

Appendix K. Coliform Monitoring Plan

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Water System

Coliform Monitoring

Plan

2019

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WATER SYSTEM INFORMATION

WATER SYSTEM NAME	CITY OF ISSAQUAH
WATER SYSTEM ID NO.	363505
WATER SYSTEM CLASSIFICATION	GROUP A
TYPE OF OWNERSHIP	MUNICIPAL
OWNER NO.	2776
COUNTY	KING
ADDRESS	PO BOX 1307 ISSAQUAH, WA. 98027-1307
SYSTEM CONTACT PERSON	BRET HEATH
WATER SERVICE CONNECTIONS	20,419 (WFI)
POPULATION SERVED (Estimated)	29,900 (WFI)
DAY TIME PHONE	425 - 837- 3470

SOURCE INFORMATION:

Source	Name	Address	Connection Type
S01	Risdon Well #1	240 NE Gilman Blvd	
S02	Risdon Well #2	240 NE Gilman Blvd	
S04	Gilman Well #4	460 NW Gilman Blvd	
S05	Gilman Well #5	460 NW Gilman Blvd	
S06	Bellevue - Montreux	18001 SE 60 th ST	Intertie
S07	Bellevue - Lakemont	17200 SE Newport Way	Intertie
S07	Bellevue – South Cove	4229 W Lake Sammamish Parkway	Intertie
S07	Bellevue – South Cove	4210 181 st Ave SE	Emergency Intertie
S08	SPWS	SE 56 St. & 221Ave. SE	Emergency Intertie
S09	SPWS	940 1 st Ave NE	Emergency Intertie
S10	CWA – Regional	16114 SE Newport Way	Intertie

TREATMENT:

Source	Name	Treatment
S01	Risdon Well #1	Sodium Hypochlorite at 12.5%
S02	Risdon Well #2	Sodium Hypochlorite at 12.5%
S04	Gilman Well #4	Sodium Hypochlorite at 12.5%
S05	Gilman Well #5	Sodium Hypochlorite at 12.5%
S04	Gilman Well #4	GAC Filtration for PFAs
S05	Gilman Well #5	Polyphosphate Sequestrant for manganese
	Talus P.S. 1	Sodium Fluoride *
	Talus P.S. 2	Sodium Fluoride *
	Holly P.S. 1 & 2 Blending System	Sodium Fluoride **

* We are maintaining fluoride levels in the Talus development for eventual return and blending of CWA-supplied water.

** Fluoride is added to match the CWA supplied water when non-fluoridated water is blended.

STORAGE:

13 Reservoirs sites with 22 vessels totaling 13-million gallons of storage.

BOOSTER PUMP STATIONS:

13 Booster pump stations that supply the reservoirs, from which the system is gravity-fed.

PRESSURE REDUCING STATIONS:

25 pressure reducing stations, to reduce and maintain pressures as needed due to elevation changes in the system.

COLIFORM SAMPLING INFORMATION:

Samples required by DOH regulations, per month 31 (41 October only)

Total number of sample sites needed to represent all operating areas 31 (41 October only)

The City of Issaquah has thirty-one sampling locations used for routine TCR sampling and four locations used for GWR source sampling.

For coliform sampling procedures and record queries reference the: Water Samples – Monthly Coliform Monitoring SOP.

ROUTINE SAMPLING LOCATIONS:

	Name	Routine Sample Address	Type	Source	Repeat Sample Address	Type	Press Zone
1	26 th AVE NE sample stand	1487 26 th Ave NE	Sample Stand	S10, S01, S02, S04, S05	2569 NE Daphne St 1479 26 th Ave NE	Hyd 1175 Meter	1234
2	6748 266 th Ct SE sample stand	6748 266 th Ct SE	Sample Stand	S10, S01, S02, S04, S05	6756 266 th Ct SE 6740 266 th Ave SE	Hyd 1522 Hyd 1521	1337
3	15 th AVE NE sample stand	1843 15 th Ave NE	Sample Stand	S10, S01, S02, S04, S05	1480 NE Katsura St 1506 NE Jade St	Hyd 0864 Hyd 0861	742
4	227 NW Holly St sample stand	227 NW Holly St NW Holly St SS	Sample Stand	S01, S02, S04, S05	210 NW Holly St 280 NW Holly St	Hyd 0477 Hyd 0473	297
5	Valley North Costco sample stand	21037 SE 62 nd St	Sample Stand	S01, S02, S04, S05	1435 11 th Ave NW 1400 BLK 11 th Ave NW	Hyd 0661 Hyd 0626	297
6	4678 192nd Ave SE sample stand	4678 192nd Ave SE	Sample Stand	S07	19100 BLK W Lk Samm Pkwy SE 19206 SE 46 th St	Hyd 1633 Hyd 1570	271
7	4996 NW Village Park Dr sample stand	4996 NW Village Park Dr	Sample Stand	S06	4974 NW Village Park Dr 4992 NW Village Park Dr	Meter Hyd 0781	364

