

RTCR ASSESSMENTS LEVEL 1 AND 2 WORKSHOP



ASSESSMENTS AND CORRECTIVE ACTIONS

- **All systems are required to conduct an assessment when monitoring results show that the system may be vulnerable to contamination.**
- **An assessment is an evaluation to identify sanitary defects & correct. “Find and fix”**
- **The goal is to enhance public health by identifying deficiencies and determining causes of total coliform positive samples or E. Coli positive samples.**
- **Systems must conduct a basic self assessment (level 1) or a more detailed assessment by a qualified party (level 2) depending on the severity and frequency of contamination or failure to monitor.**
- **Assessments may be inconclusive in their conclusions.**
- **Failure to assess and correct is a treatment technique (tt) violation.**

COMPLETION OF ASSESSMENTS

- MUST BE SUBMITTED WITHIN 30 DAYS OF THE TRIGGERED EVENT
- LIST ANY SANITARY DEFECTS FOUND
- LIST CORRECTIVE ACTIONS COMPLETED OR TIME WHEN THEY WILL BE CORRECTED.
- YOUR REGULATOR (DOH OR DEP) WILL EVALUATE AND DETERMINE IF ACTIONS HAVE BEEN CORRECTED OR ACCEPT YOUR ACTION PLAN
- FAILURE TO COMPLETE AN ASSESSMENT IS A TREATMENT TECHNIQUE VIOLATION WHICH WILL TRIGGER A PUBLIC NOTICE AND POSSIBLE ENFORCEMENT ACTIONS

ELEMENTS OF AN ASSESSMENT

- ATYPICAL EVENTS THAT MAY AFFECT WATER QUALITY
- CHANGES IN DISTRIBUTION OPERATION AND MAINTENANCE THAT COULD AFFECT WATER QUALITY OR STORAGE
- LOOK AT CHANGES IN SOURCE AND TREATMENT
- AVAILABLE EXISTING WATER QUALITY DATA
- ANY INADEQUACIES IN SAMPLE SITES, PROTOCOL, PERSONNEL AND PROCESSING

NOTE: THE PURPOSE IS TO ACTUALLY FIND AND FIX DEFICIENCIES AND SANITARY HAZARDS SO YOU WON'T HAVE TO KEEP DOING THIS OVER AND OVER AND OVER...

STEPS FOR COMPLETING ASSESSMENTS

- Notify your primacy agency and verify procedures
- Assemble a team
- Review the assessment forms
- Gather the data and information needed, look at the last sanitary survey inspection
- Identify data and information gaps
- Complete a field investigation (Level 2)
- Correct deficiencies
- Complete and submit form within 30 days
- Develop a follow-up plan and timelines to implement the corrective actions still not completed.

LEVEL 1 ASSESSMENTS

TRIGGERS: (ALL COMPLIANCE ROUTINE AND REPEAT ARE CONSIDERED)

- Over 40 samples per month > 5% total coliform + samples
- Less than 40 samples per month 2 or more total coliform + samples
- Failure to take every repeat sample after any total coliform + sample

WHO?

- Self assessment by the owner or an operator

WHAT ?

- Desktop investigation
- Review results, interview samplers, look at planned and unplanned O & M activities

SCENARIO LEVEL 1 ASSESSMENT

- **A nontransient noncommunity high school has 7 buildings and serves 2,510 students and teachers. They are required to take 3 distribution samples monthly and monthly raw water assessment samples.**
- **The water treatment plant is located 550' from the first connection and 465' from the wastewater treatment plant. It consists of 1 10" well, rotary drilled 530' in 1997. Treatment consists of hypochlorination, cascade aeration with a 7,330 gallon cement ground storage tank and 3 water softener units with the backwash going to the lift station. There is a 5000 gallon hydropneumatic tank with an access manhole last inspected and cleaned in 2013.**
- **The operator is a certified water and wastewater operator that maintains and samples both the water treatment plant and wastewater treatment plant. He started working at the school 3 months ago after the previous operator retired.**

SCENARIO 1 (CONT.)

- The county school district is currently remodeling the bathrooms in buildings 2 and 3
- The last sanitary survey, 2 months ago, noted the following deficiencies:
 1. Slimy pressure relief valve,
 2. Properly seal holes in chlorine barrel
 3. Repair small tear in aeration screen
 4. Clean aerator trays
 5. Repair crack in well pad
 6. Well does not have a well vent
 7. No regular flushing schedule
- Last month 2 out of 3 distribution samples were positive for total coliform, all resamples were absent for total coliform. Sample locations at buildings 4 and 7 were total coliform positive, building 1 was absent for coliform. The water system is now required to conduct a level 1 assessment.

