

*Highline Water
District
Customer
Confidence
Report
2009*



*Matt Everett,
General Manager*

Board of Commissioners

- ✦ Gerald Guite*
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Highline Water District is pleased to provide our 2009 Customer Confidence Report (CCR)

This report describes the sources of your drinking water and how it compares to stringent standards set by regulatory agencies. Please take a few minutes to read through and familiarize yourself with the quality of water you drink every day. If you have any questions please, contact our Water Quality Specialist at 206-592-8920.

The Facts on Contaminants

The sources of drinking water (both tap and bottled water) include streams, rivers, lakes, ponds, reservoirs, springs and wells. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. A contaminant is defined as any substance in water including minerals. The presence of contaminants does not necessarily indicate that water poses a health risk. As water travels over the surface of the land or through the ground, naturally-occurring minerals and, in some cases radioactive materials, dissolve in the water. Water can also pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water are microbes, pesticides, herbicides, organic and inorganic chemicals, and radioactive materials.

Immuno-Compromised Persons

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants, can be particularly at risk from infections.

These people should seek advice about drinking water from their health care providers. Environmental Protection Agency / Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the:

*Safe Drinking Water Hotline
(800-426-4791).*



Cedar River Watershed



On average, approximately 75 percent of Highline Water District's water comes from Seattle Public

Utilities - Cedar River supply. The remaining supply comes from Highline Water District's groundwater wells.

Seattle Public Utilities Cedar River Treatment plant has significantly improved water quality and safety. Musty, earthy taste and odors have been reduced while safety has increased by the destruction of harmful organisms.

Water from the District's three wells is directed to one of two treatment plants where it is filtered, treated and tested before it is blended with water from Seattle.



*Environmental Protection
Agency
Safe Drinking Water Hotline
(800-426-4791)*



**Physically
Protected**

To preserve the high quality of water that originates in the Cedar River Watershed, recreational, agricultural and industrial activities in the area are not permitted. According to the Washington State Department of Health (DOH), all surface water has been rated highly susceptible, but the vulnerability is low due to the water

shed protection afforded by Seattle Public Utilities' (SPU's) Comprehensive Watershed Protection Plan.

Highline's groundwater sources are protected by naturally occurring "confining layers" of material above the water bearing aquifer. This "restricted use" and "confining layers" protect the watershed and raw water quality from degradation and is the primary reason the DOH classified this water source as having "low vulnerability" to contamination. For a complete copy of the source water assessment, contact the regional DOH Drinking Water Office at (253) 395-6750.



To ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) adopts regulations setting water quality standards for public water systems. "Primary Standards" pertain to contaminants that could pose a health problem such as arsenic, while "Secondary Standards" pertain to aesthetic concerns such as iron and manganese. The Department of Health

Drinking Water Division has been given the responsibility to ensure both primary and secondary water quality standards are met in Washington State. The Federal Food and Drug Administration regulates contaminants in bottled water and is responsible for providing a similar level of public health protection.



**Setting
Drinking
Water
Standards**

Seattle Public Utility—Cedar River



Water Treatment

Although the water supply is aggressively protected, it goes through a treatment process to ensure that it is safe to drink. Before the water reaches Highline Water District, it goes through the six treatment steps outlined below.

- ✦ 1. The water is screened to remove debris.
- ✦ 2. Fluoride is added for dental health.
- ✦ 3. Lime is added to control corrosion of plumbing materials.
- ✦ 4. Ozone is added to disinfect the water.
- ✦ 5. Water passes through Ultra Violet Light to destroy harmful organisms.
- ✦ 6. Chlorine is added to provide a disinfectant residual.