8	19299 SE 56 th St sample stand	19299 SE 56 th St	Sample Stand	S01, S02, S04, S05	19123 SE 56 th St – Tank A 5605 193 rd PI SE	Faucet Hyd 0774	430
9	Talus Pump Station #2	1750 NW Talus Dr	Faucet	S01, S02, S04, S05, S10	1801 BLK NW Talus Dr 1701 BLK NW Talus Dr	Hyd 1014 Hyd 1016	616
10	681 Summerhill Ridge Dr NW sample stand	681 Summerhill Ridge Dr NW	Sample Stand	S01, S02, S04, S05, S10	700 Lingerin Pine Dr NW 705 Lingerin Pine Dr NW	Hyd 1026 Hyd 1025	752
11	Forest Rim Pump Station	820 MTN. Side Dr SW	Faucet	S01, S02, S04, S05	2005 Squak Mtn Lp SW 820 MTN Side Dr SW	Hyd 0256 Hyd 0255	1200
12	Mt. Hood Pump Station	325 Mt. Hood Dr SW	Faucet	S01, S02, S04, S05	480 Mt Park Blvd SW 345 Mt. Hood Dr SW	Hyd 0289 Hyd 0295	625
13	Cemetery Reservoir A	695 W Sunset Way	Faucet	S01, S02, S04, S05	Cemetery Reservoir B Mt Park pump station	Faucet Faucet	297
14	349 SE Crystal Creek Circle sample stand	349 SE Crystal Creek Circle	Sample Stand	S01, S02, S04, S05	341 SE Crystal Creek Circle 351 SE Crystal Creek Circle	Hyd 0021 Meter	480
15	1188 Sycamore Dr SE sample stand	1188 Sycamore Dr SE	Sample Stand	S01, S02, S04, S05	1160 Sycamore Dr SE 1170 Sycamore Dr SE	Hyd 0006 Hyd 0007	297
16	1965 NW Sammamish Rd sample stand	1965 NW Sammamish Rd	Sample Stand	S01, S02, S04, S05	1701 NW Samm. Rd 2001 NW Samm. Rd	Hyd 0702 Hyd 0712	297
17	Lakemont sample stand	18015 SE Newport Way	Sample Stand	S07	Bellevue water customer 18305 SE Newport Way Bldg Q	Meter Hyd 0827	520
18	5992 Oberland PI NW sample stand	5985 Oberland PI NW	Sample Stand	S06	18150 SE 60 th St 5907 Oberland PI NW	Hyd 1037 Hyd 0807	1005
19	Terra Pump Station	2706 NW Pinecone Dr	Faucet	S01, S02, S04, S05	2705 NW Pinecone Dr 2725 NW Pinecone Dr	Hyd 0769 Hyd 0770	430
20	Westside Res sample stand	2084 NW James Bush Rd	Sample Stand	S01, S02, S04, S05	1705 Newport Way NW 1705 Newport Way NW	Hyd 0745 Hyd 0748	297

