submitted to support the water right application, including the Phase 1 report and the well construction and testing summary report. PGG utilized the information contained within regional reports, prepared by other investigators, describing the geology and hydrogeology of the Portland Basin which includes the Lucky Farms site. The hydrogeologic description here is summarized from these sources.

Regional Geology and Hydrogeology

Lucky Farms is located toward the northern end of the Portland Basin, which is a bowl shaped stratigraphic feature in southwest Washington and the Portland area of Oregon. The Portland Basin began to develop approximately 20 million years ago. Within this basin there are the following regionally extensive deposits from youngest to oldest; Recent alluvial deposits, Pleistocene alluvial deposits, Troutdale Formation, and the Sandy River Mudstone. All of the deposits within the basin have been laid down by regional rivers, such as the Columbia and Willamette, and local rivers and streams such as the Lewis River and Gee Creek.

Recent alluvial deposits include those deposited by the modern rivers and streams in the basin. In the vicinity of Lucky Farms, this is primarily limited to the lower reaches of Gee Creek. These deposits are typically thin and fine-grained in nature consisting of silt and fine sand.

The Pleistocene alluvial deposits of silt and fine sand blanket the uplands near Lucky Farms, while sand gravel and cobble deposits from this same unit can be found closer to the Columbia River. The Pleistocene alluvial deposits were deposited by the series of catastrophic flood events resulting from the repeated glacial ice dam failures which drained Glacial Lake Missoula in western Montana. These floods were the same events that formed the channeled scablands in eastern Washington.

The Troutdale Formation is composed of un-lithified to semi-lithified sediments. Coarser-grained deposits within the Troutdale Formation are referred to as the Troutdale Gravel Aquifer (TGA). In the vicinity of Lucky Farms, the TGA is approximately 75 feet thick. The Lucky Farms well is screened within the TGA.

The Sandy River Mudstone deposit is often fine-grained near the top consisting of silt and clay. Deeper in the deposits the material coarsens to fine sand and silty sand, which form the deepest large production supply aquifer within the Portland Basin. This deep aquifer within the Sandy River Mudstone

is referred to as the Sand and Gravel Aquifer (SGA). The Clark Public Utilities Well 34 is completed within the SGA.

All groundwater within the recent alluvial deposits, Pleistocene alluvial deposits, and Troutdale Formation are considered to be the upper groundwater flow system within the Portland Basin. Groundwater that is located within the Sandy River Mudstone deposits, including the SGA, is considered to be the lower groundwater flow system.

Local Hydrogeology

The Lucky Farms well site lies at an elevation of approximately 218 feet MSL (PGG, 7/2012) and was drilled to a total depth of 151 feet (67 feet MSL). PGG has interpreted the material encountered during drilling from ground surface to a depth of 60 feet as being fine-grained Pleistocene alluvial deposits, from 60 feet to 149 feet as being the TGA, and below a depth of 149 feet as being the Sandy River Mudstone deposits.

Depth to water after the well was drilled was 73.3 feet below ground surface, which is within the upper portion of the TGA and supports that the aquifer is semi-confined to unconfined at this location. The depth to water places the static water level elevation at approximately 145 feet MSL. This static water level elevation matches the groundwater potentiometric surface contours created by McFarland and Morgan (1996, Plate 3) for the TGA in this area. The McFarland and Morgan (1996) contours suggest a groundwater flow direction in the vicinity of Lucky Farms to the north and northwest. Geologic mapping combined with the potentiometric surface contours suggest that Gee Creek is in direct hydraulic continuity with the TGA and groundwater discharges into the Creek approximately 1.5 miles west of Lucky Farms. As a conservative assumption, Lucky Farms has proposed that the groundwater removed from its well was destined to discharge to Gee Creek near the location described above. Given the shallow nature of the aquifer, ground water level elevations in the aquifer, and the fact that Gee Creek is incised into aquifer material, the assumption of full impact to the surface water body is reasonable. Two types of aquifer tests were performed on the Lucky Farms well. For the first test, a step-rate test was performed on the well by pumping at a fixed rate for a short duration and then increasing that rate to the next step. For the step-rate test, the well was pumped at 24.3 gpm for 15 minutes followed by 40.3 gpm for 56 minutes. Based on the results of the step-rate test, the pumping rate for the constant rate test was chosen. For the second test (the constant rate test), the well was pumped at a rate of 42 gpm for 8 hours. Based on the data collected from this testing, PGG (7/2012) calculated an aquifer transmissivity of 5,300 gpd/ft using the Hantush/Jacob leaky aquifer type curve analysis, which PGG considered to provide the best fit to the aquifer test results. The storage coefficient for the aquifer has been estimated to be 0.1, which is typical for an unconfined aquifer (PGG, 7/2012).