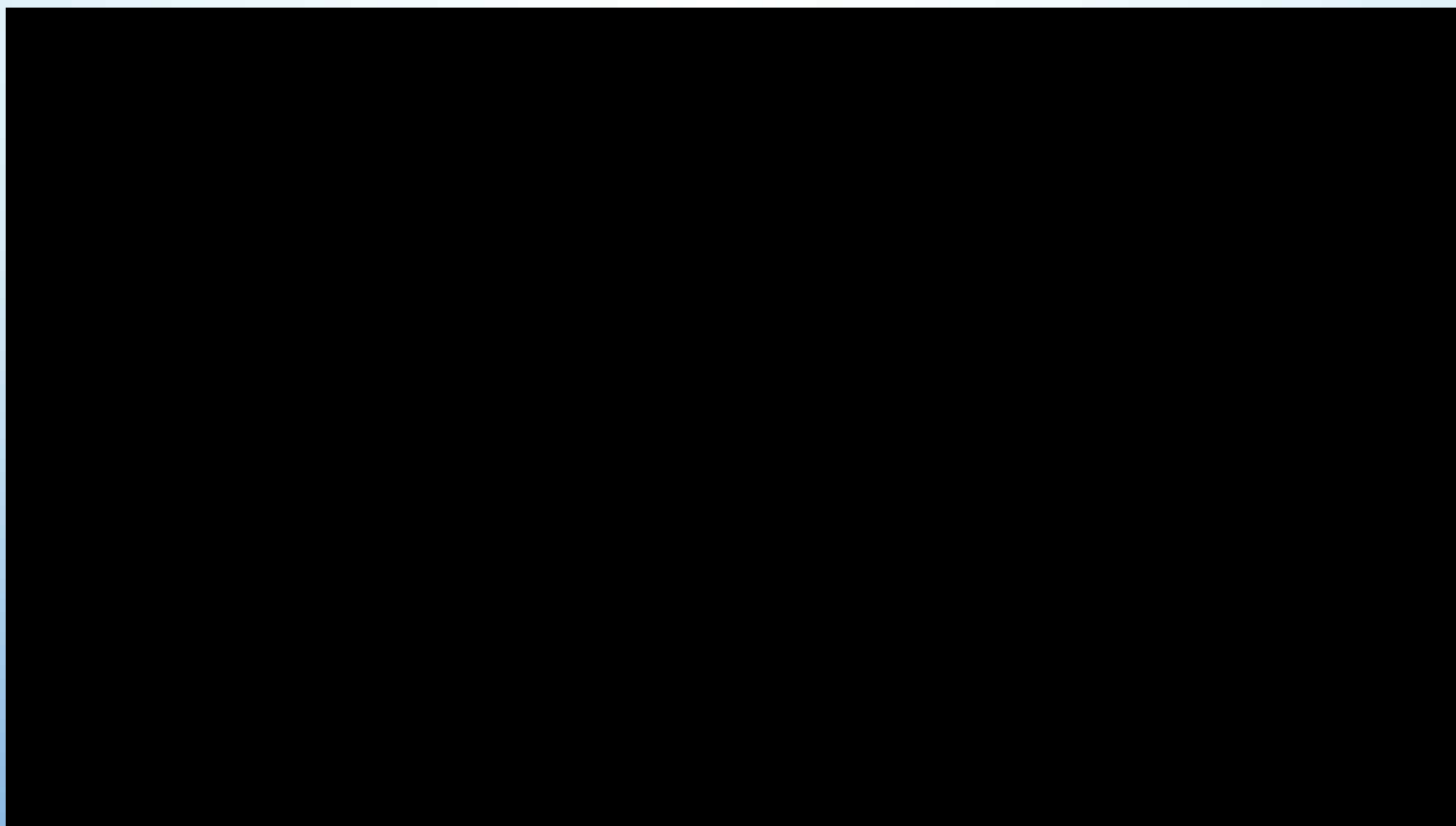
LEVEL 1 ASSESSMENT FORM JOINT DISCUSSION

