July 22, 2022

City of Lacey
Request for Qualifications

TQu Aquifer Trends/Marvin Road and Meridian Campus Production Wells

SUMMARY

The City of Lacey is seeking a qualified consultant with experience in hydrogeologic studies and siting and designing new groundwater source production wells for the City's drinking water system to assist with the completion of the TQu Aquifer Trends study/report and design and construction of two production wells on City owned property on Marvin Road and in Meridian Campus. The consultant's experience should include aquifer studies and production well design that distribute pumping stresses to minimize hydraulic interference and distributing pumping stresses to minimize drawdown in the wells and aquifer.

Statements of Qualifications (SOQs) will be evaluated based on the firm's experience with projects of this type in similar environments, and the quality and breadth of the approach proposed to complete the work. Interested firms should submit a project approach and identify those individuals, along with their expertise, that will be assigned to the project. Examples of relevant work are encouraged, and should showcase the quality, breadth, and approach used in prior projects.

Statements of Qualifications, prepared according to the following detailed instructions, must be received at the address below no later than **5:00 p.m. Pacific Standard Time, Friday, August 5, 2022**. No postmarks will be accepted.

The City of Lacey assumes no obligations of any kind for expenses incurred by any respondent to this solicitation.

It is the City of Lacey's policy to assure nondiscrimination in any contract entered into pursuant to this advertisement. Firms will not be discriminated against on the grounds of race, color, national origin, or sex in consideration for an award as provided by Title VI of the Civil Rights Act of 1964.

For additional information, contact:

Trent Lougheed, P.E., Utility Engineer
City of Lacey Public Works
Water Resources Division
420 College Street SE
Lacey, WA 98503

Phone: (360) 486-8733
Fax: (360) 412-3186
E-mail:
tloughee@ci.lacey.wa.us

GENERAL INFORMATION

Test wells were installed and evaluated at the Marvin Road and Meridian Campus well sites in 2007 and 2008. The Marvin Road well site is located on the property of the Northwest corner of the intersection of Marvin Road and Willamette Drive, and the Meridian Campus well site is located on the property of the Northeast corner of the intersection of Willamette Drive and Deni Drive in the City of Lacey.

The City has acquired water rights for the proposed Marvin Road and Meridian Campus wells. A copy of the Water Rights Permits are attached in Appendix A for your review. The permits identify the work necessary to complete the project. Interested consultants may request copies of the mitigation plans and reports for reference in preparing the Statement of Qualifications.

In 2008, the City of Lacey commissioned a consulting hydrogeologic firm to prepare a technical memorandum identifying TQu aquifer trends associated with pumping at S19 and S31, new production well(s) construction, and planning recommendations in the Hawks Prairie area. A copy of the technical memorandum is included in the attached files.

The City plans to install production wells at the Marvin Road and Meridian Campus sites, and is seeking a Consultant to complete the following tasks:

1. Complete the study addressing the requirements of the WSDOE
2. Conduct Pump Test and Water Quality Testing of the existing monitoring wells
3. Prepare a Project Report for WSDOH/WSDOE review/approval for installation of new production wells at the Marvin Road and Meridian Campus sites
4. Prepare Plans and Specifications for construction of the new production wells
5. Provide construction support for pump testing and water quality testing.
6. Prepare draft and final reports for project completion.

SCOPE OF EFFORT AND TIMING

Task 1: Complete the study and provide a technical memorandum addressing the requirements of the WSDOE

Following completion of Tasks 2-5, the selected consultant shall provide a technical memorandum addressing the requirements of the WSDOE as outlined in the Water Right Permits located in Appendix A and the attached previously completed technical memorandum. Prior to developing drilling specifications for the well2 at the Marvin Road and Meridian Campus well sites, hydrogeologic cross sections should be constructed using available nearby well and previously installed site monitoring well logs to identify the dimensions of the target aquifer and anticipate the completion depth for the wells. In addition, the City requires analysis of water quality issues at the existing monitoring wells.

Recommendations Technical Memorandum

Provide a technical memorandum that summarizes any available data pertinent to the existing monitoring wells and proposed production wells. Prior to preparing the technical memorandum

- Meet with City Water Resources and Operations staff.
- Review all pertinent City provided data and request any additional information as needed, if available
- Provide recommendations in the technical memorandum that documents the hydrogeologic cross sections to evaluate the new well sites.

