

**BEFORE THE WASHINGTON
UTILITIES & TRANSPORTATION COMMISSION**

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION,

Complainant,

v.

CASCADIA WATER, LLC

Respondent.

DOCKET UW-240151

**CROSS-EXAMINATION EXHIBIT OF MATTHEW J. ROWELL AND
CULLEY J. LEHMAN
ON BEHALF OF THE
WASHINGTON STATE OFFICE OF THE ATTORNEY GENERAL
PUBLIC COUNSEL UNIT**

EXHIBIT MJR-CJL-__X

Cascadia Discovery Response to WCAW DR No. 36, Attachment 3
[Excerpt], “2014-2020CALWSP”

February 6, 2025

CAL WATERWORKS

WA DOH PWS ID #31040

**Lehman Enterprises, Inc.
PO Box 549
Freeland, WA 98249**

WATER SYSTEM PLAN

**Extended to
2014 to 2020**

**Jeff Tasoff
Davido Consulting Group, Inc
PO Box 1132
Freeland, WA 98249**

September 2014

Table of Contents

I.	2014 UPDATES	Section I
II.	CORRESPONDENCE 2009-2014	Section II
III.	RESPONSES TO DOH COMMENTS (3/2010)	Section III
IV.	2009-2014 WATER SYSTEM PLAN	Section IV

Section I – Updates & Revisions to 2009 -2014 Plan



DAVIDO CONSULTING GROUP, INC.
CIVIL • STRUCTURAL • LAND USE

September 19, 2014

Jennifer Kropack
Regional Planner
Department of Health, Office of Drinking Water
20425 72nd Ave. South, Suite 310
Kent, WA 98032-2358

Re: Cal Waterworks ID # 31040
Water System Plan Extension

Dear Ms. Kropack,

An updated Water System Plan (WSP) for Cal Waterworks was submitted on February of 2009. Additional information was submitted on March of 2010 which included the Island County's inclusion of the Goss Lakeridge Acres into the system's Service Area. Unfortunately an updated Utility Trade Commission (UTC) rate tariff has not been available until recently which prevented the final approval of the plan.

Lehman Enterprises was provided a new UTC rate tariff in May of 2013. Lehman Enterprises would now like to pursue formal approval of the previously submitted plan. To support this desire a review of the submitted plan was completed and the plan appears adequate and valid except for some minor updates. The updates include:

- Updated Budget
- Updated UTC Rate Tariff
- Updated Capital Improvement Plan
- Updated Water Usage
- Updated Capacity Analysis
- Updated Water Right Self Assessments
- Updated Seawater Intrusion Analysis of Sources
- Current Water Monitoring Plan

The updated budget (Attachment I) includes the charges established in the recently approved UTC rate tariff (Attachment II). The budget shows that the system has adequate resources to maintain the system over the planning horizon. The Capital Improvement Plan has been slightly modified to reflect completed and re-prioritized projects. An inflation modifier of 2% per year was used to more accurately reflect current costs based upon the initial cost estimates provided in the 2009 WSP.

Water usage in 2013 equated to 140 gpd/ERU. See Attachment III for current and historical water usage. A review of the historical water usage shows that the system has done an excellent job of reducing overall water usage. The water usage has dropped over 40% in the last 11 years. On page 8 of the WSP the peak maximum day demand (MDD) was noted at 388 gpd/ERU. The peak summer average day demand (ADD) for 2013 was determined to be 208 gpd/ERU. These values are based upon source meter reading and therefore include distribution system leakage. Based upon historical water usage and ongoing conservation efforts an average day demand (ADD) of 300 gpd/ERU and a maximum day demand (MDD) of 600 gpd/ERU would appear to provide a conservative estimate of the demands for the existing system. The listed design values are approximately 50% greater than the highest recently recorded values for this system.

Cal Waterworks
September 19, 2014

Water System Plan Extension

An analysis of water system demands was performed to verify that adequate service levels are maintained. Based upon the ADD of 300 gpd/ERU and 600 gpd/ERU, the system needs to provide 148 gpm to meet the peak hour demand (PHD) for 119 connections. The booster pump capacity, water right, source and storage capacity all appear adequate to meet the estimated demands of 119 connections. Stand-by storage capacity of 200 gallons per connection is provided in this analysis. See the calculation provided as Attachment IV.

The system is currently serving 114 connections. This total includes 99 connections in the existing Cal Waterworks Water System distribution area and 15 connections in the Goss Lakeridge Water System. This will leave the system with 5 uncommitted connections.

The Water Right Self Assessments were updated to reflect current water usage and projected water usage based upon current usages and projected growth. These forms are provided in Attachment V.

A recent inquiry to the Island County Hydrogeologist verified that the sources are still listed as being at low risk for seawater intrusion (SWI). The SWI analyses are provided as Attachment VI. The 2014 water chemistry results are similar to past results seen for the system's sources. In general the water quality appears good for a ground water source in Island County. The nitrate level in the source water samples is an area of concern for the water system. The current tested values are around 3.7 mg/L. These values are consistent with past reading, so no upward trending has been detected for this contaminant. The current reading is below the action level, so no further action besides the current routine monitoring is needed at this time. The current Water Quality Monitoring Plan is provided as Attachment VII.

Please let me know if I may be able to provide any additional information in support of the extension of the existing Water System Plan.

Sincerely,

Davido Consulting Group, Inc.