YOUR FIRST STEP SHOULD BE TO REVIEW YOUR LAST SANITARY SURVEY OR MOST RECENT INSPECTION TO SEE IF ANY DEFICIENCIES HAVE BEEN CORRECTED

Questions 1-5	Reviewed and Checked? ("a" if completed or "N/A")	Issue(s) Found (Y or N)	Issue Description	Corrective Action Taken (include date)
1. Have any of the following occurred at relevant facilities prior to collection of TC Samples?		Circle any that apply		
a)any interruption in treatment process	<input type="checkbox"/>	Y N		
b)any reported loss of pressure event (< 20 psi)	<input type="checkbox"/>	Y N		
c)operation and maintenance activities that could introduce total coliform	<input type="checkbox"/>	Y N		
d)reported vandalism and/or unauthorized access to facilities	<input type="checkbox"/>	Y N		
e)visible indicators of unsanitary conditions reported	<input type="checkbox"/>	Y N		
f)fire fighting event, flushing operations, damaged hydrants, etc.	<input type="checkbox"/>	Y N		

	Reviewed and Checked? ("a" if completed or "N/A")	Issue(s) Found (Y or N)	Issue Description	Corrective Action Taken
2. Have there been any recent operational changes to the system? a)new water sources introduced b)treatment or operational changes c)potential sources of contamination	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Y N Y N Y N		