Task 1 Deliverables:

- *Draft Recommendations Technical Memorandum (1 Word/Excel copy, 1 .pdf copy)*
- *Final Recommendations Technical Memorandum (1 Word/Excel copy, 1 .pdf copy)*

Task 2: Conduct Pump Test and Water Quality Testing of the existing monitoring wells as needed to evaluate aquifers and propose new wells

The City wants to ensure that the production wells will have the hydraulic capacity to utilize the available water rights and to determine any water quality treatment systems that may be necessary to utilize the production wells within the City's water distribution system. The consultant shall analyze and recommend the City either utilize existing treatment facilities at nearby sites, or install new treatment facilities at the new wells sites.

The consultant shall determine if the new well can produce the anticipated instantaneous withdrawal without impeding the production at the City's existing wells. The consultant shall review existing hydrogeological reports for wells in the vicinity, and identify if additional information/test well(s) are needed to evaluate the aquifers and well site locations.

The feasibility of completing the new well in the deeper aquifer will require input from the Washington State Department of Ecology (WSDOE) and Department of Health (WSDOH) prior to making a determination on which aquifer will be targeted. The Consultant will advise and assist the City with technical support and documentation related to the water rights for S04 as requested by the City.

Tasks 3 & 4: Preparation of Project Report and Plans and Specifications for new production wells

These tasks will include preparing a Project Report for WSDOH/WSDOE review/approval for installation of new production wells at the Marvin Road and Meridian Campus sites, and preparing Plans and Specifications for construction of the new production wells.

Project Report

The hydrogeologist will prepare a Project Report for WSDOH and WSDOE review and approval for the installation of new production wells at the two project sites. The consultant will be

responsible for obtaining all necessary approvals prior to preparation of the final plans and specifications for construction of the new production wells.

Production Well Technical Specifications

The hydrogeologist will produce specifications to provide well drillers with the information necessary to bid on construction of the new well. The hydrogeologist shall assist the City with permits and applications during the design phase as the project requires. The hydrogeologist shall assist the City with providing any requested information as required during the bid phase. The technical specifications shall identify well diameters that will minimize head losses through the screen, allow sufficient room for a pump and a minimum of 3 conduits, drilling method, and materials, etc. The technical specifications will also address abandonment of the previously installed monitoring wells.

Production Well Technical Memorandum

The Consultant will provide a technical memorandum that summarizes the construction findings from the Production Wells. The technical memorandum shall cover the aquifer water quality and capacity and also identify the level of hydraulic continuity between the upper aquifer and lower aquifer if the new production well is designed to be screened in the lower aquifer.

Task 2 Deliverables:

- *Draft Test Well Technical Specifications (1 Word/Excel copy, 1 .pdf copy)*
- *Final Test Well Technical Specifications (1 Word/Excel copy, 1 .pdf copy)*
- *Draft Test Well TM (1 Word/Excel copy, 1 .pdf copy)*
- *Final Test Well TM (1 Word/Excel copy, 1 .pdf copy)*

Task 5: Provide construction support for pump testing, water quality testing, reportfor project completion

The hydrogeologist shall provide on-site technical support and analyze test data during the construction and testing phase. The hydrogeologist shall prepare a final well report after construction of the new well is complete.

Production Well Report

The hydrogeologist will produce a report that describes the construction and testing methods, findings based on analysis/interpretation of the hydraulic and water quality data, and recommendations for on-going monitoring and maintenance of the new well after the construction is complete. The report shall include wellhead protection area delineations for the new production wells. The hydrogeologist shall use MODFLOW to update and run the city's wellhead protection model for the delineations, using updated aquifer parameter information derived from the test well and production well.

