Why We Do
What We Do
What is TREEO?
Training
Research
Education
Environmental
Occupation
What is **TREEDO**?

**T** – training

**R** – research

**E** – education

**E** – environmental

**O** – occupation
Why Teach?

- Importance
- Environment Concerns
- Testing Procedures
Importance
WATER
Environmental Concerns
WATER
What is Reclaimed Water?

Water that has received at least secondary treatment and basic disinfection and is reused after flowing out of a domestic wastewater treatment facility.

2 types of Reclaimed Water
- Secondary Filtration and Basic Level Disinfection
- Secondary Filtration and High Level Disinfection
How Can Reclaimed Water Be Used

- **Acceptable use of reclaimed water**
  - Part II- Slow-rate Land Application Systems; Restricted Public Access
  - Part III- Slow-Rate Land Application Systems; Public Access Areas, Residential Irrigation, and Edible Crops
  - Part IV- Rapid-Rate Land Application Systems (Rapid Infiltration Basins and Absorption Fields)
  - Part V- Ground Water Recharge and Indirect Potable Reuse
  - Part VI- Overland Flow Systems
  - Part VII- Industrial Uses of Reclaimed Water
62-610.450 Description of System

- Irrigation of areas that are intended to be accessible to the public
  - residential lawns
  - golf courses
  - cemeteries
  - parks
  - landscape areas
  - highway medians
62-610.450 Description of System

- Reclaimed water also used for
  - Fire protection
  - Aesthetic purposes
  - Irrigation of edible crops
  - Dust control on construction sites
62-610.469 Application Systems and Cross-Connection Control

- (7)(h) The permittee is responsible for conducting inspections
  - verify proper connections
  - monitor proper use
  - minimize the potential for cross-connections
2017 Florida Reuse

Annual Agency Reuse Reports are due February 1 of each year. All state agencies, state universities, and water management districts are required to submit Annual Agency Reuse Reports. Florida Statutes direct all state agencies, state universities, and water management districts to use reclaimed water to the greatest extent practicable.
Testing Procedures
TESTING THE RP
RP Field Test

Preparation
1. Observe CV1 (leaks or holds tight)
2. Record RV opening point
3. Observe CV2 - backpressure test
4. Record CV1 (5.0 or greater)
NOTIFY THE CUSTOMER
CHECK THE AREA
FLUSH THE TESTCOCKS
FLUSH THE TESTCOCKS
OPEN 4
FLUSH
TESTCOCKS
OPEN 4
OPEN 3
OPEN 2
OPEN 1
FLUSH

TESTCOCKS

OPEN 4
OPEN 3
OPEN 2
CLOSE 1
FLUSH
TESTCOCKS

OPEN 4
OPEN 3
CLOSE 2
CLOSE 1
FLUSH TEST COCKS

OPEN 4
CLOSE 3
CLOSE 2
CLOSE 1
FLUSH TESTCOcks

CLOSE 4
CLOSE 3
CLOSE 2
CLOSE 1
Check Valve # 1 Test
CLOSE CONTROL VALVES ON GAUGE
ATTACH HIGH PRESSURE HOSE TO TC #2

ATTACH LOW PRESSURE HOSE TO TC #3
OPEN
TC #3
CLOSE OUTLET SHUT OFF VALVE
CLOSE
HIGH
BLEED
NEEDLE
VALVE
Test 1

Observe Check Valve #1

If Relief Valve does not drip and gauge is holding steady, then CV #1 is holding tight.
Relief Valve Test
Test 2

Record Relief Valve opening point.

Open High By-pass Valve one turn.

Record Relief Valve opening point.

Open Low By-pass slightly.

1/4 turn max.

Hand under Vent
Back Pressure Test
Test 3

1. Close Low Bypass Control Valve

2. Open Vent Control Valve

3. Connect Vent Hose to TC #4

4. Close Vent Control Valve

5. Open TC #4

6. Reset Gauge Low Bleed Valve

Observe CV #2 - leaks or closed tight
Test 3

Observe CV #2
- leaks or closed tight

7. Close Low Bleed Valve
Test 3

Observe CV #2
- leaks or closed tight

8. Open Vent Control Valve
Test 4

Record CV #1 -

Record value on Gauge as the differential pressure across CV #1

Open, then close Low Bleed Valve to reset Gauge.

This reset will relieve CV #2 disk compression
RP Field Test Procedures

- TREEO
  - Consistency
  - Flush Testcocks
  - Accuracy

VS

- Other Test Procedures
  - ✗ Flush Testcocks
  - ✗ Lack Of
DCVA Field Test
Extra Equipment Needed:

Short Tube (clear tube) and
Attach to test cock

COMPENSATING TEE

1/4” x 3/4” bushing

1/4” Tee

Flair Fitting

Needle valve
Location of test cocks

DCVA
ADD 90° ELBOW, A FLAIR FITTING, and A SHORT TUBE TOP OF TUBE MUST BE ABOVE CHECK VALVE BEING TESTED
Also serves as a sight glass.
Field Testing the DCVA

**PREPARATION**

- Notify the Customer.
- Inspect the Area.
- Flush Testcocks.
- Install Fittings.
- Inspect Test Kit.
Field Testing the DCVA

TC #1

CV #1

CV #2

TC #2

TC #3

TC #4

High Hose

Low Hose
Flush Test Cocks

TC #1
CV #2
TC #2
CV #3
TC #3
CV #4
Flush Test Cocks

TC #1 → CV #1 → TC #2 → CV #3 → TC #4

High Hose
Low Hose
Flush Test Cocks

TC #1

CV #3

TC #2

CV #1

TC #4

High Hose

Low Hose
Flush Test Cocks
Install Bleed-off Tee on Test Cock #2 and Short Clear Hose on Test Cock #3

Position Test Gauge and end of Low Pressure Hose at proper elevation
Attach High pressure Hose to Bleed-off Tee
Open test cock #2 slowly and open High Bleed Valve.
Close High Bleed Valve.

Close Outlet Shut-off Valve.
Close Inlet Shut-off Valve.
Open test cock #3 slowly.
When the water stops running out of Test cock #3, read the Gauge.

The water pressure drops until the spring in CV#1 closes the Check Valve.
Record the value on the Gauge for CV #1.

1.0 psi
Double Check Valve Assembly

2-hose field test taught by others

Not a reliable test
PASSING CHECK VALVE #1
(No FLOW)
CHECK VALVE #1 with a leaking outlet valve

HAS A HIGHER THAN NORMAL READING
FAILED CHECK VALVE #2

(No FLOW)
FAILED CHECK VALVE #2 WITH A LEAKING OUTLET VALVE
Questions?