The drawdown in the well at the conclusion of the constant-rate test was 25.22 feet. With a pumping rate of 42 gpm, the well's current short-term specific capacity is 1.7 gpm/ft.

PGG (7/2012) has calculated that the drawdown measured in the TGA due to pumping of the Lucky Farms well would be less than 0.25 feet at a distance of 100 feet from the well. The nearest well is located approximately 500 feet south of the Lucky Farms Well on tax parcel no. 215442000. Given the minimal interference drawdown that would be expected at a distance of 100 feet, the drawdown would be even less at distances greater than 500 feet.

Instantaneous Rate Allocation
The application requests that the well be authorized to pump at 40 gpm. Pacific Groundwater Group (7/2012) performed a constant rate pumping test at an average of 42 gpm for 8 hours. PGG indicated that the Lucky Farms well stabilized after 6.5 hours and should be able to sustain up to 40 gpm with a proposed pump intake depth of 115 feet. At this pump intake depth there is sufficient available

drawdown to allow not only for the pumping drawdown, but also seasonal changes in the water level. 40 gpm is a reasonable instantaneous rate for this well and aquifer.

Annual Volume Allocation
The application requests approximately 40 acre-feet per year. Additional documents (PGG, 8/2012) identified the water need as being 36,000 gallons per day. If the facility runs every day as intended, this would equal 13,140,000 gallons over the course of a 365 day year. Converted to af/yr this volume is approximately equal to 40.4 af/yr.

40.4 af/yr is a reasonable annual volume for the proposed beneficial use.

Mitigation Plan Components
The following is a summary of the components that were considered in analyzing whether the mitigation plan was sufficient to offset the impacts of groundwater pumping.

1. All non-consumptively used water (approximately 90 percent of the water pumped from the well) must continue to be discharged from the facility to the tributary to Tributary 2.
2. The water discharged must be of high quality as demonstrated by meeting the NPDES discharge permit requirements and must be discharged as required by the NPDES permit.
3. CPU, through contract with the water right holder, must continuously discharge at least 3 gpm of dechlorinated water into the tributary to Tributary 2a.
4. The water right holder must annually submit to Ecology metering records for both the rate and volume withdrawn from the well and also the volume of water purchased from CPU and discharged by CPU for mitigation.

The applicant has expressed an interest in reserving the right to offer a different type of mitigation, such as placement of a water right into trust, should something become available in the future. Any proposal to amend the existing mitigation plan must be provided to Ecology for review and approval prior to implementation. If Ecology determines that the revised mitigation plan will still fully mitigate for the consumptive impact on Gee Creek, Ecology will notify the applicant in writing that the new plan is acceptable and may be implemented. A copy of the revised plan will be maintained with the water right file. Any revised plan approved by Ecology will supersede the components of the mitigation plan described here.

