AGENDA ITEM K
DIVISION 215 RULEMAKING

Brenda Bateman, Technical Services Administrator
Kristopher Byrd, Well Construction & Compliance Section Manager

Back-Siphon Prevention Assembly

Safety assembly that prevents water or other fluids from flowing in the opposite direction of that intended.

Statutory Authority

ORS 537.780(1)(b)(A) provides that WRC may enforce:

- **General standards for the construction/maintenance of wells;**
- **Casings, fittings, valves, pumps; and**
- ***Back-siphoning prevention devices*.**

Back-Siphon Prevention Assembly

Already required if:

- **Irrigation system connected to GW source; and**
- **Fertilizers or chemicals applied through the system.**

Back-Siphon Standards

- **Oregon Water Resources**
  - **Groundwater Irrigation Wells**
- **Oregon Health Authority**
  - **Public Water Systems**
- **Oregon Building Codes Division (Plumbing Codes)**
  - **Public Water Systems**
  - **Private Water Systems**

Back-Siphon Standards

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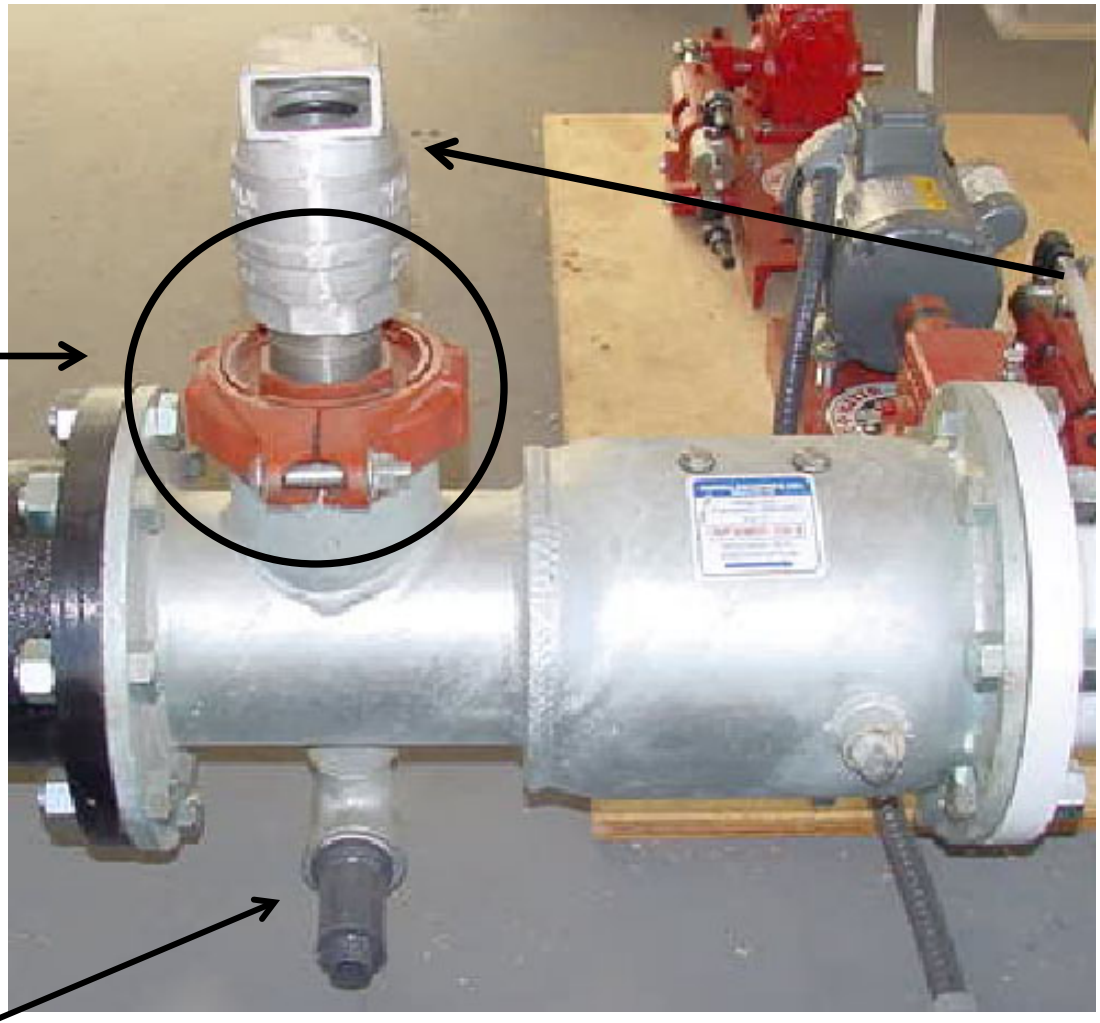
Existing Rules

