

APPENDIX A—PUBLIC NOTIFICATION

The following forms may be used to notify the public that water tests were positive for bacteria, or required tests were not done, unless the State has forms that it requires water systems to use.

Public Notification, Boil Water Notice

Public Notification, Missed Sample

DRINKING WATER WARNING

(*Water System Name*) water is contaminated with [E. coli/fecal coliform]

BOIL YOUR WATER BEFORE USING

[E. coli/fecal coliform] bacteria were found in the water supply on (date). These bacteria can make you sick and are a particular concern for people with weakened immune systems.

What Should I do?

Until we have corrected the contamination, use boiled, chlorinated, or commercially available bottled water for drinking, making ice, brushing teeth, washing dishes, and food preparation. Boiling kills bacteria and other organisms in the water. To adequately disinfect water by boiling, bring it to a full rolling boil and let it boil for one minute. Let it cool before using. To adequately disinfect water by chlorination, use only regular 5¼% hypochlorite bleach. Do not use scented bleaches, colorsafe bleaches, or bleaches with added cleaners. Add 16 drops (about 3 teaspoons) of liquid bleach per gallon of water, stir, and let stand for 30 minutes. If the water does not have a slight bleach odor, repeat the dosage and let stand for another 15 minutes.

What Does This Mean?

[E. coli/fecal coliform] are a 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, some older people, and people with severely compromised immune systems. People at increased risk should seek advice about drinking water from their health care providers. These symptoms may also have causes other than contaminated drinking water. If you experience these symptoms persistently, you may want to seek medical advice.

What Happened? What Was Done?

Bacterial contamination can occur if surface water enters the drinking water source, if there is a break or back siphonage in the water lines, or if storage tanks become dirty or are entered by insects or animals.

(Describe what is being done to fix the problem)

We will let you know when tests show no bacteria and you no longer need to boil your water. This should occur by (date).

FOR MORE INFORMATION, CONTACT (*person's name*), the (*water system name*) water system operator, at (*phone number*) or (*person's name*), the (*unit name*) facilities engineer, at (*phone number*). General information about lessening the risk of infection by microbes is available from the EPA Safe Drinking Water Hotline at 1-800-426-4791.

State Water System Number: _____ Date of Notice: _____

Note: Accidentally missing a required monthly bacti test or a test result showing presence of coliform bacteria only (no e.coli or fecal coliform) does not require a boil water notice. However, you must inform residents & employees in accordance with State notification requirements. You may use this template:

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

[We Missed a Test at (*System Name*)] [Tests Showed Coliform Bacteria in (*System Name*) Water]

Our water system recently violated a drinking water standard. Although this incident was not an emergency, you have a right to know what happened and what we did to correct this situation.

We routinely monitor for drinking water contaminants. We took (number) samples to test for the presence of coliform bacteria during (month). **[This was less than the (*number*) samples that were required, and it is possible that we failed to detect coliform bacteria that may have entered the system.] [(*Number/percentage*) of our samples showed the presence of total coliform bacteria. The standard is that no more than 1 sample per month may do so.]**

What should I do?

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

What does this mean?

This is not an emergency. If it had been, you would have been notified immediately. Coliform bacteria are generally not harmful themselves. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present.

Usually, coliforms are a sign that there could be a problem with the system's treatment or distribution system. Bacterial contamination can occur if surface water enters the drinking water source, if there is a break or back siphonage in the water lines, or if storage tanks become dirty or are entered by insects or animals. Whenever we detect coliform bacteria in any sample, we do follow-up testing to see if other bacteria of greater concern, such as fecal coliform or E. coli, are present. **[We did not find any fecal coliform or E. coli in our subsequent testing. Testing shows no current presence of coliform bacteria.]**

What happened? What was done?

(Describe corrective action.)

FOR MORE INFORMATION, CONTACT (*person's name*), the (*water system name*) water system operator, at (*phone number*) or (*person's name*), the (*unit name*) facilities engineer, at (*phone number*). General information about lessening the risk of infection by microbes is 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, other people in your home, seasonal workers, or people in crew quarters). You can do this by posting this notice in a public place or distributing copies by hand or mail.