Water Budget Calculations
Lucky Farms proposes to pump water at a maximum instantaneous rate of 40 gpm from its well. However, the well will not be operated continuously at this rate. Because of the distance from the creek, the nature of the aquifer and the pumping regime, impacts to the creek from pumping at 40 gpm will be buffered and pumping an annual volume of 40.4 af/yr is equal to pumping at a continuous rate of 25

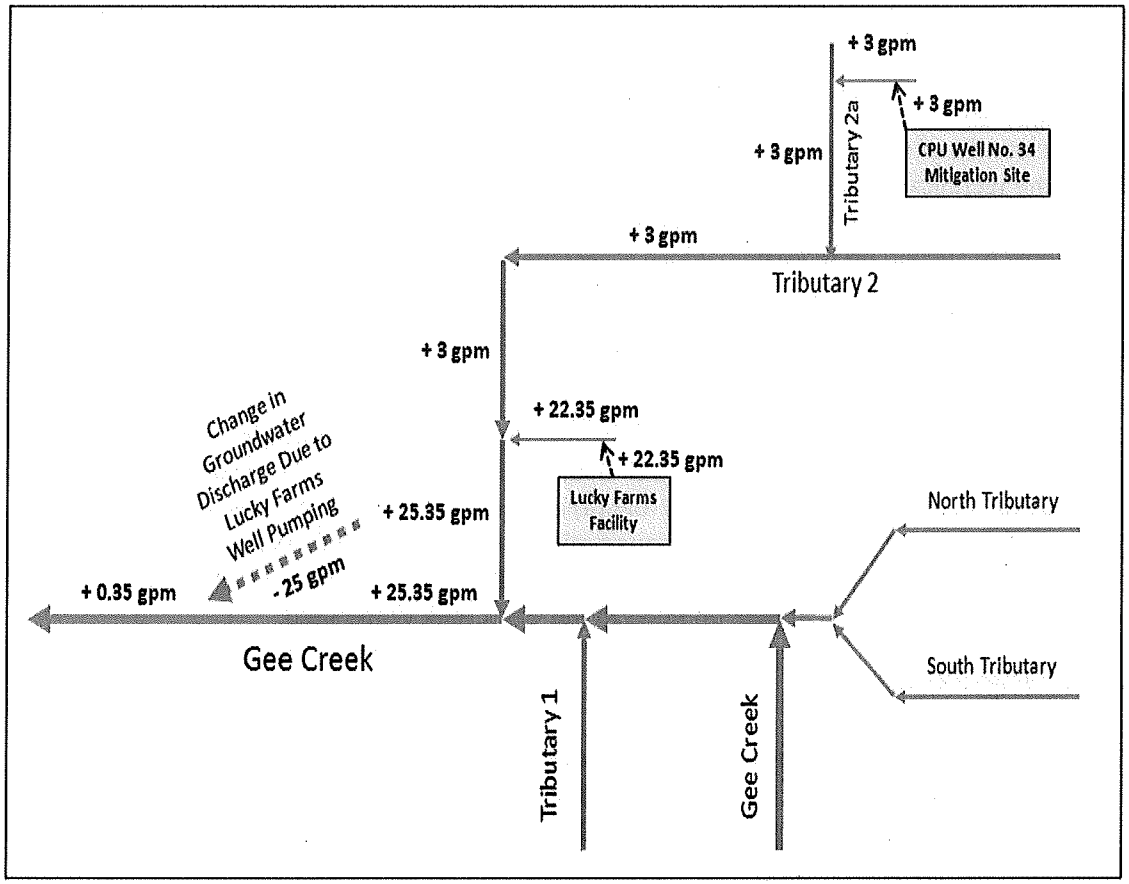
gpm. Pumping from the TGA at this location is expected to result in reduced streamflow in Gee Creek downstream. Consumptive use in the Lucky Farms facility is calculated to be on the order of 5 to 10.6 percent of the 25 gpm utilized (1.25 – 2.65 gpm) (Table 2). That means that the facility will be discharging from 89.4 to 95 percent of the water used, or from 22.35 to 23.75 gpm depending on the time of year (Table 2).