OAR 690-215-0017 – Effective starting 1991.

- **Existing rules focus on traditional irrigation systems.**
- **Field staff observing increase in small systems.**
- **Specifically mentions four-inch and above pipes.**
- **Current assembly sizes not appropriate for all.**
- **A need exists for a small system assembly.**

Existing Assembly



Inspection port must be a minimum diameter of four inches.

Air/vacuum relief valve. Smallest diameter in rule is ¾ inch for a four inch pipe.

Minimum ¾ inch diameter low pressure drain.

Assembled a RAC

- **BMI Backflow**
- **Sippel Water Care**
- **OHA – Drinking Water Services**
- **Oregon Irrigator - Oregrown**
- **Nature Conservancy**

Changes Include

- Definitions
- Clarifying Testing Requirements
- Corrections and clarifications
- Add device
- Add figure
- Clarify alternative options
- Add bypass requirements
- Clarify authority
- OHA/DCBS requirements

Proposed Rules

Added Rule Specific Definitions:

- **Backflow**
- **Backpressure**
- **Back-siphonage**
- **RP Principle Backflow Prevention Assembly**
- **University of Southern California Foundation for Cross-Connection Control and Hydraulic Research (USC-FCCCHR)**

Proposed Rules

Clarified water treatment language:

- **Only National Sanitation Foundation (NSF) approved chemicals may enter a well.**
- **No chemical contact with casing above the water level.**

Proposed Rules

Assembly testing requirements

- At time of installation and yearly
- May be required to submit copy
- At time of repair/relocation
- Assemblies that repeatedly fail
- After backflow incident

Proposed Rules

Four-Inch and Larger Mainline:

- Sloped discharge conduit
- Air gap minimum of six-inches
- Option for alternative access system
- Injection Line Check Valve Location
- Emergency shut off
- Pressure switch to stop injection

