STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Application for Change
REPORT OF EXAMINATION
TO APPROPRIATE PUBLIC WATERS OF THE STATE OF WASHINGTON

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

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

PRIORITY DATE	APPLICATION NUMBER	PERMIT NUMBER	CERTIFICATE NUMBER
October 8, 1976	G3-25081	G3-25081	G3-25081

NAME
La Terra Limited Partnership

ADDRESS (STREET)	(CITY)	(STATE)	(ZIP CODE)
P.O. Box 88028	Tukwila	WA	98138-2028

PUBLIC WATERS TO BE APPROPRIATED

SOURCE
Three Wells

TRIBUTARY OF (IF SURFACE WATERS)

MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE	MAXIMUM ACRE -FEET PER YEAR
	900	280

QUANTITY, TYPE OF USE, PERIOD OF USE

900 gpm, 280 acre-feet per year, each year for seasonal irrigation of 190 acres

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION--WITHDRAWAL

Well No. 3 (AAP544): 100 feet North and 100 feet West from the E¼ of Section 20, within the SE¼ of the NE¼; Latitude 46° 57' 00", Longitude 119° 19' 27"
Well No. 4 (AHP796): 120 feet South and 450 feet West from N¼ of Section 20, within the NE¼ of the NW¼; Latitude 46° 57' 21", Longitude 119° 20' 07"
Well No. 6 (proposed): 35 feet South of the N¼ corner of Section 19, within the NE¼ of the NW¼ or the NW¼ of the NE¼; Latitude 46° 57' 22", Longitude 119° 21' 17"

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP N.	RANGE, (E. OR W.) W.M.	W.R.I.A.	COUNTY
(Well 3) SE¼NE¼	20	17 N.	28 E.	41	Grant
(Well 4) NE¼NW¼	20	17 N.	28 E.	41	Grant
Proposed well within NE¼NW¼ or NW¼NE¼	19	17 N.	28 E.	41	Grant

RECORDED PLATTED PROPERTY

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)
(Well 3) Parcel 170034000		
(Well 4) Parcel 170034000		
(Proposed) Parcel 17003300		

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED

190 acres within that portion of the following described lands lying northerly of Irrigation Block 80, Columbia Basin Project, according to the plat thereof filed October 26, 1959, records of Grant County, Washington:

N½NW¼, SE¼NW¼ and NE¼SW¼ of Section 20; SW¼ and W½SE¼ of Sec. 19 ALL WITHIN T.17 N., R.28 E. W.M.

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DESCRIPTION OF PROPOSED WORKS

La Terra Limited Partnership plans to use their existing Wells 3 and 4 and a new well to provide irrigation supply water at an annual quantity of 280 acre-feet per year (afy) and an instantaneous capacity of 900 gallons per minute (gpm).

DEVELOPMENT SCHEDULE

BEGIN PROJECT BY THIS DATE:	COMPLETE PROJECT BY THIS DATE:	WATER PUT TO FULL USE BY THIS DATE:
Started	July 1, 2010	July 1, 2015

REPORT

BACKGROUND

The examination of Change/Transfer Application CG3-25081C@2 submitted by La Terra Limited Partnership (La Terra) on November 1, 2007 was led by consultants from GeoEngineers, Inc. contracted as part of the Washington State Department of Ecology's (Ecology's) cost reimbursement program to facilitate the phased processing of the application. Karen Tusa of the Water Resources Program, Eastern Region, Ecology oversaw the examination and Kevin Brown also provided review.

For the subject Change Application, La Terra proposes to add one new well to the two existing wells. La Terra also proposes to change the place of use by spreading from 80 acres to 190 acres. A summary of the proposed changes to Certified Water Right G3-25081C is presented in Table 1.