SAMPLING ACCORDING TO SOP



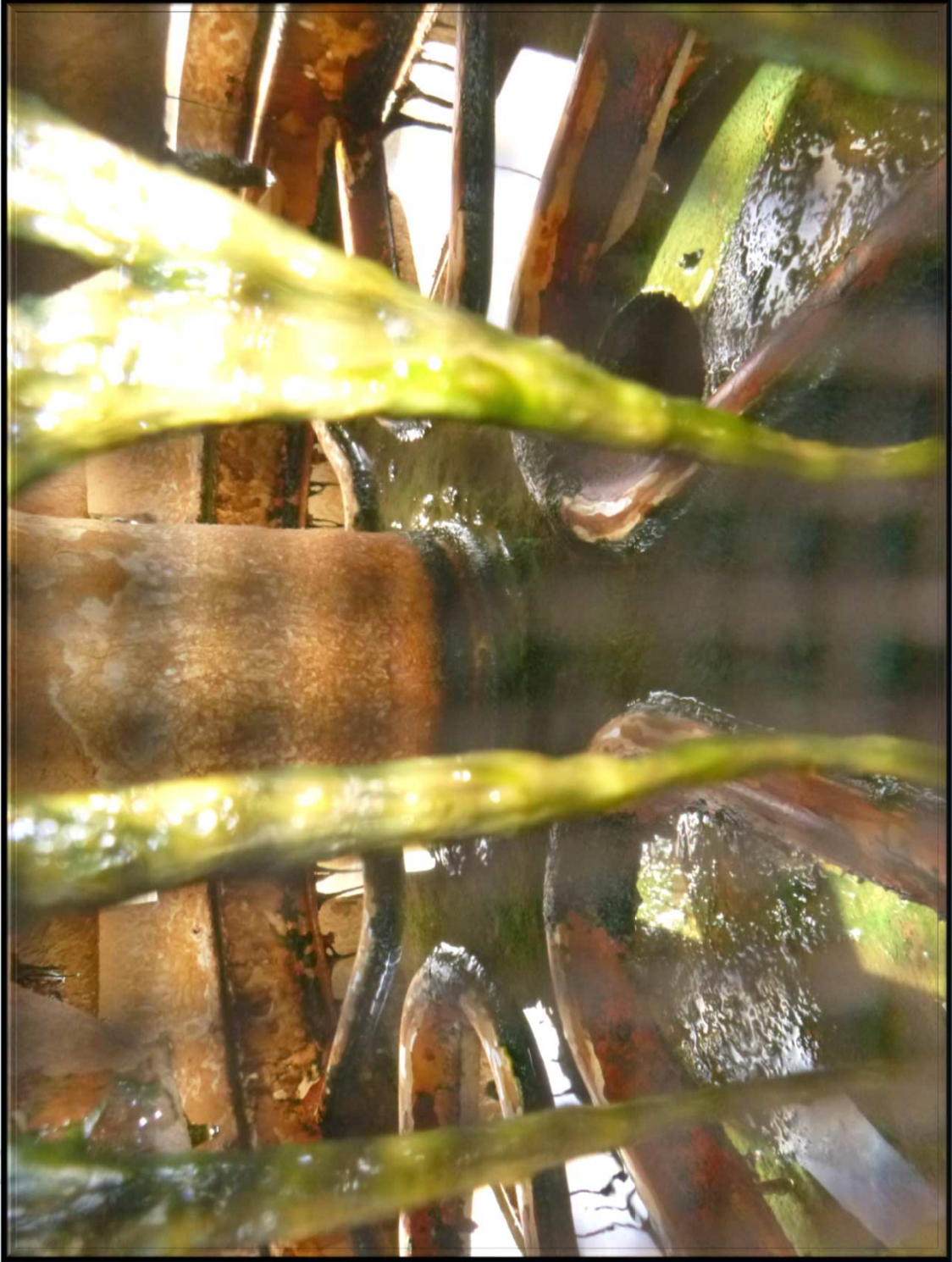
SAMPLE SITES AND PROCEDURES

	Reviewed and Checked? ("a" if completed or "N/A")	Issue(s) Found (Y or N)	Issue Description	Corrective Action Taken (include date)
3. Evaluate Sample Site		Circle any that apply		
a)condition and location of tap	<input type="checkbox"/>	Y N		
b)regular use of sample connection	<input type="checkbox"/>	Y N		
4. Sample protocol				
a)SOP exist and followed	<input type="checkbox"/>	Y N		
b)flush tap	<input type="checkbox"/>	Y N		
c)remove aerator	<input type="checkbox"/>	Y N		
d)no swivel	<input type="checkbox"/>	Y N		
e)fresh sample bottles	<input type="checkbox"/>	Y N		
collected sample storage and transportation	<input type="checkbox"/>	Y N		
f)acceptable	<input type="checkbox"/>	Y N		

	Reviewed and Checked? ("a" if completed or "N/A")	Issue(s) Found (Y or N)	Issue Description	Corrective Action Taken (include date)
5. Distribution System		Circle any that apply		
a) system pressure fluctuations	<input type="checkbox"/>	Y N		
b) known/suspected cross connections	<input type="checkbox"/>	Y N		
c) air relief valves clear/clean	<input type="checkbox"/>	Y N		
d) fire hydrants or blow offs properly maintained	<input type="checkbox"/>	Y N		
e) loss of disinfection agent residual in system	<input type="checkbox"/>	Y N		
f) line breaks	<input type="checkbox"/>	Y N		
g) any repairs made	<input type="checkbox"/>	Y N		



	Reviewed and Checked? ("a" if completed or "N/A")	Issue(s) Found (Y or N)	Issue Description	Corrective Action Taken (include date)
6. Storage Tank		Circle any that apply		
a)Screens in good working order/clear and secure	<input type="checkbox"/>	Y N		
b)security around tanks	<input type="checkbox"/>	Y N		
c)access manway opened at any time	<input type="checkbox"/>	Y N		
d)overall condition of tank	<input type="checkbox"/>	Y N		
e)loss of disinfection residual at this point	<input type="checkbox"/>	Y N		
f)overflow drains properly placed and maintained	<input type="checkbox"/>	Y N		
g)pressure tank problems or operational issues	<input type="checkbox"/>	Y N		



	Reviewed and Checked? ("a" if completed or "N/A")	Issue(s) Found (Y or N)	Issue Description	Corrective Action Taken (include date)
7. Treatment process		Circle any that apply		
a) any treatment process interruptions	<input type="checkbox"/>	Y N		
b) POE/POU devices	<input type="checkbox"/>	Y N		
c) secondary treatment equipment functioning properly	<input type="checkbox"/>	Y N		
d) loss of disinfection agent residual at this point	<input type="checkbox"/>	Y N		



	Reviewed and Checked? ("√" if completed or "N/A")	Issue(s) Found (Y or N)	Issue Description	Corrective Action Taken (include date)
8. Source-Well		Circle any that apply		
a) sanitary seal	<input type="checkbox"/>	Y N		
b) vent screened	<input type="checkbox"/>	Y N		
c) well pad: construction design and current condition acceptable	<input type="checkbox"/>	Y N		
d) any cross connection	<input type="checkbox"/>	Y N		
e) security of well	<input type="checkbox"/>	Y N		
f) lube line	<input type="checkbox"/>	Y N		
9. Disinfection System				
a) problems with chlorinator	<input type="checkbox"/>	Y N		
b) loss of chlorine residual	<input type="checkbox"/>	Y N		
c) loss of disinfection product or feed	<input type="checkbox"/>	Y N		