Table 2. Lucky Farms Consumptive Use, Discharge, Mitigation, and Gee Creek Benefit

Time Period	Use/Gee Creek Impact	Consumptive Use		Nonconsumptive Discharge		Mitigation Discharge	Gee Creek Benefit
	gpm	percent	gpm	percent	gpm	gpm	gpm
January	25	10.6	2.65	89.4	22.35	3	0.35
February	25	10.0	2.50	90.0	22.50	3	0.50
March	25	9.8	2.45	90.2	22.55	3	0.55
April	25	9.3	2.33	90.7	22.67	3	0.67
May	25	8.2	2.05	91.8	22.95	3	0.95
June	25	6.6	1.65	93.4	23.35	3	1.35
July	25	5.9	1.48	94.1	23.52	3	1.52
August	25	5.0	1.25	95.0	23.75	3	1.75
September	25	6.7	1.68	93.3	23.32	3	1.32
October	25	7.5	1.88	92.5	23.12	3	1.12
November	25	9.5	2.38	90.5	22.62	3	0.62
December	25	10.5	2.63	89.5	22.37	3	0.37
Annual Average	25	8.4	2.10	91.6	22.90	3	0.90
Consumptive Use values from Pacific Groundwater Group Technical Memorandum (11/8/2012)							

At most, that leaves a deficit of 2.65 gpm in Gee Creek downstream of the confluence with Tributary 2. However, Lucky Farms proposes to mitigate this impact by continuously introducing 3 gpm from CPU's system into a tributary to Tributary 2a (Figure 1). This 3 gpm, when combined with the minimum discharge from the bean sprout facility, equals 25.35 gpm that Lucky Farms is providing to the stream upstream of the area of impact. Accounting for the pumping impact of 25 gpm, that leaves a minimum benefit of 0.35 gpm in the lower reach of Gee Creek (Figure 1). This benefit automatically increases up to 1.75 gpm in the summer month (August), when flows in the creek are the lowest.

Figure 1. Schematic Showing Hydrology and Worst-case Monthly Water Budget with Lucky Farms Operating and Providing Proposed Mitigation



Four Statutory Tests

This Report of Examination (ROE) evaluates the application based on the information presented above. To approve the application, Ecology must issue written findings of fact and determine that each of the following four requirements of RCW 90.03.290 has been satisfied:

1. The proposed appropriation would be put to a beneficial use;
2. Water is available for appropriation;
3. The proposed appropriation would not impair existing water rights; and
4. The proposed appropriation would not be detrimental to the public welfare.

Beneficial Use

The proposed use of water for an industrial source of supply is a beneficial use as defined in RCW 90.54.020(1)

Availability

The availability test actually consists of two availability questions. First, is water physically available and second, is water legally available. Both parts of the availability test will be considered below:

Physical Availability
Based on the results of the testing done pursuant to the Preliminary Permit issued May 22, 2012 and included in the technical memorandum from Pacific Groundwater Group (PGG) dated July 26, 2012, water is physically available from the well for appropriation. The PGG report indicates that the well "should be able to sustain up to 40 gpm which is (sic) instantaneous quantity requested under water right application G2-30596." The recommended pump intake level of 115 feet is about 13 feet below the lowest recorded pumping water level and should be "more than adequate for this water supply source."

Legal Availability
Gee Creek from mouth at the Columbia River to headwaters, including tributaries is closed to further consumptive appropriation under WAC 173-527-070. A surface water closure is a legal finding that there is no water available. However WAC 173-527-080(4) allows Ecology to issue a new consumptive water right if the applicant submits a scientifically sound mitigation plan that offsets impacts to streamflow. The mitigation plan proposed by Lucky Farms is scientifically sound and because of it this new water right will not have any negative impact on flows in the Gee Creek Watershed.

Potential for Impairment

First, there is the potential that operation of the Lucky Farm well could result in drawdown of the aquifer which could impair nearby senior water rights. Based on the test conducted and the Hantush-Jacob leaky aquifer model discussed in the PGG technical memorandum (7/2012), pumping at 40 gpm, would result in interference drawdown of less than 0.25 feet at distances of 100 feet or more. The nearest neighboring well is located at least 500 feet from the Lucky Farms well. No impairment to other groundwater users, due to excessive interference drawdown, is anticipated.