Table 1. Summary of Proposed Changes

Attributes	Existing	Proposed
Name	La Terra Limited Partnership	Same
Priority Date/Date of Change Application	*Priority Date*: October 8, 1976	*Date of Change* Application: November 1, 2007
Instantaneous Quantity (Qi)	900 gpm	Same
Annual Quantity (Qa)	280 acre-feet per year	Same
Source	Two wells (Wells 3 and 4)	Two existing wells (Wells 3 and 4) and one proposed well
Point of Withdrawal	Well 3: SE¼NE¼ Section 20; T.17N., R.28E. W.M. Well 4: NE¼NW¼ Section 20; T.17N., R.28E. W.M.	Wells 3 and 4 Proposed: NE¼NW¼ ***or*** NW¼NE¼ Section 19; T.17N., R.28E. W.M.
Purpose of Use	Irrigation supply	Same
Period of Use	Seasonal	Same
Place of Use	80 acres N½NW¼; SE¼NW¼; and NE¼SW¼; all within Section 20; T.21N., R.28E. W.M.	190 acres As described herein, N½NW¼, SE¼NW¼ and NE¼SW¼ Section 20; SW¼ and W½SE¼ Sec. 19; all within T.17N., R.28E. W.M.

INVESTIGATION

The examination team of GeoEngineers and Ecology reviewed La Terra's change application and supporting documents contained in the Ecology file, communicated regularly with senior Ecology staff to discuss direction of the work and any issues that arose, met and communicated with the applicant to review the water rights examination process and obtain current information, obtained and reviewed reports and other documents relevant to the application, and conducted a field examination of the key features of the application (e.g., proposed point of withdrawal, pumping and conveyance systems, and place of use).

The investigation included, but was not limited to, the review of:

- the State Water Code, specifically WACs 173-124A, 173-134A and 508-14;
- United States Geological Survey (USGS) topographic maps;
- Ecology's water right files, water right database (WRTS), and on-line Washington State Well Log Viewer;
- Hansen, A. J., Jr., Vaccaro, J. J., and Bauer, H. H., 1994, Ground-water flow simulation of the Columbia Plateau Regional Aquifer System, Washington, Oregon, and Idaho: USGS Water-Resources Investigations (WRI) Report 91-4187;
- Bauer, H. H., and Hansen, A. J., Jr., 2000, Hydrology of the Columbia Plateau Regional Aquifer System, Washington, Oregon, and Idaho, USGS WRI 96-4106;
- aerial photographs of Grant County from 1999 to 2007;
- Evaluation of Changes or Transfers to Water Rights (POL-1200);
- Policy for the Evaluation of Changes to Enable Irrigation of Additional Acreage or the Addition of New Purposes of Use to Existing Water Rights (POL-1210);
- Determining Irrigation and Efficiency and Consumptive Use (GUID-1210);

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- Calculating and Applying the Annual Consumptive Quantity (ACQ) (PRO-1210);
- Washington Irrigation Guide Appendix A, Climate Stations for Consumptive Use (USDA 1985);
- information submitted by and conversations and/or meetings with Mario Segale and Jacek Pawlicki representing the applicant; and
- a site visit on March 27, 2008.

SEPA
Environmental review under State Environmental Policy Act (SEPA) is required for many projects; however, some minor projects are categorically exempt from SEPA. Appropriations of one cfs or less of surface water, or of 2,250 gpm or less of ground water, for any purpose, and appropriations of 50 cfs or less for surface water used for irrigation are categorically exempt from SEPA. See WAC 197-11-305.

The combined project exceeds the threshold for compliance with SEPA. La Terra has completed a SEPA checklist for the project. Ecology is the lead agency for the SEPA determination. A Determination of Nonsignificance was issued by Ecology on May 1, 2009.

A notice of application was duly published in accordance with RCW 90.03.280 in the Quincy Valley Post Register on November 29 and December 6, 2007 and no protests were received.

State Water Code
Chapters 90.03 and 90.44 RCW authorize the appropriation of public water for beneficial use and describe the process for obtaining water rights including the process to amend or change existing rights. Laws specifically governing the water right permitting process are RCW 90.03.250 through 90.03.340 and RCW 90.44.060.

The proposed project lies within the boundaries of the Quincy Ground Water Management Subarea as defined in Chapter 173-124 and 508-14 WAC. The Quincy ground water subarea management policy is provided in WAC 173-134A.

Source Area
The existing and proposed points of withdrawal are all within the Quincy ground water subarea as established pursuant to RCW 90.44.130 and set forth in Chapter 173-134 WAC. The source aquifer for both existing and changed permit is/will be the Grande Ronde aquifer of Tertiary age within the Quincy "basalt zone" of rock units in the Quincy ground water subarea (WAC 173-124-050). The horizontal boundaries of the extent of the Quincy ground water subarea are provided in WAC 173-124-060. Ground water permit changes are permitted under WAC 173-134A-070. The Quincy ground water subarea was used to define the source of water for identifying water rights and applications that may be impacted by the requested change application.

