



# Sanitary Surveys and Significant Deficiencies





# Sanitary Surveys:

## Definition of a Sanitary Survey:

On-site review of a public water system's:

- water source,
- facilities,
- equipment,
- operation and maintenance.



Sanitary Surveys assess a system's capability to supply safe drinking water.



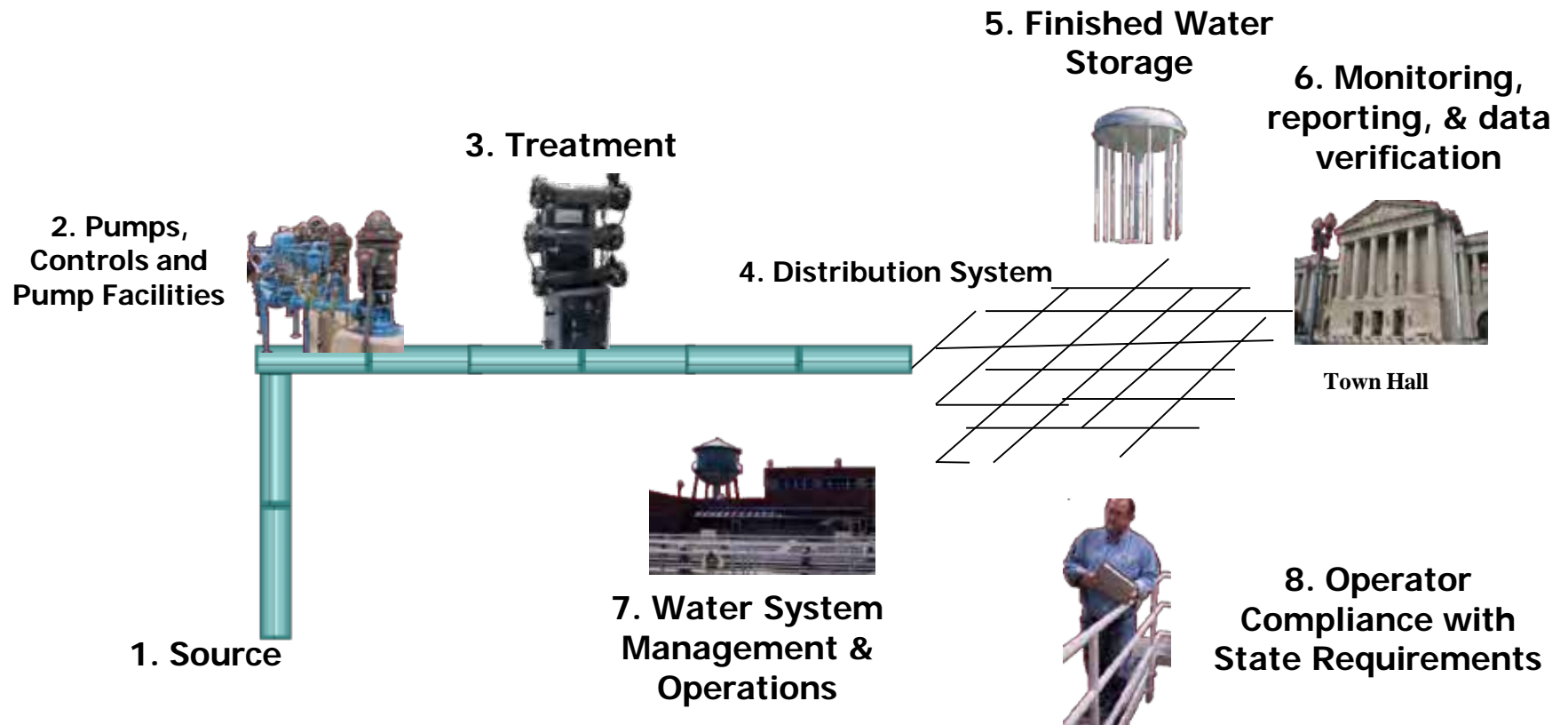
## What is the frequency of Sanitary Surveys?

