



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
HEADQUARTERS, UNITED STATES ARMY GARRISON, HAWAII
DIRECTORATE OF PUBLIC WORKS
947 WRIGHT AVENUE, WHEELER ARMY AIRFIELD
SCHOFIELD BARRACKS, HAWAII 96857-5013

MAR 29 2017

RECEIVED
SAFE DRINKING WATER BRANCH

MAR 31 2017

3/31/17
M3

Directorate of Public Works

Ms. Joanna Seto
Chief, Safe Drinking Water Branch
Environmental Management Division
Hawaii State Department of Health
919 Ala Moana Boulevard, Room 308
Honolulu, Hawaii 96814

Dear Ms. Seto:

This letter in concurrence with the enclosed report is in response to the State of Hawaii, Department of Health, Safe Drinking Water Branch Report of Sanitary Survey dated November 30, 2016, for the survey of the Aliamanu water system (PWS 337) conducted on October 26, 2016.

There was one (1) significant deficiency and five (5) recommendations provided in the sanitary survey letter report. All significant deficiencies have been resolved. Recommendations have either been resolved or are in progress for completion. U.S. Army Garrison, Hawaii (USAG-HI) will continue to work towards completion of each of the open recommendations as timely as possible, to the extent in which our resources and operations will allow.

In conformance with the State of Hawaii Department of Health, Clean Water Branch's photo documentation policy, enclosed is USAG-HI's response to significant deficiencies and recommendations.

If you have any questions, please contact Kim DeCaprio, Directorate of Public Works, Environmental Division, Safe Drinking Water Program, (808) 656-3107 or kimberly.c.decaprio.civ@mail.mil.

Sincerely,

Kent K. Watase, PE
Director of Public Works

Enclosure

U.S. Army Garrison, Hawaii
DOH Sanitation Survey Aliamanu
Public Water System #337 Official Findings
November 30, 2016*

Significant Deficiencies

AMR South Tank

- **Significant Deficiency:** The flapper at the end of overflow line is unable to seal due to the rusty condition. Refurbish or replace. **CORRECTED:** Temporary fix completed 12/13/2016. Permanent repairs completed 1/17/17 – replaced with new duckbill valve. Double mesh stainless steel screen for added protection.



After

Recommendations

AMR 2070 Middle Tank

- **Recommendation #1:** Repair the potential spalling spots and the exposed rebar. Remove the vegetation on the tank exterior. **IN PROGRESS:** Facilities Engineering Work Request (FEWR) submitted for project completion, possible FY18 funding.

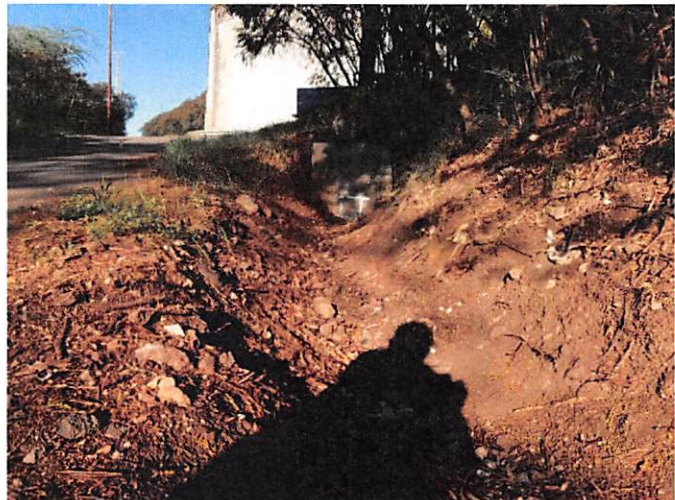


Before

- **Recommendation #2:** Remove the sump condition in front of the overflow line and provide a free flowing trench that is graded away from the end of overflow line. **CORRECTED:** Sump conditions removed, trench cleared away from overflow line and graded to slope away from outlet.



Before



After

AMR 181 NORTH TANK

- **Recommendation #1:** Make sure the roof access hatch screen is installed and mounted on the frame instead of covering the frame. **IN PROGRESS:** *Maintenance/Repair Work Report requested through electrical/mechanical contractors to install and mount screen to completely cover the frame. Contract Number: W912CN-15-D-0008, Work Request Number: WTP 101.*



Before

- **Recommendation #2:** Clean the vegetation and shrubbery near the end of the overflow line. **IN PROGRESS:** *Operations and Maintenance Division notified to clear overflow line free of vegetation, dirt and debris.*

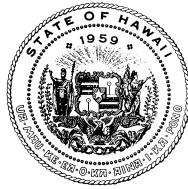


Before

AMR South Tank

- **Recommendation #1:** The screen just covers the interior frame of the hatch leaving a few openings. To prevent the potential contaminant from bugs and/or dirt, mount the screen on the frame to fully cover it. **IN PROGRESS:** *Maintenance/Repair Work Report requested through electrical/mechanical contractors to install and mount screen to completely cover the frame of hatch. Contract Number: W912CN-15-D-0008, Work Request Number: WTP 101.*

[No photo]



STATE OF HAWAII
DEPARTMENT OF HEALTH
SAFE DRINKING WATER BRANCH
919 ALA MOANA BLVD., ROOM 308
HONOLULU, HI 96814-4920

In reply, please refer to:
File: SDWB
337D1116.docx

November 30, 2016

Ms. Kim DeCaprio
Directorate of Public Works
Env. Division
947 Wright Avenue
Wheeler Army Airfield
Schofield Barracks, HI 96857-5013
[via kimberly.c.decaprio.civ@mail.mil only]

Dear Ms. DeCaprio:

SUBJECT: REPORT OF SANITARY SURVEY
PUBLIC WATER SYSTEM NO. 337, ALIAMANU

Thank you for the assistance and information provided during the sanitary survey inspection of the Aliamanu (PWS337) water system conducted on October 26, 2016.

My staff appreciated the assistance provided by you, Mr. Wayde Nakai and Ms. Liana Lee.

A sanitary survey of a public water system is a periodic review of the system's facilities, operation and maintenance practices, and records to assure that proper conditions, policies, and practices are in effect for that water system. Maintaining of minimum standards of operation and maintenance is the responsibility of the operator.