The application requested an overlapping place of use with applications for change on G3-25083 and G3-29381. The applicant agreed to reduce the place of use to eliminate some of the overlapping legal descriptions.

Site Visit
Chad Opatz, a Staff Hydrogeologist with GeoEngineers, conducted a site visit on March 27, 2008. Mario Segale of La Terra gave a tour of the facilities and property. The tour included the inspection of the well sites. Locations of the well sites were recorded using a hand-held GPS unit. Well 3 has a 400-horsepower turbine pump with a reported peak production flow rate of 1,400 gpm. The conveyance system for Well 3 includes a 100-horsepower booster pump and 12-inch-diameter discharge pipe. Well 4 has a 350-horsepower turbine pump with a reported peak production flow rate of 1,600 gpm. The conveyance system for Well 4 includes a 200-horsepower booster pump and a 12-inch diameter discharge pipe. Wells 3 and 4 have water-use flow meters that are read weekly. The location of the proposed well site was also visited and its GPS coordinates recorded. The location is almost directly south of the N¼ stake for Section 19. Only when the well is actually constructed will the ¼¼ section be known. The applicant is irrigating 22.8 acres of grapes with cover crop in the SE¼ of the NW¼ (referred to as Block 99 in the "Crop Area Block Layout", Drawing Number G1 dated 11/07/05 in Ecology's file) by aboveground drip irrigation and 57.2 acres of hay in the N½ of the NW¼ with center pivot (without end gun).

Hydrogeology in the Vicinity
The project site is in the Columbia River drainage basin within the Lower Crab Water Resource Inventory Area (WRIA) 41. The hydrogeologic setting described below is applicable to the area in the vicinity of the La Terra wells.

Wells in this area rely on basalt aquifers that collectively form a large ground water reservoir occurring in a thick sequence of basalt flows known as the Columbia River Basalt (CRB) Group from the Tertiary Period. The overall thickness of these basalts varies from a few hundred feet to over 10,000 feet in eastern Washington. The basalt flows include the Saddle Mountain, Wanapum and Grande Ronde aquifers. The two main aquifers in the vicinity are the relatively shallow Wanapum and the deep Grande Ronde. The most productive zones within the CRB occur principally in tabular zones at the contact between basalt flows. These zones generally form confined aquifers that are composed of scoriaceous basalts, cinder beds, sediments, or volcanic ash. In the area around the Potholes Reservoir, the basalts are overlain by Quaternary deposits forming an unconsolidated near-surface zone that in places hosts an unconfined aquifer.

The La Terra project is located on the eastern end of Frenchman Hills within the Yakima Fold Belt Subprovince of the Columbia Plateau. Frenchman Hills is an anticlinal ridge that trends generally east-west. The USGS (Bauer and Hansen 2000) has mapped an associated syncline to north and high-angle faults to the south. The anticline of the parallel-trending Saddle Mountains is mapped further south.

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The vertical groundwater movement component is generally downward except near discharge areas. Lateral groundwater movement is generally toward surface-drainage features where groundwater discharges although the geologic structures may cause local anomalies to groundwater movement (Bauer and Hansen 2000). The lateral groundwater movement in the shallow Wanapum unit is toward Moses Lake and Potholes Reservoir, whereas the groundwater in the deeper Grande Ronde unit is to the south and west toward the Columbia River (Hansen and others 1994). Bauer and Hansen (2000) suggest that the Wanapum units of the Frenchman Hills and the anticlinal ridge to the south are hydraulically separate and groundwater flow in the Wanapum unit north of Frenchman Hills is to the east toward the Potholes Reservoir; whereas, just south of Frenchman Hills the flow is to the south.

There have been reports of water level declines in the Frenchman Hills area west of La Pianta. These reports have not been formally verified by Ecology (Kevin Brown 2008). To the north of La Pianta are several small community and transient non-community systems that generally obtain their groundwater from shallow (100 to 200 feet deep) or intermediate depth (300 to 500 feet deep) wells. These are most likely completed in the Wanapum aquifer. To provide protection to these users and to provide separation of the La Terra withdrawal from the Wanapum and, potentially, the shallow "artificially stored" groundwaters allocated to the Bureau of Reclamation, casing and sealing requirements are needed to isolate the La Terra wells in the deeper Grande Ronde aquifer. Limited information from Well 4 indicates that the estimated interference drawdown is predicted to be less than 10 feet at a distance of 1 mile.