3 years for community water systems

5 years for non-community water systems



## Sanitary surveys assess 8 elements:





### Significant Deficiencies:

Include, but are not limited to, defects in the design, operation, or maintenance, or a failure or malfunction of the sources, treatment, storage, or distribution system that EPA determines to **be causing or have the potential for causing the introduction of contamination into the water delivered to consumers.**

If any significant deficiencies are identified at your water system, you must respond to the EPA and you will be required to address them according to a schedule or you will receive a violation.



## Examples of Source Significant Deficiencies



Conduit  
not sealed

No wellhead  
sanitary seal;  
conduit & wires  
not properly  
sealed



Potential sources of  
contamination  
surrounding  
wellhead





## Examples of Source Significant Deficiencies



Dead snakes and mice floating in a spring box

No wellhead sanitary seal;  
conduit & wires not properly sealed



No wellhead sanitary seal; missing bolts = not properly sealed



## Examples of Source Significant Deficiencies

Lid should have a flexible gasket for a positive seal

Lid is shoebox type but not locked



Near stream – it could have surface water influence





## Examples of Source Significant Deficiencies

### Obvious contamination



Cross connection with the venting/vacuum tied directly to the drain





## Examples of Source Significant Deficiencies



Deteriorating concrete  
around the spring needs to  
be repaired

Dead mouse carcass on  
wellhead





## Examples of Source Significant Deficiencies



Gaps around pellet chlorinator allowed in irrigated water

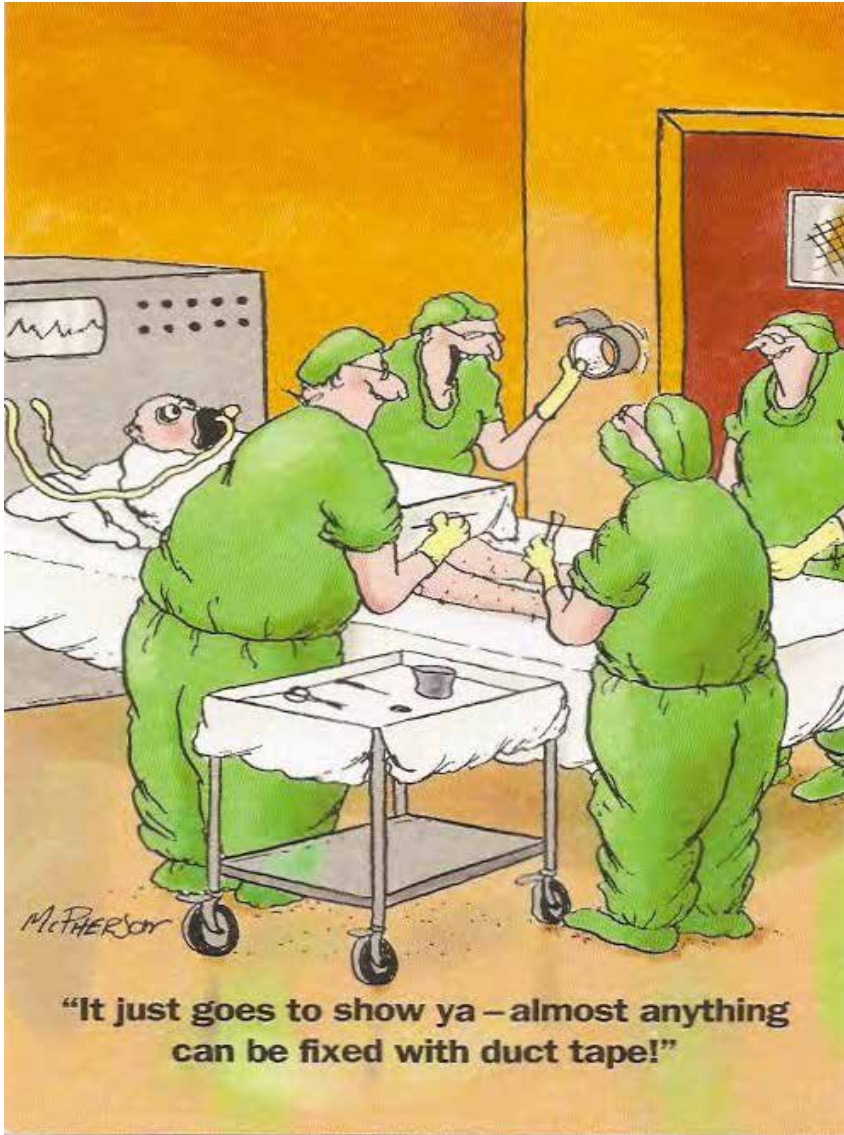
Cross connection with the venting/vacuum tied directly to the drain