Assembly for Four-Inch and Larger Mainline

Proposed Rules

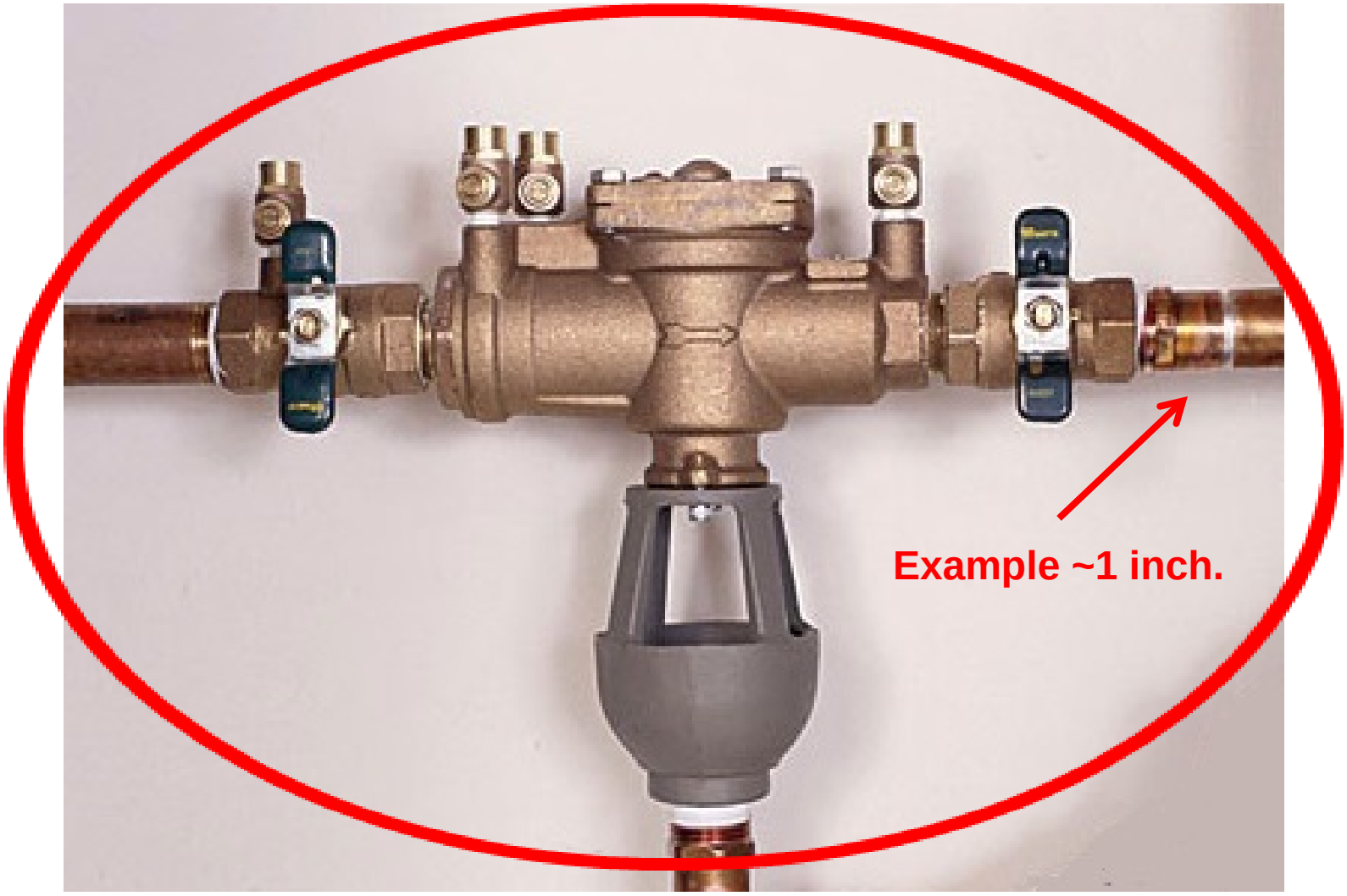
Less than Four-Inch Mainline:

- Lead free RP assembly
- Approved by USC-FCCCHR
- Installed horizontally
- Located between pump/point of injection
- Compatible with chemicals
- Prevent reverse flow
- Include approved air gap and drain line

Proposed Rules

Less than Four-Inch Mainline:

- **Labeled with:**
  - **Manufacturers name**
  - **Model number**
  - **Working pressure in PSI**
  - **Maximum flow rate**
  - **Direction of flow**
- **Injection line check valve**
- **Interlock and emergency shut-off**
- **Pressure switch**



Assembly for Less Than Four-Inch Mainline

Existing and New Systems

Director may allow modifications based on:

- **Materials**
- **Design**
- **Technology**
- **Irrigation Practices**
- **Direction of flow**

- **Call Department and discuss request.**
- **Must provide at least as much protection.**

Existing and New Systems

- No injection within ten feet from wellhead
- Additional testing required:
  - Upon repair or relocation
  - More often for devices that repeatedly fail
  - After backflow incident
- Devices not functioning properly must be repaired or replaced

Existing and New Systems

- Bypass piping must offer same protection
- Must be protected from freezing
- No submersion:
  - Backflow device
  - Air/vacuum relief valve
- Authority to require device on any well
- Added reference to OHA and DCBS rules

