Hawaii's Sanitary Survey Program:
Ensuring Safe Drinking Water on the Front Line

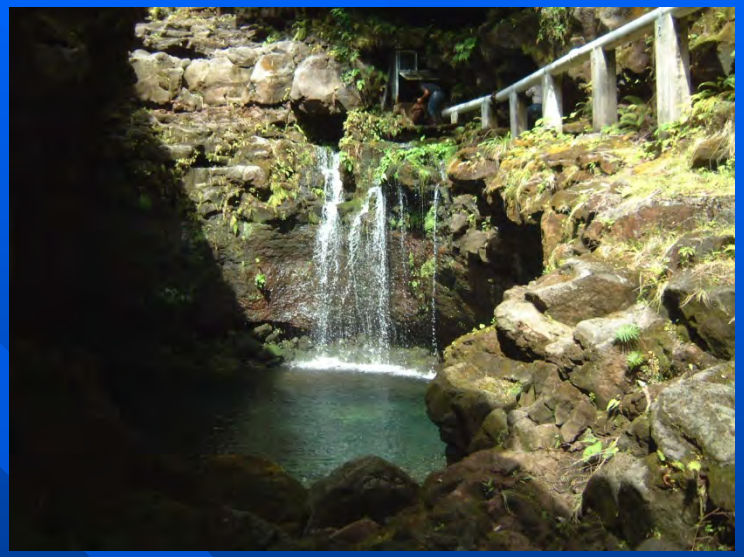
By Mike Miyahira, SDWB Engineering Section
Hawaii Water Works Association Annual Conference
October 23, 2013

Sanitary Survey Program

- SDWB staff inspect all 132 Public Water Systems (PWS) every 3-5 years

- Inspector's focus is on the physical condition of the facility, operation and maintenance procedures, and regulatory compliance - with the ultimate goal of providing safe drinking water in compliance with the federal Safe Drinking Water Act.

- "Significant deficiencies" now provide regulatory teeth to sanitary surveys of SW and GW systems.



Significant Deficiency (SD) Definition

"Any defect in a system's design, operation, and maintenance, as well as any failure or malfunction of any system component, that the State determines to cause, or have the potential to cause, an immediate sanitary risk to health".

Significant Deficiencies “Da List”

- Broken vent screens on tanks
- Rust holes in tank roofs
- No gasket or inadequate gasket on access hatches
- Particulate matter/oily sheen/unknown film observed on water surface
- Tank overflow line or pump to waste free discharge is not flappered or protected
- Open end of level indicator cable pipe not restricted or screened
- Vent in well baseplate not screened
- Openings in well baseplate not protected
- Pathways for rain or runoff to enter the well
- Air relief/vacuum release valves not screened and downturned
- Valve station blowoffs not flappered, screened or otherwise protected
- Raising domestic animals (dogs, goats, rabbits, chickens, etc.) on the well site
- Lack of backflow prevention devices when needed
- Abandoned or inactive wells not sealed properly or have open pathways into the aquifer
- GWUDI or surface water sources in service without proper treatment or interim disinfection monitoring

New Photo Documentation Requirements to Correct SDs

- Effective January 1, 2014, photo documentation response to all corrected significant deficiencies is required.
- The SDWB will continue to reserve the right to conduct follow-up inspections as necessary.
- The format for photo documentation can be as simple as an e-mail response from the water system with clearly labeled photos, a formal letter with photos of corrections attached, or some other similar format. Before and after photos are not required but are appreciated.

Sample Photo Documentation

WELL #1 DRY WELL OPEN

MOVES FREELY WHEN GRASS REMOVED

WELL #1 DRY WELL CLOSED

Photo Documentation (cont.)

- The SDWB has been using calendar year 2013 to get the word out to water systems of this new requirement via a February 12, 2013 letter to all PWSs statewide, the circuit riders (RCAC & HRWA), the March issue of *The Water Spot*, and this presentation.