Jeffrey M. Tasoff, PE
Civil Engineer



9/19/2014

Attachments

copy: Culley Lehman, Cal Waterworks
Vin Sherman, ICHD

Cal Waterworks
September 19, 2014

Water System Plan Extension

Attachment I
2014-2019 Budget

CAL Waterworks FINANCIAL VIABILITY ASSESSMENT

	BASE YEAR	SIX-YEAR OPERATING BUDGET					
		YEAR 1 2014	YEAR 2 2015	YEAR 3 2016	YEAR 4 2017	YEAR 5 2018	YEAR 6 2019
REVENUES							
1 Water Rates - Commodity		\$ 9,635	\$ 9,635	\$ 9,635	\$ 9,731	\$ 9,828	\$ 9,927
2 Water Rates - Fixed Monthly		\$ 25,410	\$ 25,410	\$ 25,410	\$ 25,410	\$ 25,620	\$ 25,830
3 Fees - Water Share					\$ 2,200	\$ 2,200	\$ 2,200
4 Fees - Connection \$783					\$ 783	\$ 783	\$ 783
5 Other Revenue - Assessments [A]				\$ 16,000.00	\$ 16,000.00	\$ 38,000.00	\$ 38,000.00
6 Total Revenue (1 to 5)		\$ 35,045	\$ 35,045	\$ 51,045	\$ 54,124	\$ 76,431	\$ 76,740
EXPENSES - OPERATIONS							
7 Salaries & F.B. [1]		\$ 6,788	\$ 6,958	\$ 7,132	\$ 7,310	\$ 7,493	\$ 7,680
8 Power & Other Utilities		\$ 962	\$ 986	\$ 1,011	\$ 1,036	\$ 1,062	\$ 1,088
9 Chemicals & Treatment		\$ 679	\$ 696	\$ 713	\$ 731	\$ 749	\$ 768
10 Monitoring		\$ 283	\$ 290	\$ 297	\$ 305	\$ 312	\$ 320
11 Materials, Supplies & Parts		\$ 566	\$ 580	\$ 595	\$ 610	\$ 625	\$ 640
12 Meter reading		\$ 1,131	\$ 1,159	\$ 1,188	\$ 1,218	\$ 1,248	\$ 1,280
13 Miscellaneous Expenses		\$ 566	\$ 580	\$ 595	\$ 610	\$ 625	\$ 640
14 Total - Operations (7 to 13)		\$ 10,975	\$ 11,249	\$ 11,531	\$ 11,819	\$ 12,114	\$ 12,417
EXPENSES - GENERAL ADMIN.							
15 Salaries & F.B.							
16 Equiv. of Salaries (pro-bono)							
17 Office Supplies/Postage/Rent		\$ 1,159	\$ 1,188	\$ 1,218	\$ 1,248	\$ 1,279	\$ 1,311
18 Insurance [2]		\$ 2,782	\$ 2,852	\$ 2,923	\$ 2,996	\$ 3,071	\$ 3,148
19 Accounting, audit		\$ 2,319	\$ 2,377	\$ 2,436	\$ 2,497	\$ 2,560	\$ 2,624
20 Legal							
21 Engineering's & Surveying [3]							
22 Fees & taxes [4]		\$ 909	\$ 501	\$ 501	\$ 506	\$ 511	\$ 516
23 Miscellaneous Expenses							
24 Total - Admin. (16 to 23)		\$ 7,169	\$ 6,918	\$ 7,078	\$ 7,247	\$ 7,421	\$ 7,599
25 Depreciation Expenses		\$ 12,000	\$ 12,000	\$ 12,000	\$ 12,000	\$ 12,000	\$ 12,000
26 TOTAL EXPENSES (14+24+25)		\$ 30,144	\$ 30,167	\$ 30,609	\$ 31,066	\$ 31,535	\$ 32,016

See page 4 for notes

CAL Waterworks FINANCIAL VIABILITY ASSESSMENT

	BASE YEAR	SIX-YEAR OPERATING BUDGET					
		YEAR 1 2014	YEAR 2 2015	YEAR 3 2016	YEAR 4 2017	YEAR 5 2018	YEAR 6 2019
27 Taxes (property, B & O)							
28 Annual Debt Payments (P & I)			\$ 8,000	\$ 16,000	\$ 27,000	\$ 38,000	\$ 38,000
29 Total Outstanding Debt (P & I)							
CAPITAL IMPROVEMENTS							
30 Pump station/generators [5]			\$ 300,000				
31 New Meter & Service \$ 520					\$ 520	\$ 520	\$ 520
33 Water Main Replacement [6]					\$ 400,000		
35 Non-Facility Costs							
CAPITAL SOURCES							
36 Loan/Bond Funds			\$ 300,000		\$ 400,000		
37 Grants							
38 Special assessments/rates							
39 Withdrawal from Ex. Reserves							
40 NET C.I.P. (30 to 35) - (36 to 39)			\$ -		\$ 520	\$ 520	\$ 520
RESERVES - OPERATING CASH							
41 Target Minimum Balance [7]		\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000
42 Annual Installment							
43 Running Balance	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000
RESERVES - EMERGENCY							
44 Target Minimum Balance [8]	assumes line of credit						
45 Annual Installment from W Rates							
46 Annual Installment from Fees							
47 Running Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
RESERVES- REPLACEMENT							
48 Target Balance		\$ 20,000	\$ 21,000	\$ 22,000	\$ 23,000	\$ 24,000	\$ 25,000
49 Annual Installment from W Rates		\$ 4,500	\$ (3,500)	\$ 4,000	\$ (7,000)	\$ 4,000	\$ 4,000
50 Annual Installment from Fees					\$ 2,200	\$ 2,200	\$ 2,200
51 Annual Withdrawal (line 39)							
52 Running Balance		\$ 4,500	\$ 1,000	\$ 5,000	\$ 200	\$ 6,400	\$ 12,600
TOTAL REVENUE REQUIRED		\$ 34,644	\$ 34,667	\$ 50,609	\$ 53,786	\$ 76,255	\$ 76,736
53 (lines 26,27, 28,39,42,45,46,49,50)							
BUDGET SURPLUS (DEFICIT)		\$ 401	\$ 378	\$ 436	\$ 338	\$ 176	\$ 4
54 (line 5 - line 53)							

SIX-YEAR PROJECTION OF INCOME FROM RATES AND CHARGES

CAL Waterworks FINANCIAL VIABILITY ASSESSMENT

	YEAR 1 2014	YEAR 2 2015	YEAR 3 2016	YEAR 4 2017	YEAR 5 2018	YEAR 6 2019
WATER RATE INCOME						
a) Number of Services Single-family residential Non-SF (as ERUs)	121	121	121	122	123	124
b) Meter Charge (flat rate/year) Single-family residential Non-SF (as ERUs)	\$ 210	\$ 210	\$ 210	\$ 210	\$ 210	\$ 210
c) Income (flat rate x number) Single-family residential Non-SF (as ERUs)	\$ 25,410	\$ 25,410	\$ 25,410	\$ 25,410	\$ 25,620	\$ 25,830
d) Fire hydrant fee						
e) Sub-total	\$ 25,410	\$ 25,410	\$ 25,410	\$ 25,410	\$ 25,620	\$ 25,830
WATER COMMODITY INCOME						
f) Volume sold (gallons/year) [9]	4,428,160	4,428,160	4,428,160	4,472,442	4,517,166	4,562,338
Volume sold (cu. ft./year)	592,000	592,000	592,000	597,920	603,899	609,938
g) 1st Usage charge (/100 cu. ft.)	\$ 1.50	\$ 1.50	\$ 1.50	\$ 1.50	\$ 1.50	\$ 1.50
2nd Usage charge (/100 cu. ft.)	\$ 2.75	\$ 2.75	\$ 2.75	\$ 2.75	\$ 2.75	\$ 2.75
3rd Usage charge (/100 cu. ft.)	\$ 5.50	\$ 5.50	\$ 5.50	\$ 5.50	\$ 5.50	\$ 5.50
h) TOTAL OF RATE & CHARGES	\$ 9,635	\$ 9,635	\$ 9,635	\$ 9,731	\$ 9,828	\$ 9,927
CONNECTION INCOME						
j) Added residential connections	0	0	0	1	1	1
k) Added commercial connections						
l) Connection fee	\$ 2,200	\$ 2,200	\$ 2,200	\$ 2,200	\$ 2,200	\$ 2,200
TOTAL OF CONNECTION FEES	\$ -	\$ -	\$ -	\$ 2,200	\$ 2,200	\$ 2,200

