



**STATE OF WASHINGTON DEPARTMENTS OF ECOLOGY AND HEALTH
PERMIT APPLICATION for RECLAIMED WATER USE**

For Office Use Only:
 Date Received _____ Application/Permit No. _____

This application is for a

- New Reclaimed Water Use Permit
- Renewal
- Modification of permit # _____

as required in accordance with the provisions of Chapters 90.46 RCW. All questions must be answered completely and accurately to be considered for coverage. If a question does not apply, answer with NA.

SECTION A. GENERAL INFORMATION

A-I. PERMITTEE: Public Private UBI No. 600211038

| | |
|--|---|
| Name of Utility or Business: Liberty Lake Sewer and Water District | Is the operator also the owner? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Primary Contact Name: BiJay Adams | Name of Operator: Dan Grogg |
| Title: General Manager | Operator Primary Contact Name: Dan Grogg |
| Phone No: 509-922-5443 | Title: Chief Operator |
| E-mail Address <u>bijay@libertylake.org</u> | Phone No: (509) 922-5443 X 236 |
| Primary Mailing Address ' 22510 E Mission Ave | E-mail Address <u>dangrogg@libertylake.org</u> |
| City Liberty Lake Zip + 4 99019 | Primary Mailing Address 22510 E. Mission Ave. |
| BILLING INFORMATION (if different from primary contact) | City Liberty Lake Zip + 4 99019 |
| Business/Company Name | Phone No. |
| Mailing Address | City Zip + 4 |

A-II. Provide a narrative description and map of the entire project – not just the treatment facility.

Check this box if there are attached submittals for this section.

RECEIVED

DEC 03 2013

Department of Ecology
Eastern Regional Office

A-III. WASTEWATER DISCHARGE MANAGEMENT: Check here if the other required forms are attached.

Permits for reclaimed water are issued in combination with any required NPDES or state wastewater discharge permits. Check the boxes in column below to determine which (if any) wastewater discharge permit application forms apply for this facility. Note that unless 100% of the water generated will be reclaimed AND used, wastewater discharge applications must also be required. Permit application forms are available on Ecology's website.

- All wastewater is generated, treated and used on site. No wastewater discharges from this site.
- Wastewater discharges to waters of the US. NPDES PERMIT REQUIRED
- Wastewater discharges to land or ground water. STATE WASTE DISCHARGE PERMIT REQUIRED. ECY 040-179.
- This facility discharges industrial process wastewater for treatment at a publicly owned treatment works. STATE PRETREATMENT PERMIT REQUIRED. ECY 040-177.
- The only discharge from this site is reclaimed water meeting state standards (see Section V below).
- Facility discharges reclaimed water to a drywell, drainfield, or an infiltration system that uses perforated pipe to discharge to the subsurface and complies with the Underground Injection Control Program (UIC) regulations, 173-218 WAC.

A-IV. RECLAIMED WATER PRODUCTION: Section B required Check here if Attached.

| | |
|---|---------------------------------|
| Primary Treatment Facility Contact: Dan Grogg | Title: Chief Operator |
| E-mail Address: dangrogg@libertylake | Phone No. 509-922-5443 X 236 |
| Mailing Address: 22510 E. Mission Ave. | City Liberty Lake Zip + 4 99019 |

| | |
|---|---|
| Check type(s) of reclaimed water quality produced. <input checked="" type="checkbox"/> Class A <input type="checkbox"/> Class B <input type="checkbox"/> Class C <input type="checkbox"/> Class D | For ground water recharge, surface water augmentation or wetlands check additional treatment or water quality requirements achieved. <input checked="" type="checkbox"/> Nitrogen reduction <input type="checkbox"/> Drinking water standards <input type="checkbox"/> Surface water standards <input checked="" type="checkbox"/> Wetland standards <input type="checkbox"/> Reverse osmosis <input type="checkbox"/> Other - Explanation attached |
|---|---|

Provide the status of each required submittal below. If submittal does not apply to your facility, enter NA.

| Submittal | Title | Date | Attached | Submitted | Approved |
|------------------------------------|--|--|--------------------------|--------------------------|--------------------------|
| Reclaimed Water Engineering Report | LLSWD Reclaimed Water Engineering Report | To Be Submitted with Pre-Design Report | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Reliability Assessment | LLSWD Reclaimed Water Engineering Report | To Be Submitted with Pre-Design Report | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Note: The engineering report above is the report required in the State Water Reclamation and Reuse Standards Publication #97-023.

- Check this box if there are multiple engineering submittals for different treatment processes or sites. Attach a list of these specific submittals to include coverage under this permit

A-V. RECLAIMED WATER USE: Section D Required Check here if attached.

| | |
|--|--|
| Check all categories of use of reclaimed water. | <input checked="" type="checkbox"/> Wetlands |
| <input type="checkbox"/> Industrial or commercial uses | <input type="checkbox"/> Streamflow augmentation |
| <input checked="" type="checkbox"/> Land application (irrigation) | <input type="checkbox"/> Direct aquifer recharge |
| <input type="checkbox"/> Impoundments | <input type="checkbox"/> Other - Explanation attached |
| <input type="checkbox"/> Groundwater recharge by surface percolation | <input type="checkbox"/> Indirect use (controlled) |
| | <input type="checkbox"/> Mitigation for new appropriative water rights |

A-VI. WATER RIGHT IMPAIRMENT INFORMATION

State law requires that facilities that reclaim water shall not impair existing water rights downstream of any freshwater discharge points from such facilities unless compensation or mitigation is agreed to by the holder of the affected water right.

Does diversion of reclaimed water result in impairment of existing downstream water rights?

No Yes

If yes, briefly describe method of compensation or mitigation of the affected water right(s).

A-VII. SUMMARY OF REQUIRED SUBMITTALS

Provide the status of each required submittal below. If submittal does not apply to your facility, enter NA.

| Submittal | Title | Date | Attached | Submitted | Approved |
|---|---|-----------------|-------------------------------------|--------------------------|--------------------------|
| Water Right Impairment Analysis | Liberty Lake Sewer and Water District Water Reclamation Facility Water Rights Impairment Analysis | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| User Contracts | LLSWD User Contracts | To Be Submitted | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Public Water System's Cross Connection Control Plan | LLSWD Cross Connection Control Plan | To Be Submitted | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Check this box if there are multiple submittals under the above categories for use sites or uses. **Attach** a list of these specific submittals for coverage under this permit.

A-VIII. CERTIFICATION BY PERMITTEE:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

BiJay Adams
Printed Name of Person Signing Below

District Manager
Title


Signature of Applicant

12/3/13
Date Applicant Signed

NOTE: Applications must be signed as follows: A.) For corporation, by a principal executive officer of at least the level of vice president; B.) For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or C.) For a municipality, state, federal, or other public facility, by either a principal executive officer or ranking elected official.

A-IX. SUBMITTAL INSTRUCTIONS:

A complete application must contain all required forms for source control, discharges and reclaimed water use. The Departments of Ecology and Health may request additional information regarding water quality and the location, rate and purposes of use. Information from other submittals attached must reference submittal name, date and page number.

Submit the completed application **forms** to the appropriate Ecology regional office and to the Department of Health at the addresses listed below.

| | |
|---|---------------------|
| Washington State Department of Ecology (see map below for regional offices) | |
| Ecology Southwest Regional Office Water Quality Program Attn: Permit Coordinator PO Box 4775 Olympia, WA 98504-7775 | Phone: 360-407-6279 |
| Ecology Northwest Regional Office Water Quality Program Attn: Permit Coordinator 3190 - 160 th Avenue SE Bellevue, WA 98008-5452 | Phone: 425-649-7201 |
| Ecology Central Regional Office Water Quality Program Attn: Permit Coordinator 15 West Yakima Avenue, Suite 200 Yakima, WA 98902-3401 | Phone: 509-457-7105 |
| Ecology Eastern Regional Office Water Quality Program Attn: Permit Coordinator N. 4601 Monroe, Suite 100 Spokane, WA 99205-1295 | Phone: 509-329-3537 |
| Washington State Department of Health Office of Drinking Water Attn: Craig Riley Water Reclamation & Reuse Program 1500 West 4th Avenue, Suite 305 Spokane, Washington 99204 | Phone: 509-456-2466 |

Headquarters (Lacey) 360-407-6000
If you are speech or hearing impaired, call 711 or 1-800-833-6388 for TTY



**STATE OF WASHINGTON DEPARTMENTS OF ECOLOGY AND HEALTH
 PERMIT APPLICATION for RECLAIMED WATER USE**

SECTION B. RECLAIMED WATER PRODUCTION

Complete a separate section B for each treatment facility site covered under this permit. All questions must be answered completely and accurately to be considered for coverage. If a question does not apply, answer NA.