State Water System Number: _____

Date of Notice: _____

APPENDIX B—SAMPLING PLANS

The following templates may be used to create a sampling plan unless the State has a required format that it requires water systems to use.

BACTI Plan Public NTNC Systems- Multiple Buildings

BACTI Plan Public NTNC Systems- Single Building

BACTI Plan NPNT System

BACTI Plan Hand Pump Public Systems

BACTI Plan Public Transient Recreational Area System

Bacteriological Monitoring Plan (For Administrative Complexes)

Public Water System Name: Smokey Bear Administrative Complex

PWSID Number: NCxxxxxxx (State initials and seven digits)

FS System ID: xxxxxxx (From INFRA)

I. Purpose

The purpose of this Bacteriological Monitoring Plan is to identify coliform sample locations and establish monitoring requirements to comply with the US EPA Total Rule (TCR) and/or the Forest Service Manual (FSM 7420).

II. Responsible Charge

The following person will normally be responsible for collecting samples under this program (name, title, address, and phone):

III. Program Elements

1. Basic Routine Monitoring

The Smokey Bear Administrative Complex water system serves an office building, a residence, and a work center and is classified as a Public Nontransient Noncommunity (NTNC) water system. The water system is required by the State and the FSM 7420 to collect one (1) routine water sample/month for total coliform. Two (2) routine sample locations have been identified on attachments 1 and 2. One routine sample shall be collected every month from one of the two designated locations. If a routine sample is invalidated by the lab, a replacement routine sample is required. It is recommended that routine samples be collected in the beginning of the month.

2. Increased Routine Monitoring

Increased monitoring is triggered when monthly samples show signs of contamination. If any month shows a coliform positive routine or a coliform positive repeat sample, five (5) routine samples are required during the following month. The samples shall be taken at reasonably evenly spaced time intervals throughout the month*.

**Note: If the State approves, all five routine samples may be taken at one time.*

(Do not confuse this increased routine monitoring with repeat monitoring in the next section. Repeat monitoring is required to further investigate a positive sample and has to be completed within 24 hours of notification of a positive sample). The system goes back to basic monitoring (1 sample/month) only if the previous month is totally clean (i.e, no positive samples).

3. Repeat Monitoring

Four (4) repeat samples are required within 24 hours of notification of a positive sample by the lab or the State.

- a. One repeat sample shall be collected from the same site which had positive routine sample.
- b. One repeat sample shall be collected downstream of the positive routine site.
- c. One repeat sample shall be collected upstream of the positive routine site.
- d. One sample can be collected from anywhere in the system including other identified sites on the plan.

4. Special Monitoring

Sometimes samples are collected for other reasons than compliance, or to make sure that system is safe before placing into service (especially seasonal systems). The bacteriological samples which are collected for special purposes must be marked as special samples on the sample collection form. If these samples are not marked as special samples, they may be confused by the State for monthly compliance samples.