Task 3 Deliverables:

- *Specifications*
- *Draft Production Well Report (1 Word/Excel copy, 1 .pdf copy)*
- *Final Production Well Report (1 Word/Excel copy, 1 .pdf copy)*

CONSULTANT EXPERIENCE

The ideal consultant will have experience and expertise in the following:

- Designing and testing new groundwater source potable water production wells;
- Assessing aquifer storage capacity and hydraulic continuity;
- Writing technical specifications and well technical memos/reports;
- Ability to meet firm deadlines as set by the City and Department of Health;
- Understanding of the City, Department of Health, and Department of Ecology requirements and guidelines;

PROJECT TIMING:

- Task 1-4 must be completed by February 2023.
- New wells should be advertised by March 2023.

SOQ FORMAT:

Consultants are asked to express their interest in this project by offering a SOQ which demonstrates their ability and capacity to provide the services described.

1. **Number of Copies and Due Date** – In response to the COVID-19 pandemic, consultants are encouraged to submit an electronic copy of their SOQ via e-mail to tloughee@ci.lacey.wa.us so that they are **received no later than 5:00 p.m. Pacific Standard Time Friday, August 5, 2022**. SOQ's received after the deadline will not be reviewed. Please be aware that file size limitations may restrict transmittal of electronic files, if electronic SOQ submittals are larger than **10 MB** of data, please make arrangements to facilitate uploading of the submittal to be completed and received prior to the deadline.

2. **Format** -- Each SOQ will be limited to no more than 8 pages including the cover. A printed side constitutes one page. Printed means any printing of any kind except for the phrase "this page intentionally left blank." Pages must be on 8.5" x 11" paper. Margins will be at least 1" top, bottom, left and right. Body type must be 11 point or larger at standard spacing.

3. **Cover Letter –** A scanned cover letter, which does not count as part of the 8 page limit, should establish the firm's interest in this project and may not exceed one page. The letter must be signed by an individual capable of committing the resources of the proposing firm.

SOQ CONTENT:

Company Design Experience –

- Provide a description of your company's experiences in performing similar work, addressing the elements listed under the Scope of Work.

Key Personnel/Past Performance –

- Identify and describe the relevant experience and qualifications of the pertinent individuals who would serve as key personnel for this project.
- Identify availability of key personnel to work on this project.
- Identify other staff members and/or subcontractors that will contribute to the project, and their relevant experience.

Approach and Schedule –

- Describe your company's approach of how best to meet project objectives. Include a discussion of the primary focus of your approach, using elements listed in the Scope of Work as guidance.
- Include a proposed work schedule including the timing of various key tasks.

Understanding of Project Components –

- Identify objectives/tasks that you feel are key to the success of the project; this may include items not already identified in this Request for Qualifications. References for protocols and methods are encouraged. Include a proposed work schedule including the timing of various key tasks.

Quality Control –

- Describe the standards and methods used by the company to assure useful quality deliverables of this nature to the client.
- Describe how your firm will address concerns or deficiencies in quality control and deliverables and give a specific example.

References –

- Provide descriptions and references for five comparable projects that your company has previously performed. Include contact names, company/agency and telephone numbers for each.
- Identify key personnel listed on this project who has worked on the reference project.

SELECTION PROCESS

Several Public Works staff members will review all SOQs. Each staff member on the evaluation panel will rate the criteria on a scale from 1 to 5 (Poor, Below Average, Average, Above Average, and Excellent), and scores will be added to help determine the most qualified consultants.

SOQs will be rated based on the following criteria:

- Company Experience with Similar Projects – 10%

- Key Personnel/Past Performance-30%
- Approach and Schedule – 25%
- Understanding of Project Components – 25%
- QA/QC Procedures – 10%
    - **Points may be deducted for SOQs that do not follow "SOQ FORMAT"**.

Staff members may choose a short list of qualified consultants who will be invited to make a presentation to the evaluation panel. Presentations, if needed, will be arranged in August 2022. Based on the SOQs and/or interviews/presentations, the selection panel will choose the company which, in its opinion, best meets the requirements set forth in this Request for Qualifications and negotiate a consultant agreement.