As of December 1, 2009, systems must comply with the sanitary survey requirements of the Ground Water Rule (GWR). The Rule requires ground water systems with an identified “**significant deficiency**” to consult with the State on a corrective action plan and schedule of completion within 30 days of receiving written notice of the deficiency. The system must complete the corrective actions or be in compliance with the agreed upon corrective action plan and completion schedule within 120 days of receiving written notice of the deficiency. The following is a list of significant deficiencies found:

- **The flapper at the end of the South Tank’s overflow line is unable to seal due to the rusty condition.**

Under the Hawaii Administrative Rules (HAR), Section 11-20-46.1(g), water systems with a “**significant deficiency**” are required to correct the deficiency or provide a written corrective plan of action and a completion schedule within 45 days of receiving written notice of the significant deficiency from the State.

As of January 1, 2014, photo documentation of all corrected significant deficiencies is required. The Safe Drinking Water Branch (SDWB) reserves the right to conduct follow up inspections as necessary.

The Department of Health (DOH) also requests that the system review the list of “recommendations” (non-significant deficiencies) below and provide written acknowledgement that they will address them in a timely manner, to the extent that resources and operations will allow. We strongly encourage the system to address “recommendations” as you would significant deficiencies to avoid related problems in the future. The DOH will be using the list of significant deficiencies and recommendations as a reference and benchmark for measuring system progress in future sanitary surveys.

The following are the recommendations:

Middle Tank

1. There are several spalling spots, the exposed rebar, and the vegetation on the tank exterior. Recommend to remove the vegetation and to repair the spalling spots and the exposed rebar.
2. Remove the sump condition in front of the overflow line and provide a free flowing trench that is graded away from the end of overflow line.

North Tank

1. The screen just covers the interior frame of the hatch leaving a few openings. To prevent the potential contaminant from bugs and/or dirt, mount the screen on the frame to fully cover it.
2. There are the vegetation and shrubbery near the end of the overflow line. Recommend to clean them.


Ms. Kim DeCaprio
November 30, 2016
Page 3

South Tank

The screen just covers the interior frame of the hatch leaving a few openings. To prevent the potential contaminant from bugs and/or dirt, mount the screen on the frame to fully cover it.

If there are any questions, please call Mr. Zhaohui Wang of the SDWB Compliance and Enforcement Section at 586-4258.

Sincerely,



JOANNA L. SETO, P.E., CHIEF
Safe Drinking Water Branch

ZW:cb

SDWB Sanitary Survey Form

Pre-Inspection

| | | | |
|--------------------|---------------------------------------|----------------------------|-------------|
| Date of Survey | 10/26/2016 | PWS Type | Community |
| PWS ID No. | 337 | Source | Groundwater |
| Water System Name | Aliamanu | Consecutive From | 360 |
| Water System Owner | U.S. Army Directorate of Public Works | Population Served | 6630 |
| PWS Contact Person | Kim DeCaprio | No. of Service Connections | 1620 |
| Phone | 656-3107 | Average Daily Flow (MGD) | 0.4 |
| Email Address | kimberly.c.decaprio.civ@mail.mil | | |

Persons Present During Sanitary Survey (provide name and affiliation)

| | |
|------------------------------|------------------------------------|
| 1. Zhaohui Wang (SDWB) | 6. Kimberly DeCaprio (US Army DPW) |
| 2. Michael Miyahira (SDWB) | 7. Liana Lee (US Army DPW) |
| 3. Alan Dillon (SDWB) | 8. |
| 4. Michael Cummings (SDWB) | 9. |
| 5. Wayde Nakai (US Army DPW) | 10. |

Compliance History

| Violations Since Last Sanitary Survey | | | |
|---------------------------------------|------|-------------|--------|
| Violation Type | Date | Description | Status |
| | Date | | |
| | Date | | |
| | Date | | |

System Management and Operation

| | |
|---|----------------|
| Annual Report or Similar Document Provided | Not Applicable |
| CCR Database Storage and Compliance Status | Satisfactory |
| Is an Updated Emergency Response Plan Available per HAR 11-19-5 (County Only) | No |

Pumps, Pump Facilities, and Controls

| | | | | |
|--|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Source Name | Pearl Harbor (PWS 360) | Pearl Harbor (PWS 360) | Pearl Harbor (PWS 360) | Pearl Harbor (PWS 360) |
| Location | Aliamanu Military Reservation | Aliamanu Military Reservation | Aliamanu Military Reservation | Aliamanu Military Reservation |
| Source Type | Groundwater | Groundwater | Groundwater | Groundwater |
| Source Infrastructure | Shaft | Shaft | Shaft | Shaft |
| USGS Number | NA | NA | NA | NA |
| Well Depth (ft) | NA | NA | NA | NA |
| Pump Type | Booster | Booster | Booster | Booster |
| Rated Flow (gpm) | 700 | 700 | 700 | 700 |
| TDH (ft) | 180 | 180 | 280 | 280 |
| Pump lubrication | Water Lubed | Water Lubed | Water Lubed | Water Lubed |
| Condition of oil lubricating equipment | Not Applicable | Not Applicable | Not Applicable | Not Applicable |
| Pump in 100-Year Floodplain | No | No | No | No |
| Pump site protected from runoff | Yes | Yes | Yes | Yes |
| Well slab/floor material condition | NA | NA | NA | NA |
| Watertight seal for: | | | | |
| Pump base plate/discharge head openings | N/A | N/A | N/A | N/A |
| Airline tubing for water level measurements? | N/A | N/A | N/A | N/A |
| Pump column vent hole/tubing? | N/A | N/A | N/A | N/A |
| Pump-to-Waste vent elevated and screened/flappered? | Not Applicable | Not Applicable | Not Applicable | Not Applicable |
| Condition of Pump-to-Waste screen/flapper | N/A | N/A | N/A | N/A |
| All ARVs are screened | Yes | Yes | Yes | Yes |
| All ARVs are pointed downward | Yes | Yes | Yes | Yes |
| Emergency power exists? | Yes and Exercised Regularly | Yes and Exercised Regularly | Yes and Exercised Regularly | Yes and Exercised Regularly |
| Emergency power test frequency | Quarterly | Quarterly | Quarterly | Quarterly |
| Emergency power protected from vandalism or the elements? | Yes | Yes | Yes | Yes |
| Identify cross-connections (submerged outlets, standing water, hose bib connections, etc.) | NA | NA | NA | NA |
| Recent daily maintenance log entries attached (photo ok) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Remarks | S1/S2 AMR pump 1 | S1/S2 AMR pump 2 | AMR Middle Tank pump 1 | AMR Middle Tank pump 2 |