B-I. TREATMENT FACILITY SITE INFORMATION:

| | |
|---|---|
| Facility: Liberty Lake Sewer and Water District Water Reclamation Facility | |
| Primary Contact: Dan Grogg | Title: Chief Operator |
| E-mail Address: dangrogg@libertylake.org | Phone No. (509) 922-5443 X 236 |
| Mailing Address: 22510 E. Mission Ave. | City: Liberty Lake Zip + 4 99019 |
| Provide latitude and longitude points where reclaimed water leaves the treatment facility: 47.68, -117.11 | |
| Provide directions to site from nearest hwy or city/town: From Spokane; I-90 Eastbound, take exit 296 towards Liberty Lake. Turn Left on Harvard Road, then turn Right onto North Indiana Road. The entrance to the Facility will be on your Right hand side. | |

B-II. CLASS OF RECLAIMED WATER PRODUCED AT THIS FACILITY:

- Class A
 Class B
 Class C
 Class D
 Other Process / Water Quality Limits (explain):

B-III. EXISTING PERMITS: List all existing environmental permits at this location by type, issue date, expiration date, and permit number. If no existing permits, enter NONE.

| Type of Permit | Issued (date) | Expires (date) | Permit Number |
|---|---------------|-----------------|---------------|
| NPDES Waste Discharge Permit | June 23, 2011 | June 30, 2016 | WA-0045144 |
| SCAPCA Notice of Construction Permit | June 22, 2004 | N/A | NOC No. 1228 |
| General Permit for Biosolids Management | July 21, 2010 | August 20, 2015 | N/A |
| | | | |
| | | | |

B-IV. LIST ALL SOURCES OF WATER TREATED TO RECLAIMED WATER AT THIS SITE:

| Type of Water | Where Generated | Volume Treated | Percentage of Total |
|---------------------------------------|--|----------------|---------------------|
| Untreated Domestic Sewage | <input checked="" type="checkbox"/> On-site <input checked="" type="checkbox"/> Off-site | 1.5 MGDAAF | 100% |
| Secondary Effluent | <input type="checkbox"/> On-site <input type="checkbox"/> Off-site | | |
| Storm Water | <input type="checkbox"/> On-site <input type="checkbox"/> Off-site | | |
| Industrial Process Water | <input type="checkbox"/> On-site <input type="checkbox"/> Off-site | | |
| Commercial Use Water | <input type="checkbox"/> On-site <input type="checkbox"/> Off-site | | |
| Agricultural Industrial Process Water | <input type="checkbox"/> On-site <input type="checkbox"/> Off-site | | |
| Other: | <input type="checkbox"/> On-site <input type="checkbox"/> Off-site | | |

B-V. INFORMATION ON INDUSTRIAL AND COMMERCIAL FACILITIES DISCHARGING TO SOURCE WATER.

| | | | |
|---|-------------------|--|--|
| <p>Identify all industries and large commercial facilities discharging <u>to</u> the source water for the reclamation plant by name, type of industry, address telephone number and contact name. Attach additional sheets if needed.</p> | | | |
| Industry/Facility Name: | SEE ATTACHED LIST | | |
| Type: | | | |
| State Permit #: | | | |
| Street Address: | | | |
| Mailing Address: | | | |
| Telephone: | | | |
| Contact Name: | | | |
| E-mail Address: | | | |

B-VI. TREATMENT PROCESSES USED TO PRODUCE RECLAIMED WATER AT THIS SITE:

Check (✓) all unit processes used to produce reclaimed water at this site. Enter the # of units.

| Treatment Process | ✓ | Unit Process | # of Units | |
|---|--|--|-----------------------------|---|
| Preliminary Treatment | <input type="checkbox"/> | Manually Operated Bar Screens | | |
| | <input type="checkbox"/> | Mechanically Operated Bar Screens | | |
| | <input checked="" type="checkbox"/> | Fine Screen – Size: Capacity-4MGD Size-6mm | 2 | |
| | <input type="checkbox"/> | Comminutor/Grinder | | |
| | <input checked="" type="checkbox"/> | Grit removal | 2 | |
| | <input type="checkbox"/> | Pre-Aeration | | |
| | <input type="checkbox"/> | Odor Control | | |
| | <input checked="" type="checkbox"/> | Flow Measurement | 1 | |
| | <input type="checkbox"/> | Flow Equalization | | |
| | <input type="checkbox"/> | Septage or Other Hauled Wastes | | |
| <input type="checkbox"/> | Other:(specify) | | | |
| Primary Treatment | <input type="checkbox"/> | Sedimentation Tanks/Clarifiers | | |
| | <input type="checkbox"/> | Septic Tanks | | |
| | <input type="checkbox"/> | Other (Specify) | | |
| Secondary Treatment Biological Oxidation | <input type="checkbox"/> | Activated Sludge | Conventional | |
| | <input type="checkbox"/> | | Batch Treatment (SBR) | |
| | <input checked="" type="checkbox"/> | | Extended Aeration | 4 |
| | <input type="checkbox"/> | | Package Plant | |
| Post Secondary Treatment | <input checked="" type="checkbox"/> | Coagulation | 3 | |
| | <input checked="" type="checkbox"/> | Flocculation | 3 | |
| | <input checked="" type="checkbox"/> | Sedimentation | 4 | |
| | <input type="checkbox"/> | Filtration | High-Rate Rapid Sand Filter | |
| | <input type="checkbox"/> | | Continuous Backwash Upflow | |
| | <input type="checkbox"/> | | Rotating Filter Disk | |
| | <input type="checkbox"/> | | Compressible Fiber Filter | |
| | <input type="checkbox"/> | | Traveling Bridge Filter | |
| <input checked="" type="checkbox"/> | Membrane Filter <input type="checkbox"/> Microfiltration <input checked="" type="checkbox"/> Ultrafiltration | | 3 planned | |
| <input type="checkbox"/> | Membrane Bioreactor <input type="checkbox"/> Microfiltration <input type="checkbox"/> Ultrafiltration | | | |
| <input type="checkbox"/> | Other: (specify) | | | |
| Advanced Treatment | <input type="checkbox"/> | Nanofiltration | | |
| | <input type="checkbox"/> | Reverse Osmosis | | |
| | <input type="checkbox"/> | Other (specify) | | |

| | | | |
|---|-------------------------------------|--|---|
| Disinfection | <input type="checkbox"/> | Chlorine Gas | |
| | <input type="checkbox"/> | Hypochlorite | |
| | <input checked="" type="checkbox"/> | Ultraviolet Light | 2 |
| | <input type="checkbox"/> | Ozone | |
| | <input type="checkbox"/> | Other (specify): | |
| On-Site Storage | <input type="checkbox"/> | Lined Pond | |
| | <input type="checkbox"/> | Unlined Pond | |
| | <input type="checkbox"/> | Covered Tank | |
| | <input type="checkbox"/> | Other (specify): | |
| Chemical Additives <input checked="" type="checkbox"/> List attached | <input checked="" type="checkbox"/> | List <u>all</u> chemical additives associated with the treatment processes (e.g. alum for coagulation, chlorine for oxidation). Attach list if needed. Aluminum Sulfate, Ferric Chloride, Citric Acid, Hydrochloric Acid, Sodium Hydroxide, Sodium Hypochlorite, Sodium Bisulfite, Polymer for Sludge Dewatering | |
| Other Treatment (Specify) | <input type="checkbox"/> | | |
| | <input type="checkbox"/> | | |

B-VII. FACILITY DIAGRAM

Attach a sketch, aerial photograph, or map, including scale, of the treatment facility showing the following:

| | |
|-------------------------------------|---|
| <input checked="" type="checkbox"/> | Check items shown on the attachment. |
| <input checked="" type="checkbox"/> | Approximate overall dimensions of the facility |
| <input checked="" type="checkbox"/> | A properly labeled line drawing of all water and wastewater flows including direction of flow |
| <input checked="" type="checkbox"/> | All chemical storage areas |
| <input checked="" type="checkbox"/> | All discharge point(s) and receiving water(s) |
| <input checked="" type="checkbox"/> | All sludge (or biosolids) storage, processing or disposal areas |
| <input type="checkbox"/> | |
| <input type="checkbox"/> | |

B-VIII. CHARACTERISTICS OF RECLAIMED WATER PRODUCED

Enter X for parameters known to be present in the reclaimed water, or S for parameters suspected to be present. Provide data for all X or S. Mark NA for parameters that are not of concern at this facility.

New Treatment Facility – Estimate concentrations based on design.

Existing facility - Use actual operating data for the last year of operation where available - indicated by (✓)

| X/S | Actual data ✓ | Parameter | Concentration | | | # of Analyses | Analytical Method | Detection Limit |
|-----|-------------------------------------|-------------------------|---------------|---------|---------|---------------|-------------------|-----------------|
| | | | Minimum | Maximum | Average | | | |
| X | <input type="checkbox"/> | BOD (5 day) | <2.0 | <7.0 | <5.0 | N/A | 5210B | 2.0 |
| | <input type="checkbox"/> | COD | | | | | | |
| | <input type="checkbox"/> | Total Organic Carbon | | | | | | |
| X | <input type="checkbox"/> | Total Suspended Solids | <5.0 | <5.0 | <5.0 | N/A | 2540D | 5.0 |
| | <input type="checkbox"/> | Total Dissolved Solids | | | | | | |
| | <input type="checkbox"/> | Conductivity | | | | | | |
| X | <input checked="" type="checkbox"/> | pH | 6.93 | 7.58 | 7.20 | 366 | 4500H | N/A |
| X | <input checked="" type="checkbox"/> | Ammonia-N | 0.01 | 0.15 | 0.09 | 53 | 4500N | 0.01 |
| | <input type="checkbox"/> | Total Kjeldahl N | | | | | | |
| X | <input checked="" type="checkbox"/> | Nitrate + Nitrite-N | 3.4 | 7.3 | 5.0 | 26 | 4500N | 0.1 |
| | <input type="checkbox"/> | Total Nitrogen-N | | | | | | |
| | <input type="checkbox"/> | Ortho-phosphate- P | | | | | | |
| X | <input checked="" type="checkbox"/> | Total-phosphate-P | 0.130 | 2.19 | 0.424 | 240 | 4500P | 0.003 |
| X | <input type="checkbox"/> | Total Residual Chlorine | 0.5< | <10 | <2.0 | N/A | 4500Cl | 50 |
| | <input type="checkbox"/> | Free Residual Chlorine | | | | | | |
| X | <input type="checkbox"/> | Total Coliform | <2 | <23 | <2.2 | N/A | 9221B | N/A |
| X | <input checked="" type="checkbox"/> | Dissolved Oxygen | 3.7 | 6.0 | 4.8 | 252 | 4500O | 0.2 |
| | <input type="checkbox"/> | Total Oil and Grease | | | | | | |
| | <input type="checkbox"/> | Calcium | | | | | | |
| | <input type="checkbox"/> | Chloride | | | | | | |
| | <input type="checkbox"/> | Fluoride | | | | | | |
| | <input type="checkbox"/> | Magnesium | | | | | | |
| | <input type="checkbox"/> | Potassium | | | | | | |
| | <input type="checkbox"/> | Sodium | | | | | | |
| | <input type="checkbox"/> | Sulfate | | | | | | |
| | <input type="checkbox"/> | Barium (total) | | | | | | |
| X | <input checked="" type="checkbox"/> | Cadmium (total) | 0.01ug/L | 0.05 | 0.03 | 12 | 200.8 | 0.01 |
| X | <input checked="" type="checkbox"/> | Copper (total) | 4.3 ug/L | 5.5 | 4.8 | 4 | 200.8 | 0.4 |
| | <input type="checkbox"/> | Iron (total) | | | | | | |
| X | <input checked="" type="checkbox"/> | Lead (total) | 0.6 ug/L | 1.1 | 0.9 | 12 | 200.8 | 0.1 |
| | <input type="checkbox"/> | Manganese (total) | | | | | | |
| X | <input checked="" type="checkbox"/> | Mercury | <0.2ug/L | <0.2 | <0.2 | 4 | ? | ? |
| | <input type="checkbox"/> | Selenium | | | | | | |
| | <input type="checkbox"/> | Silver (total) | | | | | | |
| X | <input checked="" type="checkbox"/> | Zinc (total) | 56.2ug/L | 82.4 | 66.4 | 12 | 200.8 | 0.5 |