LEVEL 2 ASSESSMENTS

- MUST BE CONDUCTED BY THIRD PARTY - A PROFESSIONAL ENGINEER, THE LEAD OPERATOR OR AND OPERATOR WITH AN EQUIVALENT LICENSE, OR FLORIDA RURAL WATER ASSOCIATION
- ASSEMBLE A TEAM IN ADVANCE REPRESENTING ALL AREAS
- IF YOU PREVIOUSLY COMPLETED A LEVEL 1 ASSESSMENT, THE LEVEL 2 ASSESSMENT CAN NOT BE THE COMPLETED BY PERSON RESPONSIBLE FOR THE LEVEL 1 COMPLETION
- THIS IS A MORE IN-DEPTH INVESTIGATION INTO THE WATER SYSTEM OPERATIONS AND MAINTENANCE PROCEDURES. THIS WILL CONSIST OF FIELD INSPECTIONS AND DESK TOP EVALUATIONS.
- INCLUDES SAMPLING, STORAGE TANK INSPECTIONS, CROSS CONNECTION CONTROL, BACKFLOW DEVICES, EQUIPMENT INSPECTIONS, DISTRIBUTION EVENTS

SAMPLE SITE EVALUATION

- LOOK FOR DEFICIENCIES IN SAMPLE TAPS, COLLECTION, POSSIBLE CONTAMINATION SOURCES
- ARE THEY CLEAN, SECURE, ADJUSTABLE FLOW, FAUCET TYPE, LOCATION, THREADS OR VACUUM BREAKERS
- WEATHER DURING SAMPLING
- WERE THERE ANY POE OR POU DEVICES
- SAMPLING PROTOCOL: FLUSHED CORRECTLY, TAP CLEANED, CONDITION OF SAMPLING CONTAINERS, TRAINING OF SAMPLERS, STORAGE OF SAMPLES, LAB PROCESSING
- RECENT PLUMBING CHANGES, NEW CONSTRUCTION

SOURCE AND TREATMENT

- ANY SANITARY DEFECTS NOTED ON LAST SANITARY SURVEY OR INSPECTION
- WELL PROTECTION, CONDITION OF WELL PAD, HOUSING, CASING, SEAL, VENT, PUMP
- IS SOURCE VULNERABLE TO FLOODING OR RUNOFF
- WATER QUALITY DATA OVER THE LAST COUPLE MONTHS, CHANGES?
- ANY CHANGES OR DISRUPTIONS IN WATER TREATMENT
- CONDITION DAY TANKS AND CHEMICAL STORAGE