Finished Water Storage

| | | | | |
|---|--------------------------------|---------------------|--|-----------------|
| Tank Name | Middle | South (underground) | North (underground) | |
| Spillway elevation (ft) | 130 | 380 | 450 | |
| Capacity (MG) | 0.75 | 0.1 | 0.1 | |
| Material of construction | Concrete | Concrete | Concrete | Material |
| Exposure to unauthorized persons | Low Probability | Low Probability | Low Probability | Choose an item. |
| Surrounding landscape | Other: residential, industrial | Other: residential | Other: residential, telecommunications | 35T |
| Site fenced | Yes | Yes | Yes | Yes or No |
| Warning signs | Yes | Yes | Yes | Yes or No |
| Gates locked | Yes | Yes | Yes | Yes or No |
| Cross-connection potential with onsite irrigation | No | No | No | Yes or No |
| Site drainage | Satisfactory | Satisfactory | Satisfactory | |
| Condition of tank exterior | Unsatisfactory | Satisfactory | Satisfactory | |
| Condition of access ladder | Satisfactory | Not Applicable | Not Applicable | |
| Vent insect screen | Satisfactory | Unsatisfactory | Unsatisfactory | |
| Tank access hatch | Satisfactory | Satisfactory | Satisfactory | |
| Visual water quality | Satisfactory | Satisfactory | Satisfactory | |
| Overflow hatch | Satisfactory | Satisfactory | Satisfactory | |
| Level indicator cable opening | Satisfactory | Not Applicable | Not Applicable | |
| Overflow line screen/flapper | Satisfactory | Satisfactory | Unsatisfactory | |
| Washout drain line | Satisfactory | Satisfactory | Satisfactory | |
| O & M program | No | No | No | Yes or No |
| Frequency of inspection of tank roof and interior and exterior surfaces | At least annually | At least annually | At least annually | 35T |
| Frequency of tank interior cleaning | Other: never | Other: never | Other: never | 35T |
| Tank isolation by valving | Yes | Yes | Yes | Yes or No |
| Disinfection onsite | No | No | No | Yes or No |
| Remarks | | | | |

| Distribution and Transmission | |
|--|--|
| System pipe materials | 1. AC, cast iron, PVC 2. 35T 3. 35T |
| System pressure range (psi) | 40-120 |
| Method of isolation | valving |
| Security measures | 35T |
| Installation and repair procedures for water mains | N/A |
| Flushing schedule and procedure | Flush the system whenever fire hydrants are checked. |
| Leak detection control program | Satisfactory |
| Corrosion control program | N/A |
| For all surface water, GWUDI, and non-county groundwater systems: Has there been any substantial modifications to the water system, as per HAR 11-20-30, since the last sanitary survey? | 35T |
| Remarks | |

Capacity Assessment

| Technical | |
|--|--|
| <p>OPERATOR CERTIFICATION</p> <p>Each public water system (except transient, non-community) shall be under the responsible charge of an operator(s) holding a valid certification equal to or greater than the classification of the WTP or DS. Check whether the water system operators are certified. A backup certified operator is recommended.</p> | <p> <input checked="" type="checkbox"/> Operator Certification Form is attached <input checked="" type="checkbox"/> System has a backup certified operator <input type="checkbox"/> The system does not have the required certified operators </p> |
| <p>ADEQUATE WATER SOURCES</p> <p>Discuss with manager whether the present water sources are adequate for the future (next 5 years).</p> | <p>Does the system have an emergency connections with other systems? No</p> <p>Are the existing sources are of sufficient quantity and quality to meet future demand? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No </p> |
| <p>POTENTIAL FOR CONTAMINATION OF THE WATER</p> <p>Inspect for pathways that could contaminate the finished water at the well site, storage tanks, or distribution system.</p> | <p> <input checked="" type="checkbox"/> Significant deficiencies were found during this sanitary survey <input type="checkbox"/> No significant deficiencies were found during this sanitary survey </p> |

| | |
|---|---|
| <p>MONITORINIG PROGRAMS</p> <p>Check water quality monitoring performance.</p> | <p><u>Coliform Monitoring Program</u></p> <p>✓ Satisfactory <input type="checkbox"/> Unsatisfactory, explain:</p> <p><u>Lead and Copper Monitoring Program</u></p> <p>✓ Satisfactory <input type="checkbox"/> Unsatisfactory, explain:</p> <p><u>Phase II and Phase V Monitoring Program</u></p> <p>✓ Satisfactory <input type="checkbox"/> Unsatisfactory, explain:</p> <p><u>Chemical Monitoring</u></p> <p>✓ Satisfactory <input type="checkbox"/> Unsatisfactory, explain: <input type="checkbox"/> SDWIS Water Quality Data from past 5 years is attached</p> |
| <p>BACKFLOW AND CROSS-CONNCECTIONS</p> <p>Check whether backflow prevention devices are used if the water system serves hospitals, farms, golf courses, sewage treatment plants, or other activities that could cause a backflow of contamination into the drinking water.</p> | <p>Does the system have a cross connection control program or policy? ✓ Yes <input type="checkbox"/> No, explain:</p> <p>Does the system have the appropriate cross-connection control devices installed? <input type="checkbox"/> Yes ✓ No, explain: there is not any cross-connection control device in the water system.</p> <p>Are backflow preventers inspected annually? Choose an item.</p> <p>Air gaps at least 2 pipe diameters (1" min) above the overflow rim? <input type="checkbox"/> Yes ✓ No, explain: Not applicable</p> |

| Managerial | |
|--|---|
| <p>ORGANIZATION AND MANAGEMENT CAPABILITY</p> | <p>Is there a clear plan of organization and control among the people responsible for the management and operation of the system? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No, explain:</p> <p>Is the system receiving the technical assistance and other support that is needed? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No, explain:</p> |
| <p>SYSTEM MAINTENANCE</p> <p>The overall condition of the water system infrastructure should be assessed.</p> | <p>Is the present maintenance level adequate for the water system? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If no, explain:</p> |
| <p>EMERGENCY PLANS</p> <p>Check whether the water system has an emergency plan. The plan should include obtaining backup sources of water in drought situations, loss of a well pump or extended loss of electrical power.</p> | <p>Does the water system have an emergency plan? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> |
| <p>CORRECTION OF PROBLEMS</p> <p>The water system should have plans to correct obvious significant problems noted during the survey. The water system should also have corrected earlier identified significant problem(s) in a timely fashion.</p> | <p>List the significant deficiencies from the last sanitary survey and check the box if corrected.</p> <p><input type="checkbox"/> 1. <input type="checkbox"/> 2. <input checked="" type="checkbox"/> 3. <input type="checkbox"/> 4.</p> |