21	MTN View Res. A	426 Shangri-La Way NW	Faucet	S01, S02, S04, S05	Shangri-La P.S. (in vault) 2570 NW Stoney Creek Way	Tap Hyd 1223	752
22	54 Cougar Ridge Rd NW sample stand	54 Cougar Ridge Rd NW	Sample Stand	S01, S02, S04, S05	73 Sky Ridge Rd NW 63 Cougar Ridge Rd NW	Hyd 1102 Hyd 1106	616
23	12 th Ave. Pump Station	955 12 th Ave NW	Faucet	S01, S02, S04, S05	950 12 th Ave NW 1145 NW Inneswood Dr - IRR	Hyd 0336 Meter	480
24	Forest Rim Res. sample stand	2283 Squak Mountain Loop SW	Sample Stand	S01, S02, S04, S05	2320 Squak MTN Lp SW 2250 Squak MTN Lp SW	Hyd 0265 Hyd 0263	1200
25	Wildwood Pump Station	740 SW Highwood Dr	Faucet	S01, S02, S04, S05	525 Mt Hood Dr SW 735 Idlywood Dr SW	Hyd 0297 Hyd 0240	920
26	MT Park Pump Station	475 W Sunset Way	Faucet	S01, S02, S04, S05	340 W Sunset Way 210 Mt Park Blvd SW	Hyd 0365 Hyd 0278	480
27	2 nd & Darst sample stand	410 2 nd Ave SE	Sample Stand	S01, S02, S04, S05	240 SE Darst St 2 nd Ave SE & SE Evans	Meter Hyd 0058	297
28	972 10 th PI NE sample stand	972 10 th PI NE	Sample Stand	S10, S01, S02, S04, S05	983 10 th Loop NE 973 10 th PI NE	Hyd 1384 Hyd 1385	742
29	Central Park Pump Station	1901 NE Park Dr	Faucet	S10, S01, S02, S04, S05	1902 NE Killian Ln 1693 30 th Ave NE	Hyd 0884 Hyd 0922	742
30	2070 NE Natalie Way sample stand	2070 NE Natalie Way	Sample Stand	S10, S01, S02, S04, S05	2101 NE Natalie Way 2058 NE Natalie Way	Meter Meter	622
31	2004 18 th Ave NE sample stand	2004 18 th Ave NE	Sample Stand	S10, S01, S02, S04, S05	2009 NE Katsura St 1957 18 th PI NE	Hyd 0893 Hyd 0894	1000
32	Locust St NW Atlas sample stand	520 NW Locust St	Sample Stand	S01, S02, S04, S05	600 NW Locust St 600 NW Locust St	Hyd 1666 Hyd 1671	297
33	Cougar Ridge Res A	19123 SE 56 th St	Faucet	S01, S02, S04, S05	19297 SE 56 th ST 19303 SE 57 th PI	Sample Stand Hyd 0775	430

34	2251 NW Stoney Creek Dr sample stand	2251 NW Stoney Creek Dr	Sample Stand	S01, S02, S04, S05, S10	2250 NW Stoney Creek Dr 2200 NW Stoney Creek Dr	Hyd 1226 Meter	752
35	Shangri-La Res Outer sample stand	163 Foothills Dr NW	Sample Stand	S01, S02, S04, S05, S10	Shangri-La P.S. (in vault) Shangri-La Way NW	Tap Hyd 1058	616
36	Wildwood Res	740 Highwood Dr SW	Faucet	S01, S02, S04, S05	525 Mt Hood Dr SW 820 SW Cedar Glade Dr	Hyd 0297 Hyd 0229	625
37	Mt Hood Res	325 Mt Hood Dr SW	Faucet	S01, S02, S04, S05	595 Mt Fury Cir SW Mt Hood Res Sample Stand	Hyd 0290 Sample Stand	480
38	Memorial Field sample stand	169 NE Creek Way	Sample Stand	S01, S02, S04, S05	220 1 st Ave NE 210 NE Birch St	Hyd 1650 Hyd 0066	297
39	Summit Res A sample stand	3800 NE Harrison Dr	Sample Stand	S10, S01, S02, S04, S05	3352 NE Harrison Dr 1785 Harrison Way NE	Meter Hyd 1178	1234

SOURCE SAMPLING LOCATIONS: WHEN REQUIRED

	Name	Source Address	Type	Source	Repeat Sample Address	Type
40	Risdon Well #1	240 NE Gilman Blvd	Faucet	S01		
41	Risdon Well #2	240 NE Gilman Blvd	Faucet	S02		
42	Gilman Well #4	460 NW Gilman Blvd	Faucet	S04		
43	Gilman Well #5	460 NW Gilman Blvd	Faucet	S05		

UNSATISFACTORY SAMPLES: WAC 246-290-320

Regulations require repeat samples to be collected at the same location, and within five active service locations on both the downstream and upstream side of the positive sample location. Repeat samples are taken as soon as possible but always within 24 hours of notification from laboratory. Repeat sample locations have been identified in the table on page 4.

REPEAT SAMPLE LOCATION FLUSHING:

Repeat sample locations that are not active services, or are determined to have a low usage, will be flushed and cleaned semi-annually.