Landsburg Diversion Dam

Highline Water District Well Water

Highline Water District pumps water from three wells and treats the water at two facilities. The District's treatment consists of the following:

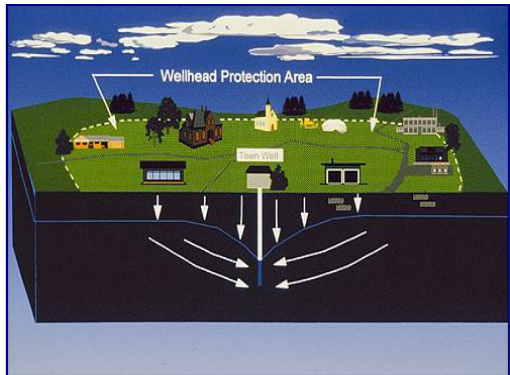


- ✦ 1. The water is filtered through greensand to remove manganese and iron.
- ✦ 2. Chlorine is added for disinfection.
- ✦ 3. Fluoride is added for dental health.
- ✦ 4. Sodium Hydroxide is added to control corrosion of plumbing materials.



The District's Wellhead Protection Program monitors the types of businesses and activities that surround our wells to protect this hidden resource. The District notifies property owners, and regulatory agencies of the District's water source locations, to

help prevent potentially harmful contaminants from polluting our water. These exercises contribute to the "low vulnerability" the water district groundwater has to contamination.



Our Wellhead Protection Program ensures our ability to provide our customers with safe, clean water.



Disinfectants have been added to the water for many years to ensure the water is free of many harmful organisms. While disinfectants help to maintain the safety of the water, they can also mix with natural materials to form "Disinfection By-products" (DBP's)

that may pose health risks.

In 2008, Highline Water District completed the Initial Distribution System Evaluation (IDSE) that was required in the Stage II Disinfectant By-products Rule (D/DBA). After analyzing the data for the 18 locations using the criteria provided by the Environmental Protection Agency (EPA), an IDSE report was written and approved by the EPA. Monitoring for Stage II D/DBP begins in 2012.

Cryptosporidium & Giardia

Cryptosporidium is a microscopic organism that, when ingested, can result in diarrhea, fever and other gastrointestinal symptoms. These disease-causing organisms are commonly found in the natural environment and in most surface water sources.

Sources of *Cryptosporidium* and *Giardia* (another disease-causing organism) include deer, elk and small mammals that live in watersheds. Chlorination is very effective against *Giardia* but is ineffective against *Cryptosporidium*.

Source water monitoring in 2009 detected *Cryptosporidium* in none of the 4 samples collected from the Cedar supply, with a maximum concentration of 0 organisms per 100 liters. These levels are relatively low compared to typical rivers and streams throughout the country.

Construction of the Cedar River treatment facility in 2004 provided an effective treatment process for destroying *Cryptosporidium*.

Health officials recommend those concerned about *Cryptosporidium* should consult with their health care providers about using tap water for cooking or drinking. For more information on *Cryptosporidium*, call the EPA's Safe Drinking Water hotline at (800) 426-4791.

Contaminant Detection Tables



The tables on the following pages show all of the drinking water contaminants that we detected during the calendar year of this report. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in these tables is from testing

done in the calendar year of the report. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Upon request, we will provide you with a list of compounds we looked for but did not find.



If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing.

Highline Water District is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components.

When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking.



If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure, is available by contacting Highline Water District's Water Quality Specialist at 206-592-8920, the Safe Drinking Water Hotline at 1-800-426-4791, or online at www.epa.gov/safewater/lead.

<i>MEASURED AT CUSTOMER'S TAP</i>							
Tested Compounds	Unit	MCLG	90th Percentile Action Level	90th Percentile**	# Of Homes Over Action level	Compliance	Source
Lead	*ppb	0	15	<2	0	YES	Corrosion of household plumbing
Copper	*ppm	1.3	1.3	0.02	0	YES	Corrosion of household plumbing

“When the well's dry, we know the worth of water.”