Public Comment

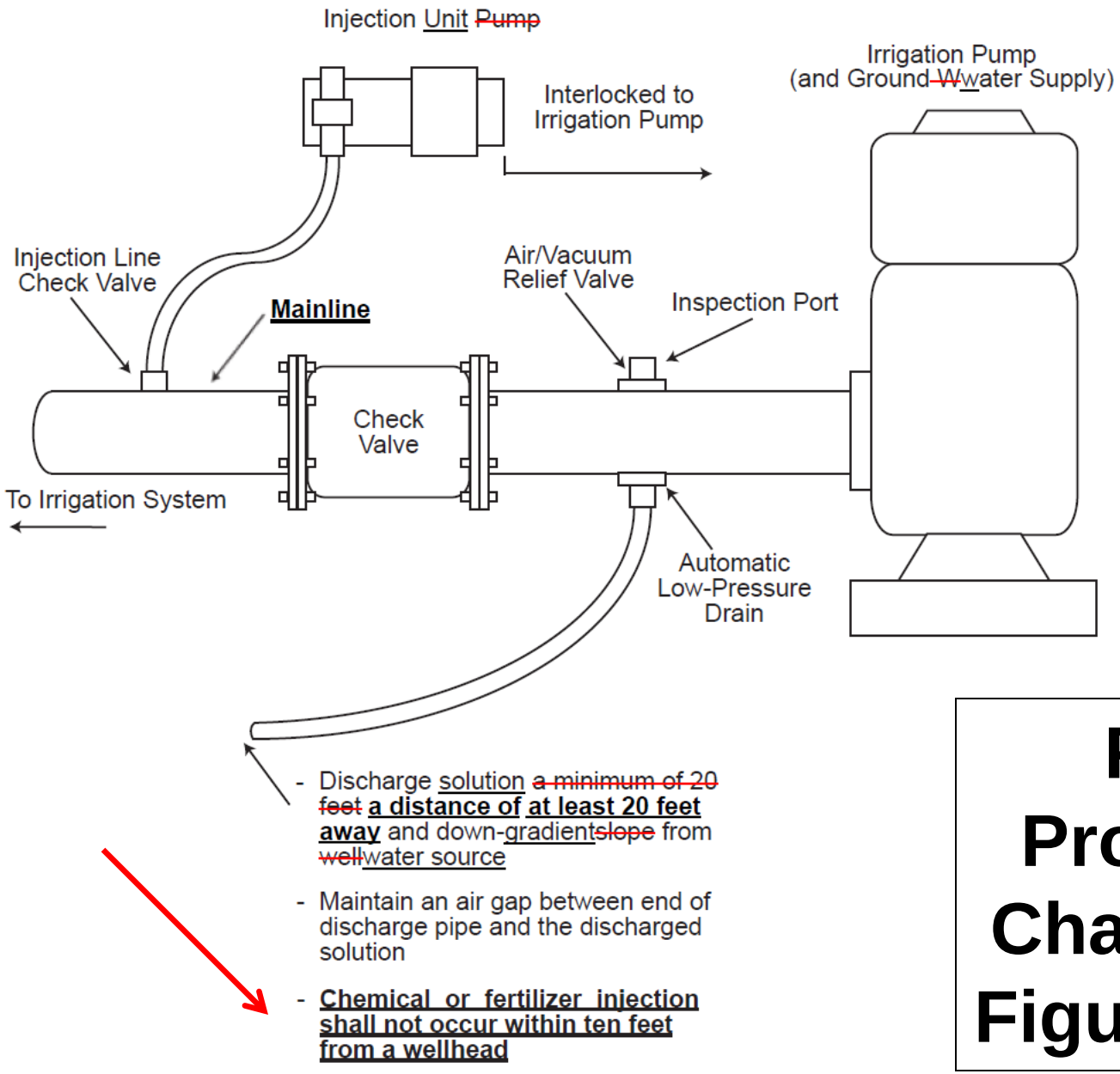
- **Two RAC meetings – March 28 & April 11**
- **Public comment period - May 1 to June 30**
- **Public hearing - May 24 in Salem**
- **GWAC June 30**
  - **Discussion**
  - **Two specific recommendations incorporated**
  - **Recommended approval as discussed**

Hearing Draft

(2~~1~~) If a chemical is used to treat well water, it shall not be allowed to come into contact with the inside of the well casing above the water level. Down well treatment of well water will only be allowed if a commercial water treatment system is used. Delivery pipes or tubes designed for use with the treatment chemicals shall be used to place the chemicals into the water in the well. This rule does not apply when disinfecting the well and the pumping equipment. The use of a water treatment system to treat well water shall not result in contamination of the groundwater resource.