| Financial | |
|--|---|
| <p>ADEQUATE FINANCIAL BUDGETS</p> <p>The annual budget should have sufficient income and cash reserves to pay annual operating expenses, unexpected significant repairs, and planned major work. A dedicated source of income should be identified.</p> | <p>Is there an annual budget? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No, explain:</p> <p>Are there sufficient funds to cover the necessary expenses for the water system to operate? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No, explain:</p> |
| <p>NORMAL OPERATION AND MAINTENANCE</p> <p>Discuss whether funding levels for operation and maintenance are sufficient.</p> | <p>Are there adequate funds for operation and maintenance? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> |
| <p>CAPITAL IMPROVEMENT PROJECTS</p> <p>A five year capital improvement plan enables the water system to plan for future needs.</p> <p>Facility improvements indicate management support of the water system's needs.</p> | <p>Is there a five year capital improvement budget? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Identify improvements to the water system and include the month and year the improvement was installed since the last sanitary survey:</p> <p>If there were no capital improvements since the last sanitary survey, is the existing infrastructure adequate? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> |

Significant Deficiencies and Recommendations**Significant Deficiencies**

The flapper at the end of the South Tank's overflow line is unable to seal due to the rusty condition.

RecommendationsMiddle Tank

1. There are several spalling spots, the exposed rebar, and the vegetation on the tank exterior. Recommend to remove the vegetation and to repair the spalling spots and the exposed rebar.
2. Remove the sump condition in front of the overflow line and provide a free flowing trench that is graded away from the end of overflow line.

North Tank

1. The screen just covers the interior frame of the hatch leaving a few openings. To prevent the potential contaminant from bugs and/or dirt, mount the screen on the frame to fully cover it.
2. There are the vegetation and shrubbery near the end of the overflow line. Recommend to clean them.

South Tank

The screen just covers the interior frame of the hatch leaving a few openings. To prevent the potential contaminant from bugs and/or dirt, mount the screen on the frame to fully cover it.

Significant deficiency

South Tank



The flapper at the end of the South Tank overflow line is unable to seal due to the rusty condition.

U.S. Army Garrison, Hawaii
DOH Sanitation Survey Schofield Barracks
Public Water System Findings
October 26, 2016

*** Added on 10/31/16 from Wang's list

TAMC 94 Well Pump Station

*** **Recommendation #1:** Fix the rust on pump base of Well 2

[No photo]

Recommendation #2: Clean or replace the dirty screen at the end of pump-to-waste line. **CORRECTED:**
Debris removed and screen cleaned.



BEFORE



AFTER

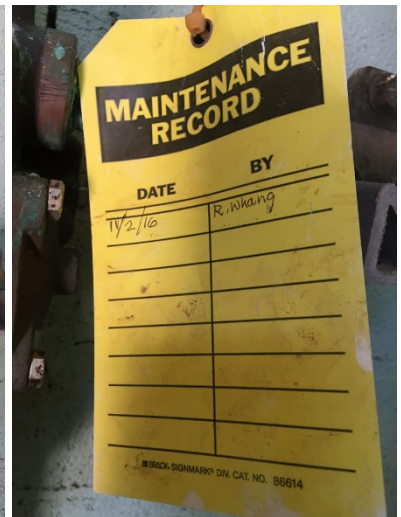
Recommendation #3: Disconnect old Chlorine injection pump system by removing connection at backflow preventer. Alternative action is to conduct annual testing on the pump. **CORRECTED:**
Serviced backflow preventer on November 2, 2016



BEFORE



AFTER



*****Recommendation #4:** Remove old, unused chlorine gas scale and associated equipment

[No photo]

TAMC 240 Booster Pump Station

*****Recommendation #1:** Provide the date when the irrigation line from the fire hydrant will be disassembled.

[No photo]

*****Recommendation #2:** An out-of-service electrical panel within the transformer enclosure should be removed. **CORRECTED:** Removed electrical box



AFTER

Recommendation #3: Remove or refurbish the rusty iron frame inside the hatch to prevent rusted frame pieces from falling into the tank.



Recommendation #4: Replace/fix the rusty iron ladder inside the tank.



Recommendation #5: Power wash the tank top to remove the bio-mess.



Recommendation #6: It is clear that there is runoff from hill, provide a presentational solution/plan, e.g. graded swale around the back side.



Recommendation #7: Cut the trees around the fence with 10-20 feet wide clear space. **IN PROGRESS:** Wayde contacted Contract Services to have landscapers cut back vegetation.



Recommendation #8: Remove the unused level control equipment and electrical conduit penetrations on the tank roof and seal the opening. **CORRECTED:** Removed old, not-in-use level transducer and capped opening.



BEFORE

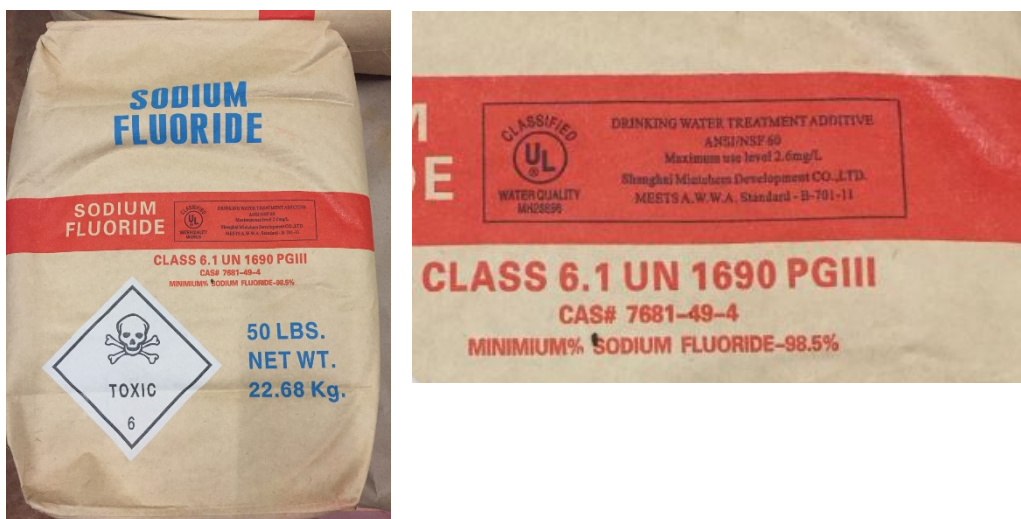


AFTER

*****Recommendation #9:** Overflow discharge pipe (daylight) should be extended and a screen attached that is secure but can still be easily removed if cleaning is required.



