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# NORTH BEACH WATER DISTRICT

## COLIFORM MONITORING PLAN

Plan Date: May 17, 2016

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**System Information:**

<b>Water System Name:</b> North Beach Water District	<b>County:</b> Pacific		<b>System I.D. Number:</b> 63000C	
<b>Name of Plan Preparer:</b> William "Bill" Neal	<b>Position:</b> General Manger		<b>Daytime Phone:</b> (360) 665-4144	
<b>Sources:</b>  <b>North Wellfield:</b>  Well #1 - S-01 - Permanent (scheduled for decommissioning in 2017) Well #2 - S-02 - Decommissioned (decommissioned June 2015) Well #3 - S-03 - Permanent (scheduled for decommissioning in 2017) Well #4 - S-04 - Permanent Well #5 - S-05 - Permanent Well #6 - S-07 - Permanent Well #7 - S-08 - Permanent Well #8 - S-09 - Permanent  <b>South Wellfield:</b>  Well #1 - S-10 - Inactive (scheduled for decommissioning in 2016) Well #2 - S-11 - Inactive (scheduled for decommissioning in 2016) Well #4 - S-12 - Inactive  <b>Wiegardt Wellfield:</b> Well #1 - Pending - Permanent Well #2 - Pending - Permanent Well #3 - Pending - Permanent	<b>DOH Source ID No.</b>	<b>Source Name</b>	<b>Depth (ft.)</b>	<b>Capacity (gpm)</b>
	S-01	NWF-1	80	100
	S-02	NWF-2	N/A	N/A
	S-03	NWF-3	124	90
	S-04	NWF-4	120	135
	S-05	NWF-5	124	135
	S-07	NWF-6	130	110
	S-08	NWF-7	120	65
	S-09	NWF-8	130	90
	S-10	SWF-1	N/A	N/A
	S-11	SWF-2	N/A	N/A
	S-12	SWF-4	N/A	N/A
	Pending	WWF-1	150	165
	Pending	WWF-2	150	165
	Pending	WWF-3	150	165

<b>Storage:</b> Mt. Baker Silo Concrete.	Reservoir ID	Dimensions	Capacity (gal.)					
	N. Wellfield #1	26' Dia. x 45' Ht.	179,000					
	N. Wellfield #2	26' Dia. x 45' Ht.	179,000					
	N. Wellfield #3	26' Dia. x 45' Ht.	179,000					
	S. Wellfield #1	30' Dia. x 50' Ht.	211,000					
<b>Treatment:</b> North Wellfield Iron Manganese Arsenic	Oxidation and Filtration for Iron and Manganese Removal. Oxidation by ambient air introduced through a venturi valve. (Mazzei) Media - MTM - a granular manganese dioxide media serves as a catalyst to precipitate iron and manganese via oxidation from ambient air. Arsenic removal is also achieved via adsorption of arsenic onto iron oxide in the filter bed.							
<b>Treatment:</b> Wiegardt Wellfield Arsenic Hydrogen Sulfide Gas	Oxidation (ambient air & KMnO <sub>4</sub> ) and Ferric Chloride for arsenic and Hydrogen Sulfide Gas Removal.							
<b>Pressure Zones:</b>	One Pressure Zone							
<b>Population</b>	Total Estimated Population: 4,010 (as of August 2014)							
<b>Number of Routine Monthly Samples by Regulation (2015):</b>							<b>Sample Sites:</b>	
Jan	6	Apr	8	Jul	9	Oct	8	<b>20</b>
Feb	6	May	8	Aug	9	Nov	7	
Mar	6	Jun	9	Sep	9	Dec	7	
<b>Request DOH Approval of Triggered Source Monitoring Plan?</b>							Yes	No ✓

**Continuous Chlorination:** North Beach Water District does not provide continuous chlorination of its water system. The North Beach Water District's Board of Commissioners are opposed to continuous chlorination of the drinking water due to the increased health risks associated with chlorine and disinfection byproducts. Additionally, they are concerned about the detrimental impact chlorine will have on overall water quality such as taste, odor, and color.

In 2011 the District had one total coliform present sample. No cause was found. The District did not have any coliform MCL violations in 2011

In 2012 the District had three total coliform present samples that were traced to a failed vent in a reservoir. The District had one non-acute coliform MCL in 2012.

In 2013 the District did not have any coliform present samples. The District did not have any non-acute coliform MCL violations in 2013.

In 2014 the District had one total coliform present sample. No cause was found. The District did not have any non-acute coliform MCL violations in 2014.

In 2015, to date, the District had one E. coli positive sample and three total coliform positive samples. No cause has been found. The District has had one non-acute Coliform MCL in 2015.

The Office of Drinking Water (ODW) noted on page 2 item no. 10 in a letter dated August 19, 2015 from Mark J. Mazeski, ODW Regional Planner and Teresa Walker, P.E. ODW Regional Engineer that North Beach Water District experienced an E. coli positive sample in May, 2015. In addition, they noted that the number of recent total coliform positive samples, including several non-acute violations is reason to recommend system disinfection through chlorination. As additional information they noted that the new Revised Total Coliform Rules (RTCR) which will be promulgated in 2016, will give additional incentive to install chlorination. Therefore, the ODW, as a condition of approving the District's Water System Plan, has required the District to include in this plan: **1) recent coliform sampling results for which a narrative is given above, 2) the ODW recommends that NBWD provide disinfection of the water system through chlorination, and 3) the Revised Total Coliform Rule will require the District to consider the following:**

- The monthly total coliform MCL violations in 2012 and 2015 would not have been MCL violations requiring public notification.
- Under RTCR, violations of the monthly total coliform MCL will trigger an Assessment and Corrective Action from the ODW. It is not yet know how the Assessments or Corrective Actions from the ODW will be conducted or in what manner they will be administered.

**Laboratory Information:**

<b>Laboratory - Primary:</b> <b>ALS Environmental - Kelso</b>	<b>Office Phone:</b> (360) 577-7222 (360) 501-3275 Chris DL
<b>Address:</b> 1317 13th Avenue South, Kelso, WA 98626	<b>After Hours Phone:</b> (360) 957-4165
<b>Website:</b> <a href="http://www.alsglobal.com">http://www.alsglobal.com</a>	<b>Fax:</b> (360) 636-1068
<b>Hours of Operation:</b> Monday - Friday: 8 a.m. - 5 p.m., Saturday: 8 a.m. - 12 p.m. (noon)	
<b>Contact Name:</b> Chris Leif	
<b>Email Address:</b> <a href="mailto:Chris.leaf@alsglobal.com">Chris.leaf@alsglobal.com</a>	
<b>Laboratory - Secondary:</b> <b>BSK Associates Engineers &amp; Laboratories</b>	<b>Office Phone:</b> (360) 750-0055
<b>Address:</b> 2517 East Evergreen BLVD. Vancouver, WA 98661	<b>After Hours Phone:</b> (360) 558-0318 - Renea (360) 619-8248 - Elizabeth
<b>Web Site:</b> <a href="http://www.bskassociates.com">www.bskassociates.com</a>	<b>Fax:</b> (360) 750-0057
<b>Hours of Operation:</b> Monday - Friday: 9 a.m. - 5 p.m. After hours by appointment	
<b>Contact Name:</b> Renea Rangell	
<b>Email Address:</b> <a href="mailto:rrangell@bskinc.com">rrangell@bskinc.com</a>	
<b>Laboratory - Emergency:</b> <b>Water Management Laboratories</b>	<b>Office Phone:</b> (253) 531-3121
<b>Address:</b> 1515 80 <sup>th</sup> Street Tacoma, WA 98404-3315	<b>After Hours Phone:</b> (253) 841-0732
<b>Web Site:</b>	<b>Fax:</b> (253) 531-5287
<b>Hours of Operation:</b> Monday - Friday: 9 a.m. - 5 p.m. After hours by appointment	
<b>Contact Name:</b> Chris Mueller	
<b>Email Address:</b> <a href="mailto:customerservice@watermanagementlabs.com">customerservice@watermanagementlabs.com</a>	

**Wholesaling of Groundwater:**

	Yes	No
<b>We are a consecutive system and purchase groundwater from another water system.</b>		✓
If yes, Water System Name: _____ Contact Name: _____ Telephone Numbers: _____		
<b>We sell groundwater to other public water systems.</b>		✓
If yes, Water System Name: _____ Contact Name: _____ Telephone Numbers: _____		