Final Proposed

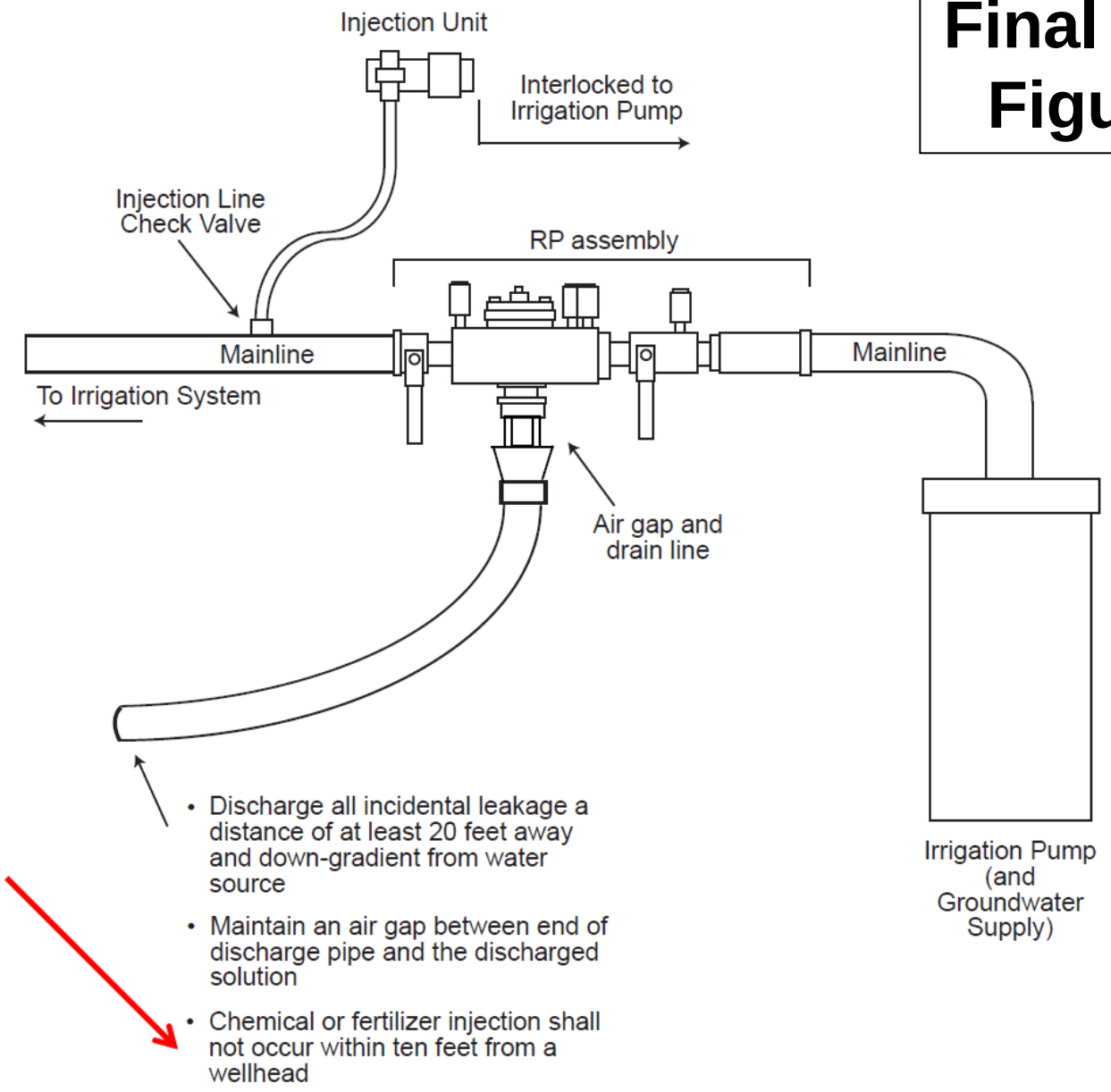
(2~~1~~) If a chemical is used to treat well water, it shall not be allowed to come into contact with the inside of the well casing above the water level. Down well treatment of well water will only be allowed if a commercial water treatment system is used. Delivery pipes or tubes designed for use with the treatment chemicals shall be used to place the chemicals into the water in the well. This rule does not apply when disinfecting the well and the pumping equipment.