FINANCIAL VIABILITY ASSESSMENT

CAL Waterworks

FINANCIAL VIABILITY TEST SUMMARY

	YEAR 1 2014	YEAR 6 2019
A 1 REVENUES		
A 2 Water Rates (lines 1+2)	\$ 35,045	\$ 35,757
A 3 Total other revenues (3+4)	\$ -	\$ 40,983
A 4 Total revenue (A2+A3)	\$ 35,045	\$ 76,740
A 5 EXPENSES		
A 6 O&M, Adm, etc. (15+24+25)	\$ 30,144	\$ 32,016
A 7 Taxes (27)	\$ -	\$ -
A 8 Debt Payment (28)	\$ -	\$ 38,000
A 9 CIP from rates (38)	\$ -	\$ 520
A 10 Add to Oper. Reserve (42)	\$ -	\$ -
A 11 Add to Emer. Reserve (45+46)	\$ -	\$ -
A 12 Add to Repl. Reserve (49+50)	\$ 4,500	\$ 6,200
A 13 Total Revenue Req'd. (A6 to A12)	\$ 34,644	\$ 76,736
A 14 REVENUE - EXPENDITURES	\$ 401	\$ 4
A 15 Line A 4 greater than A 13 (Y/N)	Yes	No *
HOUSEHOLD INCOME		
D 26 Medium Income [10]	\$ 59,500	
D 27 Medium Income x 0.015	\$ 893	
D 28 Number of ERUs (line 'a')	121	124
Single-family	16	16
Commercial equivalent	137	140
D 29 Req'd Revenue/ERU (A13/D28)	\$ 253	\$ 548
D 30 Line D 27 greater than D 29	Yes	Yes

GENERAL NOTES:

- [a] Assumed inflation rate for capital costs 2.5%
- [b] Assumed cost of borrowing from DWSRF (line 28) 1.0%
n = 20 CRF = 0.05542
- [c] Connection fees allocated to capital reserves
- [d] Annual use assumed 51,000 gallons/ERU

	YEAR 1 2014	YEAR 6 2019
OPERATING RESERVES		
B 16 Current Operating	\$ 1,000	\$ 1,000
B 17 Budgeted Increase (42)	\$ -	\$ -
B 18 Total Reserve (43)	\$ 1,000	\$ 1,000
B 19 REQUIRED OPERATING CASH RESERVES	\$ 3,768	\$ 4,002
(line A 6 x 0.125)		
B 20 Line B 18 greater than B 19	no	no
EMERGENCY RESERVES		
C 21 Current Emergency	line of credit	-
C 22 Budgeted Increase (45+46)	\$ -	\$ -
C 23 Total Reserve (47)	\$ -	\$ -
C 24 COST OF MOST VULNERABLE FACILITY [8] (well replacement)	\$ 20,000	\$ 20,000
C 25 Line C 23 greater than C 24	NA	NA

TABLE NOTES:

- [A] Commercial and DWSRF Loan repayment will be accessed
- [1] Owner is certified operator
- [2] Includes vehicles, general liability & worker comp.
- [3] Engineering & surveying included with capital + 5.2%
- [4] Assumes sales tax on commodity income
- [5] 70% State Revolving Fund & 30% Owner Contribution
- [6] 70% Commercial Loan & 30% Owner Contribution
- [7] One-eighth of Expenses - General Admin.
- [8] Line of credit provided for most vulnerable component (well)
- [9] Based on water usage for 2013
- [10] 2012 Census report

Cal Waterworks
September 19, 2014

Water System Plan Extension

Attachment II

UTC Rate Tariff

Second Revision Sheet No. 15
Canceling First Revision Sheet No. 15
WN U-1

Lehman Enterprises, Inc.

For Commission's Receipt Stamp

SCHEDULE NO. 1
NON-METERED FLAT RATE SERVICE

(T)

Available

Available within the limits of all Water Service Areas and at utility's option and capability to maintain Department of Health standards of quantity and quality.

Applicable

Applicable to domestic residential customers, where meters have not yet been installed.

Conditions

The charge for this service is not subject to cancellation or reduction for seasonal or temporary periods, unless seasonal rates apply per this tariff. This charge will be the monthly minimum bill for this class of service.

Monthly Rates

Each connection or customer

\$32.50

(I)

All rates are plus State Utility Tax

Issued March 19, 2013

Effective May 1, 2013

Issued by Lehman Enterprises, Inc.

By Culley Lehman Title Secretary

Second Revision Sheet No. 16
 Canceling First Revision Sheet No. 16
 WN U-1

Lehman Enterprises, Inc.

For Commission's Receipt Stamp

SCHEDULE NO. 2
METERED RATE SERVICE

Available

Available within the limits of all Water Service Areas and at utility's option and capability to maintain Department of Health standards of quantity and quality.

Applicable

Applicable to domestic residential customers served by the Utility on a metered basis.

Conditions

The charge for this service is not subject to cancellation or reduction for seasonal or temporary periods, unless seasonal rates apply per this tariff. This charge will be the monthly minimum bill for this class of service.

Monthly Charges

Each connection or customer:

Meter Size	Base Rate	1 st Block (cu.ft.)	1 st Usage Rate	2 nd Block (cu.ft.)	2 nd Usage Rate	3 rd Block (cu.ft.)	3 rd Usage Rate	
5/8-inch	\$17.50	0 – 500	\$1.50	501 – 1,499	\$2.75	Over 1,499	\$5.50	(I)
3/4-inch	\$26.25	0 – 750	\$1.50	751 – 2,249	\$2.75	Over 2,249	\$5.50	(N)
1-inch	\$43.75	0 – 1,250	\$1.50	1,251–3,748	\$2.75	Over 3,748	\$5.50	(N)
1 ½-inch	\$87.50	0 – 2,500	\$1.50	2,501–7,495	\$2.75	Over 7,495	\$5.50	(N)
2-inch	\$140.00	0 – 4,000	\$1.50	4,001–11,992	\$2.75	Over 11,992	\$5.50	(N)

Issued March 19, 2013 Effective May 1, 2013

Issued by Lehman Enterprises, Inc.

By Culley Lehman Title Secretary

First Revision Sheet No. 17
Canceling Original Sheet No. 17
WN U-1

Lehman Enterprises, Inc.

For Commission's Receipt Stamp

SCHEDULE NO. 3
READY TO SERVE SERVICE

Available

Within the limits of all Water Service Areas and at utility's option and capability to maintain Department of Health standards of quantity and quality.

Applicable

Applicable to domestic residential customers, where meters have not yet been installed. Facility charge has been paid and Service line to property has been completed.