Significant Deficiency

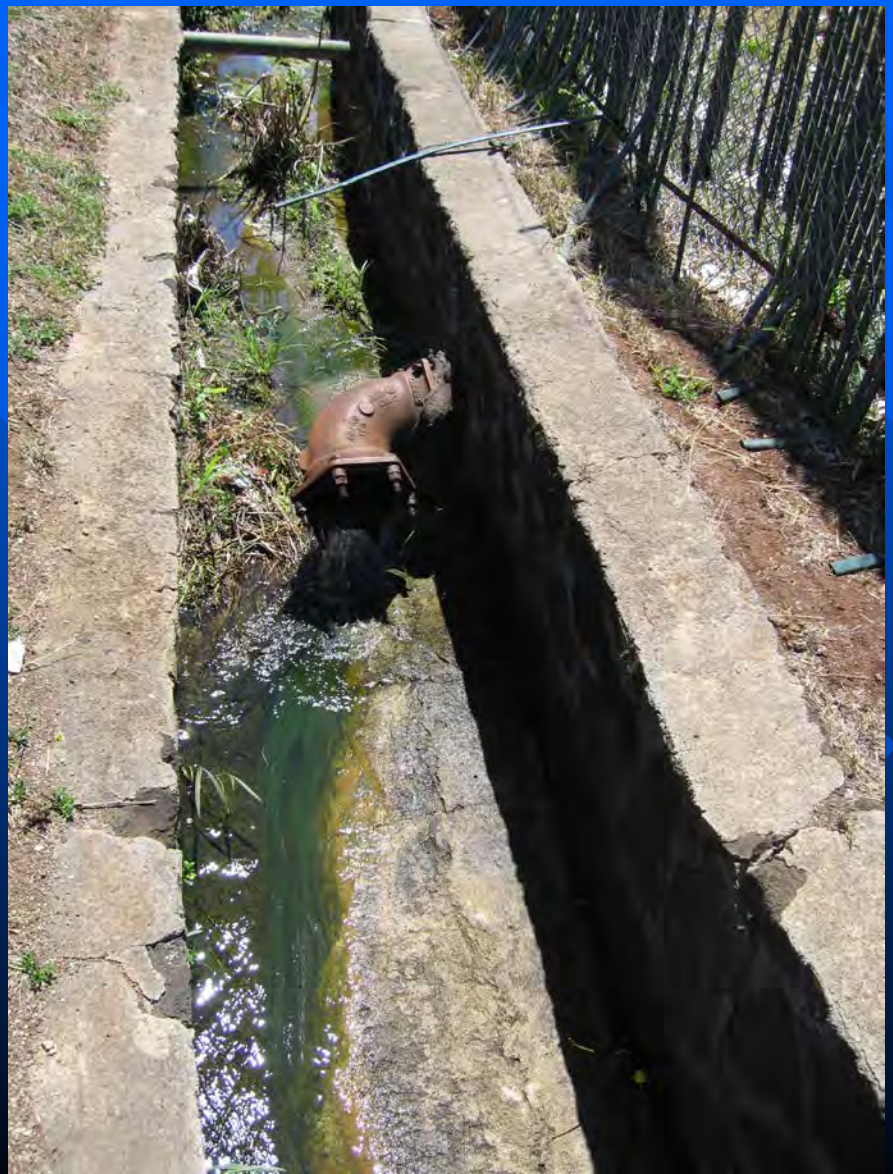
Significant Deficiency

Significant Deficiency

Significant Deficiency

Significant Deficiency

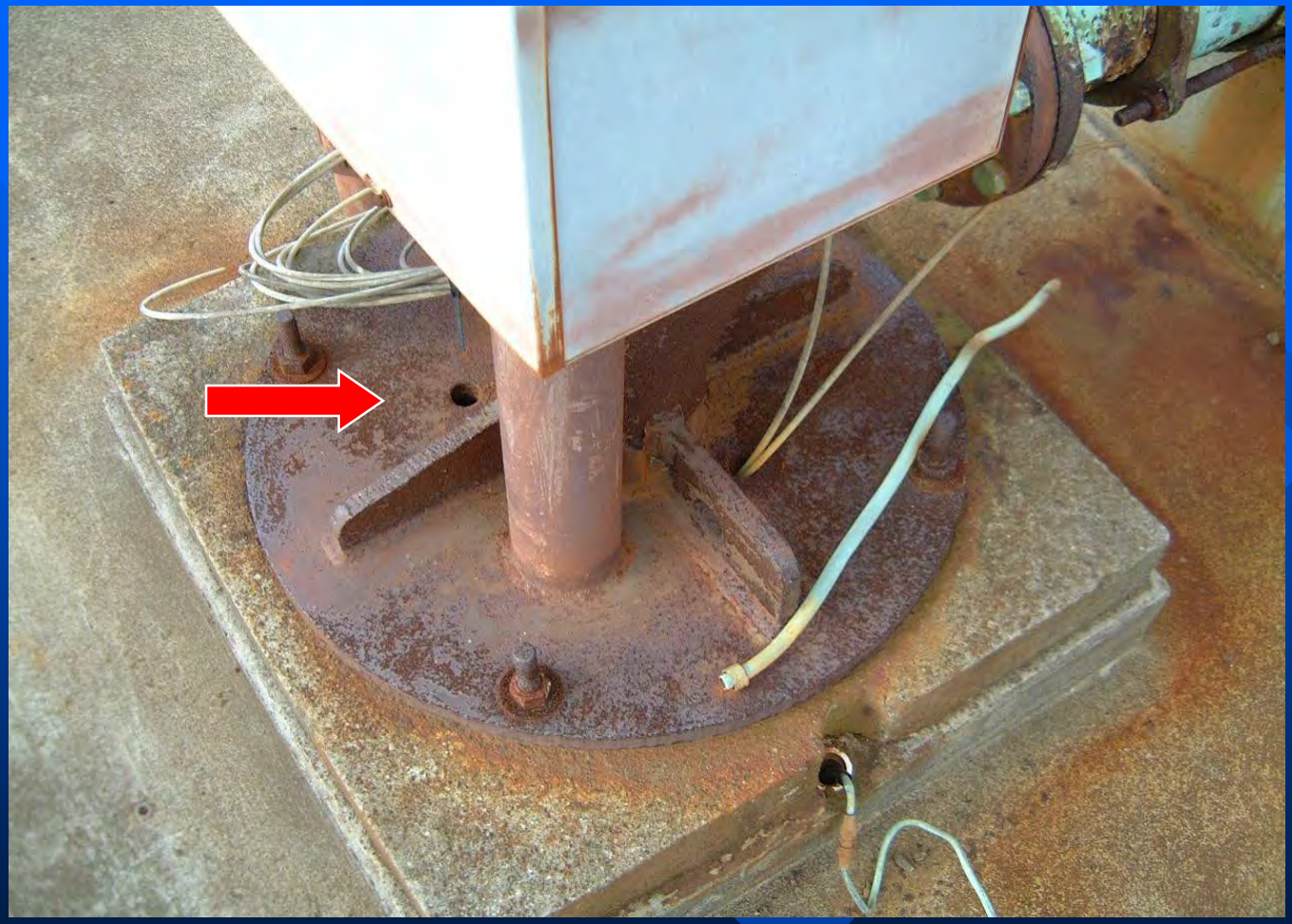
Significant Deficiency



Significant Deficiency

Significant Deficiency

Significant Deficiency



Significant Deficiency

Significant Deficiency

Significant Deficiency

Significant Deficiency

Significant Deficiency

Significant Deficiency

Significant Deficiency

Significant Deficiency

Significant Deficiency

NOT Significant Deficiencies

- Leaking tank
- Rust inside and outside of tank
- Security issues: holes in security fence, overgrown trees around fence, lack of security fence
- Badly rusted fasteners (nuts and bolts) on flanged joints

NOT Significant Deficiencies

NOT Significant Deficiencies

NOT Significant Deficiencies

But the **hole** in the tank is one!

NOT Significant Deficiencies

NOT Significant Deficiencies

NOT Significant Deficiencies

NOT Significant Deficiencies

How can you help us?