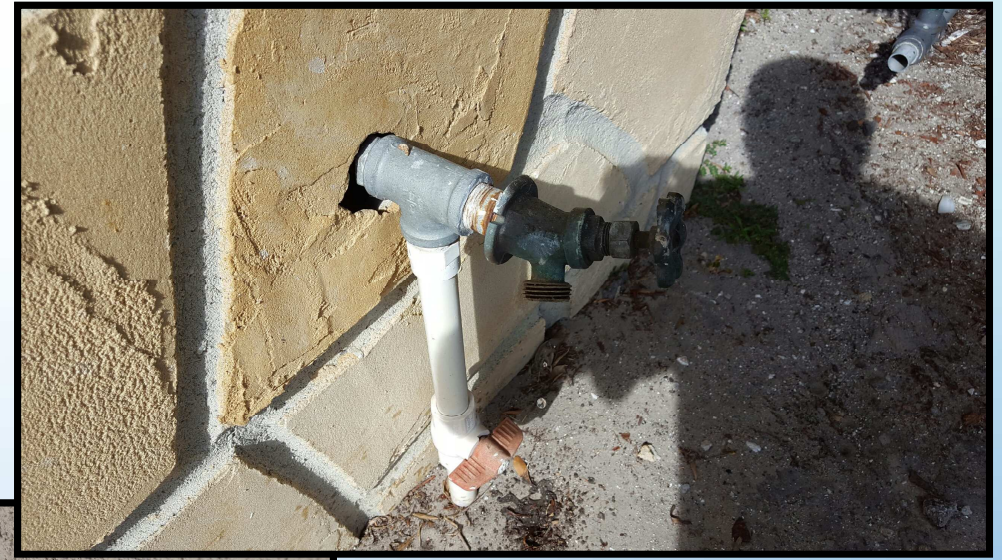
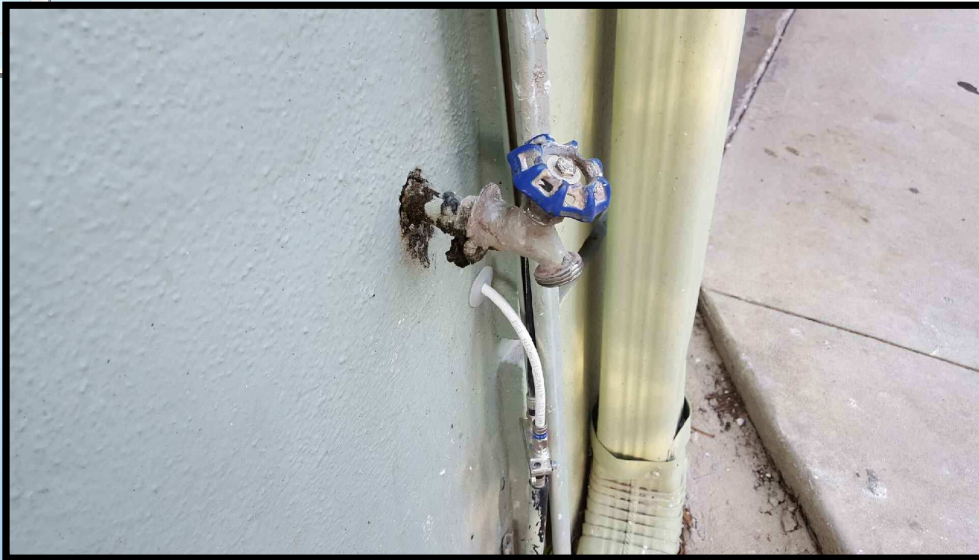
STORAGE/DISTRIBUTION/MAINTENANCE

- STORAGE TANK LAST CLEANING, INSPECTION, WATER AGE
- WATER QUALITY DATA IN DISTRIBUTION, BIOFILM ISSUES
- WATERMAIN REPLACEMENTS, BREAKS - PLANNED OR UNPLANNED
- FLUSHING SCHEDULES
- VALVE EXERCISES
- COMMUNICATION BETWEEN SAMPLING TEAM AND MAINTENANCE REGARDING PBWN OR NEW CONSTRUCTION
- SEASONAL CHANGES, TEMPERATURE, WATER USAGE

SCENARIO LEVEL 2 ASSESSMENT

- BREAK INTO 5 TEAMS
- USING THE SCENARIO 2 INFORMATION, CONDUCT A LEVEL 2 ASSESSMENT
- REVIEW ISSUES FOUND AND CORRECTIVE ACTIONS AS A GROUP