INTENDED SELECTION SCHEDULE

Review and Selection	week of August 22nd 2022
Interviews (if needed)	week of August 29th 2022
Review and Finalize Contract	October 7th, 2022

PROJECT LOCATION FIGURES:

Figure 1: Marvin Road Well Site

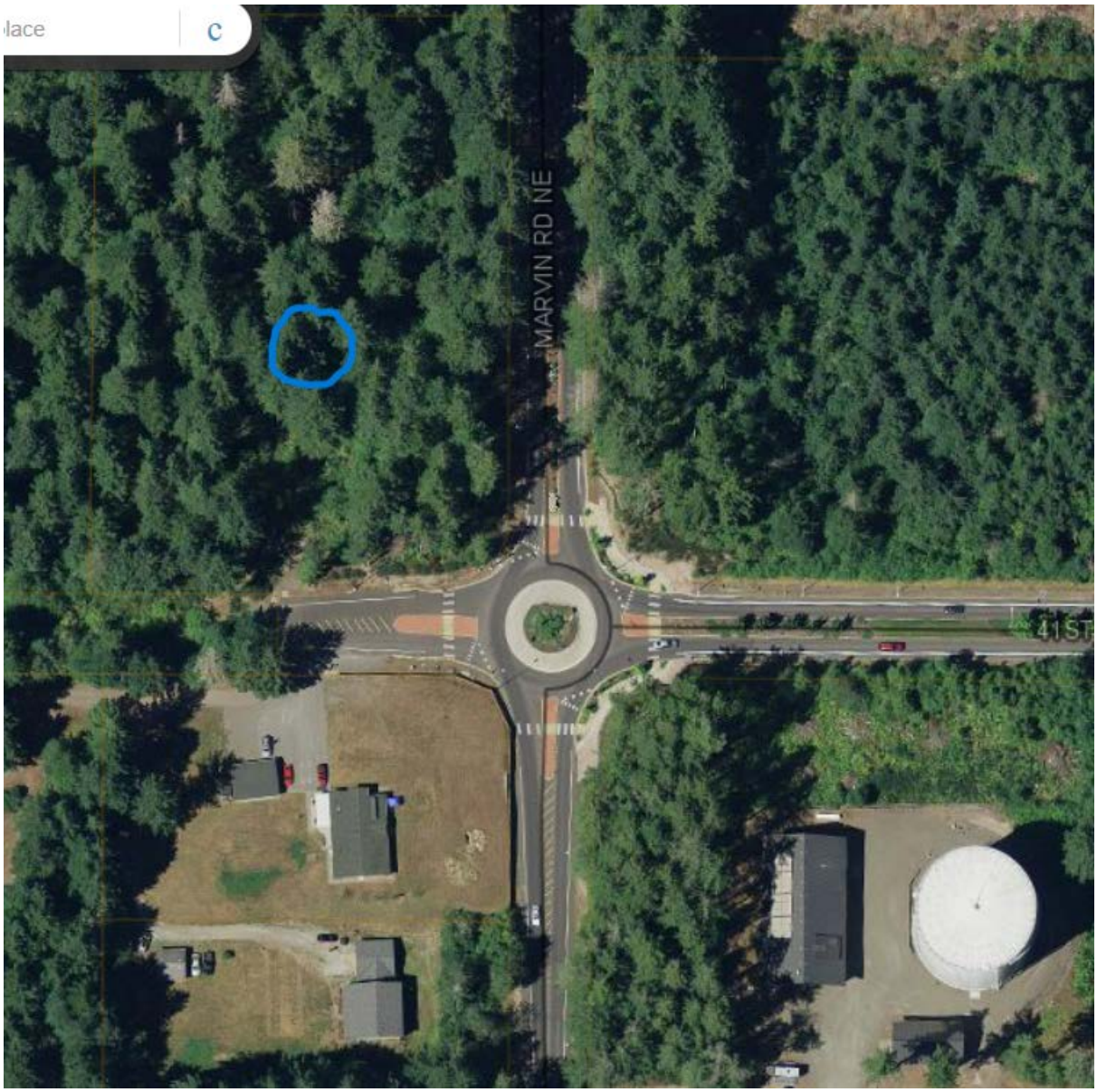
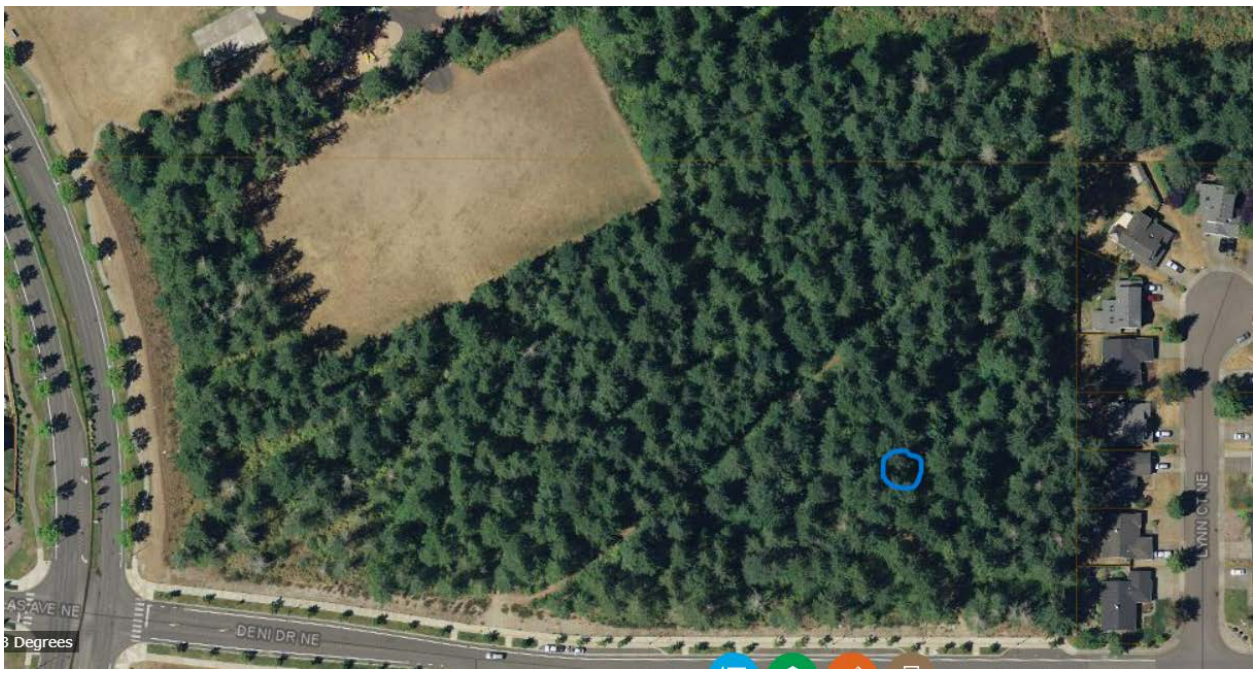