Benjamin Franklin

(1706 - 1790)



<p>* Samples taken from Cedar River</p>	<p>NTU - Nephelometric Turbidity Unit: Turbidity is a measure of how clear the water looks.</p>
<p>** Average represents the 90th percentile (2007)</p>	<p>TT - Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.</p>
<p>MRDL - Maximum Residual Disinfectant Level. The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.</p>	<p>ppm - One part per million</p>
<p>MRDLG - Maximum Residual Disinfectant Level Goal: The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.</p>	<p>NA—Not Applicable</p>
	<p>ppb—One part per billion</p>
<p>MCLG - Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.</p>	<p>ND - Not Detected</p>
<p>MCL- Maximum Contaminant Level: The highest level of contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.</p>	<p>AL - Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.</p>

CONTAMINANTS FOUND IN YOUR TAP WATER			AMOUNT FOUND IN YOUR	
EPA Allowable Limits				
Detected Compounds	UNIT	MCLG	MCL	AVERAGE
MEASURED AT THE CEDAR RIVER WATER SOURCE				
Turbidity*	NTU	NA	TT	0.4
Total Organic Carbon*	ppm	NA	TT	0.6
MEASURED AFTER CEDAR RIVER WATER TREATMENT				
Fluoride	ppm	4	4	0.98
Barium	ppb	2000	2000	1.2
Nitrate	ppm	10	10	0.07
MEASURED IN THE HWD DISTRIBUTION SYSTEM				
	UNIT	MRDLG	MRDL	AVERAGE
Total Trihalomethanes	ppb	NA	80	30
Haloacetic Acids	ppb	NA	60	25
Chlorine	ppm	4	4	1.07
LEVELS IN HWD AFTER TREATMENT				
	UNIT	MCLG	MCL	AVERAGE
Nitrate	ppm	10	10	ND
Fluoride	ppm	4	4	1.02
Total Coliform	%	0	5%	Highest Month
Fecal Coliform and E-coli	# of positive samples	0	A routine sample and a repeat sample are total coliform positive, and one is also fecal coliform or E.coli positive	Of 856 samples collected for total & fecal coliform in 2009. tested positive for total and E.coli bacteria. All follow-up sampling was negative for bacteria

Detection Tables

DRINKING TAP WATER		IS YOUR WATER SAFE?	
Levels In Source Water			
	RANGE	COMPLIANCE	MAJOR SOURCES
	0.2—2.6	YES	Soil Runoff
	0.3-0.9	YES	Naturally present in the environment
	0.9-1.0	YES	Additive that promotes strong teeth
	One sample	YES	Erosion of natural deposits
	One sample	YES	Erosion of natural deposits
	RANGE	Compliance	MAJOR SOURCES
	17-40	YES	By-product of chlorination
	13-33	YES	By-product of chlorination
	.03-1.66	YES	Treatment additive
	RANGE	Compliance	MAJOR SOURCES
	One sample	YES	Erosion of natural deposits
	0.9-1.2	YES	Additive that promotes strong teeth
	1.35	YES	Naturally present in the environment
ol- ecal 1 or up ja- .	0-1	YES	Human and animal fecal waste

*Footnotes & Definitions—see page 9

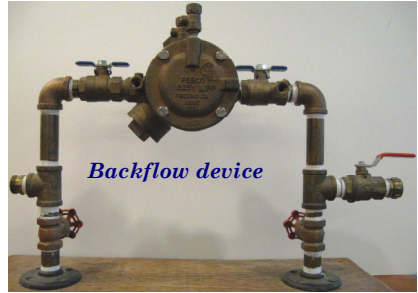


A connection between your drinking water pipes and a source of contamination is called a ***Cross-Connection***. Examples include irrigation systems, photo developing equipment, dialysis machines, and nearly every hose-end applicator used with lawn and garden chemicals. ***Cross-connections are dangerous because***

they provide opportunities for contaminants to be pulled back into the water system.

To help protect our water:

✦ Avoid using hose-end applicators for landscape chemicals.



Backflow Assembly Tester

✦ Install a backflow prevention assembly when a potential risk is present.

✦ Test backflow prevention assemblies annually, as required by the State Health Department, with a Washington State-Certified Backflow Assembly Tester.

✦ Make repairs to backflow prevention assemblies when testing indicates a failure.