Facility: Liberty Lake

S&W District

B-XI. FACILITY ALARMS. Describe how the following alarm features are provided. If referencing information in an engineering report or other submittal, give name of submittal, date and page number of information. Attach additional sheets if needed.

| Required Alarms | How Provided |
|---|--|
| Loss of power from normal power supply | Loss of power will be transmitted to Programmable Logic Controllers (PLC), Supervisory Control and Data Acquisition (SCADA) System, and Autodialer. |
| Alarms independent of normal power supply | Alarms and associated instrumentation and control system is on standby power and furnished with uninterruptible power supply (UPS) units. |
| Master Alarm Inter-connect all site alarms Who is notified? Lead Operator First | All alarms are displayed at various locations (HMI screens) throughout the plant and are available for annunciation and notification by Autodialer. |
| Master alarm to remote service location Who is notified? Lead Operator First | All alarms are capable of being selected as critical alarms for remote indication to Autodialer list. Notification list and sequence are programmable. |

B-XII. FACILITY RELIABILITY. In the table below, indicate (✓) which reliability requirements are used at this facility. One or more reliability features are required for each category. If the treatment category does not apply to this facility, write NA.

| Reliability Category | ✓ | Option |
|-------------------------------------|--|---|
| Power Supply | Check which of the following are provided (at least one required) | |
| | <input checked="" type="checkbox"/> | Alarm and standby power source |
| | <input type="checkbox"/> | Alarm & automatically actuated short term storage or disposal |
| | <input type="checkbox"/> | Automatically actuated long term storage |
| | <input type="checkbox"/> | Approved other - specify |
| Emergency Storage or Disposal | Check which of the following are provided (at least one required) | |
| | <input type="checkbox"/> | Long term storage on-site. No disposal options |
| | <input type="checkbox"/> | Emergency short-term storage with approved disposal option |
| | <input checked="" type="checkbox"/> | Approved other – specify Alternative Disposal to the Spokane River. |
| Biological Treatment | Check which of the following are provided (at least one required) | |
| | <input checked="" type="checkbox"/> | Alarm and multiple units treating entire flow with one not in service |
| | <input type="checkbox"/> | Alarm, short-term storage or disposal and standby equipment |
| | <input type="checkbox"/> | Alarm and long-term storage or disposal provisions |
| | <input type="checkbox"/> | Automatic diversion to long-term storage or disposal. |
| <input type="checkbox"/> | Approved other – specify | |
| Secondary Sedimentation | Check which of the following are provided (at least one required) | |
| | <input checked="" type="checkbox"/> | Multiple units treating entire flow with one unit not in service. |
| | <input type="checkbox"/> | Standby sedimentation unit process |
| | <input type="checkbox"/> | Approved long-term storage or disposal provisions |
| <input type="checkbox"/> | Approved other – specify | |
| Coagulation | Check which of the following are provided (all four are required). | |
| | <input checked="" type="checkbox"/> | Standby chemical feeders |
| | <input checked="" type="checkbox"/> | Adequate chemical storage and conveyance facilities |
| | <input checked="" type="checkbox"/> | Adequate reserve chemical supply |
| <input checked="" type="checkbox"/> | Automatic dosage control | |

S&W District

| | | |
|-----------------------------|---|--|
| Coagulation (continued) | Check which of the following are provided (at least one required) | |
| | <input checked="" type="checkbox"/> | Alarm and multiple units treating entire flow with one not in service. |
| | <input type="checkbox"/> | Alarm, short-term storage or disposal and standby equipment. |
| | <input checked="" type="checkbox"/> | Alarm and long-term storage or disposal provisions |
| | <input type="checkbox"/> | Automatic diversion to long-term storage or disposal provisions. |
| | <input type="checkbox"/> | Approved other – specify |
| Filtration | Check which of the following are provided (at least one required) | |
| | <input checked="" type="checkbox"/> | Alarm and multiple units treating entire flow with one not in service. |
| | <input type="checkbox"/> | Alarm, short-term storage or disposal and standby equipment. |
| | <input checked="" type="checkbox"/> | Alarm and long-term storage or disposal provisions |
| | <input checked="" type="checkbox"/> | Automatic diversion to long-term storage or disposal provisions. |
| | <input type="checkbox"/> | Approved other – Specify |
| Reverse Osmosis | Check which of the following are provided (at least one required) | |
| | <input type="checkbox"/> | Alarm and multiple units treating entire flow with one not in service. |
| | <input type="checkbox"/> | Alarm, short-term storage or disposal and standby equipment. |
| | <input type="checkbox"/> | Alarm and long-term storage or disposal provisions |
| | <input type="checkbox"/> | Automatic diversion to long-term storage or disposal provisions. |
| | <input type="checkbox"/> | Approved other – Specify |
| Ultraviolet Disinfection | Check which of the following are provided (at least one required) | |
| | <input checked="" type="checkbox"/> | Alarm and multiple units treating entire flow with one not in service. |
| | <input type="checkbox"/> | Alarm, short-term storage or disposal and standby equipment. |
| | <input checked="" type="checkbox"/> | Alarm and long-term storage or disposal provisions |
| | <input checked="" type="checkbox"/> | Automatic diversion to long-term storage or disposal provisions. |
| | <input type="checkbox"/> | Approved other – Specify |
| Chlorine Disinfection | Check which of the following are provided (all six are required). | |
| | <input type="checkbox"/> | Standby chlorinator |
| | <input type="checkbox"/> | Standby chlorine supply |
| | <input type="checkbox"/> | Manifold system to connect chlorine cylinders |
| | <input type="checkbox"/> | Chlorine scales |
| | <input type="checkbox"/> | Automatic switchover to full chlorine cylinders |
| | <input type="checkbox"/> | Continuous measuring and recording of chlorine residual |
| | Check which of the following are provided (at least one required) | |
| | <input type="checkbox"/> | Alarm and standby chlorinator |
| | <input type="checkbox"/> | Alarm, short-term storage or disposal and standby equipment. |
| | <input type="checkbox"/> | Alarm and long-term storage or disposal provisions |
| | <input type="checkbox"/> | Automatic diversion to long-term storage or disposal provisions. |
| | <input type="checkbox"/> | Alarm and multiple point chlorination. Each point has independent power source, separate chlorinator and separate chlorine supply. |
| <input type="checkbox"/> | Approved other – specify | |

**STATE OF WASHINGTON DEPARTMENTS OF ECOLOGY AND HEALTH
PERMIT APPLICATION for RECLAIMED WATER USE**

SECTION D. RECLAIMED WATER USE

NOTE: Complete a separate form D for each reclaimed water customer (water user) under this permit. For subdivisions with a number of residential users, a single form may be used.

D-I. GENERAL INFORMATION:

| | | | |
|---|--|--|---------|
| Name of Customer (Water User) | | Potential water users are shown in Reclaimed Water System Plan submitted to WSDOE. Final users to be determined when permit is issued. | |
| Site Address: (If no address describe the location) | | City | Zip + 4 |
| Provide a legal description with latitude and longitude if known. | | | |
| Primary Contact: | | Title: | |
| Phone No: | | E-mail Address: | |
| Mailing Address: | | City | Zip + 4 |
| Name of Reclaimed Water Distributor (Purveyor): | | Is the customer (water user) the same as the: Treatment facility owner (Permittee) <input type="checkbox"/> Yes <input type="checkbox"/> No Distributor (purveyor) <input type="checkbox"/> Yes <input type="checkbox"/> No If no, attach a copy of the agreements used to control the use. <input type="checkbox"/> Agreement attached | |
| Name of Drinking Water System Purveyor: | | Name of Cross Connection Control Program Administrator: | |

D-II. DESCRIPTION OF USE OF RECLAIMED WATER:

1. The volume of reclaimed water use at this site is Estimated Metered

2. Describe the uses of reclaimed water at this site. Using available flow records and other available information, allocate the average flows among the various use categories. For each type of reclaimed water use at this site, enter the permitted capacity, average flows and acreage.
 Same as Section C - IV of this application Additional information is attached.