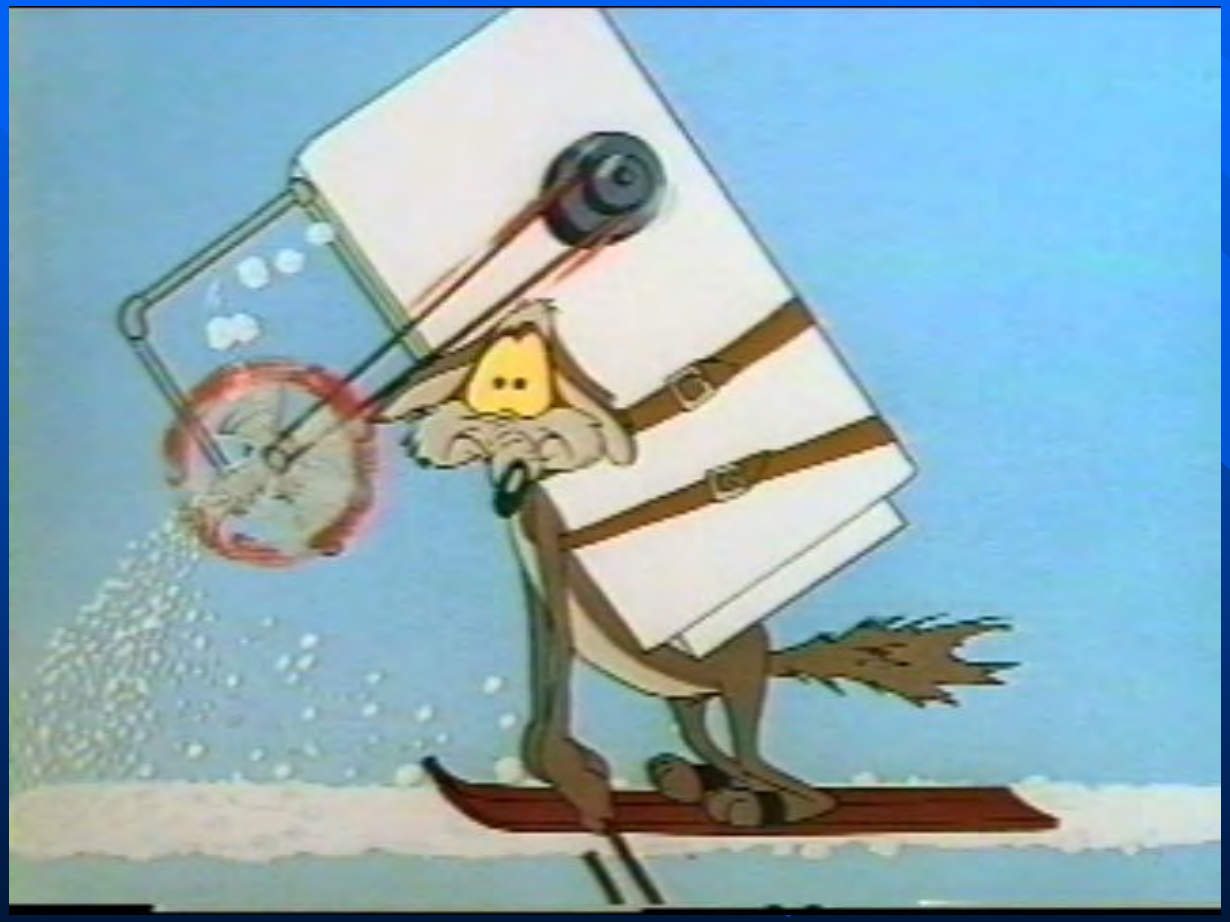
Design consultants: use designs that include often overlooked SS-related details:

- ✓ Downturned vents with screens on ARVs, and flapper or Tideflex-type valved free discharges (overflow/washout blowoffs, etc.);
- ✓ Sturdy gaskets on reservoir access hatches (NSF 61 material preferred);
- ✓ Padlocks on all hatches, gate entrances or (if necessary) valve hand wheels;
- ✓ Warning signage on secured perimeter fencing.

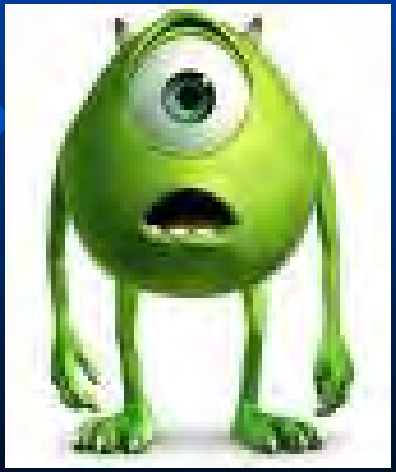
How can you help us?

Water purveyors: use SS as a guidance document to supplement the existing operation and maintenance procedures of your water system (think 3-5 year doctor's checkup).

Need a…Break???



And Now, A Quick Update from the SDWB by Regulator Mike…



Regulatory Changes:

- Ground Water Rule effective December 1, 2009, incorporated into Hawaii Administrative Rules Title 11 Chapter 20 following Governor's approval later this year.

- Revisions to the Total Coliform Rule (RTCR) were published in the Federal Register in February 13, 2013 with a compliance date for PWSs of April 1, 2016. Focus on *E. coli.* Level 1 and Level 2 Assessments now!

- *e*Delivery of Consumer Confidence Reports (CCRs) allowed per January 3, 2013 EPA Memorandum. "Direct" delivery required, i.e. water bills with a URL link, "one click" rule.

- On a related CCR note: remember that all SDs not corrected and documented to the SDWB before December 31, 2013 must report them in their 2013 CCR, due July 1, 2014.