Administrative Status of Water Bodies

The project lies within the boundaries of the Quincy Ground Water Management Subarea as defined in Chapter 173-124 WAC. This Subarea covers the northern portion of the Columbia Basin Project (developed by the U.S. Department of Interior, Bureau of Reclamation), and lies mostly within Grant County. The Quincy Sub Area is divided into two major ground water management units, deep and shallow, as defined by rule (Chapter 173-134A WAC).

The shallow management unit is defined as the ground water hydraulically continuous between land surface and a depth of 200 feet into the Quincy basalt zone and includes all of the Quincy unconsolidated zone (WAC 173-134-040[9]). This shallow unit is subject to artificial recharge of ground water. This recharge results from leakage associated with the Bureau of Reclamation's Columbia Basin Irrigation Project that is comprised of a series of canals used for irrigation. Most of the canal system is unlined and significant leakage from the canals recharges the shallow ground water table. Deep percolation of applied irrigation water (return flow) also contributes to ground water recharge in the Subarea.

The deep management unit is defined as all ground waters underlying the shallow management unit (WAC 173-134A-040(4)). The deeper basalt flows include several identified geologic formations, or groups of basalt flows, know as the Saddle Mountains, Wanapum and Grande Ronde Basalt Formations. Many of these basalt flows, and the aquifers they contain, extend well beyond the administrative boundaries of the Quincy basin and are laterally continuous across much of the Columbia Basin in eastern Washington.

Existing and Proposed Points of Withdrawal

The existing Wells 3 and 4 in Section 20 of T. 17 N., R. 28 E.W.M. associated with the subject change application produce water from the deep management unit. The proposed new well will also be required to be constructed into the Grande Ronde aquifer of the deep management unit.

Well 3 was drilled in 1997 to a total depth of 1,005 feet below ground surface (bgs) from approximately Elevation 1,475 feet above mean sea level (MSL). The well has a surface seal to 18 feet. The 16-inch-diameter well is open to the basalt formation from 653 to 1,005 feet bgs (approximately Elevation 822 to 470 feet above MSL). The static water level was recorded at a depth of 502 feet bgs on June 25, 1997. This non-pumping water level is approximately 973 feet above MSL. Well 3 is equipped with a 400-horsepower pump capable of 1,400 gpm. Because of the apparent interconnection between the Wanapum and Grande Ronde aquifers that may be occurring within the Well 3, sealing and casing requirements for replacing or repairing the Well 3 are included herein as provisions.

Well 4 was drilled for La Terra in 2003 to a total depth of 1,713 feet below ground surface (bgs) from approximately Elevation 1,471 feet above MSL. The well is sealed to 954 feet bgs in the annulus outside the 14-inch diameter casing. The 14-inch well is open to the basalt formation as a 13-inch-diameter uncased hole from 954 to 1,012 feet bgs and an approximately 10-inch-diameter uncased hole from 1,012 to 1,713 feet bgs (approximately Elevation 517 to -242 feet MSL). The well was originally pumped at rates of 2,500 gpm with the air stem set at 1,700 feet bgs. The static water level was recorded at a depth of 515 feet bgs in August 2003. This non-pumping water level is approximately 956 feet above MSL. Well 4 is equipped with a 350-horsepower pump capable of 1,600 gpm. The source for Well 4 is the Grande Ronde aquifer.

Though the location of the proposed new well has been staked in the field, its exact location is yet to be determined. The new well will be of similar depth, open to the same target formations (deeper Grande Ronde aquifer) as the existing wells, and is expected to have a yield in excess of 1,500 gpm. To prevent interconnection between the shallow Wanapum and deep Grande Ronde aquifers, sealing and casing requirements for the new well are included herein as provisions.

Water Rights

A search area to identify adjacent water rights was defined using a nominal 1-mile radius to include all adjacent Sections surrounding the La Terra wells. The resulting area of approximately 9 square miles was conservatively chosen because impairment of groundwater rights beyond this distance is unlikely based on aquifer characteristics and boundary

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conditions. There are 10 ground water permits and certificated rights located within the search area based on the search of Ecology's WRTS database conducted on April 16, 2008.