3. Describe any plans to modify the use of reclaimed water at this site.
 No modifications Description attached.

D-III. SITE ACCESS AND NOTIFICATION OF USE

In the table below, indicate (✓) which methods are used at this area to notify the public of reclaimed water use.

| | |
|-------------------------------------|--|
| <input checked="" type="checkbox"/> | Check which of the following are provided: |
| <input type="checkbox"/> | Advisory signs posted at location |
| <input type="checkbox"/> | Advisory signs posted on tank trucks |
| <input type="checkbox"/> | Advisory signs posted in storage areas |
| <input type="checkbox"/> | Written notices. Check who receives notification: <input type="checkbox"/> General Public <input type="checkbox"/> Employees <input type="checkbox"/> Residents <input type="checkbox"/> Customers |
| <input type="checkbox"/> | Golf course score cards |
| <input type="checkbox"/> | Identification of areas not designated for reclaimed water use. Check which apply: <input type="checkbox"/> Buildings <input type="checkbox"/> Drinking fountains <input type="checkbox"/> Eating areas <input type="checkbox"/> Passing vehicles <input type="checkbox"/> Other (Specify): _____ |
| <input type="checkbox"/> | Purple color coding: Check which apply: <input type="checkbox"/> Pipes <input type="checkbox"/> Valves <input type="checkbox"/> Outlets |
| <input type="checkbox"/> | Training programs: <input type="checkbox"/> Employees <input type="checkbox"/> Residents <input type="checkbox"/> Customers <input type="checkbox"/> Truck use <input type="checkbox"/> Other (Specify): _____ |

D-IV. CROSS CONNECTION CONTROL

| |
|---|
| Check which of the following apply: <input type="checkbox"/> Reclaimed water use area is serviced only with reclaimed water <input type="checkbox"/> Reclaimed water use area is serviced with both reclaimed and potable water |
| Answer all questions below where dual potable and reclaimed water systems exist. |
| 1. All public water systems servicing this area are actively implementing and enforcing cross-connection control plans. <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 2. All cross-connection control programs have been accepted by the Department of Health. <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 3. How many illegal cross-connections were identified during the last reporting period (permit)? a. How many of these were eliminated? b. Attach description of any cross-connections found and efforts to eliminate. <input type="checkbox"/> Attached |

D-V. BEST MANAGEMENT PRACTICES (FOR SITE USE OF RECLAIMED WATER)

- All reclaimed water is used at this site is consumed on site. Site has no discharges.
- Site has the following discharges of reclaimed water to waters of the state.
 - Aquifer recharge by: Surface percolation Direct injection
 - Note: If not owned by the Permittee, a separate permit application may be required for this discharge.
 - Discharges to surface waters or to wetlands discharging to surface waters. NPDES PERMIT REQUIRED
Enter existing permit number (if any) _____.
 - This site uses reclaimed water for industrial process wastewater which is then discharged to a publicly owned treatment works. STATE PRETREATMENT PERMIT REQUIRED. ECY 040-177.
 - Discharges to wetlands that discharge to ground water. STATE WASTE DISCHARGE PERMIT REQUIRED. ECY 040-179.

In the table below, indicate (✓) which methods are used at this area to regulate reclaimed water use.

| Category | ✓ | Option |
|------------------------------|--------------------------|---|
| General Site Management | | Check which of the following are provided: |
| | <input type="checkbox"/> | Other water used at this reclaimed water use site. Check all that apply: <input type="checkbox"/> Public potable water system <input type="checkbox"/> Private well <input type="checkbox"/> Surface water |
| | <input type="checkbox"/> | Site access is <input type="checkbox"/> unrestricted <input type="checkbox"/> restricted to public <input type="checkbox"/> restricted to most employees |
| | <input type="checkbox"/> | Rules prohibit the spraying with reclaimed water. |
| | <input type="checkbox"/> | Reclaimed water is confined to use areas. Set back distance: |
| | <input type="checkbox"/> | Rules prohibit hose bibs on reclaimed water lines. |
| | <input type="checkbox"/> | Use of reclaimed water is secured (authorized personnel only). |
| | <input type="checkbox"/> | Rules prohibit ponding of reclaimed water. |
| | <input type="checkbox"/> | Other restrictions (specify): <input type="checkbox"/> Additional information is attached. |
| Impoundments & Storage Ponds | <input type="checkbox"/> | Site has lined impoundments (ponds) with reclaimed water. |
| | <input type="checkbox"/> | Site has unlined impoundments (ponds) with reclaimed water. Describe method of seepage control. <input type="checkbox"/> attached |
| | <input type="checkbox"/> | Describe method to prevent breeding of vectors (for health protection). <input type="checkbox"/> attached |
| | <input type="checkbox"/> | Describe method to prevent odor, slime, poor aesthetics. <input type="checkbox"/> attached |
| | <input type="checkbox"/> | Describe ground water monitoring (if any): <input type="checkbox"/> attached |
| | <input type="checkbox"/> | Other (Specify): <input type="checkbox"/> Additional information is attached. |

S&W District

D-VII. GROUNDWATER INFORMATION

If groundwater monitoring is required or available, provide measurements from monitoring wells or supply wells in the area of the groundwater recharge or irrigation. Provide the location of each well on a map. Attach well logs and well I.D. # when available. Copy this page for each well.

Well ID Number: _____ New Reclaimed Water Site – Background Existing Site

| Parameter | Concentration | | | # of Analyses | Analytical Method | Detection Limit |
|-------------------------|---------------|---------|---------|---------------|-------------------|-----------------|
| | Minimum | Maximum | Average | | | |
| BOD (5 day) | | | | | | |
| COD | | | | | | |
| Total Organic Carbon | | | | | | |
| Total Suspended Solids | | | | | | |
| Total Dissolved Solids | | | | | | |
| Conductivity | | | | | | |
| pH | | | | | | |
| Ammonia-N | | | | | | |
| Total Kjeldahl N | | | | | | |
| Nitrate + Nitrite-N | | | | | | |
| Total Nitrogen-N | | | | | | |
| Ortho-phosphate- P | | | | | | |
| Total-phosphate-P | | | | | | |
| Total Residual Chlorine | | | | | | |
| Free Residual Chlorine | | | | | | |
| Total Coliform | | | | | | |
| Dissolved Oxygen | | | | | | |
| Total Oil and Grease | | | | | | |
| Calcium | | | | | | |
| Chloride | | | | | | |
| Fluoride | | | | | | |
| Magnesium | | | | | | |
| Potassium | | | | | | |
| Sodium | | | | | | |
| Sulfate | | | | | | |
| Barium (total) | | | | | | |
| Cadmium (total) | | | | | | |
| Copper (total) | | | | | | |
| Iron (total) | | | | | | |
| Lead (total) | | | | | | |
| Manganese (total) | | | | | | |
| Mercury | | | | | | |
| Selenium | | | | | | |
| Silver (total) | | | | | | |
| Zinc (total) | | | | | | |
| Water Level | | | | | | |

D-VIII. RECLAIMED WATER USE CAPACITY ALLOCATION

Using available flow records and other available information, allocate the average flows among the various use categories. For each type of reclaimed water use, enter the permitted capacity, average flows and acreage.

| Use Category | Sub-Category | Capacity (MGD) | Average Flow (MGD) | Area (acres) |
|---|---|----------------|--------------------|--------------|
| Water Production | Treatment Plant Uses | | | |
| Industrial Use | Process & Product Production | | | |
| | Cooling Use | | | |
| | Other | | | |
| Commercial Use | Toilet flushing | | | |
| | Fire protection | | | |
| | Other | | | |
| Public Access Land Application (irrigation) | Golf Course | | | |
| | Residential | | | |
| | Parks & Playgrounds | | | |
| | Schools | | | |
| | Cemeteries | | | |
| | Other | | | |
| Agricultural Land Application (irrigation) | Food Crops | | | |
| | Grass, Pasture | | | |
| | Other | | | |
| Groundwater Recharge | Surface Percolation | | | |
| | Direct Injection | | | |
| Wetlands | Constructed Treatment (aesthetic/polishing) | | | |
| | Beneficial Use (created) | | | |
| | Natural (restore) | | | |
| Surface Water | Augmentation | | | |
| Municipal Uses | Sewer Cleaning | | | |
| | Street Cleaning | | | |
| | Construction Compaction | | | |
| | Other | | | |
| Other (specify) | | | | |
| TOTAL | | | | |

Liberty Lake Top 10 Water Users

| Business | Address | Type of Establishment | gals/day usage | % of MGD |
|------------------------|---------------------------|------------------------------------|----------------|----------|
| Wandermete Investments | Liberty Lake Town Center | Large Commercial Mall w/Grocery | 11494 | 1.60% |
| Country Vista Car Wash | E. 22066 Country Vista | Car Wash | 8784 | 1.20% |
| Guardian Angel | E. 23102 Mission Ave | Assisted Living and Extended Care | 7806 | 1.10% |
| Pepper Tree Inn | N. 1816 Pepper Lane | Motel | 6787 | 0.90% |
| Safeway | N. 1233 Liberty Lake Road | Grocery Store | 6109 | 0.80% |
| Huntwood Industries | M. 1611 Molter Road | Leased to LTI (Cabinet Lamination) | 5161 | 0.70% |
| Liberty Lake LLC | E. 22425 Appleyway | Offices | 4862 | 0.70% |
| Center Partners | N. 1611 Molter | Call Center | 4607 | 0.60% |
| Meadowood Tech Center | E. 24001 Mission Ave. | Business Incubator / Offices | 4164 | 0.50% |
| Huntwood Industries | E. 23800 Appleyway | Cabinet Mfg. | 3316 | 0.40% |

*based on water meter readings, November through December 2011 (30 day total)