## EPA Region 8 Sanitary Surveys and Significant Deficiencies





## Examples of Source Significant Deficiencies



Conduit is not properly sealed.



Duct tape doesn't fix everything





## Examples of Significant Deficiencies

Meter vault is flooded and  
cause of flooding is unknown



Mouse droppings in well  
house.



## Examples of Source Significant Deficiencies



Lack of a sanitary seal



Wells in driveways need to be protected by bollards



## Examples of Source Significant Deficiencies

Wells should be 18"  
above ground level  
or 12" above a  
concrete pad







## Gravity Storage Tank Significant Deficiencies:



Overflow discharge does not have #24 mesh non-corrodible screen

Flapper valve on overflow does not seal properly





## Storage Tank Significant Deficiencies:

#24 mesh screen on air vent  
not installed properly



Overflow not brought down  
to 12 – 24" above the  
ground surface





## Storage Tank Significant Deficiencies:



**Un-repaired bullet hole in storage tank.**

**Hatch on buried tank does not have gasket.**





## Storage Tank Significant Deficiencies:



Hatch on buried tank (not water tight, not of correct type)

Hatch on buried tank is not 24" above ground, and does not have gasket (manhole-type cover).





### Storage Tank Significant Deficiencies:



Overflow at ground level  
(not 12" – 24" above); does  
not have discharge structure  
or splashpad

Finished water storage  
tanks located below ground  
in a horse corral.





## Storage Tank Significant Deficiencies:



Frozen finished water storage tanks

Leaking finished water storage tanks





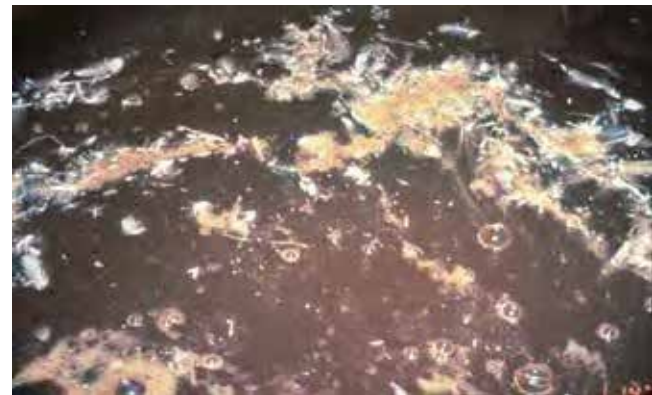


## Examples of Significant Deficiencies

**Storage tanks over 10 years old must be cleaned once every 10 years**

Lack of Storage Tank Cleaning- Example: Gideon, MO

- Untreated groundwater source
- Taste and odor complaints caused municipality to conduct a comprehensive flushing program
- Salmonella had contaminated the largest municipal tank (1993)
- Nearly 600 of the 1104 residents become ill and seven people died in a nursing home



*Photos and information courtesy of James A. Goodrich, Ph.D. with EPA/ORD*





### Examples of Significant Deficiencies

**Storage tanks over 10 years old must be cleaned once every 10 years**

"We cannot say with absolute certainty where the Salmonella came from because the actual contamination event was not directly observed, and probably occurred at least seven to 10 days before the outbreak was reported," Falco acknowledged. "But after weighing all the evidence, we believe that the most likely scenario is that contamination entered this in-ground storage tank."