Conditions

The charge for this service is not subject to cancellation or reduction for seasonal or temporary periods, unless seasonal rates apply per this tariff. This charge will be the monthly minimum bill for this class of service. The Ready to Serve charge may be discontinued upon receiving written request from the customer or for non-payment of the Ready to Serve charge after 90 days. If discontinued, the obligation to serve shall be voided. Termination of the charge will allow the Utility to remove the service line and/or connection. This disconnection or removal will allow the Utility to make that available service capacity to supply other connections on the water system. (T)

After a service line and/or connection has been removed for discontinued service, future service to the property will require a new application for service, payment of service connection charges and will be subject to the availability of service capacity at such time as the future application for service is made. At the time water service begins, the customer shall be transferred to Schedule 2, Metered Service. (T)

Monthly Charge

Rate

Each connection or customer.

\$17.50 per month

(I)

All rates are plus State Utility Tax

Issued March 19, 2013

Effective May 1, 2013

Issued by Lehman Enterprises, Inc.

By Culley Lehman Title Secretary

Cal Waterworks
September 19, 2014

Water System Plan Extension

Attachment III

Capital Improvement Plan

CAPITAL IMPROVEMENT PLAN

I. REVIEW OF 1995 PLAN

The status of the planned improvements in the 1995 *Water System Plan* is summarized in the following table:

**Table 6
 STATUS OF 1995 TWENTY-YEAR PLAN**

Category	Project	Status
Supply	Replace existing well pumps	Completed
Treatment	None	
Storage	Add 37,000 gallon storage tanks	Not done
Pumping	Emergency generator	Not done
	Two 5 hp pumps to low pressure zone	Completed
	Upgrade pump suction pipe from reservoir	Not done
	Added one 452 gallon hydropneumatic tank to low pressure zone	Not done
	Add one 436 gallon hydropneumatic tank to high pressure zone	Not done
PRV Stations	None	
Distribution	Upgrade 430 feet of main from pump house to East Harbor Road.	Not done

II. ADDITIONAL WORK COMPLETED SINCE 2009

1. The pump suction lines for Pressure Zone 2 were reconfigured. Suction line is connected to common pump suction manifold as opposed to Pressure Zone 1 distribution piping.
2. Extended Service to Goss Lakeridge Acres. 3,000 +/- LF of 6" PVC C-900 main from Beachwood Drive and East Harbor Road and then down along Goodell Road. Wholesale connection with 2" meter with 2" by-pass.

III. RECOMMENDED IMPROVEMENTS

The following major system improvements are recommended.

Short-term (six-years)

1. Replace the Pressure Zone 1 booster pump station. The new station will provide fire flow capacity (500 gpm) for Pressure Zone 1.
2. Pump Station Improvements. The pump station work includes:
 - a. Installing an emergency generator for the pump station.
 - b. Installing a security fence around the storage tank, pump station, wells and emergency generator.
 - c. Replacing the yard piping to/from the existing storage reservoir to provide dedicated inlet and outlet pipes.
3. Replace the 4-inch water mains with 8-inch mains from the pump station to East Harbor Road and 6-inch mains along East Harbor Road to support the fire flow capacity from the new booster pump station.
4. Install curb-side water sample stations.
5. Install air-release valves at high points in the distribution system.
6. Replace the 3-inch water mains on Beachwood Drive and Ravenridge Drive to accommodate fire flow.
7. Construct second storage reservoir.
8. Replace meter meters on wells

Long-range (20 years)

Replace glued-joint 2-inch and 3-inch PVC water mains.

Administrative Tasks

Transfer water rights from Goss Lakeridge Acres Water System to support the full the ultimate number of additional customers (27 ERUs) in Goss Lakeridge Acres.

IV. CAPITAL FACILITIES PLAN

The following table summarizes the capital improvements for this *Water System Plan*. All costs are in current-year dollars.

Table 7
SIX-YEAR CAPITAL FACILITIES PLAN

Project	Year	Budget Estimate (2008 dollars)
1) Booster pump station	2015	\$ 300,000
2) Water main replacement – E. Harbor Dr.	2017	\$ 200,000
3) Curb-side water sample stations (4)	2017	\$ 10,000
4) Air release valve assemblies (2)	2017	\$ 5,000
5) Water main replacement – Brentwood Dr. Water main replacement – Ravenridge Dr.	2017	\$ 180,000
6) Second storage reservoir	2019	\$ 100,000
7) Replace Source Meters	2019	\$5,000

The total six-year capital program is \$ 800,000.

The replacement cost of the existing distribution system (11,300 feet) is \$ 1,020,000, assuming average cost of \$90 per foot with service replacement.

V. FINANCES

A financial viability assessment, developed in accordance with the Washington Department of Health Financial Viability Manual, March 1995, is provided in the Appendix T. This assessment is provided as a guide for application to the WA Utilities and Transportation Commission for the setting of water rates and charges.

Funding is obtained for the operation of the water system from the WA UTC approved water rates and charges (copy in Appendix T). The connection to the Goss Lakeridge Acres water system to provide a wholesale supply is funded solely by wholesale customers.

The current financial plan assumes that all future major water system improvements will be financed by borrowing.

Any surplus funds from water rates and connection fees are allocated to a capital reserve fund. These funds will be used for capital improvements whenever possible.

Cal Waterworks
September 19, 2014

Water System Plan Extension

Attachment IV

Water Usage

Cal WaterWorks Source Meter Readings

Active ERUs 99 Cal Waterworks Service Area
 15 15
 114 Total

Date	S01	S02	# of Days	Water Usage		Water Usage per day		Water Usage per ERU	
				ft3	Gallons	ft3	Gallons	ft3	Gallons
8/30/2012	335,737								
9/25/2012	399,170		26	63,433	474,479	2,440	18,249	21	160
10/2/2012	413,606		7	14,436	107,981	2,062	15,426	18	135
10/23/2012	448,999		21	35,393	264,740	1,685	12,607	15	111
11/20/2012	490,895		28	41,896	313,382	1,496	11,192	13	98
12/20/2012	538,695		30	47,800	357,544	1,593	11,918	14	105
1/2/2013	564,083		13	25,388	189,902	1,953	14,608	17	128
1/24/2013	598,688		22	34,605	258,845	1,573	11,766	14	103
2/21/2013	649,643		28	50,955	381,143	1,820	13,612	16	119
3/26/2013	711,639		33	61,996	463,730	1,879	14,052	16	123
4/6/2013	731,617		11	19,978	149,435	1,816	13,585	16	119
4/23/2013	762,018		17	30,401	227,399	1,788	13,376	16	117
5/7/2013	790,086	35,082	14	28,068	209,949	2,005	14,996	18	132
5/28/2013	835,117		21	45,031	336,832	2,144	16,040	19	141
6/20/2013	886,858		23	51,741	387,023	2,250	16,827	20	148
7/8/2013	934,481	35,082	18	47,623	356,220	2,646	19,790	23	174
7/23/2013	981,930		15	47,449	354,919	3,163	23,661	28	208
8/11/2013	1,015,436	35,082	19	33,506	250,625	1,763	13,191	15	116
11/21/2013	1,275,340		102	259,904	1,944,082	2,548	19,060	22	167
12/4/2013	1,301,036	35,082	13	25,696	192,206	1,977	14,785	17	130

Design ADD 300

ADD BASED ON WATER USE DATA

Date Printed: 9/18/2014

System: Cal Waterworks
ID No.: 31040 6
Location: Freeland, WA 98249

Year	Annual Withdrawal		Average Day Demand	
	Gallons	ac-feet	Gallons	gpd/ERU
2000				
2001				
2002	10,293,400	31.6	28,201	294
2003	9,645,300	29.6	26,425	275
2004	8,286,960	25.4	22,704	237
2005	7,082,510	21.7	19,404	202
2006	6,894,240	21.2	18,888	197
2007	5,226,817	16.0	14,320	149
2008	4,800,950	14.7	13,153	118
2009				
2010				
2011				
2012				
2013	5,851,604	18.0	16,032	141
Averages	7,461,454	23	20,442	210
			Design ADD	300

Cal Waterworks
September 19, 2014

Water System Plan Extension

Attachment V

Capacity Analysis

WORKSHEET 6-1: ERU Determinations

Water System Physical Capacity Documentation based on MDD

Note: Capacity determinations are only for existing facilities that are operational for the water system.