*Average daily flow at Reclamation Facility .727 MGD

Liberty Lake List of Eliminated Businesses

| Company Name | Address | gpd water usage | Description of Service |
|----------------------------------|---------------------------|-----------------|--|
| Storage Solutions | N. 2211 Harvard Road | 25 | Mini-storage w/small office |
| Valley Fire Station #3 | N. 2218 Harvard Road | 100 | Fire Station |
| Liberty Lake 90 | E. 21804 Mission Ave. | 1336 | Strip Mall with gasoline |
| George Gee Buick/GMC | E.21502 George Gee | 845 | Auto Dealer w/ Service Department (oil/water |
| Legends Grill | N. 1803 Harvard Road | 2072 | Restuarant and Bar |
| Huntwood | E. 21510 Mission Ave. | | Showroom/Sales Cabinetry |
| George Gee Porsche | E. 21702 Mission AVE. | 50 | Auto Dealer w/ Service Department (oil/water |
| Peppertree Inn | N. 1816 Pepper Lane | 6787 | Motel with indoor pool/spa no food service |
| Storage Solutions | E. 21305 Mission Ave. | 2.5 | Mini-storage w/small office |
| Merdedes Spokane | E. 21802 George Gee | 1183 | Auto Dealer w/ Service Department (oil/water |
| Zip Trip | E. 22304 Appleway | 297 | Convienance Store with Gas |
| (Windermere Reality) | N. 1429 Liberty Lake Road | 46 | Real Estate Office |
| Walgreens #10788 | N. 1502 Liberty Lake Road | 175 | Retail with Pharmacy |
| STA-Spokane Transit | E. 22400 Mission Ave. | 25 | Bus Park and Ride |
| Chevron | N. 1109 Liberty Lake Road | 175 | Convienance Store with Gas |
| Chevron | N. 1109 Liberty Lake Road | 1795 | Car Wash w/ oil/water |
| Taco Time | N. 1421 Liberty Lake Road | 486 | Restaurant with grease trap |
| Safeway Store #27 | N. 1233 Liberty Lake Road | 6109 | Grocery with deli & bakery |
| Sierra Develpement | N. 1235 Liberty Lake Road | 598 | Retail Strip mall |
| American West Bank | N. 1221 Liberty Lake Road | 13 | Bank |
| Carl's Junior # 1100180 | N. 1317 Liberty Lake Road | 696 | Restaurant with grease trap |
| Albertsons Inc Site 248 | N. 1304 Liberty Lake Road | 2119 | Grocery with deli & bakery |
| Wandermere Investments | N. 1310 Liberty Lake Road | 11494 | Retail Strip Mall |
| Liberty Lake Town Center | N. 1310 Liberty Lake Road | | Starbucks, 2 take out |
| McDonalds | N. 1306 Liberty Lake Road | 1336 | Restaurant with grease trap |
| Prolube | N. 1105 Liberty Lake Road | 35 | Lube and Oil Service |
| Bank of America | N. 1220 Liberty Lake Road | 125 | Bank |
| The Tire Guys | E. 22117 Country Vista | 93 | Retail Tire Sales |
| Horizon Credit Union | E. 22206 Country Vista | 18 | Bank |
| Aspen Ridge Plaza | E. 22106 Country Vista | 175 | Offices |
| Liberty Lake Family Dentist | N. 1328 Stanford Lane | 85 | Dental Office |
| Baker Spec. BLDG #1 | N. 1327 Stanford Lane | 873 | Lib. Lake Childrens Academy (pre-school) |
| Legacy Animal Medcenter | N. 1318 Standord Lane | 326 | Veterinay Cliinic |
| Rockford Clinic | N. 1326 Stanford Lane | 621 | Medial Office |
| Liberty Lake Health and Wellness | N. 1334 Whitman Lane | 279 | Medial Office Suites |
| Measdownwood Golf Course | Valleyway | | County Golf Course w/sandwiches and bar |
| A-15 LLC/F5 Network | N. 1322 Whitman Lane | 666 | Engineering Office |
| H2E | N. 1326 Whitman Lane | 107 | Engineering Office |
| Century 21 Building | N. 1328 Whitman Lane | 25 | Real Estate Office |
| Sterling Savings Bank | E. 21601 Country Vista | 25 | Bank |
| Lib Lk CTR Strip Mall | E. 21651 Country Vista | 52 | Retail Strip Mall w/small |

| | | | |
|--------------------------------|---------------------------|------|-------------------------------|
| Home Depot #4743 | E. 21701 Country Vista | 424 | Retail Hardware |
| Country Vista Car Wash | E. 22066 Country Vista | 8784 | Car Wash (oil/water |
| Clark Espresso and Clinic | E. 22026 Country Vista | 352 | Drive thru Coffee Shop |
| Alliant Securities | N. 695 Legacy Ridge Drive | 99 | Financial Offices |
| LDS Church/ East Stake | E. 23515 Boone | 125 | Church |
| Country Vista Plaza West | E. 21950 Country Vista | 654 | Retail Strip Mall w/offices |
| Country Vista Plaza East | E. 21950 Country Vista | 131 | Retail Strip Mall w/offices |
| Liberty Lake Childrens Academy | N. 1322 Sranford Lane | | Pre-School |
| Tierpoint | E. 23017 Mission | | Data Center |
| Guardian Angel Comple | E. 23102 Mission Ave | 7806 | Assisted Living Facility |
| Liberty Lake Post Office | N. 1423 Molter Road | 21 | Post Office |
| Stepping Stone Day Care | E. 23306 Mission Ave | 774 | Child Day Care service |
| Liberty Lake Athlitic Club | E. 23410 Mission Ave. | 2663 | Athletic Club with pool |
| Huntwood Industries | M. 1611 Molter Road | 5161 | Cabinet Manufacturing |
| L.L. Internet Portal | E. 23403 Mission Ave. | 140 | Office Suites |
| Meadowwod Tech Center | E. 24001 Mission Ave. | 4164 | Offices and Tech Incubator |
| Cedars Inn | N. 2327 Madsen | 1695 | Motel with indoor pool/spa |
| | | | RV Dealer with Service |
| R N R RV Center | E. 23203 Knox | 1118 | Department (oil/water |
| Liberty Lake Medical Center | N. 2207 ;Molter Road | 50 | Medical Offices |
| AccraFab 2000 | E. 23201 Appleway | 1172 | Metal Fabrication |
| Unicep | E. 23504 Knox | 25 | Packaging |
| PCO Incorporated | E. 23221 Knox | 274 | Computer/Data Security |
| East Knox LLC | E. 23305 Knox | | Offices |
| Cardinal Health | E. 23502 Knox | 174 | Medical Equipment Provider |
| | | | Diesel Truck/Equipment Sales |
| Western Peterbilt | E. 23501 Knox | 324 | with Service |
| | | | Assembling metering/data |
| Itron Inc. | N. 2111 Molter Road | 2144 | collection equipmment |
| Center Partners | N. 1611 Molter | 4607 | Call Center |
| | | | Food Service Warehouse (non |
| Knox Office Warehouse | E. 23424 Knox | 34 | food items) |
| Liberty Lake Office Center | E.23321 Knox | 324 | Office Suites |
| Bryant Motors | E/ 23827 Appleway | 3 | Truck Repair Shop |
| | | | Strip Mall with sandwich shop |
| Heartland Mall | E. 23815 Appleway | 2756 | (no deep fryers) |
| Medco Containment Service | E. 23102 Appleway | 2568 | Mail/Internet Order Pharmacy |
| Parker & Hannifin Corp. | N. 2218 Molter Road | 618 | Engineering Services |
| Jackson V LLC | N. 2310 Molter Road | 845 | Office Bldg |
| Huntwood Industries | E. 23800 Appleway | | Cabinet Manufacturing |
| Jackson VII | E. 23505 Appleway | 514 | Office Bldg |
| Swing Lane Office Bldg | N. 2208 Swing | 105 | Office Bldg |
| Meadowwood Childrens Center | N. 2224 Swing Lane | 374 | Child Day Care Services |
| Stauffer & Associates | N. 2501 Fairway Lane | 34 | Office Bldg |
| Valley Young People's | E. 23813 Appleway | 119 | Sport Complex |
| Washington State Patrol | E. 25315 I-90 | 57 | Port of Entry |
| | | | Heavy Equipment Rental & |
| Musselman Rental & Sales | E. 24201 Knox | 506 | Sales w/service (oil/water |
| Mario and Sons | N. 2750 Eagle Lane | 766 | Granite Countertop Sales |
| | | | Assembly & Sales Pressure |
| Scanivalve | N. 1722 Madson Street | 274 | Monitoring Equip. |
| City of LL Library | E. 23123 Mission Ave. | 244 | Public Library |

| | | | |
|----------------------------|-------------------------|------|--|
| NTI Properties | E. 23129 Mission Ave. | 21 | Real Estate |
| L.L. Internet Portal | E. 23301 Mission Ave. | 1730 | Office Suites |
| Premier Manufacturing | N. 1709 Madson Street | 1845 | Precision Machining and Metal Fabrication |
| US Motion | E. 22924 Appleway | 1496 | Engineering Manufacturing Electrical Componets |
| Appleway Bldg LLC | E. 22910 Appleway | 252 | Office Suites |
| Screen Tek Inc. | E. 22902 Appleway | 312 | Silk Screen Printing |
| SDS Properties LL LLC | E. 22820 Appleway | 598 | Office Suites |
| Jackson Lib Lake LLC | E. 22808 Appleway | 1835 | Office Suites |
| Altek | E. 22819 Appleway | 1446 | Machining/Molding |
| STCU Branch Office | N. 2201 Madsen | 50 | Bank |
| STCU Main Office | N. 1620 Signal Drive | 815 | Offices |
| Liberty Lake LLC | E. 22425 Appleway | 4862 | Offices |
| Taco Bell #20065 (N-3) | E. 22312 Appleway | 695 | Restaurant with grease trap |
| Sterling Savings Bank | E. 22408 Appleway | 58 | Bank |
| Liberty Square Office Bldg | N. 1420 Meadowwood Lane | 224 | Offices |
| Barlows Restaurant LTD | N. 1400 Meadowwood Lane | 1722 | Restaurant with grease trap |
| Spokane Co. Park Dept | Lib Lake Golf Clubhouse | 16 | Clubhouse/Restaurant |
| Spokane Co. Park Dept | Valleyway Maint. Bldg | 20 | Golf Course Maint. Shop |

LIBERTY LAKE SEWER AND WATER DISTRICT
WATER RECLAMATION FACILITY

WATER RIGHTS IMPAIRMENT ANALYSIS

Prepared by:

CENTURY WEST ENGINEERING CORPORATION

October 2013

The Liberty Lake Sewer and Water District currently discharges treated sewer effluent to the Spokane River through the Liberty Lake Sewer and Water District's Water Reclamation Facility. Liberty Lake plans to eliminate discharge to the Spokane River by implementing a water reuse program that focuses on turf irrigation and wetlands restoration. The Water Resources Program of the Washington State Department of Ecology has determined that there are currently 17 surface water rights existing that are located below the Liberty Lake Sewer and Water District's wastewater discharge.

Because water rights and water right impairment are complex legal issues that cannot be resolved in an engineering document the Liberty Lake Sewer and Water District does not in any way admit or agree that any water permit/certificate holders have rights to river flows associated with Liberty Lake Sewer and Water District portion of the District's wastewater discharge. If through a legal process, it is determined that water permit certificate holders have rights to those flows then the following impairment analysis will apply.