SOURCE WATER MONITORING FOR THE GROUND WATER RULE (GWR):

To comply with the GWR requirement for Triggered Source Water Monitoring, we shall sample all four of our ground water sources should a sample be found to be Coliform-positive in the distribution system fed by these sources. These samples will be collected at the same time as the required repeat samples. Samples should be marked as "Triggered" Raw water samples and analyzed under special method "Presence/Absence."

NOTIFICATIONS: WAC 246-290-480

Bacteriological: A coliform present lab result must be reported to DOH within ten days of notification by the laboratory. Fecal coliform or Ecoli presence must be reported to DOH by the end of business day in which reported by the laboratory.

ASSESSMENTS:

Within 30 days of a revised total coliform rule Treatment Technique Trigger (TTT)* a Level 1 Assessment must be submitted to DOH. A Level 2 Assessment would be required if a second TTT occurred within 12 months of another TTT, or if an E. coli MCL violation occurred.

*A TTT happens if two or more coliform-present compliance samples are collected in on month.

MONTH FOLLOWING UNSATISFACTORY SAMPLES:

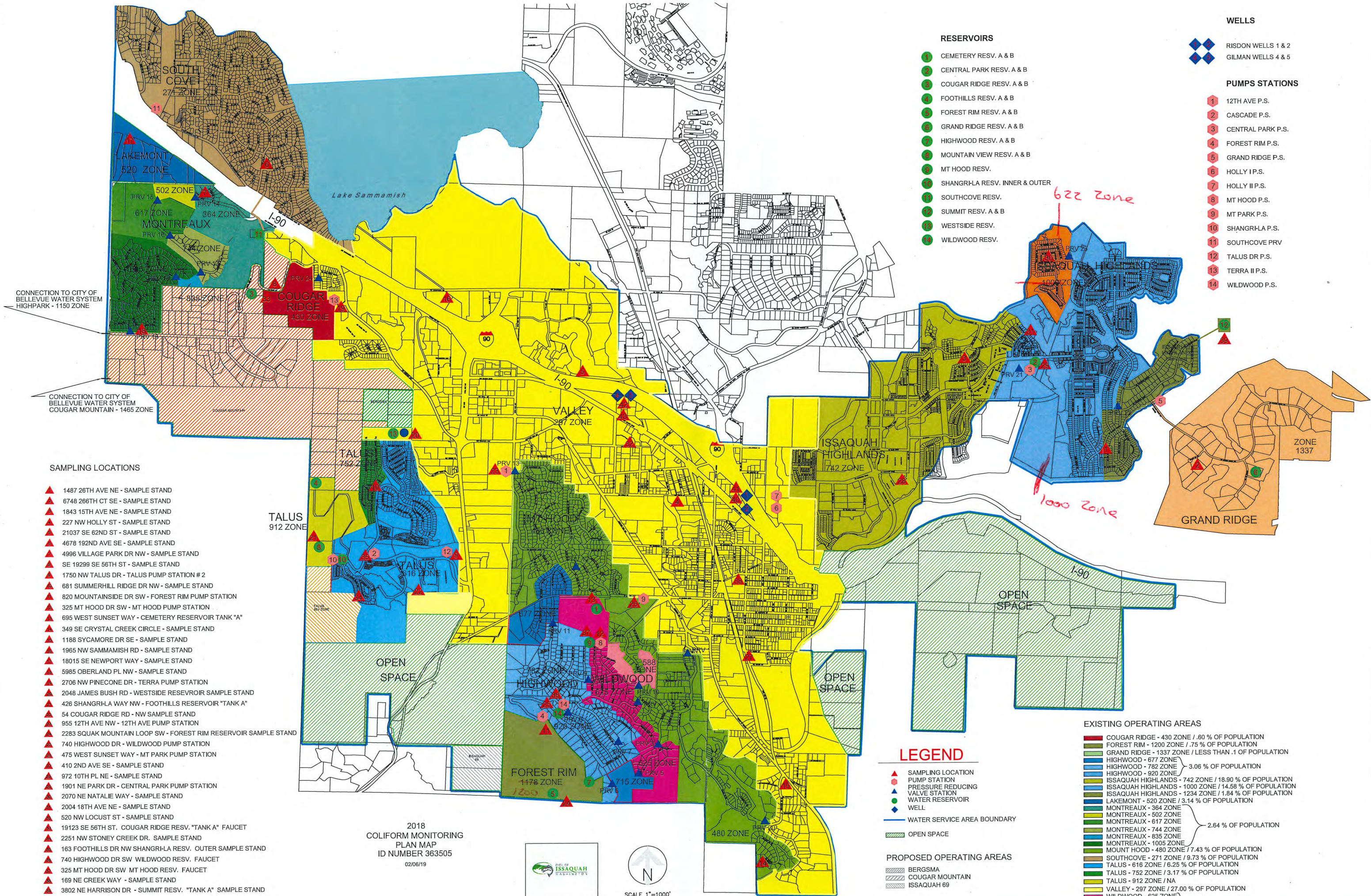
Regulations require a minimum of five routine samples in the month following an unsatisfactory routine sample. As we collect over five samples each month, this requirement is addressed by routine sampling.