Second, the withdrawal of groundwater could decrease the amount of water available in a surface water body, which could impair a surface water right holder's ability to use water. As shown in Figure 1, the actions of Lucky Farms, including the mitigation plan, will increase flow in all reaches affected, and therefore will not result in any impairment of surface water right holders.

Public Welfare

No regional municipal water system exists at the Lucky Farms property that could hook them up. Since Lucky Farms is not a public water system, their proposed industrial use does not qualify for access to the reservation established under WAC 173-527-110. The use of water for a beneficial industrial use where water is physically available and the use of the water does not cause impairment of existing water rights or closed streams because of a mitigation plan is consistent with the public welfare and satisfies the statutory test of being not detrimental to the public welfare.

CONCLUSIONS

The conclusions based on the above investigation are as follow:

1. The proposed appropriation for industrial use is a beneficial use of water;
2. The 40 gpm is available for appropriation, subject to the mitigation plan;
3. The new appropriation will not impair senior water rights; and
4. The new appropriation will not be detrimental to the public interest.

RECOMMENDATION

Based on the above investigation and conclusions, the author recommends that this request for a water right be approved subject to the terms and conditions detailed in this report of examination.

Report by: 7/23/2013
Jim Bucknell, RH2 Engineering — Date

State of Washington Hydrogeologist 822 Licensed Geologist

ANDREW B. DUNN

Report by: 7/23/2013
Andrew B. Dunn, LHG, RH2 Engineering — Date

Reviewed by: 7/23/2013
Michael J. Gallagher, LHG, Water Resources Program — Date

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References

Department of Ecology, May 22, 2012, Preliminary Permit to Drill and Test a Well for Ground Water Application G2-30596.

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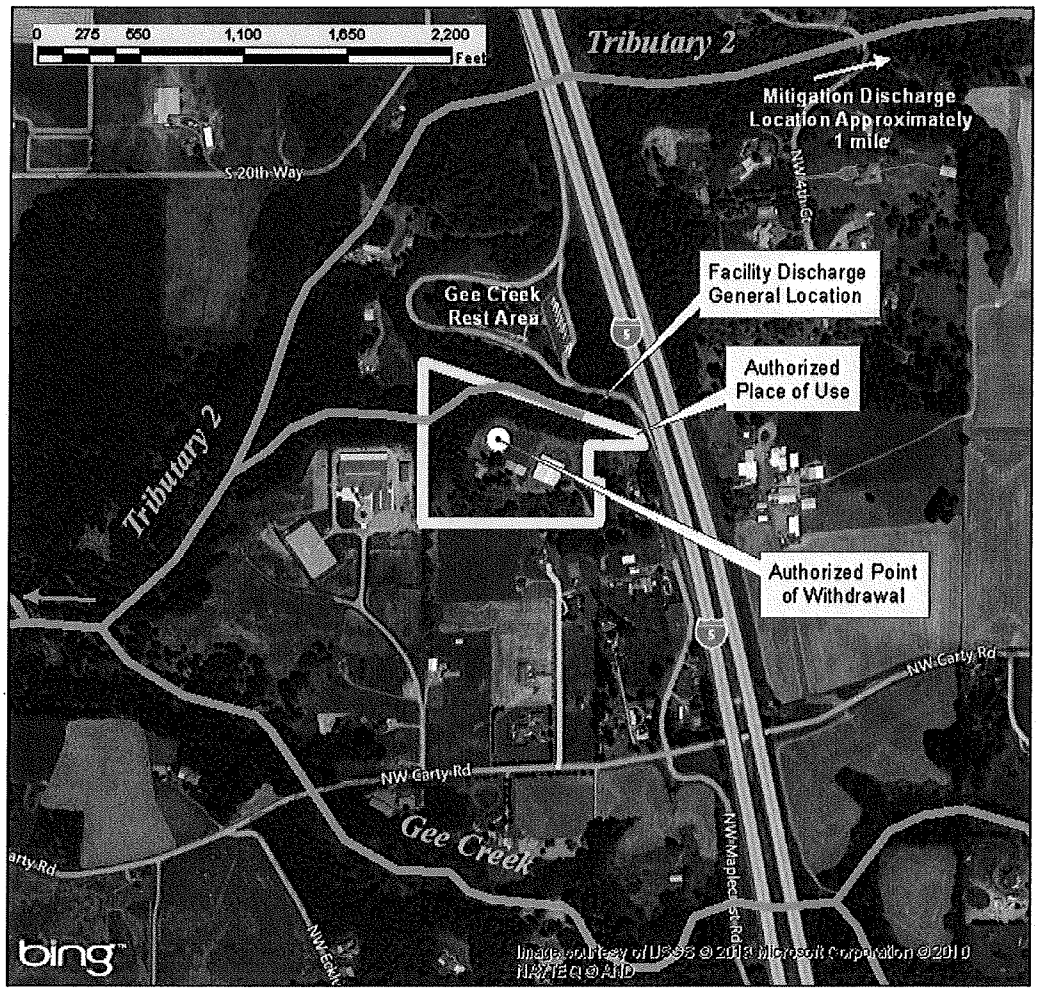
McFarland, W.D. and Morgan, D.S., 1996, Description of the Ground-Water Flow System in the Portland Basin, Oregon and Washington, United States Geological Survey Water-Supply Paper 2470-A.