**Specific Single-Family Residential Connection Criteria (measured or estimated demands)
 (see Chapter 5):**

Average Day Demand (ADD): 300 gpd/ERU

Maximum Day Demand (MDD) 600 gpd/ERU

Water System Service Connections correlated to ERUs			
Service Classification	Total MDD for the classification, gpd	Total # Connections in the classification	ERUs
Residential			
Single-family	68,400	114	114
Multifamily			
Nonresidential			
Industrial			
Commercial			
Governmental			
Agricultural			
Recreational			
Other (specify)			
DSL	included above	N/A	
Other (identify)			
Total existing ERUs (Residential + Nonresidential + Non-revenue + Other) =			114

Physical Capacity as ERUs	
Water System Component (Facility)	Calculated Capacity in ERUs for each component
Source(s)	161 ADD & Qa/216 MDD & Qi
Treatment	n/a
Equalizing Storage	119
Standby Storage	119
Distribution	155 per previous hydraulic analysis
Transmission	155 per original hydraulic analysis
Other (specify)	
Water System Physical Capacity (ERUs) = 119	
(based on the limiting water system component shown above) Storage Capacity	

Note: If multiple-day storage is needed to meet MDD, another approach to estimate the ERU capacity is necessary.

SYSTEM CAPACITY WATER RIGHTS, SOURCE & TREATMENT

System: Cal Waterworks
ID No.: 31040 6
Location: Freeland, WA 98249

WATER RIGHT CALCULATIONS

Based on Annual Volume & Average Day Demand (Eqn 6-3):

$$N = Va / (365 * ADD)$$

Where: N = Number of Service Connections, ERUs
 Va = Annual Volume of Water Available from Water Right (gallons/year)
 ADD = Average Daily Demand per ERU (gpd/ERU)

	Va (acre-ft/year)	Va (gal/year)	ADD (gpd/ERU)	N (ERUs)
Potential Connections	54	17,594,755	300	161

Based on Instantaneous Flow & Maximum Day Demand (Eqn 6-4):

$$N = Vd / MDD = (Qi * td) / MDD$$

Where: N = Number of Service Connections, ERUs
 Vd = Total Volume of Water Available for Maximum Day's Demand (gpd)
 MDD = Maximum Daily Demand per ERU (gpd/ERU)
 Qi = Instantaneous Maximum Water Right Flow Rate (gpm)
 td = Time that source operates per day (minutes/day)

	Qi (gpm)	td (min/day)	MDD (gpd/ERU)	N (ERUs)
Potential Connections	90	120	300	216

SOURCE CALCULATIONS

Based on Well Production & Average Day Demand:

$$N = Vd / ADD = (Qs * td) / ADD$$

Where: N = Number of Service Connections, ERUs
 Vd = Total Volume of Water Available for Average Day's Demand (gpd)
 ADD = Average Daily Demand per ERU (gpd/ERU)
 Qs = Total Well Production Flow rate (gpm)
 td = Time that source operates per day (minutes/day)

	Qs (gpm)	td (min/day)	ADD (gpd/ERU)	N (ERUs)
Potential Connections S01	45	120	300	108
Potential Connections S02	45	120	300	108

Date Printed: 9/19/2014

PEAK HOUR DEMAND (PHD) CALCULATION

System: Cal Waterworks
ID No.: 31040 6
Location: Freeland, WA 98249

From DOH Water System Design Manual (Section 5.2.4)

Equation 5-1:
$$PHD = (MDD/1440)[(C)(N) + F] + 18$$

Where:

PHD	=	<i>Peak Hourly Demand, (gallons per minute, gpm)</i>
C	=	<i>Coefficient Associated with Ranges of ERUs</i>
N	=	<i>Number of Service Connections, ERUs</i>
F	=	<i>Factor Associated with Ranges of ERUs</i>
MDD	=	<i>Maximum Day Demand, (gpd/ERU)</i>

Table 5-1:

Range of N (ERUs)		C	F
15	50	3.0	0
51	100	2.5	25
101	250	2.0	75
251	500	1.8	125
501	1000000	1.6	225

N (ERUs)	MDD (gpd/ERU)	C	F	PHD (gpm)
96	600	2.5	25.0	128
99	600	2.5	25.0	132
114	600	2.0	75.0	144
119	600	2.0	75.0	148
131	600	2.0	75.0	158
22	600	3.0	0.0	46

Main Reservoir Water System Storage Capacity Calculations

System: Cal Waterworks
 ID No.: 31040 6
 Location: Freeland, WA 98249

Equations/Calc's in this spreadsheet are in accordance with the DOH's Group A Public Water System Design Manual

Source

Wells	Pump Rate (gpm)	Comment
1	45	water right limited
2	45	water right limited
emergency	0	
Qs:	90	Total minus emergency
Q's:	45	Total minus largest

of Connections

Year	ERUs (N)	DOH Approved
2014	96	99

The booster pump station is required to fill the reservoir. The booster pump system is comprised of one 200 gpm pump and two 750 gpm booster pumps. With one of the larger booster pumps out of service the station is still able to provided in excess of 950 gpm to the reservoir. The sources are still limiting factor for these equations.

Reservoir Specifications

Reservoir	ID	Vol (gal)	Vol (cf)	Height (ft)	Base EI	Top WS	Total Vol.	Vol/VF
Existing Conc.	24.2	40,000	5,348	12.00	145.00	157.00	41,286	3,441
Total:							41,286	3,441

Top Dead Storage (DS)

Top WS	Dead Storage Depth (ft)	Top Dead Vol (gal)	Top Dead Vol (res. vf)
157.0	0.5	1,720	0.5

Note: Assumed top Dead Storage is 6". Current top probe may be set lower to increase water turn over.

Operational Storage (OS)

Top WS	Operational Depth (ft)	Oper. Level	Oper. Vol. (gal)	Oper. Vol (res. vf)
156.50	0.50	156.00	1,720	0.5

Set equal to booster pump station reservoir effective volume.