Figure 2: Meridian Campus Well Site



Appendix A

Water Right Permits

File NR G2-30251

DEPARTMENT OF ECOLOGY
State of Washington

State of Washington
Amended PERMIT
TO APPROPRIATE PUBLIC WATERS OF THE STATE OF WASHINGTON

APPLICATION PRIORITY DATE	WATER RIGHT NUMBER
May 6, 2005	G2-30251

MAILING ADDRESS	SITE ADDRESS (IF DIFFERENT)
City of Lacey 420 College Street SE Lacey, Washington 98503	4101 Northeast Marvin Road Lacey, Washington 98516

Quantity Authorized for Withdrawal or Diversion

WITHDRAWAL OR DIVERSION RATE	UNITS	ANNUAL QUANTITY (AF/YR)
1,000	GPM	1,500

	WITHDRAWAL OR DIVERSION RATE			ANNUAL QUANTITY (AF/YR)		
PURPOSE	ADDITIVE	NON-ADDITIVE	UNITS	ADDITIVE	NON-ADDITIVE	PERIOD OF USE (mm/dd)
Municipal Supply	1,000		GPM	1,500		Year round

IRRIGATED ACRES		PUBLIC WATER SYSTEM INFORMATION	
ADDITIVE	NON-ADDITIVE	WATER SYSTEM ID	CONNECTIONS
		43500	

Source Location

COUNTY	WATERBODY	TRIBUTARY TO	WATER RESOURCE INVENTORY AREA
Thurston	TQu Aquifer		13 – Deschutes

SOURCE FACILITY/DEVICE	PARCEL	WELL TAG	TWN	RNG	SEC	QQ Q	LATITUDE	LONGITUDE
Well No. 32 (Marvin Road well)	11934100000	BAM404	19N	01W	34	SENE	649392.5 N	72315.6 E

Place of Use

LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE

The place of use (POU) of this water right is the service area described in the most recent Water System Plan approved by the Washington State Department of Health, so long as the water system is and remains in compliance with the criteria in RCW 90.03.386(2). RCW 90.03.386 may have the effect of revising the place of use of this water right.