SAMPLING TAPS



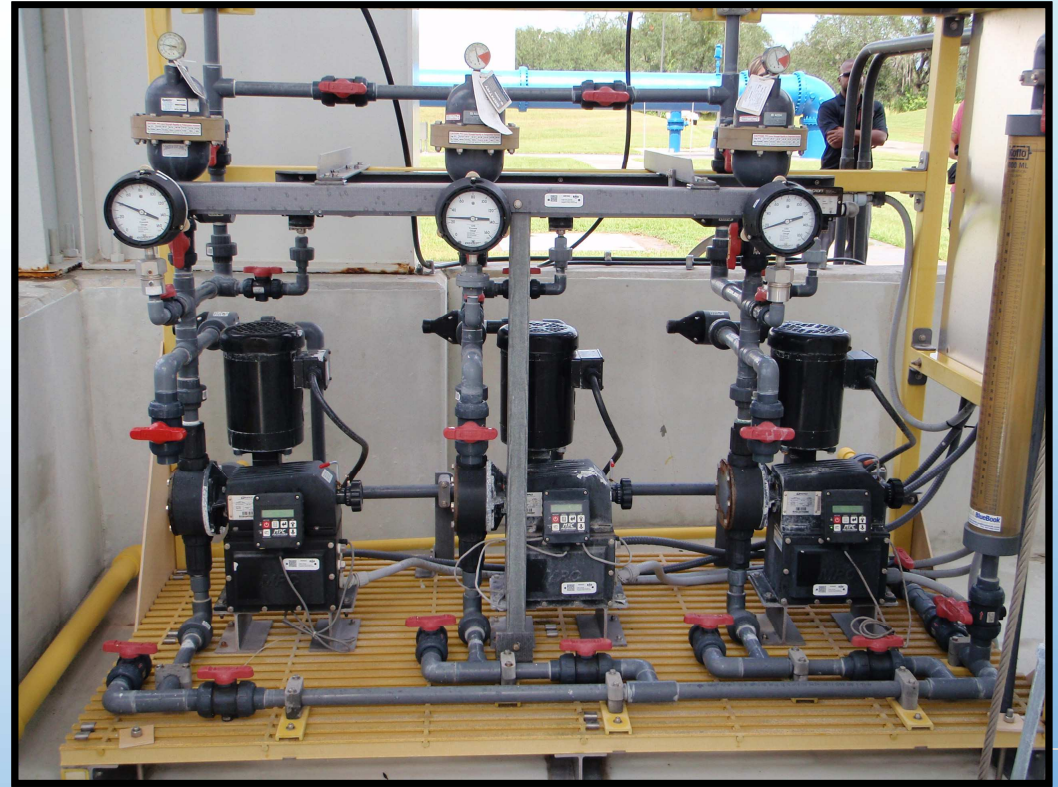
DEDICATED SAMPLING TAPS



SANITARY SURVEY DEFICIENCIES



Pipes need labeling



DEFICIENCIES (CONT.)



No vacuum breakers



Holes in phosphate day tank

DEFICIENCIES (CONT.)