Past/Current Required Equalizing Storage (ES)

PHD (gpm)	Qs (gpm)	PHD-Qs (gpm)	Ves (gal)	Ves (res vf.)
148	55	93	13,950	4.1

Ves=(PHD-Qs)*150 or Zero

Past/Current Required Standby Storage (SB)

ADD (gpd/ERU)	N	Qs (gpm)	QL (gpm)	tm (min)	Multiple Source			Greater of SB or FF
					SB (gal) Multi Source	SB per ERU (gal/ERU)	SB (res vf.)	
300	155	90	45	1,440	31,000	200	9.0	SB

Vsb (mult. Source) = (2 days)(ADD)(N)-tm(Qs-QL) or (200)(N) whichever is greater

Fire Suppression Storage (FSS)

FF (gpm)	tm (minutes)	Vfss (gal)	Vfss (res. vf)
500	30	15,000	4.4

Vfss=FF*tm

Where:
 $FSS = (FF)(t_m)$
 $FF =$ Required fire flow rate (gpm)
 $t_m =$ Duration of FF rate (minutes)

Bottom Dead Storage (DS)

Res. Bot. Elev.	Top of Dead Storage	Dead Vol (gal)	Dead Vol (res. vf)
145.0	145.5	1,720	0.5

Note: Assumed Dead Storage is bottom 6" of reservoir

Available Storage Summary - Nested FF & Standby Storage

Storage Component	Vol (gal)	Res VF	Top WS	Bot WS	PSI Req/mt	Highest Grav. Service Elev.
Top Dead Storage	1,720	0.5	157.0	156.5		
Operational Storage (OS)	1,720	0.5	156.5	156.0		
Equalizing Storage (ES)	13,950	4.1	156.0	151.9	30	82.6
Standby Storage (SB)	23,800	6.9	151.9	145.0	20	98.8
Fire Suppression Storage (FSS)	15,000	4.4	151.9	147.6	20	101.4
Dead Storage (DS)	1,720	0.5	145.5	145.0		
Totals:	41,191	12.5				

Cal Waterworks
September 19, 2014

Water System Plan Extension

Attachment VI

Water Right Self Assessments



WATER SYSTEM PLAN
WATER RIGHTS SELF ASSESSMENT – EXISTING STATUS

PERMIT CERTIFICATE OR CLAIM #	NAME ON DOCUMENT	PRIORITY DATE (List oldest first)	SOURCE NAME/ NUMBER	ANY PORTION SUPPLEMENTAL? (If yes, explain in footnote)	EXISTING WATER RIGHTS		EXISTING CONSUMPTION		CURRENT WATER RIGHT STATUS (Excess/Deficiency)	
					Maximum Instantaneous Flow Rate (Qi)	Maximum Annual Volume (Qa)	Maximum Instantaneous Flow Rate (Qi)	Maximum Annual Volume (Qa)	Maximum Instantaneous Flow Rate (Qi)	Maximum Annual Volume (Qa)
Permits/ Certificates 1. G1-00032C	American Pacific Corp.	12/23/1971	a well	no	55	27.5	45	18.0	10	9.5
2. G1-27478P	CAL Waterworks	6/1/1994	Well Field (2 wells)	No, additive	35	26.5	45	0	-10	26.5
3.										
4.										
Claims 1.										
2.										
3.										
4.										
TOTAL		*****	*****	*****	90	54.0	90	18.0	0	36.0
INTERTIE NAME/ IDENTIFIER	NAME OF PURVEYOR PROVIDING WATER	EXISTING LIMITS ON INTERTIE USE		EXISTING CONSUMPTION THROUGH INTERTIE		CURRENT INTERTIE SUPPLY STATUS (Excess/Deficiency)				
		Maximum Instantaneous Flow Rate (Qi)	Maximum Annual Volume (Qa)	Maximum Instantaneous Flow Rate (Qi)	Maximum Annual Volume (Qa)	Maximum Instantaneous Flow Rate (Qi)	Maximum Annual Volume (Qa)			
1.										
2.										
3.										
4.										
TOTAL		*****	*****	*****						
PENDING WATER RIGHT APPLICATION (New/Change)	NAME ON APPLICATION	DATE SUBMITTED	ANY PORTION SUPPLEMENTAL? (If yes, explain in footnote)		PENDING WATER RIGHTS					
			Maximum Instantaneous Rate (Qi) Requested	Maximum Annual Volume (Qa) Requested						
1.										
2.										
3.										
4.										

If you need this publication in an alternate format, call (800) 525-0127. For TTY/TDD call (800) 833-6388.

DOH Form 331-371 (Updated 08/10)



WATER SYSTEM PLAN

WATER RIGHTS SELF ASSESSMENT - 6 YEAR FORECAST

PERMIT CERTIFICATE OR CLAIM #	NAME ON DOCUMENT	PRIORITY DATE (List oldest first)	SOURCE NAME/NUMBER	ANY PORTION SUPPLEMENTAL? (If yes, explain in footnote)	EXISTING WATER RIGHTS		FORECASTED WATER USE FROM SOURCES (6-year Demand)		FORECASTED WATER RIGHT STATUS (Excess/Deficiency)	
					Maximum Instantaneous Flow Rate (Qi)	Maximum Annual Volume (Qa)	Maximum Instantaneous Flow Rate (Qi)	Maximum Annual Volume (Qa)	Maximum Instantaneous Flow Rate (Qi)	Maximum Annual Volume (Qa)
Permits/ Certificates 1. G1-00032C	American Pacific Corp.	12/23/1971	a well	no	55	27.5	45	10.3	10	17.2
2. G1-27478P	CAL Waterworks	6/1/1994	Well Field (2 wells)	No, additive	35	26.5	45	10.3	-10	16.2
3.										
4.										
Claims										
1.										
2.										
3.										
4.										
TOTAL	*****	*****	*****	*****	90	54	90	20.6	0	33.4
INTERTE NAME/ IDENTIFIER	NAME OF PURVEYOR PROVIDING WATER	EXISTING LIMITS ON INTERTE USE		FORECASTED CONSUMPTION THROUGH INTERTE		FORECASTED INTERTE SUPPLY STATUS (Excess/Deficiency)				
		Maximum Instantaneous Flow Rate (Qi)	Maximum Annual Volume (Qa)	Maximum Instantaneous Flow Rate (Qi)	Maximum Annual Volume (Qa)	Maximum Instantaneous Flow Rate (Qi)	Maximum Annual Volume (Qa)			
1.										
2.										
3.										
4.										
TOTAL	*****	*****	*****	*****						
PENDING WATER RIGHT APPLICATION (New/Change)	NAME ON APPLICATION	DATE SUBMITTED	ANY PORTION SUPPLEMENTAL? (If yes, explain in footnote)		PENDING WATER RIGHTS					
			Maximum Instantaneous Flow Rate (Qi) Requested	Maximum Annual Volume (Qa) Requested	Maximum Instantaneous Flow Rate (Qi) Requested	Maximum Annual Volume (Qa) Requested				
1.										
2.										
3.										
4.										