There are eight ground water claims that potentially could be within the search area based on the WRTS database. Only the sections are recorded for the claim locations. The claims process allowed users of water developed before 1917 for surface water and 1945 for ground water to register withdrawals. The state required users to register withdrawals during a "claims period" between 1969 and 1974, 1985 and again in 1998. A claim is not authorization to use the water, but a statement of claim. The validity of existing claims has not been determined in most cases and can only determined by the Superior Court through adjudication.

GeoEngineers conducted a search of Ecology's well log files on May 7, 2008. There are 59 records of wells located within the search area of the La Terra irrigation supply wells. It is unknown how many of these are exempt domestic supply wells.

Existing Water Right Documents

In addition to the subject change application, La Terra and La Pianta LLC (La Pianta), a related but separate entity from La Terra under common control of Mario A. Segale, have submitted change applications that are related and are being processed concurrently. The change applications request that the source for all three allocations be the existing Wells 3 and 4 and one proposed new well (Well 6).

- La Terra's change application CG3-25083C@2 is proposed to be approved to transfer 1,700 gpm (Qi) and 510.9 acre-feet per year (Qa) withdrawn from the three wells. Change application CG3-25083C@2 also requests a place-of-use increase from 160 to 370 acres. La Terra's certified ground water right, G3-25083C, has a priority date of October 8, 1976.

- La Pianta's change application, CG3-29381P(A)@1, is proposed to be approved to transfer 1,500 gpm (Qi) and 525 acre-feet per year (Qa) from a ground water right permit located near Quincy to the same three wells. La Pianta's water right permit G3-29381P(A) is for the irrigation of 150 acres and has a priority date of January 27, 1993.

In total, the three change applications request the withdrawal of 4,100 gpm (Qi) and 1,315.9 acre-feet (Qa) from three wells. Two change applications, CG3-25081C@2 and CG-25083C@2, total 2,600 gpm for the irrigation of 560 acres at 1.4 acre-feet per acre, and the third change application, CG3-29381P(A)@1, is 1,500 gpm for the irrigation of 150 acres at 3.5 acre-feet per acre. All three wells will provide the combined quantities of appropriated water for the transferred rights requested under CG3-25081C@2, CG3-25083C@2 and CG3-29381P(A)@1.

Evaluation of the Right and Beneficial Use Analysis

The La Terra wells draw water from Columbia River Basalts. Limited pumping test data for the wells and historical withdrawal rates suggest that the source aquifer is capable of producing water at the requested instantaneous rate of 900 gpm.

The Washington State Supreme Court, in Okanogan Wilderness v. Town of Twisp and Department of Ecology, 133 Wn.2d 769, 947 P.2d 732 (1997), found that applications for change may be granted only to the extent the water has been historically put to beneficial use, as beneficial use determines the measure of a water right. They also found that the existence and quantification of a water right must be determined, including whether or not the water right has been lost for non-use, before the Department can approve a change or transfer of the water right.

La Terra has provided meter records for the two highest years of use. These records indicate that they have used 896.0 acre-feet in 2005 and 876.5 acre feet, both quantities are greater than the 840 acre-feet allocated for water rights G3-25081C (280 acre-feet) and G3-25083C (560 acre-feet). Only a maximum of 840 acre-feet are transferable. According to information provided by La Terra, the beneficial use on the 80 acres irrigated by G3-25081C is applied via center-pivot (no end-gun) to 57.2 acres of hay and aboveground drip method to 22.8 acres of wine grapes with a cover of seeded grass. The beneficial use on the 160 acres irrigated by G3-25083C is via center-pivot (no end-gun) to 28.8 acres of hay and 131.2 acres of wine grapes with a cover of seeded grass. Note that these crop acreages were surveyed by La Terra as part of a settlement agreement between Ecology and the prior owner and the cover crop is intended to amend the poor soils altered by the prior owner.