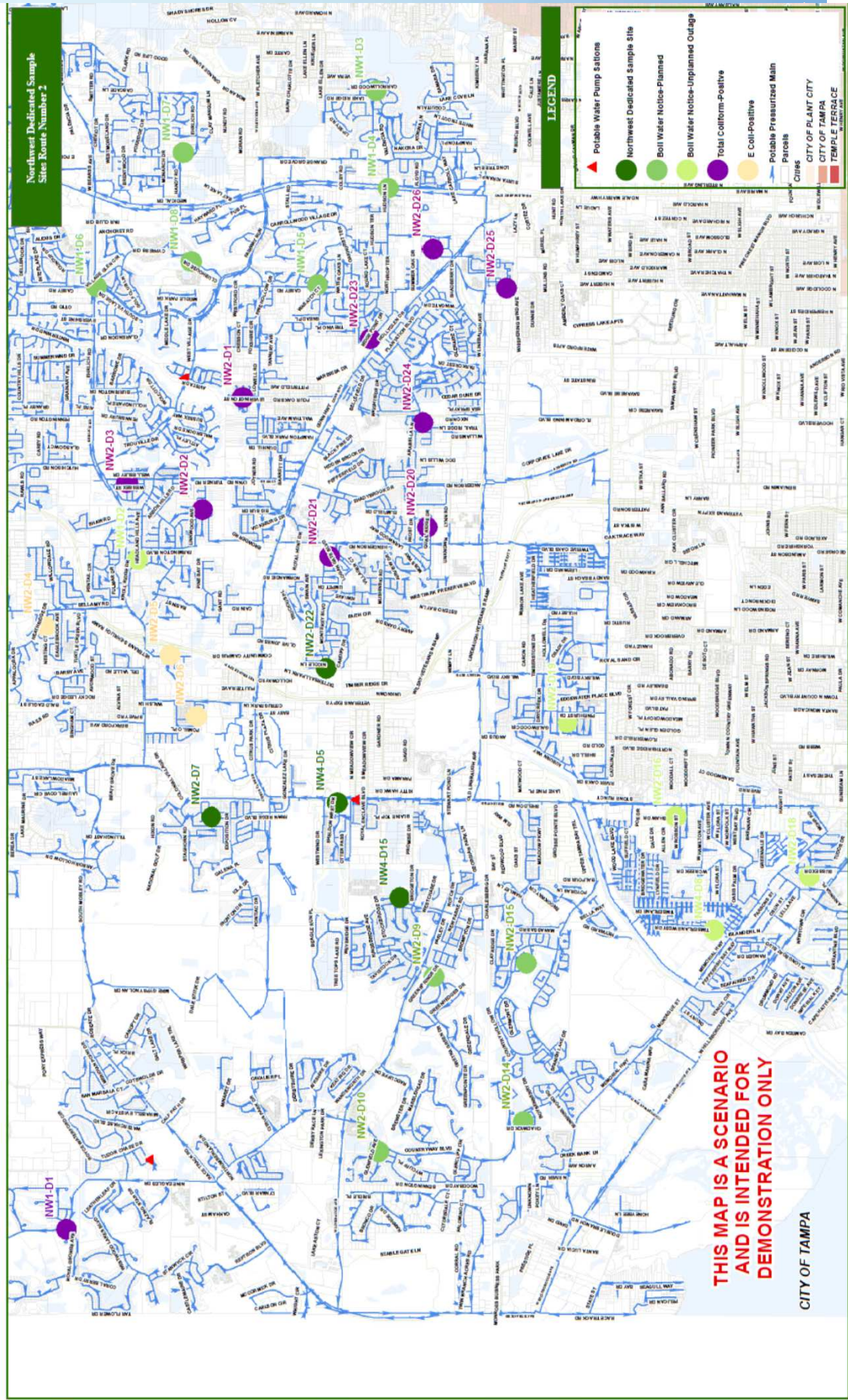
Missing Screens



FOUND DURING LEVEL 2 ASSESSMENT

open hatch





CONCLUSIONS

CONTACTS AND ADDITIONAL SOURCES

ENVIRONMENTAL PROTECTION AGENCY

[HTTP://WWW.EPA.GOV/DWREGINFO/TOTAL-COLIFORM-RULE-COMPLIANCE-HELP-PUBLIC-WATER-SYSTEMS](http://www.epa.gov/dwreginfo/total-coliform-rule-compliance-help-public-water-systems)

AMERICAN WATER WORKS ASSOCIATION

[HTTP://WWW.AWWA.ORG/RESOURCES-TOOLS.ASPX](http://www.awwa.org/resources-tools.aspx)

DOH-HILLSBOROUGH COUNTY SITE

[HTTP://HILLSBOROUGH.FLORIDAHEALTH.GOV/PROGRAMS-AND-SERVICES/ENVIRONMENTAL-HEALTH/DRINKING-WATER/INDEX.HTML](http://hillsborough.floridahealth.gov/programs-and-services/environmental-health/drinking-water/index.html)

FDEP CENTRAL DISTRICT

[HTTP://WWW.DEP.STATE.FL.US/CENTRAL/HOME/DRINKINGWATER/INHOUSECOMPLIANCE/REVISED TOTAL COLIFORM RULE/RTCR.HTM](http://www.dep.state.fl.us/central/home/drinkingwater/inhousecompliance/REVISED_TOTAL_COLIFORM_RULE/RTCR.HTM)

DOH-HILLSBOROUGH COUNTY CONTACTS FOR THE RTCR

FOR QUESTIONS AND NOTIFICATIONS 813-307-8015:

- KATHY NORMAN EXT. 5938

KATHERINE.NORMAN@FLHEALTH.GOV

- THERESE LADOUCEUR EXT. 5934

THERESE.LADOUCEUR@FLHEALTH.GOV

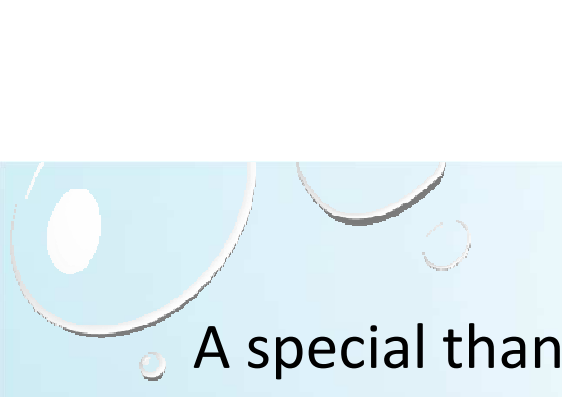
- AFTER HOURS PHONE: 813-307-8000

DEP-CONTACT EACH INDIVIDUAL DISTRICT

OR DAVID WALES, INTERIM PROGRAM ADMINISTRATOR

DAVID.WALES@DEP.STATE.FL.US

850-245-8631

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- A special thanks for all their hard work in planning, contributing and participating in this workshop:

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