**North Wellfield Reservoirs**



**South Wellfield Reservoir**



**North Wellfield Booster Station**



**South Wellfield Booster Station**

**Routine, Repeat, and Triggered Source Sample Locations:**

<b>Location/Address for Routine and Repeat Coliform Bacteria Sample Collection</b>					
<b>Routine Sample Site:</b>		<b>Upstream Repeat Site</b>		<b>Downstream Repeat Site:</b>	
01	#06-3314 281 <sup>st</sup> St.	01-1	3409 281 <sup>st</sup> St.	01-2	315 281 <sup>st</sup> St.
02	#07-26200 Sandridge Rd.	02-1	26215 Sandridge Rd.	02-2	26205 Sandridge Rd.
03	#08-1719 264th Pl.	03-1	1707 264th Pl.	03-2	26300 R St.
04	#09-27900 0 St.	04-1	27811 0 St.	04-2	1501 279th Pl.
05	#10-1206 247th Pl.	05-1	1202 247th Pl.	05-2	1208 247th Pl.
06	#11-24010 Birch Pl.	06-1	24006 Birch Pl.	06-2	2704 240th Pl.
07	#12-23200 Birch Pl.	07-1	2811 231st Ln	07-2	2731 232nd Ln
08	#13-20500 Birch Pl.	08-1	20503 Birch Pl.	08-2	20407 Crane Pl.
09	#14-21700 0 St.	09-1	21608 0 St.	09-2	21610 0 St.
10	#15-21401 Pacific Hwy.	10-1	21403 Pacific Hwy.	10-2	1325 213th St.
11	#16-1311 197th Pl.	11-1	1315 197th Pl.	11-2	1306 197th Pl
12	#17-2218 272nd St.	12-1	2212 272nd St.	12-2	2419 272nd St.
13	#18-27003 Sandridge Rd.	13-1	27005 Sandridge Rd.	13-2	3016 270th St.
14	#19-2807 270th St.	14-1	2812 270th St.	14-2	2608 270th St.
15	#20-26500 Vernon Ave.	15-1	26511 Vernon Ave.	15-2	26414 Vernon Ave.
16	#21-1711 255th Pl.	16-1	1716 256th Pl.	16-2	1803 255th Pl.
17	#22-245th & Ash Pl.	17-1	2709 245th St.	17-2	2705 245th St.
18	#23-24200 Sandridge Rd.	18-1	24215 Sandridge Rd.	18-2	24120 Gile Pl.
19	#24-23400 Pacific Hwy	19-1	23407 Pacific Hwy	19-2	1428 232nd Ln.
20	#25-227th & Birch Pl.	20-1	22608 Birch Pl.	20-2	2516 227th Pl.

### **NBWD - Sample Collection Procedure:**

1. Routine coliform bacteria samples **will not be collected** during the following weeks:
  - a. Last week in May (**Memorial Day**)
  - b. First week in July (**Fourth of July**)
  - c. Second week in September (**Labor Day**)
  - d. Third week in September (**Rod Run**)
  - e. Forth week in November (**Thanksgiving**)
  - f. Forth week in December (**Christmas**)
2. Procedure for collecting bacteria samples for analysis:
  - a. Fill out a Laboratory Slip for each sample you will be collecting that day except for the time you collect the sample.
  - b. Complete the information required on each bottle you will be using for collecting samples that day. Do not open any of the bottles or break the seals until just before you collect the sample.
  - c. Select the sampling station or tap. Follow the Water Quality Monitoring Scheduling by the ODW and this Coliform Monitoring Plan.
  - d. Only use sample taps you can thoroughly disinfect. Do not use sample taps that have swivel faucets, hot and cold mixing faucets, faucets with aerators, damaged faucets or bibs, drinking fountains, sinks, frost-free hose bibs, faucets or bibs that are near or below grade, etc.
  - e. **Sanitize hands by thoroughly** washing them with hot water and antibacterial soap (60 seconds minimum) including scrubbing under your fingernails. Use alcohol based (minimum 60%) hand sanitizer (15 seconds minimum) liberally before collecting samples.
  - f. **Sanitize the sample tap** use a solution of 5% sodium hypochlorite in a spray bottle. Apply solution to the outside and inside of the faucet or bid and allow to sit for a minimum of 60 seconds.
  - g. **Flush the tap.** The sample is intended to be representative of water in the distribution system. The tap must be opened fully and the water run to waste for at least 5 minutes or until the piping between the main and the tap is thoroughly flushed.
  - h. **Reduce the flow** before collecting the sample. The flow should be a thin steady stream with no agitation. Let the stream run for at least 60 seconds.



- i. **Grab the sample.** Apply a liberal amount of hand sanitizer to both hands and rub vigorously over both sides of hands for at least 30 seconds. Allow to dry for at least 15 seconds. Hold the bottle close to the bottom with one hand. Standing near the stream of water, grasp the top of the cap with the other hand and unscrew and remove the cap and fill the bottle to the indicator line and replace the cap securely in one motion. Do not set the cap down or touch any part of the cap that touches the bottle or the inside of the bottle. If the cap or the bottle is dropped or touched then start all over again with a new bottle and sanitize your hands again. Have a second bottle ready just in case.
- j. **Complete the Laboratory Slip.** Fill in the time you grabbed the sample and chlorine residual if applicable. Secure the laboratory slip to the bottle and place the bottle in a sanitary Ziploc bag for transport to the laboratory.
- k. **Deliver the samples to the laboratory.** Make certain the sample is delivered to the laboratory according to their protocols. Samples must reach the laboratory so that analysis can begin with 30 hours of collection.

### Follow-up Action:

#### WAC 246-290-320(2)

When coliform bacteria are present in any sample and the sample is not invalidated, the following actions will be taken:

- (i) Notify the Board of Commissioners within 24 hours of notification of a coliform bacteria positive water sample.
- (ii) Assure the laboratory analyzed the total coliform bacteria present sample(s) (unsatisfactory sample(s)) for fecal coliform or E.coli bacteria presence. (WAC 246-290-320 (2)(a)(i))
- (iii) Collect repeat samples pursuant to this coliform monitoring plan, and submit to a laboratory for analysis. (WAC 246-290-320 (2)(a)(ii))
  - a. The purpose of the repeat samples is to confirm the original sample results and to determine the causes of the coliform presence. (WAC 246-290-320 (2)(b)(i)). Therefore, no additional treatment, such as batch or shock chlorination prior to collection of repeat samples will be performed without prior authorization from the ODW. (WAC 246-290-320 (2)(b)(i))
  - b. Following the collection of the repeat samples and before the analytical results are known, there may be a need to provide interim precautionary treatment or other means to insure public health protection. (WAC 246-290-320 (2)(b)(i))
  - c. NBWD will contact the ODW prior to initiating any interim precautionary action in all situations. (WAC 246-290-320 (2)(b)(i))
  - d. Samples for coliform bacteria will be collected from the distribution system for each unsatisfactory sample. One from the original unsatisfactory site, one within five services upstream of the original unsatisfactory site, and one within five services downstream of the original unsatisfactory site. (WAC 246-290-320 (2)(b)(ii)(A)(B)(iii))
  - e. Sets of samples will be collected on the same day and be submitted to a laboratory for analysis within 24 hours after notification of a coliform presence, or as directed by the ODW. (WAC 246-290-320 (2)(iv))
- (iv) NBWD has its own groundwater sources and does not provide 4-log treatment. Therefore, NBWD will collect and submit to a laboratory for analysis "Triggered Groundwater Samples" in accordance with Section G - "Groundwater Rule" of this plan. (WAC 246-290-320 (2)(g)(i)(A))
- (v) When repeat samples have coliform presence NBWD will take the following action: (WAC 246-290-320 (2)(b)(v))

- a. Collect one set of repeat samples for each repeat sample where coliform presence was detected and submit to a laboratory for coliform bacteria analysis, or as directed by the ODW. (WAC 246-290-320 (2)(b)(iv)(A)(B))
- (vi) NBWD has its own groundwater sources and does not provide 4-log treatment. Therefore, collect and submit to a laboratory for analysis "Triggered Groundwater Samples. (WAC 246-290-320 (2)(g)(i)(A)) (WAC 246-290-320 (2)(a)(iii))
  - a. Collect samples from wells prior to treatment. (WAC 246-290-320 (2)(g)(ii))
  - b. The sample must be a minimum of 100 mL in size and analyzed for E. Coli using one of the analytical methods under 40 C.F.R. 141.402(c). (WAC 246-290-320 (2)(g)(iii))
  - c. Unless granted an extension by the ODW, within 24 hours of notification of the total coliform positive sample, collect one sample from each well that was in use at the time the coliform positive sample was collected. (WAC 246-290-320 (2)(g)(iv)(A))
- (vii) If any of the triggered groundwater source samples tests positive for E. coli and it is not invalidated, NBWD will: (WAC 246-290-320 (2)(v))
  - a. Provide Tier 1 public notice under part 7, subpart A of WAC 246-290-320 and special notification under WAC 246-290-71005(4) and (5). (WAC 246-290-320 (2)(v)(A))
  - b. Take corrective action as directed by the ODW and as required under WAC 246-290-453. (WAC 246-290-320 (2)(v)(B))
  - c. If not directed by the ODW to take other corrective action, collect and submit to a laboratory for analysis for E. coli.
- (viii) Monitoring Frequency following a coliform bacteria presence sample will be adjusted per the schedule found in section N of this Plan and at the direction of the ODW.