*****Recommendation #10:** Provide evidence of the sodium fluoride manufacturer's NSF 60 certification.
CORRECTED: Provided photo of sodium fluoride packaging with NSF 60 certification label.



Recommendation #11: Label 2 containers for fluoride solution, the container of fluoride powder and the container of softener. **CORRECTED:** Labeled fluoride vats and storage container, and water softener.



BEFORE



AFTER

*****Recommendation #12:** Remove unused or incompatible liquids or chemicals in the fluoridation room, e.g. paints, etc.

[No photo]

TAMC 600

Significant Deficiency: Overflow outlet flapper valve is stuck open with soil and vegetation. The flapper will not open completely due to soil and vegetation blocking the valve. Grading at the outlet doesn't allow for adequate drainage away from the flapper. Re-grade the surrounding area to allow drainage away from outlet. **CORRECTED:** cleared soil and vegetation around flapper valve, removed old piping from site and dug trench for water flow.



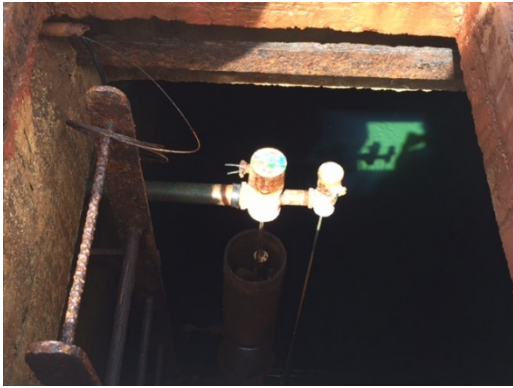
BEFORE



AFTER



Recommendation # 1: Please overflow the tank to clean the sheen on the top of water.



hatch



Recommendation #2: Remove rusting old metal and ladder

Recommendation #3: Remove and cap old/not-in-use conduit. **CORRECTED:** Removed old conduit from water tank wall and patched opening.



BEFORE



AFTER

TAMC 162

Significant Deficiency: Backflow preventer has not been tested annually. Please provide evidence of testing. **CORRECTED:** Cleared vegetation and inspected BFP



BEFORE



AFTER

Recommendation #1: Basic housekeeping, remove the old parts and pipe from the yard, remove the overgrown vegetation.



*****Recommendation #2:** The booster pump seal appears to be leaking excessively

[No photo]

AMR 2070

*****Recommendation #1:** Take care the potential spalling and the exposed rebar. Remove the vegetation on the tank exterior.



Recommendation #2: Clean the vegetation and shrubbery near the end of the overflow line. (Verbal note: Grade the area around the overflow outlet so that water flow is directed away from the outlet)



Recommendation: Put a cap on the top of the tank level gauge.

[No photo]

AMR 181 NORTH TANK

Recommendation #1 *(Revised from SD)*: Make sure the roof access hatch screen is installed on the frame instead of covering the frame.



*****Recommendation #2:** Clean the vegetation and shrubbery near the end of the overflow line. (Verbal note: Replace rusty overflow outlet valve with “duckbill”)



Verbal note: Keep observation on the slope on the East side of the tank. Soil erosion running onto the top of the tank. May need mitigation if erosion continues.



AMR S1/S2 Booster Pump Station

[No comments provided by the DOH]

AMR South Tank

Significant Deficiency (*revised from recommendation*): The flapper at the end of overflow line is unable to seal due to the rusty condition. Refurbish or replace.

[No photo]

Recommendation: Make sure the screen is installed on the frame instead of covering the frame.

[No photo]

| FACILITY_ID | FACILITY_NAME | FACILITY_TYPE | SAMPLING_POINT_NAME | SAMPLING_METHOD | ANALYTE_ID | ANALYTE_NAME | COLLECTED_ON | CONCENTRATION | UNIT | MCL | unit |
|----------------|---------------|---------------|---------------------|-----------------|----------------|----------------|--------------|---------------|------|-----|------|
| ALIAMANU DS337 | | DS | R-127 OLIVE PL | TC081R | Total Coliform | COLIFORM -TCR- | 5/17/2016 | 1 | | | |
| ALIAMANU DS337 | | DS | 6544 CROSSANDRA ST | 903 | Disinfectant | TTHM | 5/11/2016 | 4 | UG/L | 80 | UG/L |

Water Treatment Plant Classification

- ☐ Class 1 - Slow sand filtration; chemical addition, such as for chlorination, fluoridation, pH control, or corrosion control; granular activated carbon filtration; or packed aeration towers or air stripping towers
- ☐ Class 2 - Membrane filtration; cartridge filtration; or desalting (including distillation, electrodialysis, and reverse osmosis)
- ☐ Class 3 - Diatomaceous earth filtration, or package plants with diatomaceous earth filtration
- ☐ Class 4 - Conventional treatment; direct filtration; or package treatment plants with conventional treatment or direct filtration

Note: Chlorination and/or fluoridation facilities only can be operated by either certified WTPOs or DSOs.