A tentative determination of the Annual Consumptive Quantity (ACQ) used by two La Terra certified water rights was conducted. The allocated annual quantities totaling 840 acre-feet were used for the analysis. The crop irrigation requirements (CIR) for hay and grapes for the Othello climate station are listed in the Washington Irrigation Guide Appendix A (USDA 1985) as 40.34 in/yr for hay and 28.61 in/yr for grapes. Multiplying the CIR in ft/yr by the acreage, the CIR for the hay is 289.1 afy and for grapes is 367.2 afy, for a total CIR of 656.3 afy. This represents the estimated average amount of irrigation the crops require in the Othello area.

In addition to crop irrigation requirements that primarily represent water consumption by transpiration; the consumptive quantity includes losses of water evaporated during irrigation applications, such as spray evaporative loss, canopy loss, and wind drift. Table 1 in GUID-1210 indicates that the average evaporation loss (%Evap) for center-pivot irrigation is 10 percent and 5 percent for drip irrigation.

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The application efficiency (Ea) is the CIR divided by the total water used. According to GUID-1210, the average application efficiency, Ea_{ave}, for a center-pivot system is 90 percent and ranges from 75 to 95 percent, and for drip irrigation is 88 percent, ranging from 70 to 95 percent. Other uses described by La Terra are frost prevention for the grape vines and irrigation of the cover crop planted between rows of grapes. We estimate that La Terra would use 0.5 inches of water (6.4 afy) for frost protection and 9.1 inches of water (158.8 afy) for the cover crop irrigation. Under these assumptions, net application efficiency is 89 percent for hay and 71 percent for grapes. This implies that La Terra's total application efficiency is in the low range because of the irrigation practices, frost protection and cover crop irrigation.

The annual consumptive quantities calculated (without subtracting return flows) for the hay and grape areas are 326.1 and 513.9 afy, respectively, totaling 840 afy. Splitting these amounts into the respective water rights, the consumptive use is 293.0 afy for G3-25081C and 547.0 afy for G3-28083C. Since the total allocation for G3-25081C is 280 afy, the maximum total that can be transferred for that right is 280 afy. Therefore, the ACQ for the two rights would be reduced from 840 to 827 afy (280 and 547 afy).

Subtracting the return flow and frost protection use, the ACQs would be further reduced to 286.7 afy for G3-25081C and 510.9 afy for G3-25083C. If return flows and non-consumptive frost protection usage are subtracted, the total transferable ACQ for the two rights is reduced from 840 to 790.9 afy (280 and 510.9 afy). Based on this information and Ecology policies and guidelines noted herein, the transferrable amounts were estimated to be: the entire 280 afy allocated amount for G3-25081C; and 510.9 afy of the 560 afy allocated amount for G3-25083C.

The applicant intends to spread water from the current 240 acres to 560 acres by: increasing the vineyard acreage, reducing the hay acreage, removing the cover crop, and changing their application methods using high-efficiency and "deficit" irrigation methods. The 790.9 acre-feet put to use over 560 acres would equate to an application of approximately 1.4 acre-feet/acre.

FINDINGS

Extent and Validity of G3-25081C

La Terra submitted meter readings for the water use production from their Wells 3 and 4 for 2005 and 2006. In 2005, 149.9 acre-feet were withdrawn from Well 3 and 746.1 acre-feet were withdrawn from Well 4, resulting in an annual production rate of 896 acre-feet. In 2006, 25.5 acre-feet were withdrawn from Well 3 and 849 acre-feet were withdrawn from Well 4, resulting in an annual production rate of 874.5 acre-feet. The average production rate for 2005 and 2006 was 885.3 acre-feet, an excess of 45.3 acre feet over the 840 acre-feet allocated for the two certified ground water rights G3-25081C and G3-25083C.

The annual consumptive quantities were found to meet (or exceed) the water right allocation based on an estimate of crop irrigation requirements and irrigation methods for drip irrigation of 22.8 acres of grapes and center pivot without end gun irrigation for 57.2 acres of hay. These water rights have been put to full beneficial use based on the submitted water production records.

The three change applications related to the La Terra/La Pianta project, CG3-25081C@2, CG3-25083C@2 and CG3-29381P(A)@1, will result in an increase in irrigated acreage from 390 to 710 acres but no change in consumptive quantities. La Terra/La Pianta proposes to convert the current hay crop and associated irrigation requirements to crops that require less per-acre irrigation and operate the irrigation systems more efficiently. Thus, none of the three water right changes will result in an expansion of the water appropriation quantities of the existing rights.