**Ground Water Rule:**

EPA Title:----- (GWR) 71 FR 65574, November 8, 2006, Vol 71, No. 216  
EPA Title:----- Correction 71 FR 67427, November 21, 2006, Vol. 71, No. 224  
Washington Administrative Code:----- WAC 246-290-320(2)(a)(iii) & (g)

**Triggered Source Water Monitoring** is required when coliform bacteria are present in any sample and the sample is not invalidated by the ODW. (WAC 246-290-320 (2)(a)(iii))

- a. Collect samples from wells prior to treatment. (WAC 246-290-320 (2)(g)(ii))
  - b. The sample must be a minimum of 100 mL in size and analyzed for E. Coli using one of the analytical methods under 40 C.F.R. 141.402(c). (WAC 246-290-320 (2)(g)(iii))
  - c. Unless granted an extension by the ODW, within 24 hours of notification of the total coliform positive sample, collect one sample from each well in use at the time the coliform positive sample was collected. (WAC 246-290-320 (2)(g)(iv)(A))
- (i) If any of the triggered groundwater source samples tests positive for E. coli and it is not invalidated, NBWD will: (WAC 246-290-320 (2)(v))
- a. Provide Tier 1 public notice under par 7, subpart A of WAC 246-290-320 and special notification under WAC 246-290-71005(4) and (5). (WAC 246-290-320 (2)(v)(A))
  - b. Take corrective action as directed by the ODW and as required under WAC 246-290-453. (WAC 246-290-320 (2)(v)(B))

## NBWD -Disinfecting Facilities Procedures:

### -----Procedure for Disinfection of Water Wells

- (i) (Standard: C654-13 AWWA Standard for Disinfection of Wells)
- (ii) Shock Chlorination:
- (iii) When to Shock Chlorinate a water well:
  - a. If the water well has been opened for maintenance or repairs. (i.e. replace or repair a pump, motor, pipe, or other infrastructure in the well)
  - b. Backflow or back-siphonage is confirmed or suspected to have caused a cross-connection event.
  - c. Coliform or E. coli bacteria is present in a water sample collected from the water well.
  - d. At the direction of the ODW.
- (iv) Objective is to dose the water well and all equipment in the water well with a chlorine concentration of at least 50 mg/L and not more than 200 mg/L of free chlorine for a period of time not less than 12 hours and not more than 24 hours.
- (v) Procedure:
  - a. Take the water well to be Shock Chlorinated off line.
  - b. Determine the volume of standing water in the water well. (Example: static water level is 10- feet and the bottom of well is 125-feet and the diameter of the well is 8-inches. 8-inch casing contains 2.61 gallons of water per foot. So,  $125 - 10 = 115 \times 2.61 = 300.15$  gallons of standing water.)
  - c. Secure a clean container with a minimum of the same volume of water as standing water in the water well.
  - d. Determine the amount of sodium hypochlorite you will need to add to the reservoir to reach 200 mg/L.  
Formula  $V_1 = (C_2 \times V_2)/C_1$   
 $V_1$  = volume of sodium hypochlorite required.  
 $C_2$  = desired chlorine dose, mg/L.  
 $V_2$  = the volume of water to be treated, gallons.  
 $C_1$  = the concentration of sodium hypochlorite, mg/L.  
( $C_1$  = percent of sodium hypochlorite x 10,000).  
(Same Example: Using 12.5% sodium hypochlorite and 300 gallons of water in a container then,  $V_1 = (200 / 125,000) \times 300$  or  $V_1 = 0.42$  gallons of 12.5% sodium hypochlorite).

- e. Add the sodium hypochlorite to the reservoir as you are filling it with water to ensure adequate mixing.
- f. Using a tremie pipe and a transfer pump add the premixed chlorine solution to the water well in the following manner
  - i. Add the two volumes of standing water to the water well with the tremie pipe set at no more than five feet below static water level. **The rate of application shall be at a minimum the pumping rate of the well.**
  - ii. Add one volume of standing water to the water well with the tremie pipe set as close to the pump as is practical. **The rate of application shall be at a minimum the pumping rate of the well.**
- f. Let the chlorine solution stand in the well for a minimum of 12 hours and maximum of 24 hours.
- g. Pump the well to waste until the chlorine residual is below 0.5 mg/l free chlorine. **All water pumped to waste shall be dechlorinated.** (note, to purge the water column both above and below the pump, discharge approximately half of the pump flow to waste and recirculate the other half back down the well.)
- h. Collect and submit sample to laboratory for bacteria analysis.

-----Procedure for Disinfection of Water Reservoirs

- (i) Standard AWWA C652-11 Disinfection of Water Storage Facilities
- (ii) Reservoir Disinfection:
- (iii) When to Disinfect a Reservoir:
  - a. If the reservoir has been opened for maintenance or repairs.
  - b. Backflow or back-siphonage is confirmed or suspected to have caused a cross-connection event.
  - c. Coliform or E. coli bacteria is present in a water sample collected from the reservoir.
  - d. At the direction of the ODW.
- (iv) Objective is to dose the interior of the reservoir and all equipment in the reservoir with a chlorine concentration of not less than 10 mg/L of free chlorine residual at the end of a time period not less than 24 hours.
- (v) Procedure:
  - a. Take the reservoir to be treated off line.
  - b. Drain the reservoir to approximately 1/4 of its capacity. (e.g. drain a 44-foot tall reservoir to 11-feet or less)
  - c. Determine the volume of standing water in the full reservoir.  
Formula  $V = 0.785 \times (\text{dia, ft})^2 \times (\text{height, ft}) \times 7.48$   
(Example: 44-feet of water in reservoir and the diameter of the reservoir is 26-feet.  $V = (0.785 \times 676 \times 44 \times 7.48) = 174,651$  gal)
  - d. Determine the amount of sodium hypochlorite you will need to add to the reservoir to reach 50 mg/L.  
Formula  $V_1 = (C_2 \times V_2) / C_1$   
 $V_1$  = volume of sodium hypochlorite required.  
 $C_2$  = desired chlorine dose, mg/L.  
 $V_2$  = the volume of water to be treated, gallons.  
 $C_1$  = the concentration of sodium hypochlorite, mg/L.  
( $C_1$  = percent of sodium hypochlorite x 10,000).  
(Same Example: Using 12.5% sodium hypochlorite and 174,651 gallons of water in a reservoir then,  $V_1 = (50 / 125,000) \times 174,651 = 69.9$  gallons of 12.5% sodium hypochlorite).
  - e. Add the total sodium hypochlorite solution to the reservoir from the top hatch by pouring the solution directly into the reservoir. Care must be taken in transferring the sodium hypochlorite to the top of the reservoir and in the pouring

process to keep avoid spilling solution on the exterior of the reservoir. Any spillage will be thoroughly rinsed from the exterior of the reservoir immediately.

- f. Fill the reservoir to just below the overflow and allow to stand for a minimum of 24 hours.
- g. After 24 hours, test the free chlorine to verify it is at least 10 mg/L.
- h. Drain the reservoir to waste. **All water drained to waste shall be dechlorinated.**
- i. Collect and submit sample to laboratory for bacteria analysis.



----- Procedure for Disinfecting Water Mains

- (i) North Beach Water District does not provide continuous chlorination of its water system. The North Beach Water District's Board of Commissioners are opposed to continuous chlorination of the drinking water due to the increased health risks associated with chlorine and disinfection byproducts. Additionally, they are concerned about the detrimental impact chlorine will have on overall water quality such as taste, odor, and color.
- (ii) Standard AWWA C651-14 Disinfecting Water Mains
- (iii) Water Main Disinfection:
- (iv) When to Disinfect a Water Main:
  - a. If the water main has been opened for maintenance, repairs, or extensions.
  - b. Backflow or back-siphonage is confirmed or suspected to have caused a cross-connection event.
  - c. Coliform or E. coli bacteria is present in a water sample collected from the distribution system.
  - d. At the direction of the ODW.
- (v) Objective is to dose the interior of the water main and all valves and fittings in the water mains with a chlorine concentration of not more than 4 mg/L and not less than 2 mg/L of chlorine for a time period not less than 16 hours (AWWA C651-14 section 4.11.3.3).
- (vi) Procedure:
- (vii) Notify all customers of the chlorination procedure using door hangers and reverse 911 calls.
  - a. Install temporary feed pump at the North Wellfield Booster Station and South Wellfield Booster Station  
Formula for sizing temporary feed pump:  
$$\text{Flow, gpm} \times \text{dosage, mg/L} \times 1440, \text{ min/day} \div \text{solution strength, mg/L} = \text{required feed rate, gpd}$$
  
Example:  
Flow Rate: 300 gpm  
Dosage: Cl<sub>2</sub> 4 mg/L  
Solution Strength: 12.5% sodium hypochlorite (straight from carboy)  
Feed Pump gpd requirement =  $300 \times 4 \times 1440 / 125,000 = 13.8 \text{ gpd}$   
Select a feed pump designed for chlorine inject at 28 gpd and minimum of 80 psi.