Proposed Works

The Marvin Road test well was advanced to a depth of 850 feet below ground surface (bgs) with an 8-inch diameter casing and a well screen assembly from 507.5 to 624.5 feet bgs. Three TQu aquifer zones (1, 2, and 3) are screened with 12- to 60-slot well screen for a total open interval of approximately 58.5 feet. Design and installation of the production well is pending.

Development Schedule

BEGIN PROJECT	COMPLETE PROJECT	PUT WATER TO FULL USE
Begun	June 2020	June 1, 2041

Measurement of Water Use

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

Provisions

Mitigation

The use of water under this permit is subject to the fulfillment of the Comprehensive Water Rights Mitigation Plan, presented in Lacey (2010) and as amended below, and continued agreement between the cities of Olympia, Lacey, and Yelm through the supporting Amended Interlocal Agreement (presented in Appendix D of City of Lacey (2010)).

A single joint Mitigation Summary Report shall be prepared by the three cities and submitted to Ecology annually. At a minimum, the report shall include:

- Development and performance of the previous year's basin-specific (Woodland Creek, McAllister Creek, Nisqually River, and Deschutes River) out-of-kind mitigation actions. The section on the Deschutes River and Woodland Creek shall be jointly developed with the cities of Olympia and Yelm consistent with interlocal agreements between the cities;
- Development and performance of the previous year's basin-specific in-kind mitigation actions. The summary of performance shall be supported by available data (e.g. estimates of monthly infiltration rates at the Woodland Creek infiltration facility);
- Completed city-specific mitigation actions by basin;
- Applicable water right permit development, by phase (1, 2, and 3);
- Comparison between permit development and corresponding completed mitigation actions; and
- Identification of mitigation actions not completed, if any, including a revised schedule and proposed limitations on permit development until completed.

For brevity, the summary report may include appendices of construction and/or monitoring reports. The annual Mitigation Summary Report for the previous year is due to Ecology on January 31. The first summary report is due on January 31, 2013.

Saltwater Intrusion Monitoring

Prior to placing Marvin Road well into production, Lacey must implement the TQu aquifer groundwater monitoring strategy presented in Northwest Land and Water (2011). Critical elements of the monitoring strategy include:

1. Beachcrest Well No. 3 shall be completed as a monitoring well in TQu aquifer zone 1, 2, and 3;
2. A sentinel monitoring well shall be installed in the TQu aquifer as close to the shoreline of Puget Sound as siting reasonably allows. The monitoring well shall be completed in TQu aquifer zones 1, 2, 3, 4, and 5. The monitoring well must be installed within one year of issuance of the Marvin Road and/or Meridian Campus water right permit;
3. Groundwater elevations shall be continuously monitored (via dedicated downhole pressure transducer) at all City-owned TQu wellheads, including Hawks Prairie well Nos. 1 and 2, Marvin Road, Meridian Campus, Beachcrest Well No. 3, and within each of the five zones discretely screened in the newly installed monitoring well;
4. Groundwater quality (temperature and specific conductance) shall be continuously monitored (via downhole pressure transducer) at Beachcrest Well No. 3 and the near-shore monitoring well. Quarterly groundwater quality samples shall be collected from all TQu aquifer pumping wells and submitted for chloride analysis;
5. Baseline groundwater elevation and water quality monitoring shall be completed for a minimum of two years prior to placing the Marvin Road well into production. Following the baseline monitoring period, the data must be analyzed and reported to the Department of Ecology to establish seasonal baseline conditions in the TQu aquifer;
6. Prior to placing the Marvin Road well into service, a Technical Memorandum must be prepared summarizing observed groundwater elevation and water quality trends in comparison with baseline conditions. In addition, the analysis shall use updated aquifer parameters and information regarding lateral and/or vertical TQu aquifer hydraulic continuity. The memorandum(s) must conclude with recommendations on the development approach (e.g. pumping schedule, duration, etc) of the subject production well; and
7. Following development of the Marvin Road well, analysis of long-term groundwater elevation and water quality data must be completed and reported to Ecology annually.