Pacific Groundwater Group, November 8, 2012, Consumptive Use Calculation, Lucky Farms Bean Sprouts, Technical Memorandum.

Pacific Groundwater Group, August 14, 2012, Phase 1 Report – Lucky Farms Water Right Application G2-30596, Technical Memorandum.

Pacific Groundwater Group, July 26, 2012, Construction and Testing Summary Report Lucky Farms Water Right Application G2-30596, Technical Memorandum.

Attachment 1



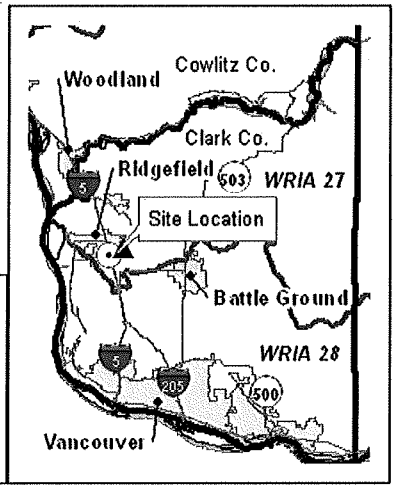
Lucky Farms
Water Right Number G2-30596
W1/2 SW1/4 Sec. 27 T04E R01E W.M.
WRIA 27 - Clark County

Legend

- Authorized Point of Withdrawal
- Authorized Place of Use
- Mitigation Discharge
- WRIA Boundary
- Streams
- Counties
- Major Roads