- b. Once feed pumps are installed and adjusted to provide a 4 mg/L Cl<sub>2</sub> dose at 300 gpm, beginning with fire hydrants and blow-offs closest to the booster stations, open the hydrants and regulate flow to 300 gpm at the booster stations. Run a hydrant or blow off until the chlorine residual is at 4 mg/L then close the hydrant and move to the next one downstream until all of the distribution system is chlorinated.
- c. During the 16 hour disinfection period, regulate the feed pumps and flow at the booster stations to maintain a 4 mg/L residual in the water mains. Regularly check residual in the mains to assure chlorine residual is maintained throughout the duration of the disinfection period.
- d. At the end of the 16 hour disinfection period turn off the feed pumps and begin flushing the water mains starting with the hydrants closest to the booster stations. **All water flushed to the environment shall be dechlorinated.**
- e. Collect and submit samples to laboratory for bacteria analysis.

**Special Contact Facilities During Health Advisory:**

<b>Facility</b>	<b>Contact Person</b>	<b>Phone Number(s)</b>
Ocean Park Elementary School	Cathy Meinhardt (Principal)	360.665.4815 O. 360.665.1275 F.
Golden Sands Assisted Living	Mary Storm	360.665.0190 O. 360. . F.
Free By The Sea	Kenneth Coffin	360.665.4494 O. 360. . F.
Family Health Center	Rhonda Calleja	360.665.3000 O. 360. . F.
Evergreen Court (RV Park)	John Klattenhoff	360.665.6351 O. 360. . F.
Ocean Park Resort (RV Park)	Curt Stephens	360.665.4585 O. 360. . F.
Ocean Air Trailer Park	Kenneth Shaffer	360.665.4027 O 360. . F
Westgate Trailer Ct	Mary Swingle	360.665.4122 O 360. . F
Peninsula Senior Center	Earnest Henson	360.665.3999 O 360. . F
Black Bear Beach Campground	Anna Kerwin	360.665.3770 O 360. . F
Rainbow Child Care	Rex or Jeri Wilson	360.665.0122 O 360. . F

**Reduced Triggered Source Monitoring Justification:**

No Reduced Triggered Source Monitoring Requested

**Routine Sample Rotation Schedule:**

Month	No.	Week One			Week Two			Week Three		
Jan	6	X-4	X-10	X-17		X-1	X-7	X-19		
Feb	6	X-5	X-14	X-20		X-13	X-15	X-18		
Mar	6	X-6	X-11	X-12		X-8	X-9	X-16		
Apr	8	X-2	X-4	X-10	X-17	X-1	X-3	X-7	X-19	
May	8	X-5	X-11	X-14	X-20	X-8	X-13	X-15	X-18	
Jun	9	X-2	X-6	X-7	X-11	X-12	X-9	X-10	X-16	X-19
Jul	9	X-4	X-5	X-11	X-14	X-20	X-3	X-8	X-13	X-18
Aug	9	X-2	X-7	X-11	X-12	X-17	X-3	X-10	X-16	X-19
Sep	9	X-1	X-5	X-8	X-14	X-20	X-4	X-11	X-15	X-18
Oct	8	X-2	X-6	X-8	X-13		X-9	X-10	X-16	X-19
Nov	7	X-1	X-5	X-8	X-20		X-3	X-11	X-17	
Dec	7	X-2	X-6	X-8	X-12		X-9	X-10	X-16	



NBWD - Sample Station - 01



NBWD - Sample Station - 02

**Routine Sample Locations - Month after an Unsatisfactory Sample:**

<b>Location/Address for <u>Routine</u> Sample Site(s) When Unsatisfactory Sample Occurs the Previous Month</b>
<p>Total number of routine samples required for any month after a sample with a coliform presence, per Table 2 in WAC 246-290-300(3)(f), is 6 to 9, the same as required during other months. So routine sample locations designated in Item E, above, will apply to months following any month with a coliform presence sample, with the following exceptions:</p> <ol style="list-style-type: none"> <li>1. If a routine sample with total coliform presence occurs in September, the sample schedule for October shall be the normal routine sample schedule for August. (see chart below)</li> <li>2. If a routine sample with total coliform presence occurs in October, the sample schedule for November shall be the normal routine sample schedule for May. (see chart below)</li> <li>3. If a routine sample with total coliform presence occurs in December, the sample schedule for January shall be the normal routine sample schedule for November. (see chart below)</li> </ol>

**Adjusted Samples Schedule When a Total Coliform-Positive Sample Occurs**

If there is more than one total coliform-positive sample in one of the months shaded below than add the collection site in red in the following month.

Month	No.	Week One			Week Two			Week Three		
Jan	8	X-4	X-10	X-17	X-20	X-9	X-1	X-7	X-19	
Feb	6	X-5	X-14	X-20			X-13	X-15	X-18	
Mar	6	X-6	X-11	X-12			X-8	X-9	X-16	
Apr	8	X-2	X-4	X-10	X-17		X-1	X-3	X-7	X-19
May	8	X-5	X-11	X-14	X-20		X-8	X-13	X-15	X-18
Jun	9	X-2	X-6	X-7	X-11	X-12	X-9	X-10	X-16	X-19
Jul	9	X-4	X-5	X-11	X-14	X-20	X-3	X-8	X-13	X-18
Aug	9	X-2	X-7	X-11	X-12	X-17	X-3	X-10	X-16	X-19
Sep	9	X-1	X-5	X-8	X-14	X-20	X-4	X-11	X-15	X-18
Oct	9	X-2	X-6	X-8	X-13	X-12	X-9	X-10	X-16	X-19
Nov	8	X-1	X-5	X-8	X-20	X-18	X-3	X-11	X-17	
Dec	7	X-2	X-6	X-8	X-12		X-9	X-10	X-16	

**E. coli Present Sample Response Plan:**

<b>Distribution System E. coli Response Checklist</b>				
<b>Background Information</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>To Do</b>
We inform staff members about activities within the distribution system that could affect water quality.	✓			
We document all water main breaks, construction & repair activities, and low pressure and outage incidents.	✓			
We can easily access and review documentation on water main breaks, construction & repair activities, and low pressure and outage incidents.	✓			
Our Cross-Connection Control Program is up-to-date.				✓
We test all cross-connection control devices annually as required, with easy access to the proper documentation.				✓
We routinely inspect all treatment facilities for proper operation.	✓			
We have procedures in place for disinfecting and flushing the water system if it becomes necessary.	✓			
We can activate an emergency intertie with an adjacent water system in an emergency.		✓		
We have a map of our service area boundaries.	✓			
We have consumers who may not have access to bottled or boiled water.		✓		
There is a sufficient supply of bottled water immediately available to our customers who are unable to boil their water.		✓		
We have identified the contact person at each day care, school, medical facility, food service, and other customers who may have difficulty responding to a Health Advisory.	✓			
We have messages prepared and translated into different languages to ensure our consumers will understand them.				✓
We have the capacity to print and distribute the required number of notices in a short time period.	✓			
<b>Policy Direction</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>To Do</b>
We have discussed the issue of <i>E. coli</i> -present sample results with our policy makers.	✓			
If we find <i>E. coli</i> in a routine distribution sample, the policy makers want to wait until repeat test results are available before issuing advice to water system customers.	✓			
<b>(Continued on Next Page)</b>				

<b>Distribution System E. coli Response Checklist</b>				
<b>Potential Public Notice Delivery Methods</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>To Do</b>
It is feasible to deliver a notice going door-to-door.	✓			
We have a list of all of our customers' addresses.	✓			
We have a list of customer telephone numbers or access to a Reverse 9-1-1 system.		✓		
We have a list of customer email addresses.		✓		
We encourage our customers to remain in contact with us using social media.		✓		
We have an active website we can quickly update to include important messages.	✓			
Our customers drive by a single location where we could post an advisory and expect everyone to see it.		✓		
We need a news release to supplement our public notification process.		✓		