Distribution System Classification

- ☐ Class 1 - Serves water systems with a population of 1,500 or less persons
- ☒ Class 2 - Serves water systems with a population of 1,501 to 15,000 persons
- ☐ Class 3 - Serves water systems with a population of 15,001 to 50,000 persons
- ☐ Class 4 - Serves water systems with a population of over 50,000 persons

| Name | Cert # | Exp | Name | Cert # | Exp |
|-------------------------------|-----------|-------------------|------------------------------|----------|-------------------|
| WTPO(s) in Responsible Charge | | | DSO(s) in Responsible Charge | | |
| Arengo | Wilmor C. | T1-030 11/30/2017 | Martin | Monte L. | D4-205 11/30/2016 |
| Nakai | Wayde T. | T2-125 11/30/2018 | | | |

| | | | | | | | |
|------------------------------------|------------|--------|------------|-----------------------------------|-------------|--------|------------|
| Other WTPO(s) operating the system | | | | Other DSO(s) operating the system | | | |
| Stone | David M. | T1-110 | 11/30/2016 | Whaley | William P. | D3-111 | 11/30/2018 |
| Cadiz | Richard M. | T1-123 | 11/30/2017 | Guzman | Chandalyn M | D1-319 | 11/30/2017 |

Due January 29, 2016

☐ Changes noted

OR

☐ No changes

by Mail: Hawaii Department of Health

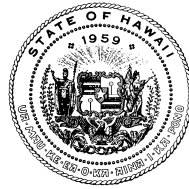
by Email: jodi.yamami@doh.hawaii.gov

by Fax: 808-586-4351

Safe Drinking Water Branch

919 Ala Moana Blvd., Room 308

NEICVH02HI 96814



STATE OF HAWAII
DEPARTMENT OF HEALTH
SAFE DRINKING WATER BRANCH
919 ALA MOANA BLVD., ROOM 308
HONOLULU, HI 96814-4920

In reply, please refer to:
File: SDWB
337C&346C1016.docx

October 7, 2016

Ms. Kim DeCaprio
Directorate of Public Works
Env. Division
947 Wright Avenue
Wheeler Army Airfield
Schofield Barracks, Hawaii 96857-5013
[via kim.decaprio@usarmy.mil only]

Dear Ms. DeCaprio:

**SUBJECT: PUBLIC WATER SYSTEM NO. 337, ALIAMANU AND
PUBLIC WATER SYSTEM NO. 346, TRIPLER ARMY MEDICAL CENTER
CONFIRMATION OF SANITARY SURVEY**

This letter is to confirm the discussion via email requesting the sanitary survey of both the Aliamanu system (PWS 337) and the Tripler Army Medical Center system (PWS 346). My staff (Mr. Zhaohui Wang) will meet your staff at the Tripler water plant at 8:45 a.m. on Wednesday, October 26, 2016. We understand that the survey should take approximately four (4) hours to complete.

The sanitary surveys are conducted to evaluate the adequacy of the source, facilities, equipment, operation, and maintenance of a water system. The survey is an essential part of the rules administered by the Safe Drinking Water Branch (SDWB). The survey is beneficial to both the Department of Health and the purveyor because it allows the staff to become familiar with your water system and provides your staff with information on how to maintain and operate your system. If violations or problems should occur, this knowledge facilitates analysis of the situation.

In order to conduct the survey, we would appreciate your assistance in providing access to the facilities, including storage tank roofs. Please advise us if fall protection equipment (harness, lanyard, rope grab, etc.) is required. We also request that one of your staff members knowledgeable about the water system be present during the survey. Please have the following information available the day of the survey:

1. **SYSTEM FLOW** - Description of the overall system flow (i.e., from source to disinfection to reservoir, etc.), amount of water used by the system, the population served, and a map or schematic of the system flow. We would appreciate having a copy of the water system map or schematic for our files.

Ms. Kim DeCaprio
October 7, 2016
Page 2

2. FACILITIES - Information on the facilities and their operation. For example:
 - a. Well source: The pumping capacity and flow rate (GPD) of the pump.
 - b. Reservoirs: The storage capacity.
 - c. Distribution system: The pipe material used and location of the sample points.
3. RECORDS – Daily log of chemical additions, including date, time, dosage (PPM), residual (PPM), flow rate, etc.

If, for any reason, you are unable to accommodate our request for this survey, or if you have any questions regarding the survey, please call Mr. Michael Miyahira, Supervisor of the SDWB Engineering Section, at (808) 586-4258.

Thank you for your attention to this matter.

Sincerely,



JOANNA L. SETO, P.E., CHIEF
Safe Drinking Water Branch

ZW: cb

PWS337 submit a temporary fix for this SD on 12/13/16 after Kim asked Wang's approval on 12/9/16.

On 12/20/16, Wang accepted this fix but asked PWS337 to provide photos after the permanent duckbill being installed.

AMR South Tank

Significant Deficiency: The flapper at the end of overflow line is unable to seal due to the rusty condition. Refurbish or replace.

CORRECTED: Temporary fix completed 12/13/2016: Disconnected at the flange to install stainless steel screens and bolted the flange back together. A duckbill valve has been ordered and will be installed permanently once the part is received.



Photo of screen installed between the flange.



Photo of double SS wire screens



Picture of screen inside pipe.

Wang, Zhaohui

From: DeCaprio, Kimberly C CIV USARMY IMCOM PACIFIC (US)
<kimberly.c.decaprio.civ@mail.mil>
Sent: Friday, December 09, 2016 2:37 PM
To: Wang, Zhaohui
Subject: RE: [Non-DoD Source] Feedback for the survey for PWS337 and 346

Thank you! I'll keep you updated on this situation.

-----Original Message-----

From: Wang, Zhaohui [mailto:Zhaohui.Wang@doh.hawaii.gov]
Sent: Friday, December 09, 2016 2:06 PM
To: DeCaprio, Kimberly C CIV USARMY IMCOM PACIFIC (US) <kimberly.c.decaprio.civ@mail.mil>
Subject: RE: [Non-DoD Source] Feedback for the survey for PWS337 and 346

Kim,

This temporary solution is good. Just make sure send me the photos to me.

Best,

Wang

-----Original Message-----

From: DeCaprio, Kimberly C CIV USARMY IMCOM PACIFIC (US) [mailto:kimberly.c.decaprio.civ@mail.mil]
Sent: Friday, December 09, 2016 11:51 AM
To: Wang, Zhaohui <Zhaohui.Wang@doh.hawaii.gov>
Subject: RE: [Non-DoD Source] Feedback for the survey for PWS337 and 346

Hi Wang,

Wayde has been working on purchasing a new valve to address the SD at the AMR South Tank. However, he is still waiting on word of when it is estimated date it will be delivered and not sure if it will come in before Dec 31st. We are proposing a temporary repair to resolve the SD if the new valve do not arrive in time. We want to disconnect at the flange, install a stainless steel screen and bolt the flange back together. This will mitigate the concern of insects getting into the tank. Is this something the DOH can concur with? I will send photo documentation of the temporary solution once completed.