IV. Attachments

Attachment 1: Repeat and Routine Monitoring Locations

Attachment 2: Distribution System Map

V. Bacteriological Monitoring Plan Prepared By:

_____	_____
<i>Name</i>	<i>Signature</i>
_____	_____
<i>Title</i>	<i>Date</i>

ATTACHMENT 1

REPEAT AND ROUTINE MONITORING LOCATIONS

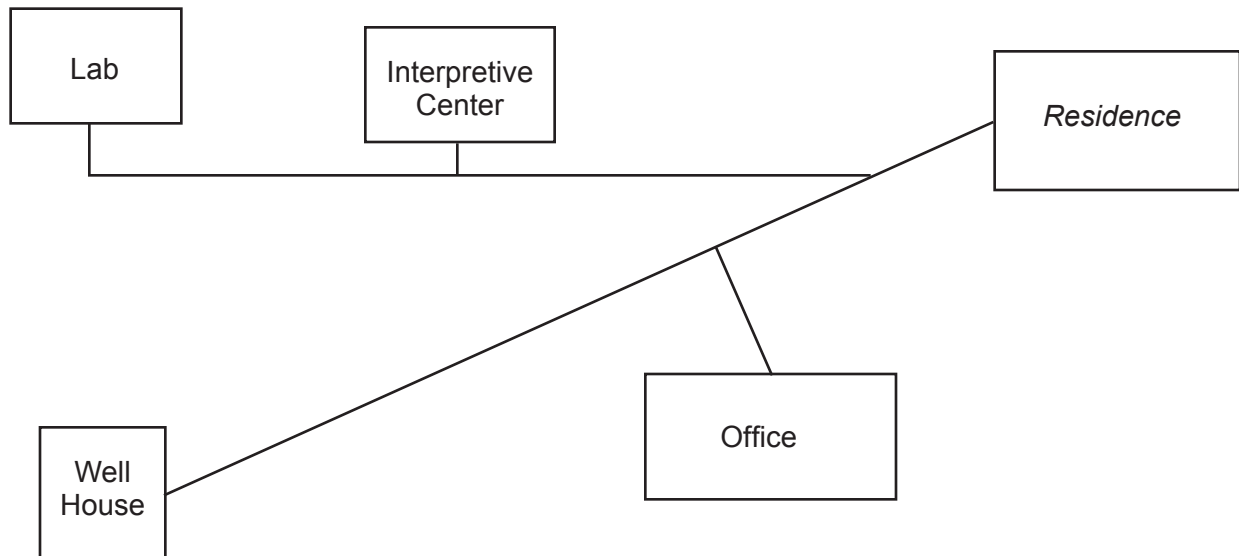
Water System: Smokey Bear Administrative Complex

Months	Routine Sample Site	Repeat Sample Site (If routine sample is positive)
Jan, Mar, May, Jul Sept, Nov	Interpretive Center	Interpretive Center (same site) Residence (upstream site) Lab (downstream site) Office Bathroom (any other site)
Feb, April, Jun, Aug, Oct, Dec	Residence	Residence (same site) Office Bathroom (upstream site) Interpretive Center (downstream) Lab (any other site)

ATTACHMENT 2

DISTRIBUTION SYSTEM MAP SHOWING ROUTINE AND REPEAT MONITORING SITES

Water System : Smokey Bear Administrative Complex



Bacteriological Monitoring Plan (For Administrative Sites)

Public Water System Name: Smokey Bear District Ranger Office

PWSID Number: NCxxxxxxx (State initials and seven digits)

I. Purpose

The purpose of this Bacteriological Monitoring Plan is to identify coliform sample locations and establish monitoring requirements to comply with the EPA Total Coliform Rule (TCR) and/or the Forest Service Manual (FSM 7420).

III. Responsible Charge

The following person will normally be responsible for collecting samples under this program (name, title, address, and phone):

III. Program Elements

1. Basic Routine Monitoring

The Smokey Bear District Ranger Office water system serves the district office and is classified as a public Nontransient Noncommunity (NTNC) water system. The water system is required by the State to collect one (1) routine water sample per month for total coliform. Two (2) routine sample locations have been identified within the office building. One routine sample shall be collected every month from one of the two designated locations. If a routine sample is invalidated by the lab, a replacement routine sample

2. Increased Routine Monitoring

Basic monitoring is triggered when monthly samples show signs of contamination. If any month shows a coliform positive routine or a coliform positive repeat sample, five (5) routine samples are required during the following month. The samples shall be taken at reasonably evenly spaced time intervals throughout the month*.

**Note: If the state approves, all five samples may be taken at one time.*

(Do not confuse this increased routine monitoring with repeat monitoring in the next section. Repeat monitoring is required to further investigate a positive sample and has to be completed within 24 hours of notification of a positive sample). The system goes back to basic monitoring (1 sample/month) only if the previous month is totally clean (i.e. no positive samples).

3. Repeat Monitoring

Four (4) repeat samples shall be collected within 24 hours of notification of a positive sample by the lab, or the state from sites identified as repeat sites on attachment 1. All repeat samples shall be collected at the sametime.