**E. coli Triggered Source Sample Response Checklist:**

<b>E. coli-Present Triggered Source Sample Response Checklist</b>				
<b>Background Information</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>To Do</b>
We review our sanitary survey results and respond to any recommendations affecting the microbial quality of our water supply.	✓			
We address any significant deficiencies identified during a sanitary survey.	✓			
There are contaminant sources within our Wellhead Protection Area that could affect the microbial quality of our source water, and		✓		
If yes, we can eliminate them.			✓	
We routinely inspect our well site(s).	✓			
We have a good raw water sample tap installed at each source.				✓
After we complete work on a source, we disinfect the source, flush, and collect an investigative sample.	✓			
<b>Public Notice</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>To Do</b>
We discussed the requirement for immediate public notice of an <i>E. coli</i> -present source sample result with our water system's governing body (board of directors or commissioners) and received direction from them on our response plan.	✓			
We have prepared templates and a communications plan that will help us quickly distribute our messages.				✓

<b>E. coli-Present Triggered Source Sample Response Checklist-Source S03</b>				
<b>Alternate Sources</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>To Do</b>
We can stop using this source and still provide reliable water service to our customers.	✓			
We have an emergency intertie with a neighboring water system that we can use until corrective action is complete (perhaps for several months).		✓		
We can provide bottled water to all or part of the distribution system for an indefinite period.		✓		
We can quickly replace our existing source of supply with a more protected new source.		✓		
<b>Temporary Treatment</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>To Do</b>
This source is continuously chlorinated, and our existing facilities can provide 4-log virus treatment (CT = 6) before the first customer. If yes, at what concentration? ____ mg/L		✓		
We can quickly introduce chlorine into the water system and take advantage of the existing contact time to provide 4-log virus treatment to a large portion of the distribution system.	✓			

<b>E. coli-Present Triggered Source Sample Response Checklist-Source S04</b>				
<b>Alternate Sources</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>To Do</b>
We can stop using this source and still provide reliable water service to our customers.	✓			
We have an emergency intertie with a neighboring water system that we can use until corrective action is complete (perhaps for several months).		✓		
We can provide bottled water to all or part of the distribution system for an indefinite period.		✓		
We can quickly replace our existing source of supply with a more protected new source.		✓		
<b>Temporary Treatment</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>To Do</b>
This source is continuously chlorinated, and our existing facilities can provide 4-log virus treatment (CT = 6) before the first customer. If yes, at what concentration? ____ mg/L		✓		
We can quickly introduce chlorine into the water system and take advantage of the existing contact time to provide 4-log virus treatment to a large portion of the distribution system.	✓			

<b>E. coli-Present Triggered Source Sample Response Checklist-Source S05</b>				
<b>Alternate Sources</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>To Do</b>
We can stop using this source and still provide reliable water service to our customers.	✓			
We have an emergency intertie with a neighboring water system that we can use until corrective action is complete (perhaps for several months).		✓		
We can provide bottled water to all or part of the distribution system for an indefinite period.		✓		
We can quickly replace our existing source of supply with a more protected new source.		✓		
<b>Temporary Treatment</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>To Do</b>
This source is continuously chlorinated, and our existing facilities can provide 4-log virus treatment (CT = 6) before the first customer. If yes, at what concentration? ____ mg/L		✓		
We can quickly introduce chlorine into the water system and take advantage of the existing contact time to provide 4-log virus treatment to a large portion of the distribution system.	✓			

<b>E. coli-Present Triggered Source Sample Response Checklist-Source S07</b>				
<b>Alternate Sources</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>To Do</b>
We can stop using this source and still provide reliable water service to our customers.	✓			
We have an emergency intertie with a neighboring water system that we can use until corrective action is complete (perhaps for several months).		✓		
We can provide bottled water to all or part of the distribution system for an indefinite period.		✓		
We can quickly replace our existing source of supply with a more protected new source.		✓		
<b>Temporary Treatment</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>To Do</b>
This source is continuously chlorinated, and our existing facilities can provide 4-log virus treatment (CT = 6) before the first customer. If yes, at what concentration? ____ mg/L		✓		
We can quickly introduce chlorine into the water system and take advantage of the existing contact time to provide 4-log virus treatment to a large portion of the distribution system.	✓			

<b>E. coli-Present Triggered Source Sample Response Checklist-Source S08</b>				
<b>Alternate Sources</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>To Do</b>
We can stop using this source and still provide reliable water service to our customers.	✓			
We have an emergency intertie with a neighboring water system that we can use until corrective action is complete (perhaps for several months).		✓		
We can provide bottled water to all or part of the distribution system for an indefinite period.		✓		
We can quickly replace our existing source of supply with a more protected new source.		✓		
<b>Temporary Treatment</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>To Do</b>
This source is continuously chlorinated, and our existing facilities can provide 4-log virus treatment (CT = 6) before the first customer. If yes, at what concentration? ____ mg/L		✓		
We can quickly introduce chlorine into the water system and take advantage of the existing contact time to provide 4-log virus treatment to a large portion of the distribution system.	✓			

<b>E. coli-Present Triggered Source Sample Response Checklist-Source S09</b>				
<b>Alternate Sources</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>To Do</b>
We can stop using this source and still provide reliable water service to our customers.	✓			
We have an emergency intertie with a neighboring water system that we can use until corrective action is complete (perhaps for several months).		✓		
We can provide bottled water to all or part of the distribution system for an indefinite period.		✓		
We can quickly replace our existing source of supply with a more protected new source.		✓		
<b>Temporary Treatment</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>To Do</b>
This source is continuously chlorinated, and our existing facilities can provide 4-log virus treatment (CT = 6) before the first customer. If yes, at what concentration? ____ mg/L		✓		
We can quickly introduce chlorine into the water system and take advantage of the existing contact time to provide 4-log virus treatment to a large portion of the distribution system.	✓			

**System Map:**









**Sample Sites:**



#06 3314 281<sup>st</sup> St.



#07 2620 Sandridge Rd



#08 1719 264<sup>th</sup> Pl.



#09 27900 0 St.



#10 1206 247<sup>th</sup> Pl.



#11 24010 Birch Pl.



#12 23200 Birch Pl.



#13 20500 Birch Pl.





#14 21700 0 St.



#15 21401 Pacific Hwy.



#16 1311 197<sup>th</sup> Pl.



#17 2218 272<sup>nd</sup> St.



#18 27003 Sandridge Rd.



#19 2807 270<sup>th</sup> St.



#20 26500 Vernon Ave.



#21 1711 255<sup>th</sup> Pl.



#22 245<sup>th</sup> & Ash Pl.



#23 24200 Sandridge Rd.



#24 23400 Pacific Hwy.

#25 227<sup>th</sup> & Birch Pl.



#26 TBD.

#27 TBD.

#28 TBD.

#29 TBD.

#30 TBD.

#31 TBD.

#32 TBD.

#33 TBD.

**Appendices:**

-----Non-Acute Coliform Bacteria MCL Violation Notice

**IMPORTANT NOTICE ABOUT YOUR WATER SYSTEM**

***COLIFORM BACTERIA MAXIMUM CONTAMINATE LEVEL (MCL) EXCEEDED: NON-ACUTE MCL***

The North Beach Water System, ID 63000C, in Pacific County routinely monitors for the presence of total coliform bacteria and in [enter month and year] this type of bacteria was detected. Although this incident was not an emergency, as our customer, you have a right to know what happened and what we did or are doing to correct the situation.

**This is not an emergency, if it had been an emergency, you would have been notified within 24 hours.** Coliforms are bacteria which are naturally present in the environment and are not generally harmful. They are used as an indicator that other, potentially harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems. The samples that showed the presence of coliform were further tested to see if other bacteria of greater concern, such as fecal coliform or E.coli were present. **None of these potentially harmful bacteria were found in the water.**

**What should I do?**

**You do not need to boil your water.** People with severely compromised immune systems, infants, and some elderly may be at an increased risk and may want to contact their health care provider for additional guidance.

**What happened? What is the suspected or known source of contamination?**

[List the known or suspected source(s) of contamination].

**At This Time:**

- The Problem is resolved. Additional samples collected were found to be free of coliform bacteria.
- We anticipate resolving the problem by [Click here to enter a date.](#)
- : [insert other resolution notice].

For more information, please contact William Neal, General Manager at 360.665.3290 or [bneal@northbeachwater.com](mailto:bneal@northbeachwater.com). General guidelines on ways to lessen the risk of infection by microbes are available from the EPA Safe Drinking Water Hotline at 1-800-426-4791.

*\*Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.\**

This notice is being sent to you by North Beach Water System, Pacific County. State Water System ID#: 63,000. Date distributed:[Click here to enter a date.](#)

**WARNING:**  
**Do not drink tap water**  
**without boiling it first!**

- Fecal coliform
- E. coli bacteria
- Other: \_\_\_\_\_

were detected in the water supply on:  
(date) \_\_\_\_\_.