RCW 90.46.130 states in part "facilities that reclaim water under this chapter shall not impair any existing water right downstream from any freshwater discharge points of such facilities unless compensation or mitigation for such impairment is agreed to by the holder of the affected water right." This evaluation is completed to determine in the event the downstream permit holders have rights to water discharged by Liberty Lake Sewer and Water District, whether those rights would be impaired as a result of removing that discharge.

"Impair" or "impairment" means to 1) adversely impact the physical availability of water for a beneficial use that is entitled to protection, including earlier filed applications, and/or 2) to prevent the beneficial use of the water to which one is entitled, and/or 3) to adversely affect the flow of a surface water course at a time when the flows are at or below in stream flow levels established by rule (POL-1200); and/or 4) degrade the quality of the source to the point that water is unsuitable for use by existing water right holders (WAC 173-150). Demonstration of impairment would require evidence of a substantial and lasting or frequent impact reflecting such conditions.

Two different categories of water rights are evaluated for potential risk of impairment:

Out-of-Stream Consumptive Use Rights

Given the quantities of water available in the Spokane River (even during low flow months) and the small reduction in flow as a result of this project, out-of-stream consumptive use rights could not be impaired by the approval of this project. Existing diversionary rights would still be capable of physical pumping their allocated quantities of water from the Spokane River.

Out-of Stream Consumptive Use Rights Subject to Low Flow Provisions

From WSDOE records there are 11 permit holders for water rights in the Spokane River that are subject to low river flow provisions which are downstream of the discharge of the Liberty Lake Sewer and Water District's wastewater treatment facility. In the event that river flows were to drop to levels that required

regulation of these rights to maintain minimum stream flows then these right holders may be impacted by the removal of Liberty Lake Sewer and Water District's wastewater discharge.

Based on WSDOE water rights records the 11 surface water rights that are conditioned with Spokane River low-flow provisions are summarized below:

| <u>Permit #</u> | <u>Permit Holder</u> | <u>Priority Date</u> | <u>Quantity</u> |
|-----------------|-------------------------------------|----------------------|-----------------|
| S3-27377 | Spokane Hutterian Brethen | 10/08/82 | 0.25 cfs |
| S3-27949 | Davis/Hays | 2/25/85 | 0.04 cfs |
| S3-29311 | Spokane Hutterian Brethen | 9/08/92 | 2.02 cfs |
| S3-29607 | Spokane Hutterian Brethen | 1/03/94 | 15.6 cfs |
| S3-29697 | Wayne Calistro | 6/17/94 | 0.02 cfs |
| S3-29728 | Ronald Hanson | 8/30/94 | 0.02 cfs |
| S3-29805 | David Irish | 3/03/95 | 0.02 cfs |
| S3-30040 | Rocky Point Irrigation System | 4/24/97 | 0.89 cfs |
| S3-30241 | Spokane Hutterian Brethen | 5/19/99 | 26.67 cfs |
| S3-30485 | Monte Naff | 4/14/05 | 0.04 cfs |
| CS3-23652 | Richard & Barbara Teel Living Trust | 2/23/12 | 0.55 cfs |

The low-flow provisions of these rights result from legislative mandated (RCW 77.55.050) consultation with the Washington Department of Fish and Wildlife regarding stream flow conditions pertinent to pending water right applications. The low-flow provisions attached to these rights indicate that they should be regulated whenever the flow in the Spokane River below Little Falls Dam is below 200 cubic feet per second (cfs) year-round and 500 cfs whenever the elevation of Franklin D. Roosevelt Reservoir is at or below 1281 feet, in accord with the Little Falls settlement agreement. The Little Falls Settlement Agreement was signed in 1994 between the Spokane Tribe of Indians and Washington Water Power (AVISTA). In this agreement, the parties agreed (Article 9) that at all times, Avista will adjust its storage and release of water at the Little Falls Project to discharge an instantaneous constant minimum stream flow of not less than 200 cfs. Whenever the elevation of Lake Roosevelt is equal to or less than 1281 feet, Avista will adjust its storage and release of water at the Little Falls project to discharge an instantaneous constant minimum stream flow of not less than 500 cfs. As a consequence of this agreement, water should always be available to satisfy these eleven interruptible rights.

The Liberty Lake Sewer and Water District sewer collection system was started in 1982; prior to that date there were no sewers and therefore no sewage flow to the Liberty Lake Sewer and Water District's Wastewater Treatment Plant (currently Water Reclamation Facility). The 11 water rights holders in the above list have priority dates after the District started discharging into the Spokane River. The total amount of these 11 water rights flow is approximately 46 cfs, which is 23 percent of the total minimum river flows and 9 percent of the instantaneous constant minimum stream flow. Liberty Lake discharges an average of 0.7 MGD (roughly 1 cfs) into the Spokane River on a daily basis. The Liberty Lake flow represents approximately 0.5 percent of the total minimum river flow of 200 cfs and 0.2 percent of the 500 cfs instantaneous constant minimum stream flow as described above. Therefore, it is not possible for the Liberty Lake Sewer and Water District to impact the amount of water that the water rights holders are legally entitled to.

In the unlikely event that Spokane River minimum flows were not physically available and the District was determined through a legal process to be liable for water rights impairment, then mitigation of those impairments may be required.

Water Quality Impairments

As described above and impairment can also be defined to include degrading the water quality to the point that water is unsuitable for use.

Sections of the Spokane River are currently listed on the States 303 D-list of impaired water bodies. The pollutants of particular concern (category 4 and 5) for the stretch of river below the Liberty Lake Sewer and Water District's discharge location (Middle Spokane River WRIO #57) are Cadmium, Dissolved Oxygen, Lead, Zinc, 2,3,7,8-TCDD, and PCBs. The section of river currently has TMDL's for Dissolved Oxygen and Dissolved Metals.

As part of the process to establish the TMDL for dissolved oxygen the Washington State Department of Ecology developed a river model to determine the effects of the treatment plant discharges on water quality in the Spokane River. When wastewater discharges were eliminated, the model showed small improvements to water quality in the River. This establishes that when the Liberty Lake wastewater discharge is eliminated the water quality in the river will improve and therefore impairment based on water quality will not occur.

Liberty Lake Water Reclamation Facility
Project Description

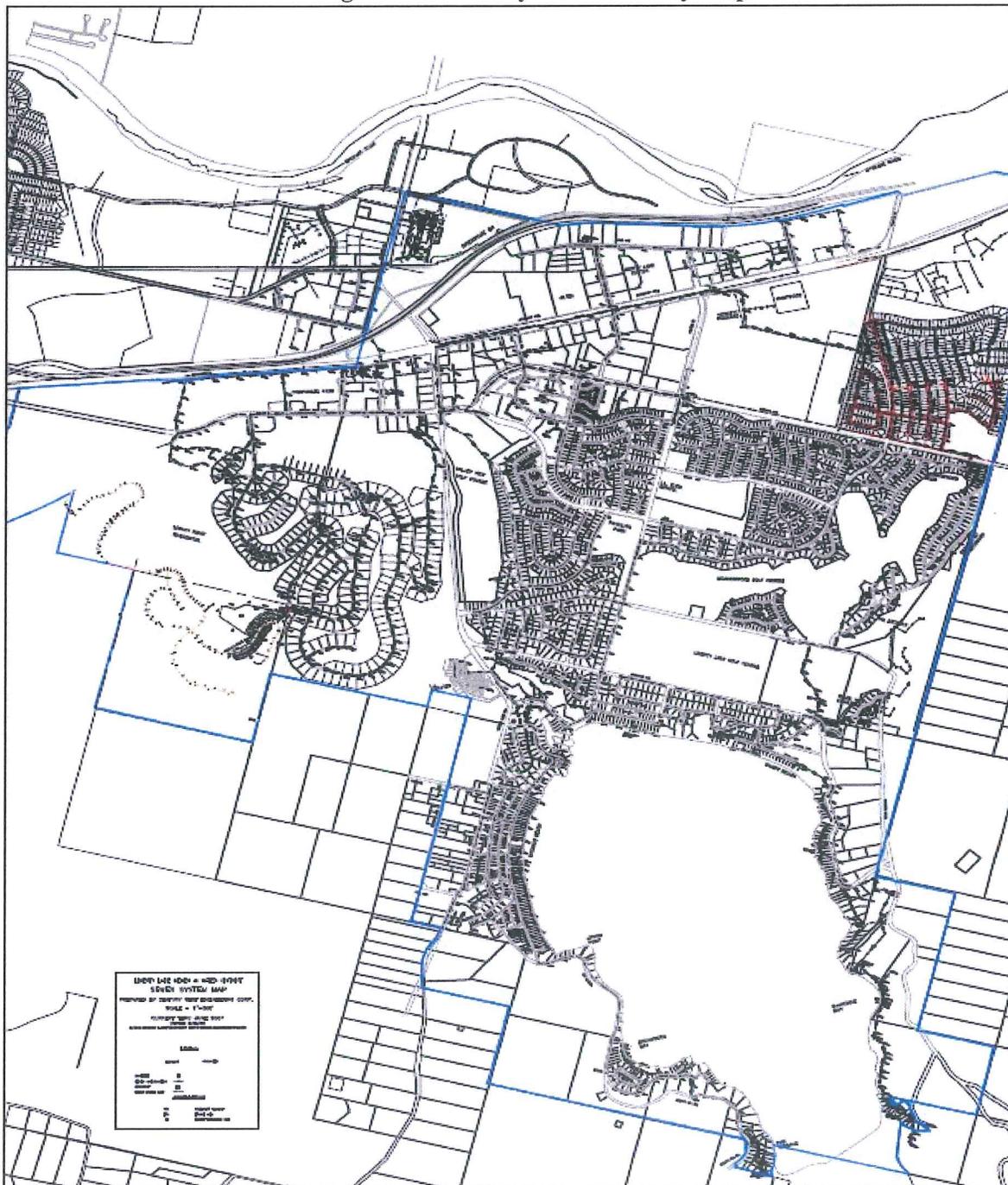
Prepared By:
Century West Engineering
Esvelt Environmental Engineering, LLC

November 2013

1. Existing Wastewater Treatment and Collection System

The sewer system of Liberty Lake Sewer and Water District (District) collects and treats the sanitary wastewater from approximately 4,000 ERUs (Equivalent Residential Units) as well as commercial and light industrial dischargers. The service area of the District is approximately 5.3 square miles within the corporate limits of the City of Liberty Lake, and to an unincorporated area adjacent to Liberty Lake. The System Boundary Map is below and the facilities diagram is located in section B-VII of the Reclaimed Water Permit Application.