If at any time, the data and/or analysis indicate saltwater intrusion or impairment of existing wells, mitigating measures must be implemented. Mitigating measures may include reduction or cessation of pumping from one or more wells completed in the TQu aquifer.

Measurements, Monitoring, Metering and Reporting

An approved measuring device shall be installed and maintained for the source 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.

Water use shall be recorded weekly. Recorded water use data may 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.

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

Water Level Measurements
Static water levels shall be measured and recorded monthly, using a consistent methodology. Data for the previous year shall be submitted by January 31 to the Department of Ecology.

Proof of Appropriation
The water right holder shall file the notice of Proof of Appropriation of water 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.

This permit shall be subject to cancellation should the permittee fail to comply with the above development schedule and/or to give notice to the Department of Ecology on forms provided by that department documenting such compliance.

Given under my hand and the seal of this office at Olympia, Washington,

this 8th day of March, 2012.

Department of Ecology

OK RC

By Michael J. Gallagher
Michael J. Gallagher, Section Manager

If you require this document in an alternate format, please contact Water Resources at (360) 407-6300, or TTY (for the speech or hearing impaired) 711 or 800-833-6388.

File NR G2-30250

DEPARTMENT OF ECOLOGY
State of Washington

State of Washington
Amended PERMIT
TO APPROPRIATE PUBLIC WATERS OF THE STATE OF WASHINGTON

APPLICATION PRIORITY DATE	WATER RIGHT NUMBER
May 3, 2005	G2-30250

MAILING ADDRESS	SITE ADDRESS (IF DIFFERENT)
City of Lacey 420 College Street SE Lacey, Washington 98503	8855 Campus Glen Dr. Northeast Lacey, Washington 98516

Quantity Authorized for Withdrawal or Diversion

WITHDRAWAL OR DIVERSION RATE	UNITS	ANNUAL QUANTITY (AF/YR)
800	GPM	1,000

	WITHDRAWAL OR DIVERSION RATE			ANNUAL QUANTITY (AF/YR)		
PURPOSE	ADDITIVE	NON-ADDITIVE	UNITS	ADDITIVE	NON-ADDITIVE	PERIOD OF USE (mm/dd)
Municipal Supply	800		GPM	1,000		Year round

IRRIGATED ACRES		PUBLIC WATER SYSTEM INFORMATION	
ADDITIVE	NON-ADDITIVE	WATER SYSTEM ID	CONNECTIONS
		43500	

Source Location

COUNTY	WATERBODY	TRIBUTARY TO	WATER RESOURCE INVENTORY AREA
Thurston	TQu Aquifer		13 – Deschutes

SOURCE FACILITY/DEVICE	PARCEL	WELL TAG	TWN	RNG	SEC	QQ Q	LATITUDE	LONGITUDE
Well No. 30 (Meridian Campus Well)	11801210000	BAM407	18N	01W	1	NENW	645688.5 N	80072.4 E

Place of Use

LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE

The place of use (POU) of this water right is the service area described in the most recent Water System Plan approved by the Washington State Department of Health, so long as the water system is and remains in compliance with the criteria in RCW 90.03.386(2). RCW 90.03.386 may have the effect of revising the place of use of this water right.

Proposed Works

The Meridian Campus test well was advanced to a depth of 667 feet below ground surface (bgs) with an 8-inch diameter casing and a well screen assembly from 497 to 657 feet bgs. Three TQu aquifer zones (1, 2, and 3) are screened with 10- to 50-slot well screen for a total open interval of approximately 66 feet. Design and installation of the production well is pending.