4. Special Monitoring

Sometimes samples are collected for other reasons than compliance, or to make sure that system is safe before placing into service. The bacteriological samples which are collected for special purposes must be marked as special samples on the sample collection form. If these samples are not marked as special samples, they may be confused by the state for monthly compliance samples.

IV. Attachments

Attachment No.1: Routine and Repeat Monitoring Locations

V. Bacteriological Monitoring Plan Prepared By:

Name

Signature

Title

Date

ATTACHMENT NO. 1**ROUTINE AND REPEAT MONITORING SITES**

Month	Routine Sites	Repeat Sample Sites	
Jan	Men's bathroom	Men's bathroom (2 samples) Lunchroom (2 samples)	
Feb	Men's bathroom	Men's bathroom (2 samples) Lunchroom (2 samples)	
Mar	Men's bathroom	Men's bathroom (2 samples) Lunchroom (2 samples)	
Apr	Men's bathroom	Men's bathroom (2 samples) Lunchroom (2 samples)	
May	Men's bathroom	Men's bathroom (2 samples) Lunchroom (2 samples)	
Jun	Men's bathroom	Men's bathroom (2 samples) Lunchroom (2 samples)	
Jul	Men's bathroom	Men's bathroom (2 samples) Lunchroom (2 samples)	
Aug	Men's bathroom	Men's bathroom (2 samples) Lunchroom (2 samples)	
Sep	Men's bathroom	Men's bathroom (2 samples) Lunchroom (2 samples)	
Oct	Men's bathroom	Men's bathroom (2 samples) Lunchroom (2 samples)	
Nov	Men's bathroom	Men's bathroom (2 samples) Lunchroom (2 samples)	
Dec	Men's bathroom	Men's bathroom (2 samples) Lunchroom (2 samples)	

**Bacteriological Monitoring Plan
(For Administrative Sites Nonpublic Systems)**

Water System Name: Smokey Bear Work Center

PWSID Number: None (not Applicable for Nonpublic Systems)

FS System ID: xxxxxxx (from INFRA)

I. Purpose

The purpose of this Bacteriological Monitoring Plan is to identify coliform sample locations and establish monitoring requirements to comply with the Forest Service Manual (FSM 7420).

II. Responsible Charge

The following person will normally be responsible for collecting samples under this program (name, title, address, and phone):

III. Program Elements

1. Basic Routine Monitoring

The Smokey Bear Work Center water system serves a small work center with less than 25 employees and is classified by the Forest Service as a Non Public Nontransient Noncommunity (NPNT) water system. The water system is non public and is not a regulated system under the state regulations. The Forest Service Manual (FSM 7420), however, requires coliform monitoring of this system every month. Two (2) routine sample locations have been identified within the work center. One routine sample shall be collected every month from one of the two designated locations. If a routine sample is invalidated by the lab, a replacement routine sample is required.

2. Increased Routine Monitoring

There is no increased routine monitoring requirement for NPNT systems monitored under the FS direction.

3. Repeat Monitoring

For NPNT systems, FSM requires only one repeat sample following a positive routine sample.

4. Special Monitoring

Sometimes samples are collected to make sure that system is safe before placing into service. The bacteriological samples which are collected for special purposes must be marked as special samples on the sample collection form.

IV. Attachments

Attachment No.1: Routine and Repeat Monitoring Locations

V. Bacteriological Monitoring Plan Prepared By:

Name

Signature

Title

Date

**ATTACHMENT NO. 1
ROUTINE AND REPEAT MONITORING SITES**

Water System Name: Smokey Bear Work Center

Month	Routine Sites	Repeat Sample Sites	
Jan	Men's bathroom	Men's bathroom	
Feb	Workshop sink	Workshop sink	
Mar	Men's bathroom	Men's bathroom	
Apr	Workshop sink	Workshop sink	
May	Men's bathroom	Men's bathroom	
Jun	Workshop sink	Workshop sink	
Jul	Men's bathroom	Men's bathroom	
Aug	Workshop sink	Workshop sink	
Sep	Men's bathroom	Men's bathroom	
Oct	Workshop sink	Workshop sink	
Nov	Men's bathroom	Men's bathroom	
Dec	Workshop sink	Workshop sink	

Bacteriological Monitoring Plan (For Public Hand Pump Systems)

Public Water System Name: Smokey Bear Horse Camp

PWSID Number: NCxxxxxxx (State initials and seven digits)

FS System ID: xxxxxxx (From INFRA)

I. Purpose

The purpose of this Bacteriological Monitoring Plan is to establish required monitoring to comply with the Total Coliform Rule (TCR) and the Forest Service Manual (FSM 7420).