**Boiling kills bacteria and other organisms in the water:**

- **Bring water to a rolling boil for one minute**
- **Let water cool before using**

**To avoid possible illness:** use boiled or purchased bottled water for drinking, making ice, brushing teeth, washing dishes, and food preparation until further notice.

**Contact your doctor, if you experience one or more of these symptoms:** nausea, cramps, diarrhea, jaundice, headache and/or fatigue. People with chronic illnesses, infants and the elderly may be at higher risk and should seek medical advice.

**Water System:** ----- North Beach Water District  
**I.D.:** ----- 63000  
**County:** ----- Pacific  
**Contact:** ----- Bill Neal  
**Telephone:** ----- 360.665.3290  
**Date notice distributed:** -----

**What is fecal coliform and E. coli?**

Fecal coliform and E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these waters can cause short-term effects, such as diarrhea, cramps, nausea, headaches or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems.

**How long will this warning be in effect?**

We will consult with the Washington State Department of Health about this incident. We will notify you when you no longer need to boil the water.

*Vea al reverso para la versión en español.*

August, 2015

**WARNING:**  
**Do not drink tap water**  
**without boiling it first!**

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- Other: \_\_\_\_\_

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*Vea al reverso para la versión en español.*

August, 2015

# ADVERTENCIA:

**¡No tome el agua de la llave sin antes hervirla!**

- Bacteria coliforme fecal
- Bacteria E. coli
- Otra: \_\_\_\_\_

fueron encontradas en su sistema de agua:  
(el día)\_\_\_\_\_.

**Hervir el agua mata a las bacterias y otros organismos en el agua:**

- **Ponga el agua en la estufa hasta que hierva y deje hervir el agua por un minuto**
- **Deje enfriar el agua antes de usarla**

**Para evitar posibles enfermedades y hasta nuevo aviso:** use agua hervida o agua potable embotellada para tomar, hacer hielo, limpiarse los dientes, lavar los platos y para preparar comidas.

**Hable con su doctor si usted tiene uno o más de los siguientes síntomas:** náusea, dolor estomacal, diarrea, ictericia, dolores de cabeza y/o cansancio. La gente con enfermedades crónicas, bebés y personas mayores de edad, pueden estar en situación de alto riesgo y deben consultar con su médico o proveedores de servicios médicos.

**Sistema de agua:** ----- North Beach Water District  
**I.D.:** ----- 63000  
**Condado:** ----- Pacific  
**Contacto:** ----- William Neal  
**Teléfono:** ----- 360.665.3290  
**Fecha de notificación:** -----

## ¿Qué son las bacterias coliforme fecal y E. coli?

Coliformes fecales o E. coli son bacterias cuya presencia indica que el agua esta contaminada con desechos humanos o de animales. Microbios de esos desechos pueden causar diarrea, dolor estomacal, náusea, dolores de cabeza u otros síntomas. Pueden representar un peligro para la salud de bebés, niños y niñas de corta edad y personas con sistemas inmunológicos en alto riesgo.

## ¿Por cuánto tiempo va a estar en efecto esta advertencia?

Vamos a consultar con el Departamento de Salud del estado de Washington acerca de este incidente. Le vamos a notificar cuando ya no sea necesario hervir el agua.

**See reverse side for English version.**

Agosto, 2015

# ADVERTENCIA:

**¡No tome el agua de la llave sin antes hervirla!**

- Bacteria coliforme fecal
- Bacteria E. coli
- Otra: \_\_\_\_\_

fueron encontradas en su sistema de agua:  
(el día)\_\_\_\_\_.

**Hervir el agua mata a las bacterias y otros organismos en el agua:**

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**See reverse side for English version.**

Agosto, 2015

## DRINKING WATER WARNING

***E. coli* bacteria is present in North Beach Water District's water**

### **BOIL YOUR WATER BEFORE USING**

*E. coli* bacteria were found in the water supply on [Click here to enter a date.](#) These bacteria can make you sick, and are a particular concern for people with weakened immune systems.

Bacterial contamination can occur when increased run-off enters the drinking water source (for example, following heavy rains). It can also happen due to a break in the distribution system (pipes) or a failure in the water treatment process.

#### **What should I do? What does this mean?**

- DO NOT DRINK THE WATER WITHOUT BOILING IT FIRST. Bring all water to a boil, let it boil for one minute, and let it cool before using, or use bottled water. Boiled or bottled water should be used for drinking, making ice, brushing teeth, washing dishes, and food preparation until further notice. Boiling kills bacteria and other organisms in the water.
- \*Fecal coliforms and *E. coli* are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, and people with severely compromised immune systems.\*
- The symptoms above are not caused only by organisms in drinking water. If you experience any of these symptoms and they persist, you may want to seek medical advice. People at increased risk should seek advice from their health care providers about drinking this water.

#### **What is being done?**

[Describe corrective action.] We will inform you when tests show no bacteria and you no longer need to boil your water. We anticipate resolving the problem within [estimated time frame].

For more information, please contact William Neal, General Manager at 360.665.3290 or [bneal@northbeachwater.com](mailto:bneal@northbeachwater.com). General guidelines on ways to lessen the risk of infection by microbes are available from the EPA Safe Drinking Water Hotline at 1-800-426-4791.

*\*Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.\**

This notice is being sent to you by North Beach Water System, Pacific County. State Water System ID#: 63,000. Date distributed: [Click here to enter a date.](#)

## IMPORTANT NOTICE ABOUT YOUR WATER SYSTEM

### ***BOIL WATER NOTICED RESCINDED***

North Beach Water District customers were notified on [Click here to enter a date.](#) of a problem with the drinking water and were advised to boil their water. We are pleased to report that the problem has been corrected and that it is no longer necessary to boil your water. We apologize for any inconvenience and thank you for your patience.

For more information, please contact William Neal, General Manager at 360.665.3290 or [bneal@northbeachwater.com](mailto:bneal@northbeachwater.com). General guidelines on ways to lessen the risk of infection by microbes are available from the EPA Safe Drinking Water Hotline at 1-800-426-4791.

*\*Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.\**

This notice is being sent to you by North Beach Water System, Pacific County. State Water System ID#: 63, 000. Date distributed:[Click here to enter a date.](#)





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## MEDIA ALERT

### ***NORTH BEACH WATER DISTRICT ANNOUNCES BOIL WATER ADVISORY FOR ALL CUSTOMERS***

**For Immediate Release:** [Click here to enter a date.](#)

Contact: William “Bill” Neal, General Manager 360.665.4144

**Ocean Park, WA** - North Beach Water District is advising all water customers to boil their drinking water after recent samples showed the presence of *E. coli* bacteria in the water. The Washington State Department of Health (DOH) has been notified and North Beach Water District is working closely with the Office of Drinking Water to find the source of contamination and fix the problem, which may include disinfecting the system. The boil water advisory will remain in effect until further notice.

According to Bill Neal, the District’s General Manger. “District Operators, in cooperation with the Washington State Department of Health, are doing all they can to determine the source of the contamination and eliminate the bacteria from the water system. Safe and reliable drinking water is critical to good health and responding to this kind of emergency is what we are trained to do and is our highest priority.

According to Bill Neal, [enter the number or/ No] illnesses related to the contaminated drinking water have been reported. To correct this problem the following actions will be taken:

- A thorough inspection of the Districts wellfield, treatment plant, storage reservoirs, booster stations and distribution system is underway.

- Water Wells and transmission lines will be disinfected.
- Reservoirs will be disinfected.
- Filtrations equipment and treatment infrastructure will be disinfected.
- Chlorine in residuals up to 4 mg/l will be injected into the water mains for a minimum of 12 hours.

The boil water advisory includes several precautionary steps that customers should take. These include using purchased treated bottled water or boiled water for any water that might be consumed: drinking, brushing teeth, dishwashing, preparing food and making ice. Water should come to a rolling boil for one minute, then allowed to cool before using.

The advisory will remain in effect until North Beach Water District and the Department of Health are confident there is no longer a threat of illness to their customers. Once satisfactory results are reported, customers will be notified that the advisory has been lifted.

North Beach Water District encourages customers with questions to call the business office at 665-4144.



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## MEDIA ALERT

### *NORTH BEACH WATER DISTRICT BOIL WATER ADVISORY RESCINDED*

**For Immediate Release:** [Click here to enter a date.](#)

Contact: William “Bill” Neal, General Manager 360.665.4144

**Ocean Park, WA** - North Beach Water District is advising all its water customers that it is no longer necessary to boil their drinking water. Recent multiple water test samples show the water is free of E. coli and total coliform bacteria.