✦ For a list of Certified Back-flow Assembly Testers, please visit our website:

www.Highlinewater.org/forms

Or give our Backflow Specialist a call at 206-592-8920

During 2009, Highline Water District supplied 2.4 billion gallons of drinking water to its wholesale and retail customers. Of this amount, 179 million gallons (7.5%) was unaccounted water loss. (A savings of 75 million gallons from 2009) Highline continues its extensive effort to determine the cause/causes of the water loss. Primary areas of concern include:

- ✦ Water meter discrepancies
- ✦ Fire Department uses
- ✦ Old, leaking water mains
- ✦ Hydrants draining
- ✦ Unauthorized connections
- ✦ Water theft from hydrants



A leaking water main

On average, each person in the region uses about 93 gallons of water each day throughout the year. Many of us use a large amount of water for outdoor activities such as gardening, washing cars, pressure washing and watering the lawn.



Consider hand-watering

The year-round average for outdoor water use is 30 gallons per day (gpd). Summertime use averages 85 gpd. Indoor water use accounts for the rest of our daily averages. Toilets top the chart at 19 gallons per person per day. Showers and

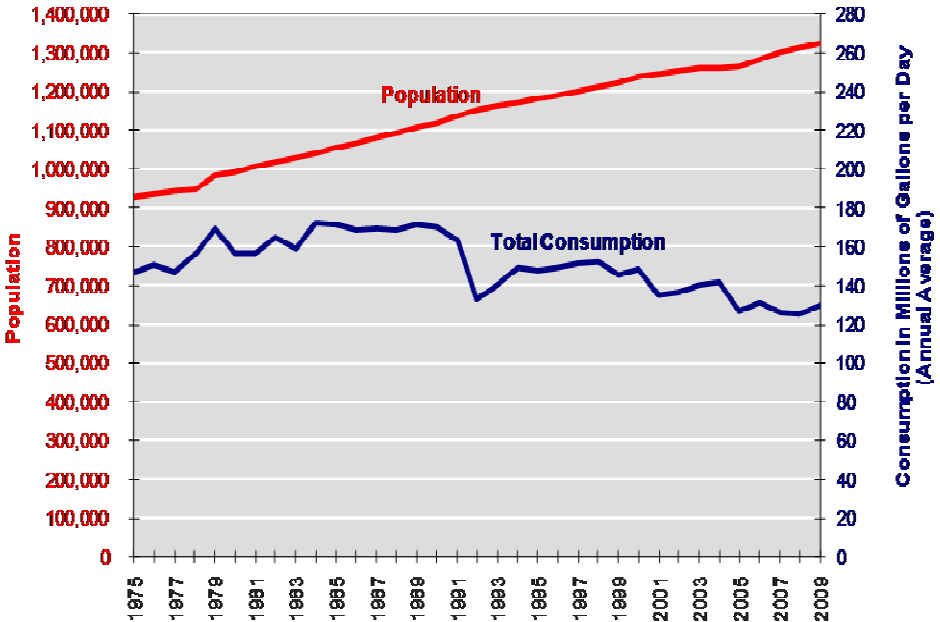
clothes washers are a close second at 13 gallons per person per day. Think about the many ways you can conserve water. It makes a difference!



In 2009, the Regional 1% Program achieved an estimated 0.61 mgd of water savings. Since the beginning of the Program in 2000, the Program has achieved an estimated cumulative savings of 9.0 mgd toward the cumulative 2010 target of 11mgd. That's enough water to serve a city the size of Renton or Bellingham.

Our water consumption is as low as it was in the early 1960s, even though our population has grown by more than sixty percent. This is because our *consumption has continued to decline since 2000*.

**Growth in Population and Water Consumption
Seattle Regional Water System: 1975-2009**



The mgd savings noted on the above chart are estimates based on the number of water saving hardware measures installed by customers.

The *Regional Conservation Program* offers customers many ways to conserve. Educational resources are also available. Please go to www.savingwater.org or call (206) 684-SAVE (7283) for more information. For answers to questions about conserving water in your yard, please call the Garden Hotline at (206) 633-0224 or e-mail help@gardenhotline.org. Business customers can contact the Resource Venture at (206) 343-8505 or www.resourceventure.org.

Highlights of the Regional Conservation Program in 2009 include:

- ✦ The Multifamily Toilet Replacement Program has upgraded 30,000 toilets since 2000.
- ✦ The WashWise program has processed more than 85,000 rebates since 2000.
- ✦ Commercial businesses replaced nearly 4,000 bathroom fixtures in 2009 alone.