II. Responsible Charge

The following person will normally be responsible for collecting samples under this program (name, title, address, and phone):

III. Program Elements

1. Basic Routine Monitoring

The Smokey Bear Horse Camp water system is a public Transient Noncommunity (TNC) water systems. The system is required by the State to collect one (1) routine water sample for coliform every quarter. The Forest Service Manual (FSM 7420) requires one routine water sample every month. The more stringent of the two requirements shall be followed. **One routine sample shall be collected every month from the handpump.**

2. Increased Routine Monitoring

If any month shows any positive routine or repeat samples, five (5) routine samples are required the following month. The samples shall be taken at reasonably evenly spaced time intervals throughout the month*.

* If the State approves, all five routine samples may be collected at the same time.

(Do not confuse this increased routine monitoring with repeat monitoring in the next section. Repeat monitoring is required to further investigate a positive sample and has to be completed within 24 hours of notification of a positive sample). The system goes back to basic monitoring (1 sample/month) only if the previous month is totally clean (i.e., no positive samples).

3. Repeat Monitoring

Four (4) repeat samples are required within 24 hours of notification of a positive sample by the lab or the State. All four samples will be collected within 24 hours of notification of the positive sample. A single sample may be collected in a 400 milliliter sample bottle, or four samples may be collected in four 100-milliliter bottles. All repeat samples must be collected at the same time.

4. Special Monitoring

Sometimes samples are collected for other reasons than compliance, or to ensure that system is safe before placing into service. The bacteriological samples which are collected for special purposes must be marked as special samples on the sample collection form. If these samples are not marked as special samples, they may be confused by the State for monthly compliance samples.

IV. Attachments

None

V. This Bacteriological Monitoring Plan Prepared By:

_____	_____
<i>Name</i>	<i>Signature</i>
_____	_____
<i>Title</i>	<i>Date</i>

**Bacteriological Monitoring Plan
(For Public Transient Campgrounds/Rec Areas)**

Public Water System Name: Clear Lake Recreational Area

PWSID Number: NCxxxxxxx (State initials and seven digits)

FS Systems ID: xxxxx (From INFRA)

I. Purpose

The purpose of this Bacteriological Monitoring Plan is to identify coliform sample locations and establish required monitoring to comply with the Total Coliform Rule (TCR) and the Forest Service Manual (FSM 7420).

II. Responsible Charge

The following person will normally be responsible for collecting samples under this program (name, title, address, and phone):

III. Program Elements

1. Basic Routine Sampling

The Clear Lake Recreational Area water system is a public Transient Noncommunity System. Currently the system is required by the State to collect one (1) routine water sample for coliform every quarter. The Forest Service Manual (FSM 7420) requires one routine water sample every month. The more stringent of the two requirements will be followed. Two (2) routine sample locations have been identified on Attachments 1 and 2. One routine sample shall be collected every month from one of the identified locations. The two sample sites shall be alternated every month.

2. Increased Routine Sampling

If any month shows any positive routine or repeat samples, five (5) routine samples are required the following month. The samples shall be taken at reasonably evenly spaced time intervals throughout the month*.

** Note: If approved by the State, all five routine samples may be collected at the same time.*

(Do not confuse this increased routine monitoring with repeat monitoring in the next section. Repeat monitoring is required to further investigate a positive sample and has to be completed within 24 hours of notification of a positive sample). The system goes back to basic monitoring (1 sample/month) only if the previous month is totally clean (i.e., no positive samples).

3. Repeat Sampling

Four (4) repeat samples are required within 24 hours of notification of a positive sample by the lab or the State.