According to Bill Neal, the District’s General Manger. “The District, in cooperation with the Washington State Department of Health, over the last [enter the number of days] days have completed inspections, water quality sampling, disinfection of facilities and flushing of mains and reservoirs to resolve the contamination problem”. Brian Sheldon, District Commissioner, stated “We are pleased to be able to lift the boil water notice and the Board is grateful to the Department of Health and our management and crew for their professionalism, dedication outstanding performance during this emergency.

According to Bill Neal, and inspection of the facilities revealed [describe the condition(s) that caused or could have caused or contributed to the bacteria in the water].

Mr. Neal also advised that if you have shut off or not used fixtures, water fountains, ice machines, soda machines or other equipment over the past several days, flush the equipment thoroughly and disinfect them according to the manufactures recommendations before putting them back into service.,

North Beach Water District encourages customers with questions to call the business office at 665-4144.



## PUBLIC NOTICE CERTIFICATION

### Acute Coliform MCL

*Within 10 days of notifying your customers, you must send a copy of each type of notice you distribute (hand-delivered notices, press releases, newspaper articles, etc.) to our regional office. Also, complete and send this form, which certifies that you have met all the public notification requirements. If the boil water advisory remains in effect more than three months, you must notify your water users again and provide another Public Notice Certification to us. With this certification, you are also stating that you will meet future requirements for notifying new billing units of the violation or situation.*

Water System: \_\_\_\_\_ ID # \_\_\_\_\_ County: \_\_\_\_\_

Violation Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Violation Type: \_\_\_\_\_

**This public water system certifies that public notice has been given to water users, following state and federal requirements for delivery, content, and deadlines.**

Complete the following items:

Yes	No	
<input type="checkbox"/>	<input type="checkbox"/>	Distribution was completed on ____ / ____ / _____. Check all that apply:
	<input type="checkbox"/>	Hand delivery,
	<input type="checkbox"/>	Press release (TV, radio, newspaper, etc.),
	<input type="checkbox"/>	Posting at _____ (by DOH approval only),
	<input type="checkbox"/>	Other _____ (by DOH approval only).
<input type="checkbox"/>	<input type="checkbox"/>	Were the water users notified within 24 hours?

Signature of owner or operator	Position	Date

If you need this publication in an alternate format, call (800) 525-0127 or for TTY/TDD call (877) 833-6341.

**Northwest Regional Office:**  
20425 72nd Ave S Suite 310  
Kent WA 98032  
(253) 395-6775  
Fax: (253) 395-6760

**Southwest Regional Office:**  
PO Box 47823  
Olympia WA 98504-7823  
(360) 236-3030  
Fax (360) 664-8058

**Eastern Regional Office:**  
16201 E Indiana Ave Suite  
1500  
Spokane Valley WA 99216  
(509) 329-2100  
Fax: (509) 329-2104



Aug. 2013

DOH 331-179

Revised

## Questions & Answers

# Public Health Advisory Coliform

### Why must I boil my water?

Recent tests show that your water system is contaminated with organisms that can cause illness.

### Who can be affected? Can I become ill?

Anyone who drinks contaminated water may become ill. Infants, young children, the elderly, and people with severely compromised immune systems are more at risk of illness.

### Who are people with compromised immune systems?

People who are on chemotherapy, organ or bone marrow recipients, those with HIV or AIDS, malnourished children, infants, and some of the elderly have compromised or weakened immune systems. An infection from a disease-causing organism may lead to very serious health problems for these people.

### Can these diseases be spread in ways other than drinking the water?

Yes. Many of these disease-causing organisms are shed in the feces of infected people. In fact, some infected people do not have any symptoms but still shed these organisms. Childcare workers, young children who attend childcare, and caregivers for people who are sick and shedding these organisms are at the greatest risk of becoming ill. Washing hands with soap and water after using the toilet and before preparing food prevents the spread of diseases to others.

### What are the symptoms to watch for?

### What should I do if I think I have a waterborne illness?

Disease-causing organisms in water can cause diarrhea, stomach cramps, bloating, gas, fatigue, weight loss, nausea, vomiting, and/or fever. Symptoms may appear as early as a few hours to several days after infection and may last more than two weeks. If you are ill with these symptoms, contact your health care provider.

### How can I make the water safe?

Boiling is the best way to ensure water is free of illness-causing organisms. Bring the water to a rolling boil for one minute. When it cools, refrigerate the water in clean covered containers. If you don't want to boil your water, you can disinfect the water using household bleach. Do not use bleach that contains perfume, dyes, or other additives. Use 1/4-teaspoon bleach per gallon of water, mix thoroughly, and then let stand for 60 minutes before using.



HELPING TO ENSURE SAFE AND RELIABLE DRINKING WATER

Can I use bottled water?

You can use purchased bottled water. If you choose to use bottled water, Department of Health recommends water that is:

- Reverse-osmosis treated.
- Distilled.
- Filtered through an “absolute” one-micron or smaller filter.

Carbonated water in cans or bottles is usually filtered or heated to remove illness-causing organisms.

During a health advisory, can I use tap water for...?

Drinking -----	No	Coffee or tea -----	No
Ice cubes-----	No	Showers or bath-----	Yes
Brushing teeth -----	No	Washing Clothes -----	Yes
Baby’s formula-----	No	Baby’s bath -----	See Below
Washing vegetables/fruits -----	No	Washing Dishes -----	See Below
Preparing food-----	No	Pet’s water bowl-----	Contact Veterinarian

Can I bathe my baby or child using tap water?

Yes, as long as they do not drink any of the water. Don’t let babies suck on a washcloth, as they will be ingesting some of the water.

Can I wash dishes?

You can use your dishwasher if you use the sanitizing/heat cycle and commercial dishwashing detergent. You can hand wash dishes, rinse them in a diluted bleach solution—one teaspoon household bleach to one gallon of water—and then let dishes air dry.

What must be done to fix the problem?

Fixing the problem could be different in each situation depending on whether the problem is at the water source or in the water lines. Usually, in every case the water lines will need to be flushed and the whole system will need to be disinfected using chlorine. The water will then be tested to make sure it is free of coliform bacteria.

How long will this health advisory be in effect?

This health advisory will remain in effect until the water is tested and results show that it meets public health drinking water standards. Your water system will notify you when that occurs.

For more information:

**Personal medical questions:** Contact your health care provider (physician, nurse consultant, etc.)

**Call your local health jurisdiction** with general questions about infectious disease, communicable disease transmission, symptoms, causes and prevention of waterborne disease.



For people with disabilities, this document is available on request in other formats. To submit a request, please call 1-800-525-0127 (TDD/TTY call 711).

## Questions & Answers

# Coliform Bacteria and Drinking Water

Aug. 2011

DOH 331-181  
Revised

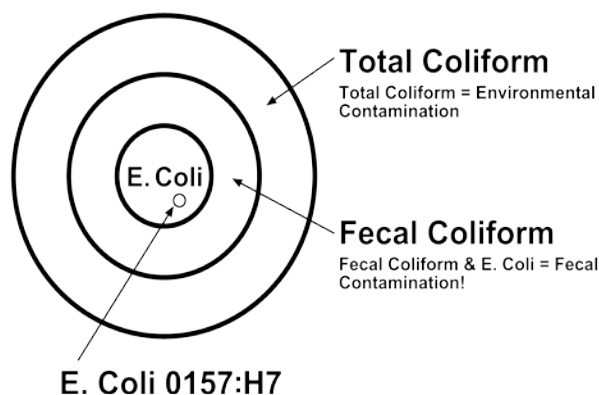
Public water systems must deliver safe and reliable drinking water to their customers 24 hours a day, 365 days a year. If the water supply becomes contaminated, consumers can get seriously ill. Fortunately, public water systems take many steps to make sure drinking water is safe. One of the most important steps is regular testing for coliform bacteria.

### What are coliform bacteria?

Coliform bacteria are present in the environment and feces of all warm-blooded animals and humans. Coliform bacteria are unlikely to cause illness. However, their presence in drinking water indicates that disease-causing organisms (pathogens) could be in the water system. Most pathogens that can contaminate water supplies come from the feces of humans or animals. Testing drinking water for all possible pathogens is complex, time-consuming, and expensive. It is easy and inexpensive to test for coliform bacteria. If testing detects coliform bacteria in a water sample, water systems search for the source of contamination and restore safe drinking water.

**There are three groups of coliform bacteria. Each is an indicator of drinking water quality and each has a different level of risk.** Total coliform is a large collection of different kinds of bacteria. Fecal coliform are types of total coliform that exist in feces. *E. coli* is a subgroup of fecal coliform. Labs test drinking water samples for total coliform. If total coliform is present, the lab also tests the sample for fecal coliform or *E. coli*, depending on the lab testing method.