Thank you,
Kim

-----Original Message-----

From: Wang, Zhaohui [mailto:Zhaohui.Wang@doh.hawaii.gov]
Sent: Monday, November 28, 2016 10:43 AM
To: DeCaprio, Kimberly C CIV USARMY IMCOM PACIFIC (US) <kimberly.c.decaprio.civ@mail.mil>
Subject: RE: [Non-DoD Source] Feedback for the survey for PWS337 and 346

Kim,

I completed the reports for both systems. PWS346 has not any SD, but PWS337 has one SD. As it may take a few days to deliver to you, you may receive them at the beginning of Dec.

One thing I am concerning: can you complete the corrective action regarding PWS337's SD by Dec. 31? If not, you will have to put a long statement in your 2016's CCR according to the EPA's CCR guidance. See the following quote:

"If you are a ground water system that receives notice from the state of a significant deficiency, you must inform your customers of any significant deficiencies that are not corrected by December 31 of the year covered by your CCR. The CCR must include the following information:

- * The nature of the significant deficiency and the date it was identified by the state.
- * The state-approved plan and schedule for correction, including interim measures, progress to date, and any interim measures completed."

Therefore, I suggest you start to fix the SD in PWS337 as early as possible.

Best,

Wang

-----Original Message-----

From: DeCaprio, Kimberly C CIV USARMY IMCOM PACIFIC (US) [mailto:kimberly.c.decaprio.civ@mail.mil]
Sent: Wednesday, November 23, 2016 1:48 PM
To: Wang, Zhaohui <Zhaohui.Wang@doh.hawaii.gov>
Subject: RE: [Non-DoD Source] Feedback for the survey for PWS337 and 346

You too! Have a Happy Thanksgiving!

-----Original Message-----

From: Wang, Zhaohui [mailto:Zhaohui.Wang@doh.hawaii.gov]
Sent: Wednesday, November 23, 2016 1:27 PM
To: DeCaprio, Kimberly C CIV USARMY IMCOM PACIFIC (US) <kimberly.c.decaprio.civ@mail.mil>
Subject: RE: [Non-DoD Source] Feedback for the survey for PWS337 and 346

Kim,
Thank you very much!

Happy Thanksgiving!

Best,

Wang

-----Original Message-----

From: DeCaprio, Kimberly C CIV USARMY IMCOM PACIFIC (US) [mailto:kimberly.c.decaprio.civ@mail.mil]
Sent: Wednesday, November 23, 2016 10:24 AM
To: Wang, Zhaohui <Zhaohui.Wang@doh.hawaii.gov>
Cc: Lee, Liana N CIV USARMY USAG (US) <liana.n.lee.civ@mail.mil>
Subject: RE: [Non-DoD Source] Feedback for the survey for PWS337 and 346

Hi Wang,

Attached is the TAMC 94 BFP test report conducted on 11/2/16.

Yesterday, we conducted a site visit of TAMC 240 to assess storm drainage concern noted in Recommendation #6. The site visit included our stormwater program staff, facilities manager and agronomist. Based on the site visit we determined the best way to address the Recommendation #6 is to cut back the vegetation. The debris that is observed along the fence was accumulated over several years and not a result of a single, recent rain event.

It was determined that the water tank area receives minimal amount of run off. Basically, only vegetated area immediate above the water tank contribute water flow towards the tank. Most of the area surround the water tank is sloped away from the tank towards the ravine and rain water flows away from the tank.

The road located above/up slope of the water tank has a high curb and any stormwater would be conveyed within the road way. Additionally, there is a storm drain located near the top of the road to collect stormwater, minimizing what would flow along the road.

Our current plan is to cut back the vegetation 20 feet from the fence line and seed the clearing to prevent erosion and runoff. Conduct periodic maintenance of vegetation and clearing of debris. From there we will continue to assess the stormwater impacts to see if further mitigation is required.

The ravine down grade of the water tank is a damselfly habitat so any construction project and hydrological alterations will have to consider the impacts to the habitat. So, we think this approach will be effective and will have significantly lower potential impact to the damselfly habitat.

See the attached PowerPoint file for photos of taken at the site visit. Will our proposed plan satisfy to resolve Recommendation #6?

Thank you!

Regards,
Kim

-----Original Message-----

From: Wang, Zhaohui [mailto:Zhaohui.Wang@doh.hawaii.gov]
Sent: Tuesday, November 22, 2016 11:33 AM
To: DeCaprio, Kimberly C CIV USARMY IMCOM PACIFIC (US) <kimberly.c.decaprio.civ@mail.mil>
Subject: RE: [Non-DoD Source] Feedback for the survey for PWS337 and 346

Kim,
Thank you. At least, I can read the date 11/8/16 on this page. If possible, can you also forward the test report for the small BDP in the chlorinator room which was tested on 11/2/16.

Thank you very much!

Best,

Wang

-----Original Message-----

From: DeCaprio, Kimberly C CIV USARMY IMCOM PACIFIC (US) [mailto:kimberly.c.decaprio.civ@mail.mil]

Sent: Tuesday, November 22, 2016 9:39 AM
To: Wang, Zhaohui <Zhaohui.Wang@doh.hawaii.gov>
Subject: RE: [Non-DoD Source] Feedback for the survey for PWS337 and 346

Hi Wang,

Yes, sorry I know the scanned copies didn't produce well. Page three is the 2016 test report. I extracted that page and attached to this email.

Thanks,
Kim

-----Original Message-----

From: Wang, Zhaohui [mailto:Zhaohui.Wang@doh.hawaii.gov]
Sent: Tuesday, November 22, 2016 9:28 AM
To: DeCaprio, Kimberly C CIV USARMY IMCOM PACIFIC (US) <kimberly.c.decaprio.civ@mail.mil>
Subject: RE: [Non-DoD Source] Feedback for the survey for PWS337 and 346

Kim,
Thank for your update.
I check the test report. First, it is not very clear. Second, the test data is 12/3/14. Do you test it in 2016?

Best,

Wang

-----Original Message-----

From: DeCaprio, Kimberly C CIV USARMY IMCOM PACIFIC (US) [mailto:kimberly.c.decaprio.civ@mail.mil]
Sent: Tuesday, November 22, 2016 7:14 AM
To: Wang, Zhaohui <Zhaohui.Wang@doh.hawaii.gov>; Lee, Liana N CIV USARMY USAG (US) <liana.n.lee.civ@mail.mil>; Nakai, Wayde T CIV (US) <wayde.t.nakai.civ@mail.mil>
Subject: RE: [Non-DoD Source] Feedback for the survey for PWS337 and 346

Hi Wang,

Sorry I meant to send this out to you yesterday...