- a. One repeat sample shall be collected from the same site which had positive routine sample.
- b. One repeat sample shall be collected downstream of the positive routine site.
- c. One repeat sample shall be collected upstream of the positive routine site.
- d. One sample can be collected from anywhere in the system including other identified sites on the plan.

4. Special Monitoring

Sometimes samples are collected for other reasons than compliance, or to make sure that system is safe before placing into service. The bacteriological samples which are collected for special purposes must be marked as special samples on the sample collection form. If these samples are not marked as special samples, they may be confused by the State for monthly compliance samples.

IV. Attachments

1—Routine and Repeat Sample Sites

2—Distribution System Map

V. This Bacteriological Monitoring Plan Prepared By:

_____	_____
<i>Name</i>	<i>Signature</i>
_____	_____
<i>Title</i>	<i>Date</i>

ATTACHMENT 1

REPEAT AND ROUTINE SAMPLE LOCATIONS

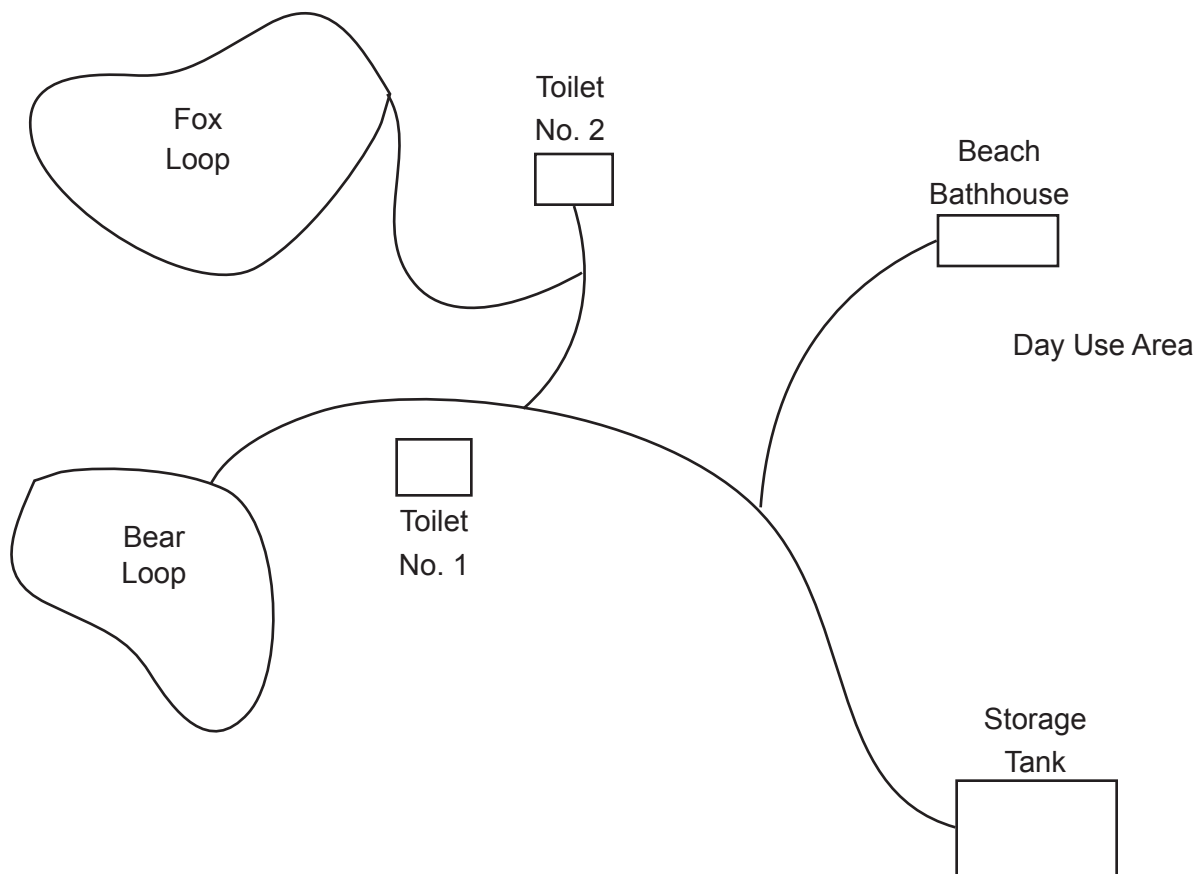
Water System: Clear Lake Recreational Area