A large irrigation project took place, (The City of Mercer Island) in which 12 parks upgraded to weather-based sprinkler controllers. This is resulting in significant water and labor savings, because the old controllers required on-site adjustment to the watering schedules. The new controllers automatically adjust the watering schedules based on plants' changing water needs.

Top 3 things you can do indoors to save water and money:

Replacing an old toilet with a new WaterSense model saves an average household ***17** gallons per day (GPD)– and up to **\$130** a year. (Less if flat sewer rates.)



Replacing an old toilet with a new WaterSense model saves an average** household **27** GPD– and up to **\$260** a year. (Less if flat sewer rates.)



Upgrading to a new WashWise qualified machine saves an average household *****15** GPD. WashWise-certified machines also save energy and use less detergent.

*Based on a two-person household **Based on a four-person household
***Based on a two-person household



Incentive rebates are available for new construction and major remodels that utilize high-efficiency toilets & urinals, low-flow showerheads and faucet aerators, WashWise appliances in multifamily buildings and coin-op laundries, irrigation systems and other qualified technologies.

Additional rebate incentives for Single Family Residential (SFR) Customers included an instant \$30.00 rebate for the purchase of selected toilets, and the Water Efficient Irrigation Program. This programs' rebate was based upon the type of irrigation hardware selected.

Highline Water customers participated in the following rebate incentives during 2009:

✦ ***Multifamily Property Owners:***

Seven multifamily complexes from Highline Water District participated in in the Showerhead Replacement program during 2009, resulting in the replacement of 308 showerheads and 734 faucet aerators. Three complexes participated in the Toilet Rebate program, resulting in the replacement of 183 toilets.



✦ ***Business Customers***

Five Highline Water District businesses participated in the Water Smart Technology Incentives, resulting in a water savings of 1,028 gallons of water per day (gpd). One new construction project, SeaTac YMCA, participated in the incentives program. It is estimated they will save 268 gallons of water per day as a result.



✦ **Single-family Residential Customers:**

High-efficiency clothes washers (WashWise) and Automatic Irrigation System upgrades: 282 single family residential customers from Highline Water District received \$100.00 rebates during 2009 from the Wash Wise program. One SFR customer participated in the Water Efficient Irrigation program, resulting in a total rebate of \$275.00. Twelve families participated in the Toilet Rebate program.



Vegetable garden with a drip irrigation system

Highline Water District recognizes that growth, and a steadily increasing population, place significant demands on our regional water supply.

Using water wisely is a vital part of sustaining our water needs.

New water source development is expensive and can take many years. Conserving water year-round helps ensure an adequate supply of water for people and all the creatures that share it.