Attached is the latest update to the list. Also attached is the TAMC 162 BFP inspection sheets.

Thank you,
Kim

-----Original Message-----

From: DeCaprio, Kimberly C CIV USARMY IMCOM PACIFIC (US)
Sent: Friday, November 18, 2016 7:45 AM
To: Wang, Zhaohui <Zhaohui.Wang@doh.hawaii.gov>; Lee, Liana N CIV USARMY USAG (US) <liana.n.lee.civ@mail.mil>; Nakai, Wayde T CIV (US) <wayde.t.nakai.civ@mail.mil>
Subject: RE: [Non-DoD Source] Feedback for the survey for PWS337 and 346

Hi Wang,

Thank you for the update.

For questions #1: Yes we do have a ERP that covers our PWSs, including 337 and 346. We are initiating a FY18 project to update the ERP, as mentioned in the Schofield Barracks Sanitary Survey recommendation provided by Mike Miyahira.

I'll have to leave the rest of the questions for Wayde to answer.

Thank you,
Kim

-----Original Message-----

From: Wang, Zhaohui [mailto:Zhaohui.Wang@doh.hawaii.gov]
Sent: Thursday, November 17, 2016 3:00 PM
To: DeCaprio, Kimberly C CIV USARMY IMCOM PACIFIC (US) <kimberly.c.decaprio.civ@mail.mil>; Lee, Liana N CIV USARMY USAG (US) <liana.n.lee.civ@mail.mil>; Nakai, Wayde T CIV (US) <wayde.t.nakai.civ@mail.mil>
Subject: RE: [Non-DoD Source] Feedback for the survey for PWS337 and 346

Kim and Wandy,

Please see the attachment. I updated the recommendation and significant deficiencies. Please reply me by next Monday, Nov. 21 if you have any correction.

I have a few questions:

1. Does both water systems (PWS337 and 346) have an emergency plan?
2. What is the system pressure range for both water systems (PWS337 and 346)?
3. What are system pipe materials and pipe size?
4. Does each system have emergency power(s)? If so, how often is the emergency power tested?

Thank you very much!

Best,

Wang

-----Original Message-----

From: DeCaprio, Kimberly C CIV USARMY IMCOM PACIFIC (US) [mailto:kimberly.c.decaprio.civ@mail.mil]
Sent: Monday, November 07, 2016 10:27 AM
To: Wang, Zhaohui <Zhaohui.Wang@doh.hawaii.gov>; Lee, Liana N CIV USARMY USAG (US) <liana.n.lee.civ@mail.mil>; Nakai, Wayde T CIV (US) <wayde.t.nakai.civ@mail.mil>
Subject: RE: [Non-DoD Source] Feedback for the survey for PWS337 and 346

Hi Wang,

Please see attached updates to the sanitary survey as of today. Wayde has been going at it and gotten a lot done already including the SD at TAMC 600 water tank. We'll provide more updates as we go along.

Please let me know if you have any questions.

Thanks,
Kim

-----Original Message-----

From: Wang, Zhaohui [mailto:Zhaohui.Wang@doh.hawaii.gov]

Sent: Friday, October 28, 2016 4:08 PM

To: DeCaprio, Kimberly C CIV USARMY IMCOM PACIFIC (US) <kimberly.c.decaprio.civ@mail.mil>; Lee, Liana N CIV USARMY USAG (US) <liana.n.lee.civ@mail.mil>; Nakai, Wayde T CIV (US) <wayde.t.nakai.civ@mail.mil>
Subject: [Non-DoD Source] Feedback for the survey for PWS337 and 346

All active links contained in this email were disabled. Please verify the identity of the sender, and confirm the authenticity of all links contained within the message prior to copying and pasting the address to a Web browser.

Kim, Liana and Wayde,

Thank all of you very much for the help in the survey.

Please see the attached feedback and start the corrective action.

Best,

Zhaohui Wang

Safe Drinking Water Branch

Hawaii Department of Health

919 Ala Moana Blvd. #308

Honolulu, HI 96814

Zhaohui.Wang@doh.hawaii.gov < Caution-mailto:Zhaohui.Wang@doh.hawaii.gov >

phone (808) 586-4269. fax (808) 586-4351

Wang, Zhaohui

From: Wang, Zhaohui
Sent: Tuesday, December 20, 2016 11:09 AM
To: 'DeCaprio, Kimberly C CIV USARMY IMCOM PACIFIC (US)'
Subject: FW: Significant Deficiency for AMR South Tank

Kim,
After reviewing the report about the fix of PWS337's SD, I think this temporary fix is OK to correct the SD. But, please provide the photos when the new duckbill is installed as the permanent solution.

Merry Christmas and Happy New Year!

Best,

Wang

-----Original Message-----

From: Lee, Liana N CIV USARMY USAG (US) [mailto:liana.n.lee.civ@mail.mil]
Sent: Tuesday, December 13, 2016 11:15 AM
To: Wang, Zhaohui <Zhaohui.Wang@doh.hawaii.gov>
Cc: DeCaprio, Kimberly C CIV USARMY IMCOM PACIFIC (US) <kimberly.c.decaprio.civ@mail.mil>; Nakai, Wayde T CIV (US) <wayde.t.nakai.civ@mail.mil>
Subject: Significant Deficiency for AMR South Tank

Hello Wang,

Kim is on leave this week, but she asked me to follow up on the Significant Deficiency for the ARM South Tank Valve. She said you approved the temporary fix to install stainless screens at the flange. She said you requested photo documentation of the completed work. Wayde Nakai was able to complete the installation of the screens and the photo documentation is attached. Can you please let me know if this will satisfy the correction for the Significant Deficiency? A duckbill valve has been ordered and will be installed as the permanent fix once we receive the part.

If you have any questions or need more information, please feel free to contact me at 656-7221.

Thanks,
Liana Lee
Safe Drinking Water/Clean Air Program
Department of the Army
USAG-HI, Directorate of Public Works
Environmental Division (IMHW-PWE)
947 Wright Avenue, Wheeler Army Airfield Schofield Barracks, HI 96857-5013
Phone: 808-656-7221
Fax: 808-656-1039
Email: liana.n.lee.civ@mail.mil

How are we doing at providing you with Environmental Services/Solutions? Please provide us feedback by using the link below. Thank you in advance.

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