N

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



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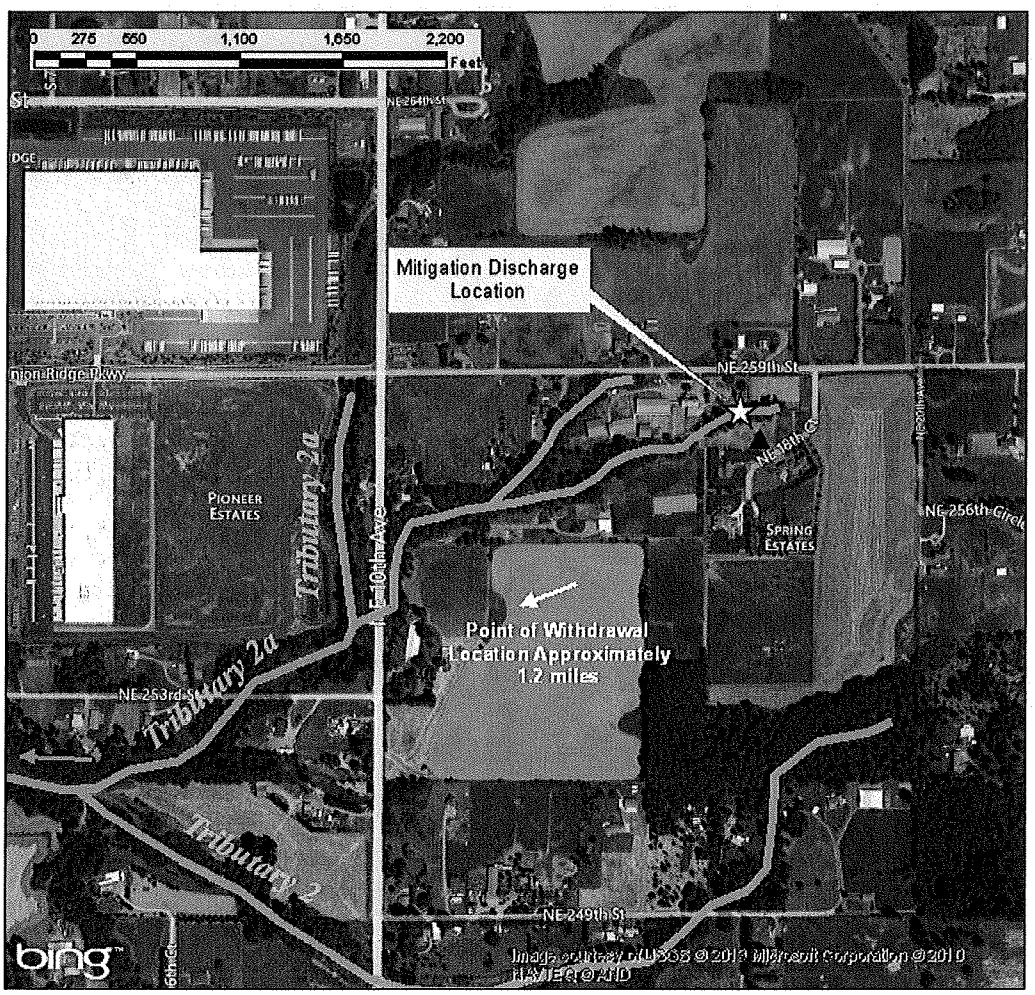


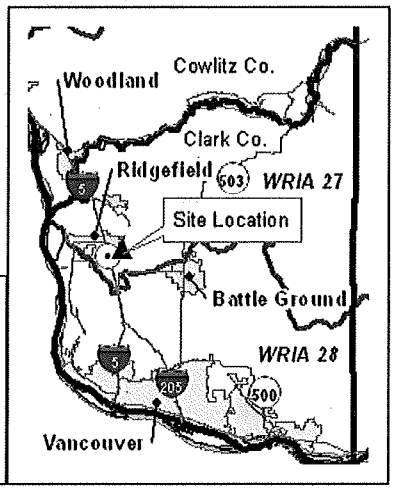
Lucky Farms
Water Right Number G2-30596
Mitigation Location
NE1/4 NW1/4 Sec. 26 T04E R01E W.M.
WRIA 27 - Clark County