## TOTAL COLIFORM, FECAL COLIFORM AND E. COLI



**Total coliform bacteria** are common in the environment (soil or vegetation) and are generally harmless. If a lab detects only total coliform bacteria in drinking water, the source is probably environmental and fecal contamination is unlikely. However, if environmental contamination can enter the system, pathogens could get in too. It is important to find and resolve the source of the contamination.

**Fecal coliform bacteria** are a subgroup of total coliform bacteria. They exist in the intestines and feces of people and animals. The presence of fecal coliform in a drinking water sample often indicates recent fecal contamination. That means there is a greater risk that pathogens are present.



HELPING TO ENSURE SAFE AND RELIABLE DRINKING WATER



***E. coli*** is a subgroup of the fecal coliform group. Most *E. coli* bacteria are harmless and exist in the intestines of people and warm-blooded animals. However, some strains can cause illness. The presence of *E. coli* in a drinking water sample usually indicates recent fecal contamination. That means there is a greater risk that pathogens are present.

**Note:** *E. coli* outbreaks receive a lot of media coverage. A specific strain of *E. coli* bacteria known as ***E. coli O157:H7*** causes most of those outbreaks. When a drinking water sample is reported as “*E. coli* present,” it does not mean that ***O157:H7*** is present. However, it does indicate recent fecal contamination. Boiling or disinfecting contaminated drinking water destroys all forms of *E. coli*, including *O157:H7*.

### **What if coliform bacteria are found in my water?**

When coliform bacteria are found, water systems investigate to find out how the contamination got into the water. They collect additional water samples and often inspect the entire system.

Collecting additional samples helps determine whether an actual problem exists. If the lab detects bacteria in any of the additional samples, the initial findings are “confirmed.”

### **What if total coliform bacteria are confirmed in my water?**

If a lab confirms total coliform bacteria in your drinking water, your water system will investigate to find out how the contamination got into the water. After identifying the source of contamination, the system can usually resolve the problem with system repairs, flushing, and adding chlorine for a short period. We help water systems resolve problems. When a lab confirms total coliform bacteria in drinking water, we require the water system to notify its customers within 30 days. We recommend that the system distribute this notice as soon as possible. The notice will tell you what the system is doing to correct the problem, when the problem will likely be resolved, and what you may need to do until then.

**What if fecal coliform bacteria or *E. coli* are confirmed in my water?** Confirmation of fecal coliform bacteria or *E. coli* in a water system indicates recent fecal contamination, which may pose an immediate health risk to anyone who consumes the water. The water system will issue a “health advisory” within 24 hours to alert all water users of a health risk associated with the water supply. The advisory usually recommends using boiled or bottled water for drinking, preparing food, and brushing teeth. It also outlines the steps underway to correct the problem and explains when the system expects to resolve the problem.

Responding to health emergencies is our highest priority. We will inspect the system as soon as possible to help the water system resolve the problem. More water samples will be collected to find and eliminate potential contamination sources, and a system not normally disinfected will most likely be chlorinated and flushed. The health advisory will remain in effect until the situation is resolved and the water is safe to drink.

### **For more information**

Our publications are online at <https://fortress.wa.gov/doh/eh/dw/publications/publications.cfm>

### **Call our nearest regional office**

Northwest Region: Kent 253-395-6750	Southwest Region: Tumwater 360-236-3030	Eastern Region: Spokane Valley 509-329-2100
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If you need this publication in alternate format, call 800-525-0127. For TTY/TDD, call 800-833-6388.

## Fact Sheet

April 2014  
DOH 331-182  
(Revised)

# Emergency water supply guidelines for food service

**Restaurants – Food Stores – Schools  
Institutions – Convenience Stores**

These guidelines are for establishments that provide food service to the public. State regulation requires food service establishment (FSE) owners to ensure that their water supply is from an approved public drinking water system (WAC 246-215-05100). The state Department of Health regulates public water systems (WAC 246-290).

### Procedures required during a boil water advisory

When a water system issues a boil water advisory, food service establishments must close unless the local health agency authorizes them stay open. If the local health agency does authorize an FSE to operate during a boil water advisory, it must follow the minimum requirements below until the health advisory is lifted. *The local health agency may impose additional requirements to protect against health hazards during the boil water advisory, such as modifying food preparation steps or prohibiting some menu items.*

### Minimum Requirements

#### Shut Off:

- Ice machines
- Drinking fountains
- Produce misters
- Bottled water refill machines
- Soda dispensers (connected to water supply)
- Running water dipper wells
- Coffee pots

#### Discard:

- Ice made with contaminated water
- Beverages made with contaminated water

#### Ice:

- Use packaged ice from an approved source

#### Use Boiled Water for:

- Drinking
- Cooking
- Food preparation
- Washing produce

#### Hand Washing:

- Wash with antibacterial soap and water
- Recommended: use hand sanitizer after rinsing and drying

#### Dishwashing Options:

- Mechanical dishwasher with high temperature or chemical sanitizer (verify correct operation)
- Three compartment sink
  1. Wash in hot water and detergent.
  2. Rinse in warm water.
  3. Sanitize in cool-water chemical sanitizer solution (1 teaspoon bleach per 1 gallon water or hot water 150 degrees for one minute.
  4. Air dry.

#### Employee Information:

- Post signs or copies of the water system's health advisory
- Develop a plan to notify and educate employees about emergency procedures.

When the health advisory is lifted, consult the owner's manual to find out how to sanitize appliances.

**Follow these procedures until notified by the local health agency or the state Department of Health.**

For people with disabilities, this document is available on request in other formats. To submit a request, please call 1- 800-525-0127 (TDD/TTY call 711).



HELPING TO ENSURE SAFE AND RELIABLE DRINKING WATER



## Fact Sheet

# Troubleshooting Checklist for Coliform Contamination

Coliform bacteria in a water system are generally either a result of a failure to maintain a "closed" water system or a treatment failure. Visually inspect the system for "openings" and/or treatment equipment failures. Look for areas of the system where soil, leaves, insects, birds, sewage, or animal wastes could possibly get into your water system. **Check the following:**

### WELLS

- Well casing is above the floor or ground and the area around the well is clean.
- Well has a watertight seal and a U-shaped, inverted, screened (minimum 24-mesh) vent.
- There are no openings in the well cap or casing, including around the electrical wires.
- There is no standing water around the source.
- The well is at least 100 feet from sources of contamination, such as septic tanks, drain fields, sewers, manure, or garbage.
- The well has been effectively disinfected following any well or pump repairs.
- A dug well has a watertight lid with an overhanging edge and a neoprene-type seal between the lid and the well casing.

### SPRINGS

- The collection box and the hatch or lid are watertight. The hatch has an overhanging edge and a neoprene-type seal.
- Vents are covered with an insect-proof non-corroding screen (minimum 24-mesh).
- Overflow and drain lines are screened or protected with an angle-flap valve.
- Surface water is directed away from the spring collection area by a diversion ditch.
- The spring is at least 200 feet from sources of contamination, such as septic tanks, drain fields, sewers, manure, or garbage.

### TREATMENT

- Chlorine residual is measured and levels are adequate.
- UV system is operating correctly.



HELPING TO ENSURE SAFE AND RELIABLE DRINKING WATER

## **HYDROPNEUMATIC and BLADDER TANKS**

- Tank(s) are not waterlogged.
- Sediment has not accumulated in the tank.
- Bladders are intact and functional.

## **RESERVOIRS and STORAGE TANKS**

- There are no openings that allow entry of surface water, debris, insects, etc.
- The access hatch has an overlapping, watertight cover and a neoprene-type seal.
- Vents are clean, directed downward, and screened (minimum 24-mesh).
- Overflow and drain lines are protected with screens or angle-flap valves and discharge above ground. The drainpipe should not be submerged in non-potable water.
- There are no signs of dirt, insects, growth, sediment, or debris inside the tank.
- There are no cracks, leaks, or vegetative growth on the outside of the tank.

## **DISTRIBUTION SYSTEM**

- There are no obvious leaks or breaks.
- The system was effectively disinfected following any construction or repair work.
- There have been no low pressure or water outage incidents.
- Non-looped, dead-end sections are regularly flushed.
- System is free of possible cross connections.

## **AFTER INSPECTING SYSTEM**

- Make needed repairs and improvements.
- Disinfect and flush the system according to DOH guidelines.
- Install sample taps at source and storage facilities, if needed.
- Establish or improve the preventive maintenance program (routine sanitary control area inspection, storage tank inspection, and distribution system flushing).

## **FOR MORE INFORMATION**

Contact our regional office:

**Eastern Region:** Spokane Valley 509-329-2100

**Northwest Region:** Kent 253-395-6750

**Southwest Region:** Tumwater 360-236-3030



If you need this publication in an alternate format, call 800-525-0127. For TTY/TDD, call 877-833-6341.