Water Availability

The intended deep source is the Grande Ronde aquifer within the boundaries of the Quincy Ground Water Management Subarea and is in indirect hydraulic continuity with the Columbia River and leakage from the shallow water management unit. Under WAC 173-134A, water is available for appropriation in the La Terra place of use. The examiner concludes that, in accordance with Chapters 90.03 and 90.44 RCW, this application to integrate existing wells by adding one point of withdrawal and changing the place of use under Certificated Ground Water Right G3-25081C will not enlarge the quantity of water authorized, nor will it impair existing rights; provided the provisions below are followed.

Impairment to Existing Rights

WAC 173-150-060 describes how to determine whether a ground water right has been impaired. Specifically: "A ground water right which pertains to qualifying withdrawal facilities, shall be deemed to be impaired whenever: (1) there is an interruption or an interference in the availability of water to said facilities, or a contamination of such water, caused by the withdrawal of ground water by a junior water right holder or holders; and (2) significant modification is required to be made to said facilities in order to allow the senior ground water right to be exercised."

Well interference may occur when multiple wells penetrate and withdraw ground water from the same aquifer. Each pumping well creates a drawdown cone. When drawdown cones intersect other wells, interference drawdown occurs. Drawdown interference from pumping wells is likely to be less than 1 foot at 1 mile. There are 10 certified ground water rights and 59 documented wells within a 1-mile radius of the La Terra water supply wells. The requested transfer to the existing Wells 3 and 4 and proposed well for the subject change application will not result in an increase in production and therefore will not change existing interference drawdowns or their potential to impair ground water right holders.

Stream flow depletion may occur when wells pump water from aquifers in hydraulic continuity with streams. The La Terra source aquifers form part of the Columbia River Basalts, which are recharged by precipitation, Potholes Reservoir,

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Crab Creek and the Columbia River. A search of the WRTS database showed that there are no certified surface water rights within 1 mile of the existing and proposed La Terra wells. The appropriation of ground water for the subject change application will not result in an increase in production, and therefore will not change the existing potential for impairment of surface water rights.

Beneficial Use
Water used for irrigation supply is considered a beneficial use under RCW 90.54.020(1).

Public Interest
The 1971 Water Resources Act provides the most comprehensive list of legislative policies that guide the consideration of public interest in the allocation of water. These policies generally require a balancing of the state's natural resources and values with the state's economic well-being. Specifically, the policies require allocation of water in a manner that preserves instream resources, protects the quality of the water, provides adequate and safe supplies of water to serve public need, and makes water available to support the economic well-being of the state and its citizens.

The proposed irrigation use of 280 acre-feet per year should support the economic well-being of the state and its citizens. No detriment to public interest could be identified during the examination of the subject application. Use of La Terra's wells is not expected to impair existing senior water right holders.

CONCLUSIONS

Beneficial Use
Irrigation is considered a beneficial use under RCW 90.54.020(1).

Impairment of Existing Rights
Based on the examination described above, withdrawal of 900 gpm instantaneously and 280 acre-feet of water annually from wells owned and operated by La Terra would not cause significant well interference or impairment of existing water rights.

Water Availability
The deep source is the Grande Ronde Aquifer within the boundaries of the Quincy Ground Water Management Subarea (WAC 173-124) and is in indirect hydraulic continuity with the Columbia River and leakage from the shallow management unit. It is concluded that sufficient water is available to continue to provide the permitted annual water quantity.

Public Welfare
The change of the certificated water right for irrigation water supply is not detrimental to public welfare.

PROVISIONS

The total amount authorized for withdrawal from three wells under Ground Water Certificate Number G3-25081C shall be limited to 900 gallons per minute; 280 acre-feet per year for irrigation supply.

Upon filing of the Completion of Construction, the applicant shall identify the 190 acres irrigated under this authorization.

This authorization is subject to the following conditions:
In total withdrawal under Certificates G3-25081C and G3-25083C and Permit G3-29381P(A) shall not exceed 4,100 gallons per minute and 1,315.9 acre-feet per year for the irrigation of 710 acres.