Figure 1 – Sewer System Boundary Map



The Water Reclamation Facility (WRF) is an extended-aeration activated sludge treatment facility designed for biological nitrogen and phosphorus removal and to meet (with the addition of the Phase 2 upgrades) the water quality standards required by its National Pollutant Discharge Elimination System (NPDES) Permit No. WA-0045144 for discharge to the Spokane River. Wastewater from the District's collection system flows to the pretreatment system where it is sampled, screened, de-gritted, and metered. The wastewater then flows to the anaerobic basins, where it is mixed with Return Activated Sludge (RAS). From the anaerobic basins, the mixture of wastewater and biological solids, or "mixed liquor", enters the anoxic basins, where it is further mixed with re-circulated mixed liquor from the aeration basins. From the anoxic basins, the mixed liquor flows to the aeration basins where it is aerated using fine bubble diffusers.

The effluent from the aeration basin is routed to the clarifiers, where the biological solids in the wastewater settle to the bottom of the clarifiers. The solids are then re-circulated by the RAS pumps to the anaerobic basins or are wasted to the aerated sludge storage tank by the Waste Activated Sludge (WAS) pumps. The anaerobic, anoxic, and aeration basins and the clarifiers provide secondary treatment and nutrient removal. From the clarifiers, the secondary effluent flows to the ultraviolet (UV) disinfection system, and then through a 12-inch parshall flume prior to discharge to the Spokane River. The effluent is sampled prior to discharge.

2. Previous Upgrades

To improve the water quality of Liberty Lake in Spokane County, the District constructed a wastewater collection and treatment system in 1973. This system replaced existing on-site septic systems that serviced permanent and seasonal homes along the shoreline and in the vicinity of the lake. The treatment facility was completed and came on-line in August 1982. The District has since completed minor modifications to the facility by replacing the aerobic digester blowers in 1998 and replacing the chlorination system with the ultraviolet disinfection (UV) system in 2002.

Construction of Phase 1 of upgrades and expansion of the treatment system began in fall of 2004 and was completed in spring of 2006. The treatment plant was expanded to accommodate growth, provide improved biological nitrogen and phosphorus removal and allow provisions for subsequent additional physical and chemical phosphorus removal in anticipation of more restrictive effluent limitations. The primary improvements in the Phase 1 project included: conversion of existing equalization basins to anaerobic basins; modifications to the existing aeration basins and installation of a new fine bubble aeration system; new mixed liquor recycle pump stations; new anaerobic and anoxic basins; new aeration basins with fine bubble aeration systems; new blower building; new secondary clarifiers; new blowers for the existing aeration basins; new return activated sludge pumps; new coarse bubble diffuser aeration systems in the existing digester tanks; new sludge dewatering building with a new belt filter press, polymer system, and dewatered sludge conveyor.

3. Planned Phase 2 Upgrades

The District is required to install an additional phosphorus removal process train by the District's NPDES Permit before March 1, 2018. The additional phosphorus removal process train includes:

- New chemical feed of coagulant/precipitant (alum or ferric chloride) and alkalinity (sodium hydroxide) and flash mixing ahead of the secondary clarifiers for precipitation and settling of dissolved phosphorus in the clarifiers;
- New chemical feed of coagulant/precipitant (alum or ferric chloride) and alkalinity (sodium hydroxide), rapid mixing, and flocculation ahead of the tertiary filtration system;

- New submerged hollow-fiber ultrafiltration (UF) membrane tertiary filtration system and associated back-pulsing and cleaning systems; and
- New reject pump station to recycle chemical sludge and membrane cleaning water from the filtration system back to the activated sludge treatment system ahead of the secondary clarifiers.

In year 2021, the new seasonal average total phosphorus mass emission rate effluent limitation will come into effect. Depending on the performance of the system, a portion of the treated effluent may be required to be diverted from the Spokane River discharge to reclaimed water applications to meet the new limitation. Therefore, the Phase 2 Upgrade design incorporates provisions for installing additional disinfection for meeting Class A Reclaimed Water Standards for total coliform bacteria.

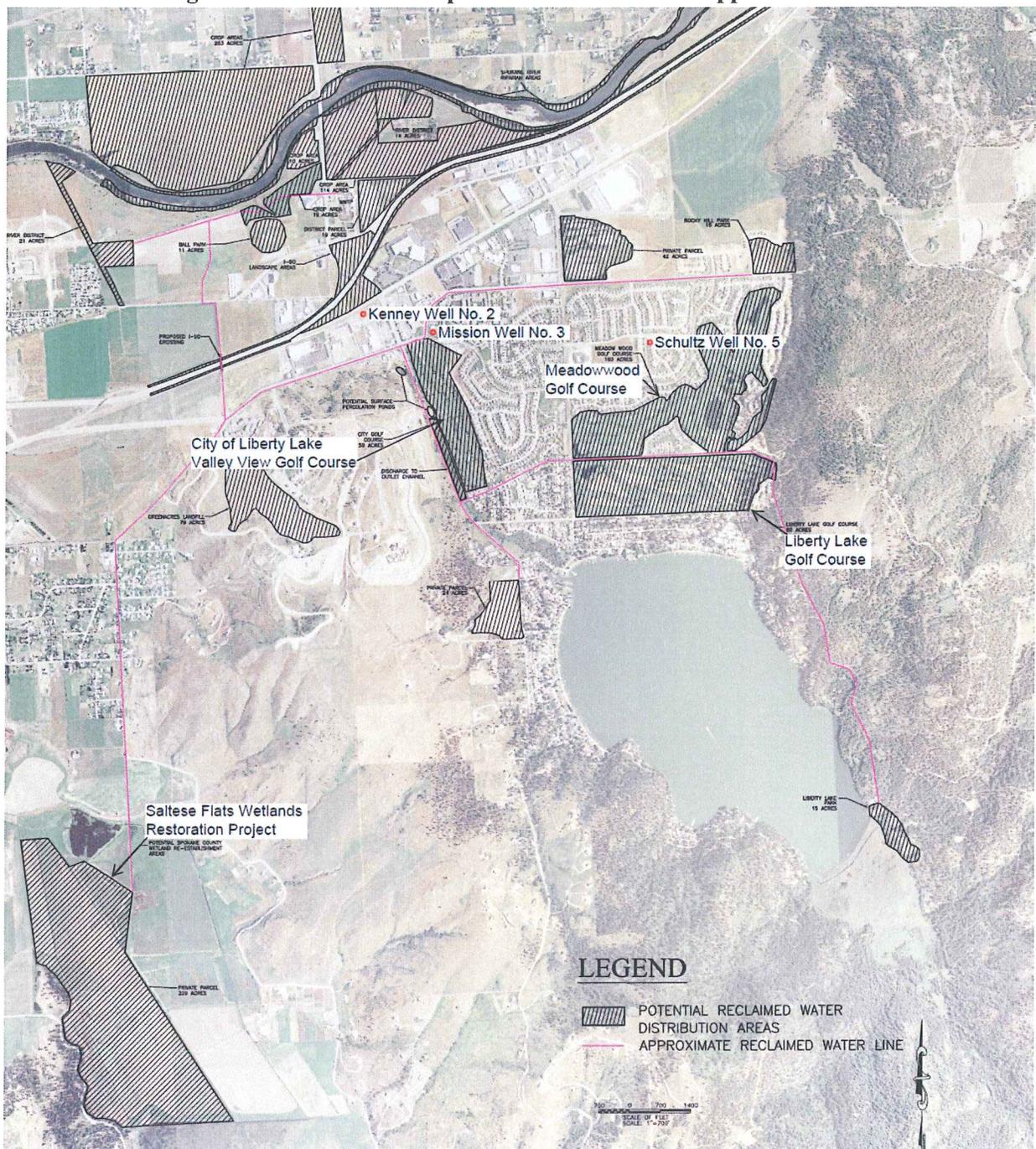
4. Final Reclaimed Water Use Applications

The proposed reclaimed water applications are: (1) turf grass irrigation on nearby Meadowwood, Liberty Lake, and Valley View golf courses; and (2) wetlands restoration of Saltese Flats. The locations of these alternatives are shown on Figure 2.

The three golf courses are located in the City of Liberty Lake and are irrigated using supply wells that pump groundwater from the Spokane–Rathdrum Aquifer. The acreage of these golf courses is: Meadowwood Golf Course (160 Acres), Liberty Lake Golf Course (80 Acres), and the City of Liberty Lake’s Valley View Golf Course (58 Acres). The total golf course area available for irrigation for all three golf courses is approximately 300 acres. Depending on the level of total phosphorus removal through the tertiary treatment system, this acreage may or may not be adequate to accept the required volume of diverted reclaimed water throughout the 20-year planning period (through year 2032). A combination of reclaimed water use alternatives will likely be required.

Saltese Flats is located in Spokane County southeast of the City of Spokane Valley, approximately 3 miles south of Interstate 90 from the Barker Road exit. The area known as Saltese Flats occupies roughly 1,200 acres of land. The Saltese Flats was a natural wetland system, until around 1900, when much of the area was drained for agriculture. Runoff from the watershed drains north off of Saltese Flats into Saltese Creek and eventually into Shelley Lake. Shelley Lake has no surface water outlet. Water in Shelley Lake infiltrates into the ground and recharges the Spokane Valley-Rathdrum Prairie aquifer. An updated hydrogeologic study will be submitted to the WSDOE when the specific area of the Saltese Flats has been identified for receiving the reclaimed water.