ROUTINE SAMPLING SCHEDULE:

Month	Week	Sample Site Number
January - December	Week #1	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14,15
January - December	Week #3	16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31
October	Week #2	32, 33, 34, 35, 36, 37, 38, 39, 41, 43

PREPARATION INFORMATION:

System Name: City of Issaquah ID # 363505	Date Plan Completed: 3/9/12	Dates Modified: 10/22/12, 01/31/15, 03/16/16, 04/27/17, 8/27/18, 10/24/18, 02/05/19
Plan Prepared By: Alan Munson	Position: Water Utility Technician Certification # 10390	Daytime Phone: (425) 837-3470
Issaquah Internal Review By: Gregory P. Keith	Position: Water Operation Manager Certification # 5414	Daytime Phone: (425) 837-3470
State Reviewer	Date Approved:	Date Last Review:



RESERVOIRS

- 1 CEMETERY RESV. A & B
- 2 CENTRAL PARK RESV. A & B
- 3 COUGAR RIDGE RESV. A & B
- 4 FOOTHILLS RESV. A & B
- 5 FOREST RIM RESV. A & B
- 6 GRAND RIDGE RESV. A & B
- 7 HIGHWOOD RESV. A & B
- 8 MOUNTAIN VIEW RESV. A & B
- 9 MT HOOD RESV.
- 10 SHANGRI-LA RESV. INNER & OUTER
- 11 SOUTHCOVE RESV.
- 12 SUMMIT RESV. A & B
- 13 WESTSIDE RESV.
- 14 WILDWOOD RESV.

WELLS

- ◆ RISDON WELLS 1 & 2
- ◆ GILMAN WELLS 4 & 5

PUMPS STATIONS

- 1 12TH AVE P.S.
- 2 CASCADE P.S.
- 3 CENTRAL PARK P.S.
- 4 FOREST RIM P.S.
- 5 GRAND RIDGE P.S.
- 6 HOLLY I P.S.
- 7 HOLLY II P.S.
- 8 MT HOOD P.S.
- 9 MT PARK P.S.
- 10 SHANGRI-LA P.S.
- 11 SOUTHCOVE PRV
- 12 TALUS DR P.S.
- 13 TERRA II P.S.
- 14 WILDWOOD P.S.