Development Schedule

BEGIN PROJECT	COMPLETE PROJECT	PUT WATER TO FULL USE
Begun	June 2028	June 1, 2051

Measurement of Water Use

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

Provisions

Mitigation

The use of water under this permit is subject to the fulfillment of the Comprehensive Water Rights Mitigation Plan, presented in Lacey (2010) and as amended below, and continued agreement between the cities of Olympia, Lacey, and Yelm through the supporting Amended Interlocal Agreement (presented in Appendix D of City of Lacey (2010)).

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- Development and performance of the previous year's basin-specific in-kind mitigation actions. The summary of performance shall be supported by available data (e.g. estimates of monthly infiltration rates at the Woodland Creek infiltration facility);
- Completed city-specific mitigation actions by basin;
- Applicable water right permit development, by phase (1, 2, and 3);
- Comparison between permit development and corresponding completed mitigation actions; and
- Identification of mitigation actions not completed, if any, including a revised schedule and proposed limitations on permit development until completed.

For brevity, the summary report may include appendices of construction and/or monitoring reports. The annual Mitigation Summary Report for the previous year is due to Ecology on January 31. The first summary report is due on January 31, 2013.

Saltwater Intrusion Monitoring

Prior to placing Meridian Campus well into production, Lacey must implement the TQu aquifer groundwater monitoring strategy presented in Northwest Land and Water (2011). Critical elements of the monitoring strategy include:

1. Beachcrest Well No. 3 shall be completed as a monitoring well in TQu aquifer zone 1, 2, and 3;
2. A sentinel monitoring well shall be installed in the TQu aquifer as close to the shoreline of Puget Sound as siting reasonably allows. The monitoring well shall be completed in TQu aquifer zones 1, 2, 3, 4, and 5. The monitoring well must be installed within one year of issuance of the Marvin Road and/or Meridian Campus water right permit;
3. Groundwater elevations shall be continuously monitored (via dedicated downhole pressure transducer) at all City-owned TQu wellheads, including Hawks Prairie well Nos. 1 and 2, Marvin Road, Meridian Campus, Beachcrest Well No. 3, and within each of the five zones discretely screened in the newly installed monitoring well;
4. Groundwater quality (temperature and specific conductance) shall be continuously monitored (via downhole pressure transducer) at Beachcrest Well No. 3 and the near-shore monitoring well. Quarterly groundwater quality samples shall be collected from all TQu aquifer pumping wells and submitted for chloride analysis;
5. Baseline groundwater elevation and water quality monitoring shall be completed for a minimum of two years prior to placing the Meridian Campus well into production. Following the baseline monitoring period, the data must be analyzed and reported to the Department of Ecology to establish seasonal baseline conditions in the TQu aquifer;
6. Prior to placing the Meridian Campus well into service, a Technical Memorandum must be prepared summarizing observed groundwater elevation and water quality trends in comparison with baseline conditions. In addition, the analysis shall use updated aquifer parameters and information regarding lateral and/or vertical TQu aquifer hydraulic continuity. The memorandum(s) must conclude with recommendations on the development approach (e.g. pumping schedule, duration, etc) of the subject production well; and
7. Following development of the Meridian Campus well, analysis of long-term groundwater elevation and water quality data must be completed and reported to Ecology annually.

If at any time, the data and/or analysis indicate saltwater intrusion or impairment of existing wells, mitigating measures must be implemented. Mitigating measures may include reduction or cessation of pumping from one or more wells completed in the TQu aquifer.

Measurements, Monitoring, Metering and Reporting

An approved measuring device shall be installed and maintained for the source 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.

Water use shall be recorded weekly. Recorded water use data may 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.

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

Water Level Measurements
Static water levels shall be measured and recorded monthly, using a consistent methodology. Data for the previous year shall be submitted by January 31 to the Department of Ecology.

Proof of Appropriation
The water right holder shall file the notice of Proof of Appropriation of water 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.

This permit shall be subject to cancellation should the permittee fail to comply with the above development schedule and/or to give notice to the Department of Ecology on forms provided by that department documenting such compliance.

Given under my hand and the seal of this office at Olympia, Washington,

this 8th day of March, 2012.

Department of Ecology

OK RE

By Michael J. Gallagher
Michael J. Gallagher, Section Manager

If you require this document in an alternate format, please contact Water Resources at (360) 407-6300, or TTY (for the speech or hearing impaired) 711 or 800-833-6388.