Months	Routine Site	Repeat Sites
Jan, Mar, May, Jul, Sept, Nov	Toilet No. 1	Toilet No. 1 (same site)
		Beach bathhouse (upstream site)
		Toilet No. 2 (downstream site)
		Bear loop hydrant No. ? (any other site)
Feb, Apr, Jun, Aug, Oct, Dec	Toilet No. 2	Toilet No. 2 (same site)
		Beach bathhouse (upstream site)
		Fox loop hydrant No. ? (downstream)
		Toilet No. 2 (any other site)

ATTACHMENT 2

DISTRIBUTION SYSTEM MAP SHOWING ROUTINE AND REPEAT MONITORING SITES

Water System: Clear Lake Recreational Area



APPENDIX C—VULNERABILITY ASSESSMENT

VULNERABILITY CHECKLIST

Water systems may use this checklist to review their vulnerability to potential threats. Critically evaluate your water system from top to bottom, possibly with the assistance of law enforcement rangers. After personnel identify weaknesses, develop short and long-term plans that address security lapses.

Water System being evaluated: _____

Date of evaluation: _____

Person(s) performing evaluation: _____

- 1) Is there an emergency/contingency plan in place? Yes ☐ No ☐
- 2) Is there a routine monitoring plan in place? Yes ☐ No ☐
- 3) Is there a security plan in place? Yes ☐ No ☐
- 4) Is there a cross connection control program in-place? Yes ☐ No ☐
- 5) Are any of these problem areas for the well or surface water source(s)?

	<u>Yes</u>	<u>No</u>
Easy access	☐	☐
Gates unsecured	☐	☐
Located in remote area	☐	☐
Area too large to monitor	☐	☐
Poor quality locks	☐	☐
Broken or unsecured well caps	☐	☐

Possible solutions:

Restrict access to roads

Install gates/locks

Review water shed protection plans

Communicate with other departments/security who can monitor the area

Contact Public Health Consultant for assistance with an emergency preparedness plan

6) Are any of these problem areas for the well house/pump station(s)?

	<u>Yes</u>	<u>No</u>
Doors unlocked/unsecured	☐	☐
Windows unlocked/unsecured	☐	☐
Located in remote area	☐	☐
Poor quality padlocks	☐	☐
Easily accessible by vehicles	☐	☐

Possible solutions:

Install fencing, upgrade locks
Install security cameras or motion detectors
Monitor pump station daily
Restrict vehicle access with gates/barricades

7) Are any of these problem areas for the treatment system?

	<u>Yes</u>	<u>No</u>
Multiple unsecured doors	☐	☐
No Check-in policy for visitors	☐	☐
Easily broken windows	☐	☐
Accessible equipment	☐	☐
Deliveries/drivers checked not checked-in	☐	☐
Unsecured chemical storage	☐	☐
Unlocked gates/fencing	☐	☐

Possible solutions:

Install fencing and upgrade locks
Install security cameras or motion sensors
Place signs that direct visitors to one entry
Implement policy to lock all doors and gates when no workers are present
Install bars and grills over windows
Check-in all deliveries

8) Are any of these problem areas for the storage and distribution systems?

	<u>Yes</u>	<u>No</u>
Storage tanks - unfenced	☐	☐
Storage tank ladders accessible	☐	☐
Storage tank upper hatch unlocked	☐	☐
Manhole and valve pits unsecured	☐	☐

Possible solutions:

Install fencing and upgrade locks

Inspect all manholes, vaults, hatches and meter boxes for signs of tampering

Restrict climbing access to all storage tanks

Secure vents, overflows and hydrants

Work closely with park security to monitor components of distribution system

Additional Comments: _____

APPENDIX D—BIBLIOGRAPHY

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