N

Legend

- ▲ CPU Well No. 34
- WRIA Boundary
- Streams
- Counties
- Major Roads

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



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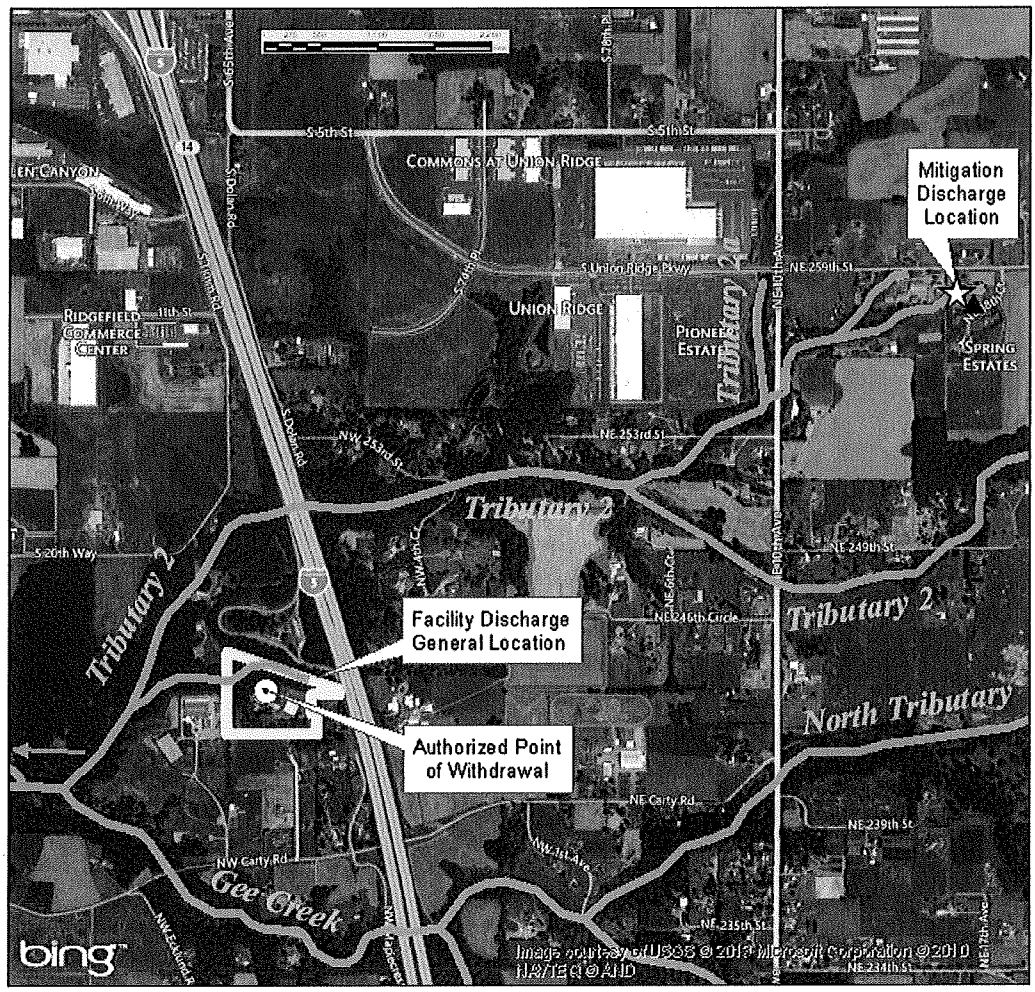
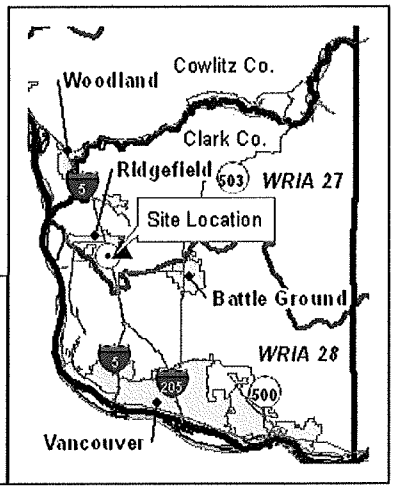


Lucky Farms
Water Right Number G2-30596
Sec. 26 and 27 T04E R01E W.M.
WRIA 27 - Clark County

Legend

- Authorized Point of Withdrawal
- Authorized Place of Use
- CPU Well No. 34
- WRIA Boundary
- Streams
- Counties
- Major Roads

N

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