Figure 2 – Locations of Proposed Reclaimed Water Application Sites



LIBERTY LAKE SEWER AND WATER DISTRICT

Resolution No. 18-08
Cross-Connection Control Policy

Finding of Fact

Whereas it is the responsibility of a water purveyor to provide water to the customer at the meter that meets Washington state water quality standards;

Whereas it is the water purveyor's responsibility to prevent the contamination of the public water system from the source of supply (i.e., to the customer's connection to the service pipe or meter);

Whereas it is a requirement of the Washington State Department of Health (DOH) for the Purveyor to establish a cross connection-control program satisfactory to DOH;

Whereas Cross-connections within the customer's plumbing system pose a potential source for the contamination of the public water supply system;

Now be it resolved that the Liberty Lake Sewer and Water District #1, hereinafter referred to as the Purveyor, establishes the following service policy to protect the purveyor-owned water system from the risk of contamination. For public health and safety, this policy shall apply equally to all new and existing customers.

Definitions

Unless otherwise defined, all terms used in this resolution pertaining to cross-connection control have the same definitions as those contained in WAC 246-290 010 of the Washington State Drinking Water Regulations.

Prevention of Contamination

The customer's plumbing system, starting from the termination of the Purveyor's water service pipe, shall be considered a potential high-health hazard requiring the isolation of the customer's premises by a DOH-approved, customer-installed and maintained reduced-pressure principle backflow assembly (RPBA) or reduced-pressure detector assembly (PDA). The RPBA or RPDA shall be located at the end of the Purveyor's water service pipe (i.e., immediately downstream of the meter). Water shall only be supplied to the customer through a DOH-approved, customer-installed and maintained RPBA or RPDA.

Notwithstanding the aforesaid, the Purveyor, upon an assessment of the risk of contamination posed by the customer's plumbing system and use of water, may allow:

- A single-family or duplex residential customer to connect directly to the water service pipe, i.e., with out a purveyor-approved DCVA or RPBA.
- Any customer other than a single-family or duplex residential customer, as a minimum, to be supplied through a DOH-approved, customer-installed and maintained double-check valve assembly (DCVA) or double-check detector assembly (DCDA).
- Any customer, other than a single-family or duplex residential customer to connect directly to the water service pipe (i.e., with out a purveyor-approved DCVA or RPBA), Provided that the customer installs and maintains backflow preventers, at the point of hazard, that are commensurate with the degree of hazard assessed by the Purveyor.

Conditions for Providing Service

Water service is provided based on the following terms and limitations:

1. The customer agrees to take all measures necessary to prevent the contamination of the plumbing system within his/her premises and the Purveyor's distribution system that may occur from backflow through a cross connection. These measures shall include the prevention of backflow under any backpressure of backsiphonage condition, including the disruption of the water supply from the Purveyor's system that may occur during routine system maintenance or during emergency condition, such as a water main break.
2. The customer agrees to install, operate, and maintain at all times his/her plumbing system in compliance with the current editions of the Uniform Plumbing Code having jurisdiction as it pertains to the prevention of contamination and protection from thermal expansion, due to a closed system that could occur with the present or future installation of backflow preventers on the customer's; service and/or at plumbing fixtures.
3. For cross-connection control or other public health-related surveys, the customer agrees to provide for the Purveyor's employees or agents free access to all parts of the premises during reasonable working hours of the day for routine surveys and at all times during emergencies.

Where agreement for free access for the Purveyor's survey is denied, the Purveyor may supply water service provided that the premises isolation is provided through a DOH-approved reduced-pressure principle backflow assembly (RPBA).

4. The customer agrees to install all backflow prevention assemblies required by the Purveyor and to maintain those assemblies in good working order. The assemblies shall be of a type, size, and make approved by DOH and acceptable to the Purveyor. The assemblies shall be installed in accordance with the recommendations given in the most recently published edition of the Cross Connection Control Manual, Accepted Procedures and Practice, published by the

Pacific Northwest Section, American Water Works Association, or latest edition thereof.

5. The customer agrees to:
 - a. Have all assemblies that the Purveyor relies upon to protect the public water distribution system tested upon installation, annually thereafter and/or more frequently if requested by the Purveyor, after repair, and after relocation
 - b. Have all testing done by a currently DOH-certified Backflow Assembly Tester (BAT):
 - c. Have the assemblies tested in accordance with DOH-approved test procedures; and
 - d. Submit to the Purveyor the results of the test(s) on report forms within the time period specified by the Purveyor.
6. The customer agrees to bear all costs for the aforementioned installation, testing, repair, maintenance and replacement of assemblies installed to protect the Purveyor's distribution system.
7. At the time of application for service, if required by the Purveyor the customer agrees to submit to the Purveyor, plumbing plans and/or a cross-connection control survey of the premises conducted by a DOH-certified Cross-Connection Control Specialist (CCS).
8. For classes of customer other than single-family residential, when required by the Purveyor, the customer agrees to periodically submit a cross-connection control re-survey of the premises by a DOH-certified CCS acceptable to the Purveyor. The Purveyor may require the re-survey to be performed in response to changes in the customer's plumbing or water use, or performed periodically where the Purveyor considers the customer's plumbing system to be complex or subject to frequent changes in water use. The cost of the re-survey shall be borne by the customer.
9. For the purpose of surveying the health hazard posed by residential customer's plumbing system, the Purveyor may call upon residential customer to complete a Purveyor "Water Use Questionnaire" within 30 days of a request.
10. The customer agrees to obtain the prior approval from the Purveyor for all changes in water use, and alterations and additions to the plumbing system, and shall comply with any additional requirements imposed by the Purveyor for cross-connection control.
11. The customer agrees to immediately notify the Purveyor and the local health jurisdiction of any backflow incident occurring within the customer's premises (i.e., entry of any contaminant/pollutant into the drinking water) and shall cooperate fully with the Purveyor to determine the reason for the backflow incident.

12. The customer acknowledges the right of the Purveyor to discontinue the water supply within 72 hours of giving notice to the customer, or a lesser period of time if require to protect public health, if the customer fails to cooperate with the Purveyor in the survey of premises, in the installation, maintenance, repair, inspection, or testing of backflow prevention assemblies or air gaps required by the Purveyor, or in the Purveyor's effort to contain a contaminant or pollutant that is detected in the customer's system.
13. The Purveyor will require premises isolation for a customer that is of the high-hazard type or category requiring "Mandatory Premises Isolation" established by the DOH regulations.
14. Where the Purveyor imposes mandatory premises isolation in compliance with DOH regulation, or agrees to the customer's voluntary premises isolation through the installation of a RPBA immediately downstream of the Purveyor's water meter, the customer acknowledges his obligation to comply with the other cross-connection control regulations having jurisdiction (i.e., Uniform Plumbing Code). Although the Purveyor's requirements for installation, testing, and repair of backflow assemblies may be limited to the RPBAs used for premises isolation, the customer agrees to the other terms herein as a condition of allowing a direct connection to the Purveyor's service pipe.
15. The customer agrees to indemnify and hold harmless the Purveyor for all contamination of the customer's plumbing system or the Purveyor's distribution system that results from an unprotected or inadequately protected cross connection within the customers' premises. This indemnification shall pertain to all backflow conditions that may arise from the Purveyor's suspension of water supply or reduction of water pressure, recognizing that the air gap separation otherwise required would require the customer to provide adequate facilities to collect, store, and pump water for his/her premises.
16. The customer agrees that, in the event legal action is required and commenced between the Purveyor and the customer to enforce the terms and conditions herein, the substantially prevailing party shall be entitled to reimbursement of all incurred costs and expenses including, but not limited to reasonable attorney's fees as determined by the Court.
17. The customer acknowledges that the Purveyor's survey of a customer's premises is for the sole purpose of establishing the Purveyor's minimum requirements for the protection of the public water supply system, commensurate with the Purveyor's assessment of the degree of hazard.

It shall not be assumed by the customer or any regulatory agency that the Purveyor's survey, requirements for the installation of backflow prevention assemblies, lack of requirements for the installation of backflow prevention assemblies, or other actions by the Purveyor's personnel constitute an approval of

the customer's plumbing system or an assurance to the customer of the absence of cross connection therein.

The purveyor will record the customer's agreement to the above terms for service on an "Application for Water Service," "Application for Change of Water Service," or other such form prepared by the Purveyor and signed by the customer.

Implementation of the Cross-Connection Control Policy

The Purveyor will develop, implement and be in responsible charge of the Liberty Lake Sewer & Water District's Water System's cross-connection control program.

The Purveyor will prepare a written cross-connection control program plan to implement the requirements of this resolution. The written program shall be consistent with this resolution and shall comply with the requirements of Chapter 246-290 WAC (Group A Drinking Water Regulations).

The Purveyor will use the most recently published editions of the following publications as references and technical aids:

1. *Cross-Connection Control Manual, Accepted Procedures and Practice*, published by the Pacific Northwest Section, American Water Works Association, or latest edition thereof.
2. *Manual of Cross-Connection Control*, published by the Foundation for Cross-Connection Control and Hydraulic Research, University of Southern California, or latest edition
3. *Cross-Connection Control Guidance manual for Small Water Systems*, published by the DOH Office of Drinking Water

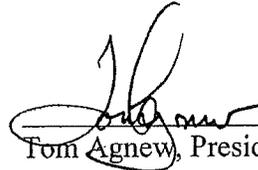
The Purveyor will incorporate the written program into the Water System Plan and submit the plan to DOH for approval when requested.

The Purveyor shall have the authority to make reasonable decisions related to cross connection in cases and situations not provided for in the resolution or written program.

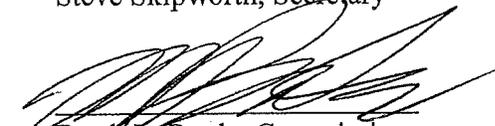
If any provision in this resolution, or in the written cross-connection control program is found to be less stringent than or inconsistent with the Drinking Water Regulations (Chapter 246-290 WAC), or other Washington state statutes or rules, the more stringent state statute, rule, or regulation shall apply.

Liberty Lake Sewer and Water District

Signed this 19th day of March, 2008


Tom Agnew, President


Steve Skipworth, Secretary


Frank L. Boyle, Commissioner

SEAL


Lee Mellish, Manager