SAMPLING LOCATIONS

- ▲ 1487 26TH AVE NE - SAMPLE STAND
- ▲ 6748 266TH CT SE - SAMPLE STAND
- ▲ 1843 15TH AVE NE - SAMPLE STAND
- ▲ 227 NW HOLLY ST - SAMPLE STAND
- ▲ 21037 SE 62ND ST - SAMPLE STAND
- ▲ 4678 192ND AVE SE - SAMPLE STAND
- ▲ 4996 VILLAGE PARK DR NW - SAMPLE STAND
- ▲ SE 19299 SE 56TH ST - SAMPLE STAND
- ▲ 1750 NW TALUS DR - TALUS PUMP STATION # 2
- ▲ 681 SUMMERHILL RIDGE DR NW - SAMPLE STAND
- ▲ 820 MOUNTAINSIDE DR SW - FOREST RIM PUMP STATION
- ▲ 325 MT HOOD DR SW - MT HOOD PUMP STATION
- ▲ 695 WEST SUNSET WAY - CEMETERY RESERVOIR TANK "A"
- ▲ 349 SE CRYSTAL CREEK CIRCLE - SAMPLE STAND
- ▲ 1188 SYCAMORE DR SE - SAMPLE STAND
- ▲ 1965 NW SAMMAMISH RD - SAMPLE STAND
- ▲ 18015 SE NEWPORT WAY - SAMPLE STAND
- ▲ 5985 OBERLAND PL NW - SAMPLE STAND
- ▲ 2706 NW PINECONE DR - TERRA PUMP STATION
- ▲ 2048 JAMES BUSH RD - WESTSIDE RESEVOIR SAMPLE STAND
- ▲ 426 SHANGRI-LA WAY NW - FOOTHILLS RESERVOIR "TANK A"
- ▲ 54 COUGAR RIDGE RD - NW SAMPLE STAND
- ▲ 955 12TH AVE NW - 12TH AVE PUMP STATION
- ▲ 2283 SQUAK MOUNTAIN LOOP SW - FOREST RIM RESERVOIR SAMPLE STAND
- ▲ 740 HIGHWOOD DR - WILDWOOD PUMP STATION
- ▲ 475 WEST SUNSET WAY - MT PARK PUMP STATION
- ▲ 410 2ND AVE SE - SAMPLE STAND
- ▲ 972 10TH PL NE - SAMPLE STAND
- ▲ 1901 NE PARK DR - CENTRAL PARK PUMP STATION
- ▲ 2070 NE NATALIE WAY - SAMPLE STAND
- ▲ 2004 18TH AVE NE - SAMPLE STAND
- ▲ 520 NW LOCUST ST - SAMPLE STAND
- ▲ 19123 SE 56TH ST. COUGAR RIDGE RESV. "TANK A" FAUCET
- ▲ 2251 NW STONEY CREEK DR. SAMPLE STAND
- ▲ 163 FOOTHILLS DR NW SHANGRI-LA RESV. OUTER SAMPLE STAND
- ▲ 740 HIGHWOOD DR SW WILDWOOD RESV. FAUCET
- ▲ 325 MT HOOD DR SW MT HOOD RESV. FAUCET
- ▲ 169 NE CREEK WAY - SAMPLE STAND
- ▲ 3802 NE HARRISON DR - SUMMIT RESV. "TANK A" SAMPLE STAND

LEGEND

- ▲ SAMPLING LOCATION
 - PUMP STATION
 - PRESSURE REDUCING
 - VALVE STATION
 - WATER RESERVOIR
 - WELL
 - WATER SERVICE AREA BOUNDARY
 - OPEN SPACE
- PROPOSED OPERATING AREAS**
- BERGSM
 - COUGAR MOUNTAIN
 - ISSAQUAH 69