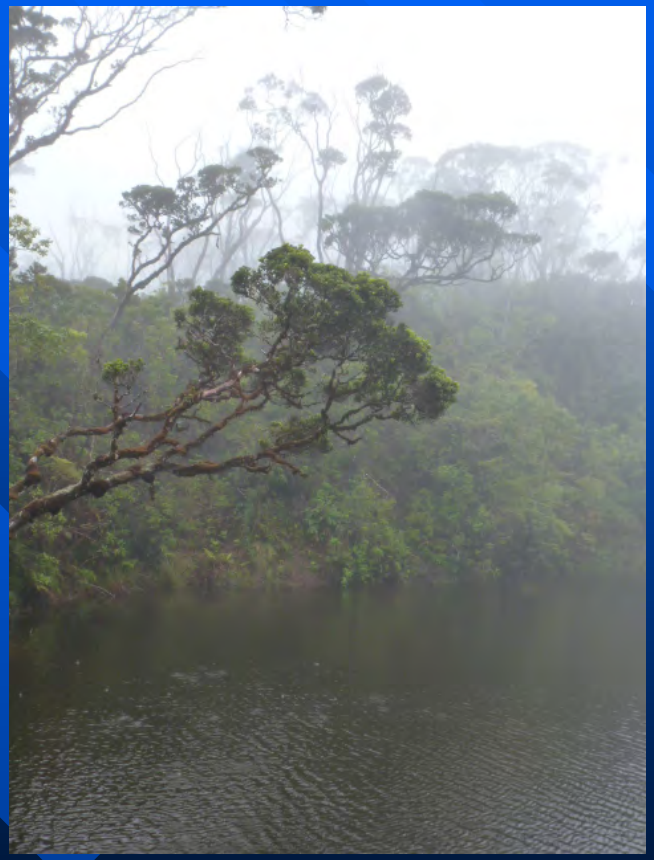
SDWB Changes for SW Systems:

- Pilot testing for unapproved filtration technologies under the Surface Water Treatment Rule increased from 28 days to a minimum of 60 days.
- 5-day source water comparison protocol for approved filtration technologies increased to 14 days.
- A Groundwater Under The Direct Influence of a Surface Water (GWUDI) determination protocol was finalized.
- An increase in log removal credits for both currently approved filtration technologies will be finalized by the end of this year:
  - *Giardia* removal goes from 2.0 log → 3.0 log. Systems must also meet an additional 0.5 log of *Giardia* through disinfection
  - *Crypto* removal is credited 3.0 log
  - Virus removal is credited 1.0 log (not finalized). Systems must achieve the remaining 3-log virus requirement utilizing disinfection.

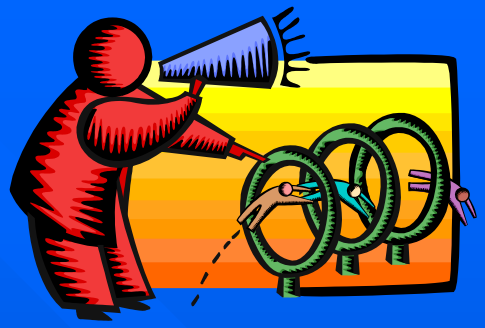
SDWB Changes for Rain Catchment Systems:

- Design, operation and maintenance *guidance* for the four (4) PWSs currently utilizing rain catchment as a source of human consumption was developed in early 2013 and will be finalized with their input shortly.

- The guidelines are expected to become effective January 1, 2014. The SDWB will work with the four (4) systems over the following year to encourage full compliance with these new guidelines by January 1, 2015.



Monitoring Changes



- Sample Collection & Reservation System (SCRS) went live on October 1, 2013.
- SCRS allows systems to schedule chemical compliance monitoring with the State Lab via a web-based reservation system. Samples can be tracked from lab receipt through analysis, and results can be displayed. SDWIS Viewer sample schedule reports are also accessible.
- Statewide training was conducted over the past several months and is available upon request.

DWSRF “On The Rise” in SFY2013

- Executed a Program record 10 loans totaling over $27.6M (the old record was 5 loans the *previous* year).
- Overall interest rates on these loans (*including loan fees*) varied from 1.0% to 2.0%
- In addition, approximately $2.75M consisted of 0% interest and principle forgiveness, thus further reducing the effective interest rate!
- All County water supply agencies participating!
- Even more demand for these low interest loans expected as we look into loans to privately-owned and State-owned PWS.
- Don’t miss the boat! Increase you projects’ “shovel readiness” to get your share of the pie next fiscal year!

THANK YOU!