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DOH Form 331-372 (Updated 08/10)

To return form, please see reverse side.



WATER SYSTEM PLAN
WATER RIGHTS SELF ASSESSMENT - 20 YEAR FORECAST

PERMIT CERTIFICATE OR CLAIM #	NAME ON DOCUMENT	PRIORITY DATE (List oldest first)	SOURCE NAME/ NUMBER	ANY PORTION SUPPLEMENTAL? (If yes, explain in footnote)	EXISTING WATER RIGHTS		FORECASTED WATER USE FROM SOURCES (20-year Demand)		FORECASTED WATER RIGHT STATUS (Excess/Deficiency)	
					Maximum Instantaneous Flow Rate (Qi)	Maximum Annual Volume (Qa)	Maximum Instantaneous Flow Rate (Qi)	Maximum Annual Volume (Qa)	Maximum Instantaneous Flow Rate (Qi)	Maximum Annual Volume (Qa)
Permits/Certificates	American Pacific Corp.	12/23/1971	a well	no	55	27.5	45	13.4	10	14.1
1. G1-00032C										
2. G1-27478P	CAL Waterworks	6/1/1994	Well Field (2 wells)	No, additive	35	26.5	45	13.4	-10	13.1
3.										
4.										
Claims										
1.										
2.										
3.										
4.										
TOTAL	*****	*****	*****	*****	90	54.0	90	26.8	0	27.2
INTERTIE NAME/ IDENTIFIER	NAME OF PURVEYOR PROVIDING WATER	EXISTING LIMITS ON INTERTIE USE		FORECASTED CONSUMPTION THROUGH INTERTIE		FORECASTED INTERTIE SUPPLY STATUS (Excess/Deficiency)				
		Maximum Instantaneous Flow Rate (Qi)	Maximum Annual Volume (Qa)	Maximum Instantaneous Flow Rate (Qi)	Maximum Annual Volume (Qa)	Maximum Instantaneous Flow Rate (Qi)	Maximum Annual Volume (Qa)			
1.										
2.										
3.										
4.										
TOTAL	*****									
PENDING WATER RIGHT APPLICATION (New/Change)	NAME ON APPLICATION	DATE SUBMITTED	ANY PORTION SUPPLEMENTAL? (If yes, explain in footnote)		PENDING WATER RIGHTS					
			Maximum Instantaneous Flow Rate (Qi) Requested	Maximum Annual Volume (Qa) Requested						
1.										
2.										
3.										
4.										

If you need this publication in an alternate format, call (800) 525-0127. For TTY/TDD call (800) 833-6388.

DOH Form 331-373 (Updated 08/10)

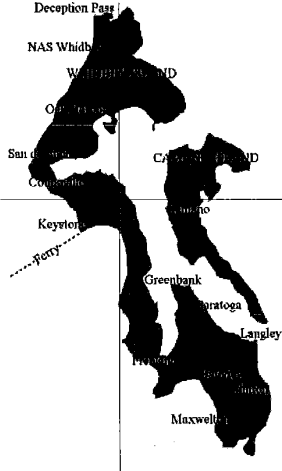
To return form, please see reverse side.

Cal Waterworks
September 19, 2014

Water System Plan Extension

Attachment VII

Seawater Intrusion Ratings



Island County Health Department

P.O. Box 5000 • Coupeville, WA 98239

Island County Seawater Intrusion Protection Intrusion Risk Rating Certification

Issued: Thursday, July 10, 2014

Intrusion Rating for Well # 8E7 is 'Low Risk'

PwsID/SO#: 31040/2

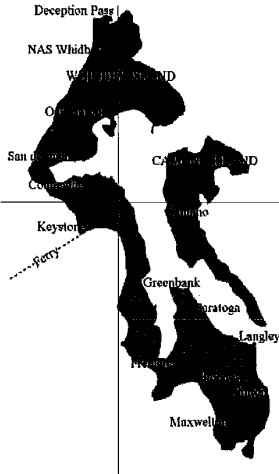
Wells within 1/2 Mile of Well # 8E7*

Well Key	Owner Name	Well Address	Max Chloride	Water Level Elev	Distance from Center	Total Depth Elev	Loc Acc*
ATP	Ridgeview Estates		61		1476	-268	1
8E9	American Pacific Corp	5079 (from parcel address)	42	14.1	26	-16	-2
BV9	Richard Holm	5120 E Harbor Road, Freeland	35		2084	-42	3
8E7	W. B. Waterworks #2	1375' N & 50' W of the SE Corner of Sec. 2	35	14.8	0	-16	-2
AKX	Northwest Colonial	E. Harbor Road	27		1292	-25	1
8G6	Ridge View Estates	600' E & 100' N of Center Sec. 1	25		1509	-37	2
8FW	W. E. Lawrence	4956 S MILKY WAY** (from parcel address)	20		2070	-149	3
8DX	C. J. NEWLIN	5066 East Harbor Rd (from parcel address)	20		2138	-123	3
66P	Marin Marinov		15		1792	-76	3
C8B	Peter Feichtmeir	5090 East Harbor Rd.	10		1529	-45	3
8E8	Les Malmgrem	E. Harbor Road	10		1647	-58	1

Staff Signature: *Doug Kelly*
 Expires: Friday, July 10, 2015

Parcel Acres: _____
 * Location Accuracy
 0 = TRS 2 = DGPS
 1 = Parcel " " = Unknown
 < 0 = Elev Surveyed

Xcode: 418301969562 29N/02E-01



Island County Health Department

P.O. Box 5000 • Coupeville, WA 98239

Island County Seawater Intrusion Protection Intrusion Risk Rating Certification

Issued: Thursday, July 10, 2014

Intrusion Rating for Well # 8E7 is 'Low Risk'

PwsID/SO#: 31040/2

Wells within 1/2 Mile of Well # 8E7*

Well Key	Owner Name	Well Address	Max Chloride	Water Level Elev	Distance from Center	Total Depth Elev	Loc Acc#
ATP	Ridgeview Estates		61		1476	-268	1
8E9	American Pacific Corp	5079 (from parcel address)	42	14.1	26	-16	-2
BV9	Richard Holm	5120 E Harbor Road, Freeland	35		2084	-42	3
8E7	W. B. Waterworks #2	1375' N & 50' W of the SE Corner of Sec. 2	35	14.8	0	-16	-2
AKX	Northwest Colonial	E. Harbor Road	27		1292	-25	1
8G6	Ridge View Estates	600' E & 100' N of Center Sec. 1	25		1509	-37	2
8FW	W. E. Lawrence	4956 S MILKY WAY** (from parcel address)	20		2070	-149	3
8DX	C. J. NEWLIN	5066 East Harbor Rd (from parcel address)	20		2138	-123	3
66P	Marin Marinov		15		1792	-76	3
C8B	Peter Feichtmeir	5090 East Harbor Rd.	10		1529	-45	3
8E8	Les Malmgrem	E. Harbor Road	10		1647	-58	1

Staff Signature: *Doug Kelly*
 Expires: Friday, July 10, 2015

Parcel Acres: _____
 * Location Accuracy
 0 = TRS 2 = DGPS
 1 = Parcel " " = Unknown
 < 0 = Elev Surveyed

Xcode: 418301969562 29N/02E-01

Cal Waterworks
September 19, 2014

Water System Plan Extension

Attachment VIII
Water Quality Monitoring Plan

Generated on: 09/12/2014

Page 1 of 3



Water Quality Monitoring Schedule

System: CAL WATERWORKS
Contact: Terry Lehman

PWS ID: 31040 6
Group: A - Comm

Region: NORTHWEST
County: ISLAND

NOTE: To receive credit for compliance samples, you must fill out laboratory and sample paperwork completely, send your samples to a laboratory accredited by Washington State to conduct the analyses, AND ensure the results are submitted to DOH Office of Drinking Water. There is often a lag time between when you collect your sample, when we credit your system with meeting the monitoring requirement, and when we generate the new monitoring requirement.