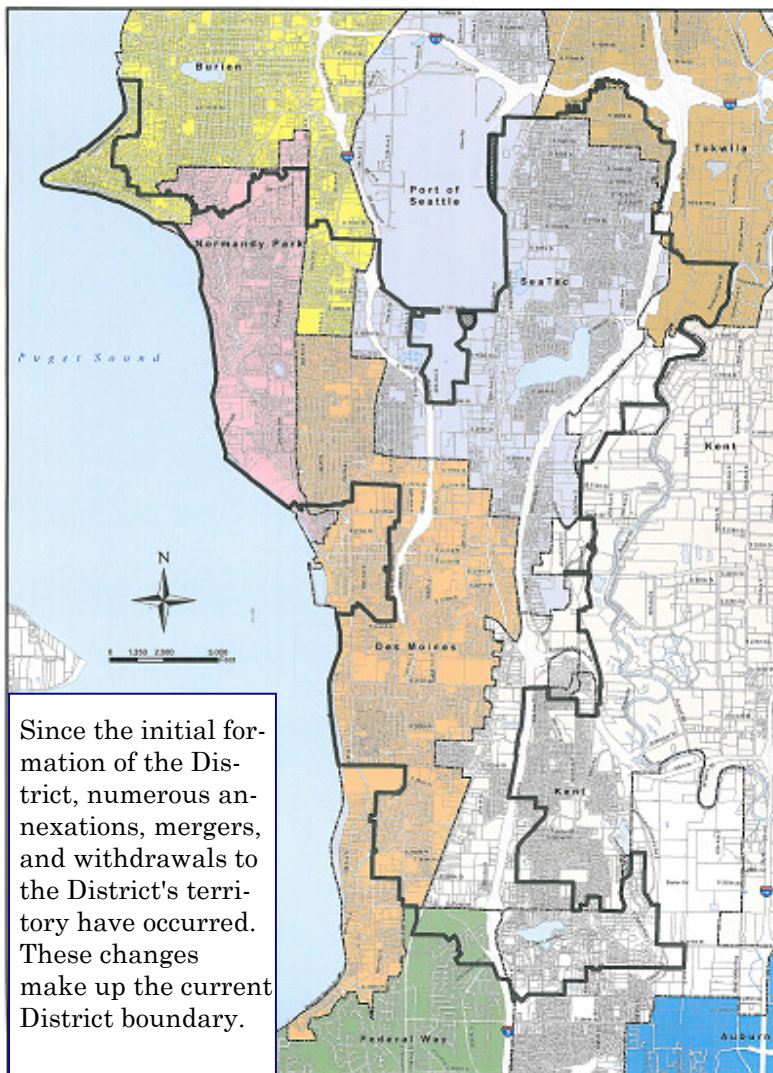


Conserve Water and Help Salmon, Too!



Healthy rivers with ample clean water are essential for healthy salmon populations. Everything you do to use water wisely – washing full loads, turning off the faucet, taking shorter showers, choosing plants that are right for the site, watering the lawn no more than it needs, adding mulch to garden areas – helps keep water in our rivers and streams.

Highline Water District



The Highline Water District is located south of Seattle, WA and generally extends from just east of Interstate Highway 5 on the east to the Puget Sound on the west, and from State Route 518 on the north to South 284th Place on the south. The District lies within portions of the cities of [Burien](#), [Des Moines](#), [Federal Way](#), [Kent](#), [Normandy Park](#), [SeaTac](#), and [Tukwila](#). It is included on the Highline, Federal Way and Green River Community Planning Areas. Portions of the District are also within the limits of unincorporated [King County](#). The District is within the South King County Critical Water Supply Service Area and therefore subject to the requirements of the South King County Coordinated Water System Plan.



Conserving water year-round is right for many reasons:

- ✦ It helps us be prepared for the uncertainties of climate change, drought years, and low snow levels.
- ✦ It helps us steward drinking water supplies.
- ✦ It helps us manage our water bills.
- ✦ It saves water for future generations.

Highline Water District strives to educate our customers about the growing need to conserve our water resources. Participation in community fairs provides District personnel the opportunity to answer questions and share printed materials regarding proven conservation measures. Topics include how to select drought resistant plantings, how to discover and repair leaky plumbing, and how to start your own compost bin. Willy Water provides a fun way for kids of all ages to learn the importance of saving water and ways they can contribute to the conservation effort. Our poster contest offers 4th and 5th grade students a chance to show what they have learned and show off their creativity by drawing their own water saving message. Winning posters are used to produce the next years' conservation calendar.



Willy Water at SeaTac Festival



One of twelve contest winners

Throughout this report we have illustrated the steps Highline Water District takes to provide the safest water possible for its customers. ***With your help, we will continue to provide fresh and safe water to our District customers for many years to come!*** Even the smallest effort to conserve water makes a **BIG** difference!

*Highline
Water District*

23828 30th Ave S.,
Kent, WA 98089
206-824-0375

*Regular Board
Meetings:*

1st Wednesday each
month
9:00 AM
3rd Wednesday each
month
4:00 PM

*Board Workshop
Meeting*

4th Tuesday
each month
9:00 AM

All board meetings are
open to the public



*“Providing safe, clean water to
South King County Residents
Since 1946”*

PRSR STD
US POSTAGE PAID
SEATTLE WA
PERMIT # 1293

Mailing Address Line 1
Mailing Address Line 2
Mailing Address Line 3
Mailing Address Line 4
Mailing Address Line 5