2008 salmonella outbreak in Alamosa, CO



## EPA Region 8 Sanitary Surveys and Significant Deficiencies

### Examples of Management Significant Deficiencies

#### Lack of an Emergency Procedure Plan (EPP)

These are for your use! Have all emergency response/electrician/plumber/etc. contact information in one location



Templates available at:

[https://www.epa.gov/region8-waterops/  
reporting-forms-drinking-water-systems-wyoming-  
and-tribal-lands-epa-region-8#epp](https://www.epa.gov/region8-waterops/reporting-forms-drinking-water-systems-wyoming-and-tribal-lands-epa-region-8#epp)



# How do YOU prepare for a sanitary survey?



### Things to Prepare for Your Sanitary Survey:

#### General Facility Checks — prior to sanitary survey date

- Are all facilities accessible (e.g., keys to buildings available, gates accessible?)
- Are all facilities safe for inspection attendees (e.g., no exposed wiring, no uncovered pits)?
- Are all facilities operational (e.g., chemical feed pump working)?
- Are all facilities clean (e.g., chemicals/spare equipment stored properly, rodent free)?
- Are there any obvious problems with each potable water facility (e.g., holes in tanks; sanitary well seals not in place; and vents and overflows not screened with 24-mesh non-corrosive screen)?



### Things to Prepare for Your Sanitary Survey:

#### **General Paperwork Reviews — prior to sanitary survey date**

- ➡ Review previous sanitary survey reports and be prepared to discuss findings and resolution of deficiencies and recommendations

#### **Other items to have available:**

- ➡ Water testing equipment (e.g., chlorine analyzer, sampling bottles)
- ➡ Paper and pencil for notes and a camera (optional)





### Things to Prepare for Your Sanitary Survey:

#### **Have These Records Available for Review During the Sanitary Survey**

- Bacteriological Sample Siting Plan with Map
- Water quality analyses/laboratory records
- Monitoring Schedule for current year and cross-connection records
- Emergency Response Plan (Required for all PWSs)

#### **Review the Tech Tips Provided Prior to Your Sanitary Survey**

\* Make any needed improvements before the date of your survey, especially to avoid having significant deficiencies identified!!!



# What to do when you receive your sanitary survey report



### What do I need to do when I receive my survey report?

- 1) Review the cover letter and sanitary survey report.
  - All of the significant deficiencies are noted in the cover letter and at the beginning of the sanitary survey report.
- 2) ALL significant deficiencies must be addressed.
- 3) Recommendations are solely that - recommendations.
  - But they should be addressed as a best practice!



## EPA Region 8 Sanitary Surveys and Significant Deficiencies

### To avoid receiving a violation if you have significant deficiencies (during initial response):

If your survey identifies significant deficiencies, in 2015 and thereafter, there will be an automatic corrective action date (date by when you must fix the deficiencies) of 6 months from the day you receive the survey report.

- You will need to notify us once those improvements are completed
- You must request an extension from EPA only if you need more than 6 months to correct any of the deficiencies
- EPA will respond notifying you if your proposal has been accepted for deficiencies needing more than 6 months to correct





### To avoid receiving a violation if you have significant deficiencies (when completing corrective actions):

- 1) Make the improvement to address the significant deficiency.
- 2) If an extension is needed, request one BEFORE the corrective action deadline.
- 3) You MUST notify EPA within 30 days after making the system improvements to address the significant deficiencies. Please also include the WY DEQ Engineer in that response email as well.
- 4) EPA will notify you that the significant deficiencies have been addressed for the items identified during that specific survey.



## EPA Region 8 Sanitary Surveys and Significant Deficiencies

Call EPA, the Wyoming Association of Rural Water Systems (WARWS) or the Midwest Assistance Program (MAP) if you need assistance with your water system; call the WY DEQ District Engineer prior to making improvements.

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<https://deq.wyoming.gov/water-quality/water-wastewater/>