For the project, the total withdrawal is 2,600 gpm (Qi) and 790.9 acre-feet (Qa) from three wells for the irrigation of 560 acres at 1.4 acre-feet per acre and 1,500 gallons per minute (Qi) and at 3.5 acre-feet per acre (Qa of 525 acre-feet) for irrigation of 150 acres. All three wells will provide the combined quantities of appropriated water for the transferred rights requested under CG3-25081C@2, CG3-25083C@2 and CG3-29381P(A)@1. Since these rights will have significant differences in annual quantities, the two pivots proposed for the inchoate permit shall be individually metered in addition to source meters subject to the metering requirements below.

An approved measuring device shall be installed and maintained for each of the sources identified herein in accordance with the rule "Requirements for Measuring and Reporting Water Use", Chapter 173-173 WAC. Water use data shall be recorded monthly and maintained by the property owner for a minimum of five years, and shall be promptly submitted to Ecology during development of the project."

The following information shall be included with each submittal of water use data: owner, contact name if different, mailing address, daytime phone number, WRIA, Permit/Certificate/Claim No., source name, annual quantity used including units, maximum rate of withdrawal including units, monthly meter readings including units, monthly meter readings including units, peak monthly flow including units, Source number(s), purpose of use, well tag number, and period of use. In the future, Ecology may require additional parameters to be reported or more frequent reporting. Ecology prefers web-based data entry, but does accept hard copies. Ecology will provide forms and electronic data entry information.

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

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

The amount of water granted is a maximum limit that shall not be exceeded and the water user shall be entitled only to that amount of water with the specified limit that is beneficially used and required for the actual crop grown on the number of acres and the place of use specified.

This authorization shall in no way excuse the permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations including those administered by other programs of the Department of Ecology.

The water quantities and uses recommended and/or the number of acres to be irrigated may be reduced at the time of issuance of a final water right commensurate with the capacity of the installed system and the uses and/or the number of acres actually irrigated.

If water from facilities of any legally formed irrigation district is used on any or all of the lands described herein as the place of use, the quantities of water withdrawn under this authorization shall be proportionately reduced to correspond to the acreage for which district water is not available.

This authorization to use public waters of the State is classified as a Family Farm Permit in accordance with Chapter 90.66 RCW (Initiative Measure No. 59). This means the land being irrigated under this authorization shall comply with the following definition: Family Farm- a geographic area including not more than 6,000 acres of irrigated agricultural lands, whether contiguous or noncontiguous, the controlling interest in which is held by a person having a controlling interest in no more than 6,000 acres of irrigated agricultural lands in the State of Washington which are irrigated under water rights acquired after December 8, 1977. Furthermore, the land being irrigated under this authorization must continue to conform to the definition of a family farm.

In accordance with Chapters 90.03 and 90.44 RCW, I find there is water available for appropriation from the source in question, that the appropriation as recommended is a beneficial use, and should not impair existing rights or be detrimental to public welfare.

The wells shall be constructed or reconstructed to meet the following minimum casing and sealing provisions:

1. The minimum annular space for these wells shall be four (4) inches larger than the permanent casing.
2. Sealing shall be placed from the bottom of the well to the top until undiluted sealing material returns to the surface.
3. The casing requirement in these wells may be deepened if an interchange still occurs after casing and sealing is set.
4. The owner shall contact the Eastern Regional Well Construction Coordinator a minimum of 14 working days prior to any well construction or reconstruction associated with these wells.
5. Well number 3, if replaced or repaired, shall be sealed a minimum of 800 feet below ground surface.
6. Well number 4, if replaced or repaired, shall be sealed a minimum of 800 feet below ground surface.
7. Well number 6 shall be cased and sealed a minimum of 800 feet below ground surface.

REPORT BY:_____ Date: _____
Joel W. Purdy, LG, LHG

REVIEWED BY:_____ Date: _____
Kevin Brown, Dept. of Ecology

FINDINGS OF FACT AND DECISION

Upon reviewing the above report, I find all facts, relevant and material to the subject application, have been thoroughly investigated. Furthermore, I find water is available for appropriation and the appropriation as recommended is a beneficial use and will not be detrimental to existing rights or the public welfare.

Therefore, I ORDER a change be issued under Ground Water Change/Transfer Application Number CG3-25081C@2, subject to existing rights and indicated provisions, to allow appropriation of public ground water for the amount and uses specified in the foregoing report.

Signed at Spokane, Washington, this _____ day of _____, 2009.

_____
Keith L. Stoffel
Water Resources Section Manager
Eastern Regional Office

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