Coliform Monitoring Requirements

	Sep 2014	Oct 2014	Nov 2014	Dec 2014	Jan 2015	Feb 2015	Mar 2015	Apr 2015	May 2015	Jun 2015	Jul 2015	Aug 2015
Coliform	235	235	235	235	235	235	235	235	235	235	235	235
Monitoring Population												
Number of Routine Samples Required	1	1	1	1	1	1	1	1	1	1	1	1

- Collect samples from representative points throughout the distribution system.
- Collect required repeat samples following an unsatisfactory sample. In addition, collect a sample from each operating groundwater source.
- Collect no less than 5 routine samples in the month following one or more unsatisfactory samples, in accordance with your system's Coliform Monitoring Plan.
- For systems that chlorinate, record chlorine residual (measured when the coliform sample is collected) on the coliform lab slip.

Chemical Monitoring Requirements

Distribution Monitoring			
Test Panel/Analyte	# Samples Required	Compliance Period	Frequency
Lead and Copper	5	Jan 2012 - Dec 2014	standard - 3 year
			12/22/2011
			Sep 2014

Notes on Distribution System Chemical Monitoring

- For Lead and Copper:**
- Collect samples from indoor faucets after the water has sat unused in the pipes for at least 6 hours, but no more than 12 hours.
 - Flush sample faucets with cold water the evening prior to collecting the sample.
 - If your sampling frequency is annual or once every 3 years, collect samples between June 1 and September 30.



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Source Monitoring

- Collect 'source' chemical monitoring samples from a tap after all treatment (if any), but before entering the distribution system.
- Washington State grants monitoring waivers for various test panels or analytes. Please note that we may require some monitoring as a condition of some waivers. We have granted complete waivers for dioxin, endothal, glyphosate, diquat, and insecticides.
- If "R&C" is listed in a monitoring requirement's frequency, the requirements are based on detections which are reliably and consistently below the health standard.

Source S01	AGA928 WELL 1	Test Panel/Analyte	# Samples Required	Well		Frequency	Susceptibility - Moderate	
				Compliance Period	Well		Last Sample Date	Next Sample Due
Nitrate			1	Jan 2014 - Dec 2014		standard - 1 year	08/25/2014	
Complete Inorganic (IOC)			1	Jan 2011 - Dec 2019		waiver - 9 year	07/22/2008	Jul 2017
Volatile Organics (VOC)			1	Jan 2014 - Dec 2019		waiver - 6 year	04/23/2009	Apr 2015
Herbicides			1	Jan 2014 - Dec 2022		waiver - 9 year	04/23/2009	Apr 2018
Pesticides			0	Jan 2014 - Dec 2016		waiver - 3 year	04/23/2009	
Soil Fumigants			0	Jan 2014 - Dec 2016		waiver - 3 year		
Gross alpha			1	Jan 2014 - Dec 2019		standard - 6 year	09/25/2012	Sep 2018
Radium 228			1	Jan 2014 - Dec 2019		standard - 6 year	09/25/2012	Sep 2018

Source S02	AGA927 WELL 2	Test Panel/Analyte	# Samples Required	Well		Frequency	Susceptibility - Moderate	
				Compliance Period	Well		Last Sample Date	Next Sample Due
Nitrate			1	Jan 2014 - Dec 2014		standard - 1 year	08/25/2014	
Complete Inorganic (IOC)			1	Jan 2011 - Dec 2019		waiver - 9 year	09/25/2012	
Volatile Organics (VOC)			1	Jan 2014 - Dec 2019		waiver - 6 year	04/23/2009	Apr 2015
Herbicides			1	Jan 2014 - Dec 2022		waiver - 9 year	04/23/2009	Apr 2018
Pesticides			0	Jan 2014 - Dec 2016		waiver - 3 year	04/23/2009	
Soil Fumigants			0	Jan 2014 - Dec 2016		waiver - 3 year		
Gross alpha			1	Jan 2014 - Dec 2019		standard - 6 year	09/25/2012	Sep 2018
Radium 228			1	Jan 2014 - Dec 2019		standard - 6 year	09/25/2012	Sep 2018



31040 6

Page 3 of 3

Generated on: 09/12/2014

Other Information

Other Reporting Schedules **Due Date**

Submit Consumer Confidence Report (CCR) to customers and ODW (Community systems only):	07/01/2014
Submit CCR certification form to ODW (Community systems only):	10/01/2014
Submit Water Use Efficiency report online to ODW (Community and other municipal water systems only):	07/01/2014
Send notices of lead and copper sample results to the customers sampled:	30 days after you receive the laboratory results
Submit Certification of customer notification of lead and copper results to ODW:	90 days after end of monitoring period

Special Notes

None

Northwest Regional Water Quality Monitoring Contacts

For questions regarding chemical monitoring: Steve Hulsman: (253) 395-6777 or Steve.Hulsman@doh.wa.gov

For questions regarding DBPs: Jolyn Leslie: (253) 395-6762 or jolyn.leslie@doh.wa.gov

For questions regarding coliform bacteria and microbial issues: Carol Stuckey or Ingrid Salmon: (253) 395-6775; or carol.stuckey@doh.wa.gov or ingrid.salmon@doh.wa.gov

Additional Notes

The information on this monitoring schedule is valid as of the date in the upper left corner on the first page. However, the information may change with subsequent updates in our water quality monitoring database as we receive new data or revise monitoring schedules. There is often a lag time between when you collect your sample and when we credit your system with meeting the monitoring requirement.

We have not designed this monitoring schedule to display all compliance requirements. The purpose of this schedule is to assist water systems with planning for most water quality monitoring, and to allow systems to compare their records with DOH ODW records. Please be aware that this monitoring schedule does not include constituents that require a special monitoring frequency, such as monitoring affiliated with treatment.

Any inaccuracies on this schedule will not relieve the water system owner and operator of the requirement to comply with applicable regulations.

If you have any questions about your monitoring requirements, please contact the regional office staff listed above.