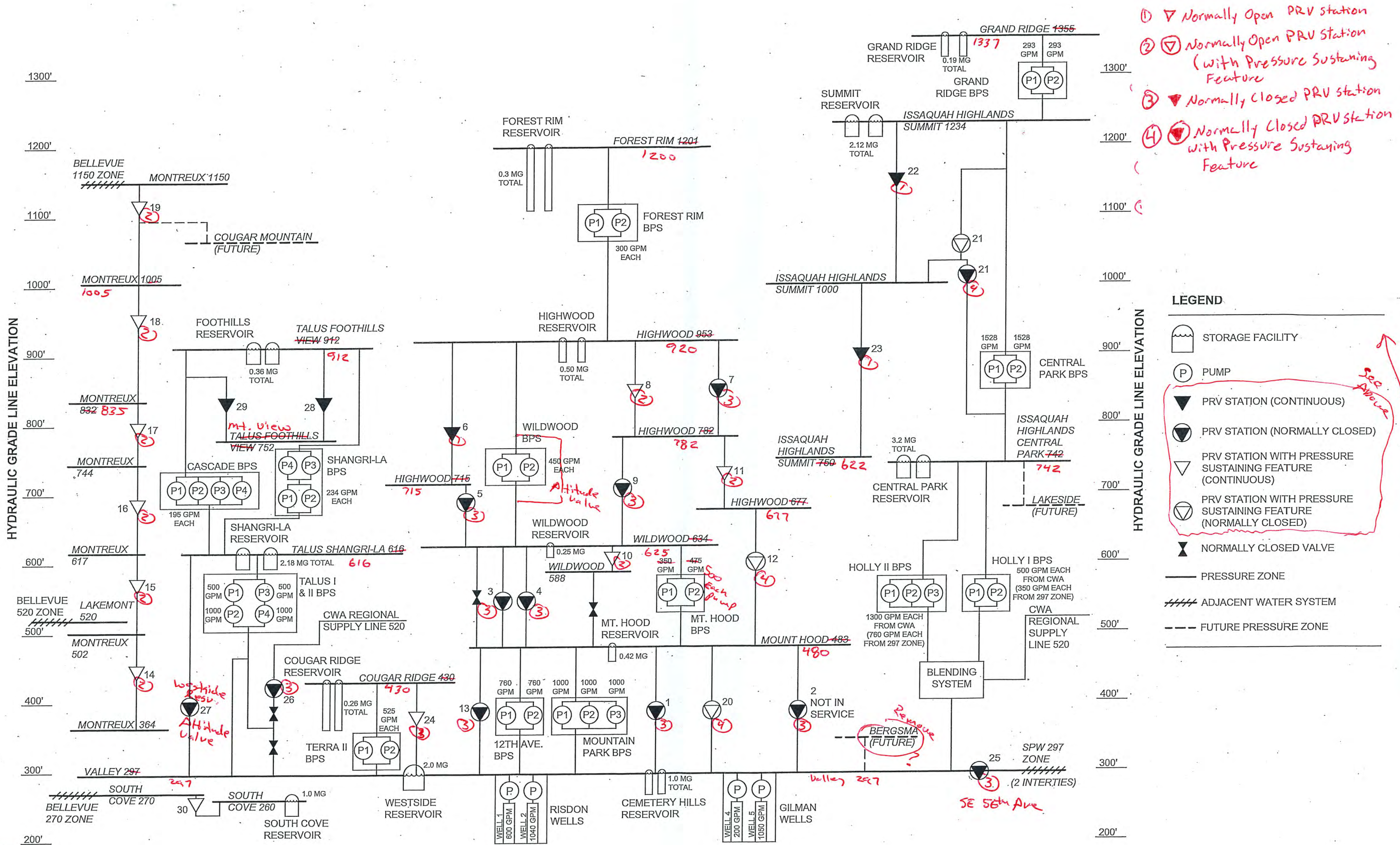
EXISTING OPERATING AREAS

- COUGAR RIDGE - 430 ZONE / .60 % OF POPULATION
- FOREST RIM - 1200 ZONE / .75 % OF POPULATION
- GRAND RIDGE - 1337 ZONE / LESS THAN .1 OF POPULATION
- HIGHWOOD - 677 ZONE
- HIGHWOOD - 782 ZONE
- HIGHWOOD - 920 ZONE
- ISSAQUAH HIGHLANDS - 742 ZONE / 18.90 % OF POPULATION
- ISSAQUAH HIGHLANDS - 1000 ZONE / 14.58 % OF POPULATION
- ISSAQUAH HIGHLANDS - 1234 ZONE / 1.84 % OF POPULATION
- LAKEMONT - 520 ZONE / 3.14 % OF POPULATION
- MONTREAUX - 364 ZONE
- MONTREAUX - 502 ZONE
- MONTREAUX - 617 ZONE
- MONTREAUX - 744 ZONE
- MONTREAUX - 835 ZONE
- MONTREAUX - 1005 ZONE
- MOUNT HOOD - 480 ZONE / 7.43 % OF POPULATION
- SOUTHCOVE - 271 ZONE / 9.73 % OF POPULATION
- TALUS - 616 ZONE / 6.25 % OF POPULATION
- TALUS - 752 ZONE / 3.17 % OF POPULATION
- TALUS - 912 ZONE / NA
- VALLEY - 297 ZONE / 27.00 % OF POPULATION
- WILDWOOD - 625 ZONE / .64 % OF POPULATION

2018
COLIFORM MONITORING
PLAN MAP
ID NUMBER 363505
02/06/19



SCALE 1"=1000'



- ① ▽ Normally Open PRV station
- ② ▽ Normally Open PRV station (with Pressure Sustaining Feature)
- ③ ▽ Normally Closed PRV station
- ④ ▽ Normally Closed PRV station with Pressure Sustaining Feature

LEGEND

- STORAGE FACILITY
- PUMP
- PRV STATION (CONTINUOUS)
- PRV STATION (NORMALLY CLOSED)
- PRV STATION WITH PRESSURE SUSTAINING FEATURE (CONTINUOUS)
- PRV STATION WITH PRESSURE SUSTAINING FEATURE (NORMALLY CLOSED)
- NORMALLY CLOSED VALVE
- PRESSURE ZONE
- ADJACENT WATER SYSTEM
- FUTURE PRESSURE ZONE