Final Proposed Changes to Figure 215-1

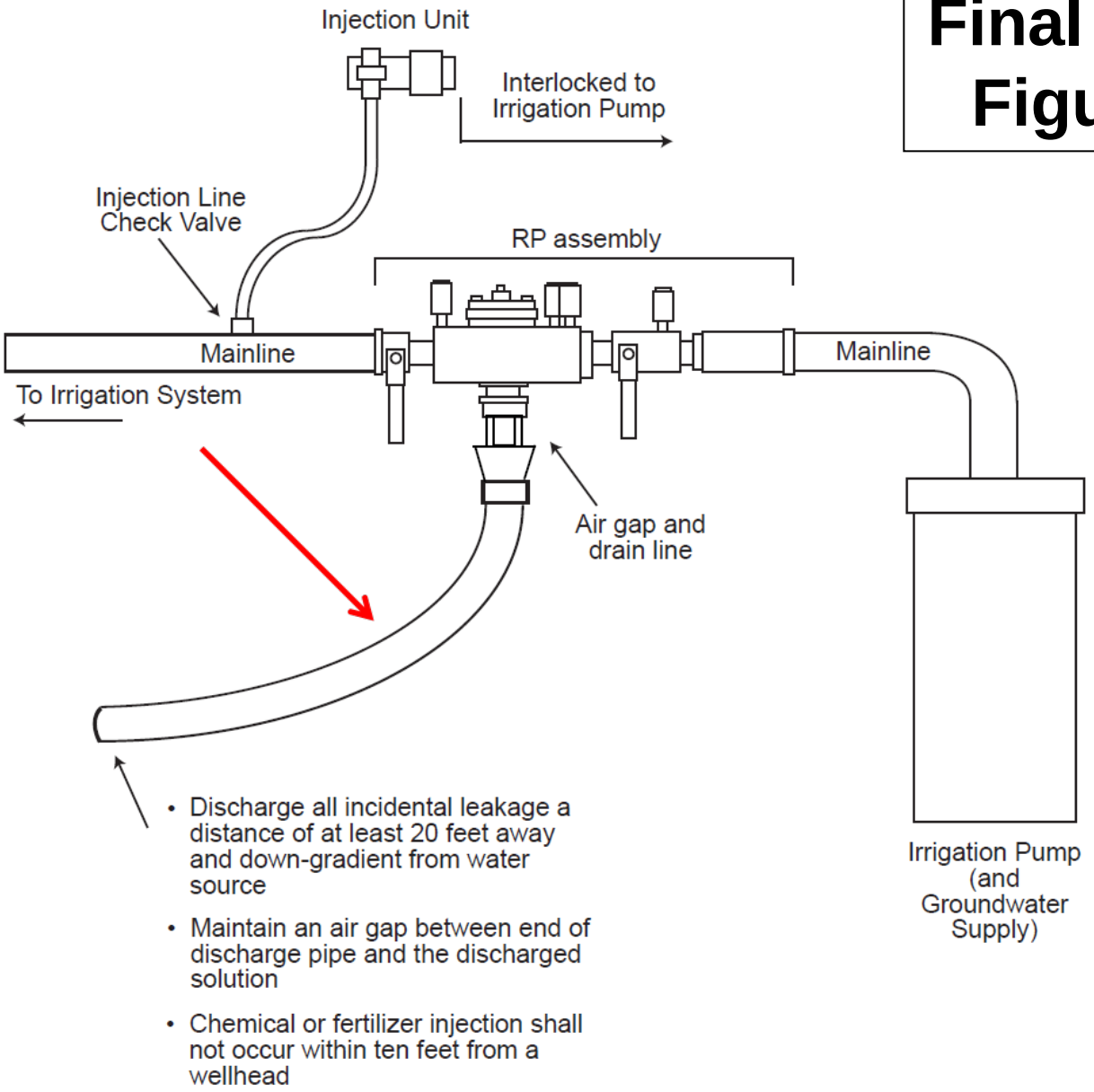
Backflow prevention device using check valve with vacuum relief and low pressure drain.

Final Proposed Figure 215-2



Backflow prevention device using a reduced pressure principle backflow prevention assembly (RP).

Final Proposed Figure 215-2



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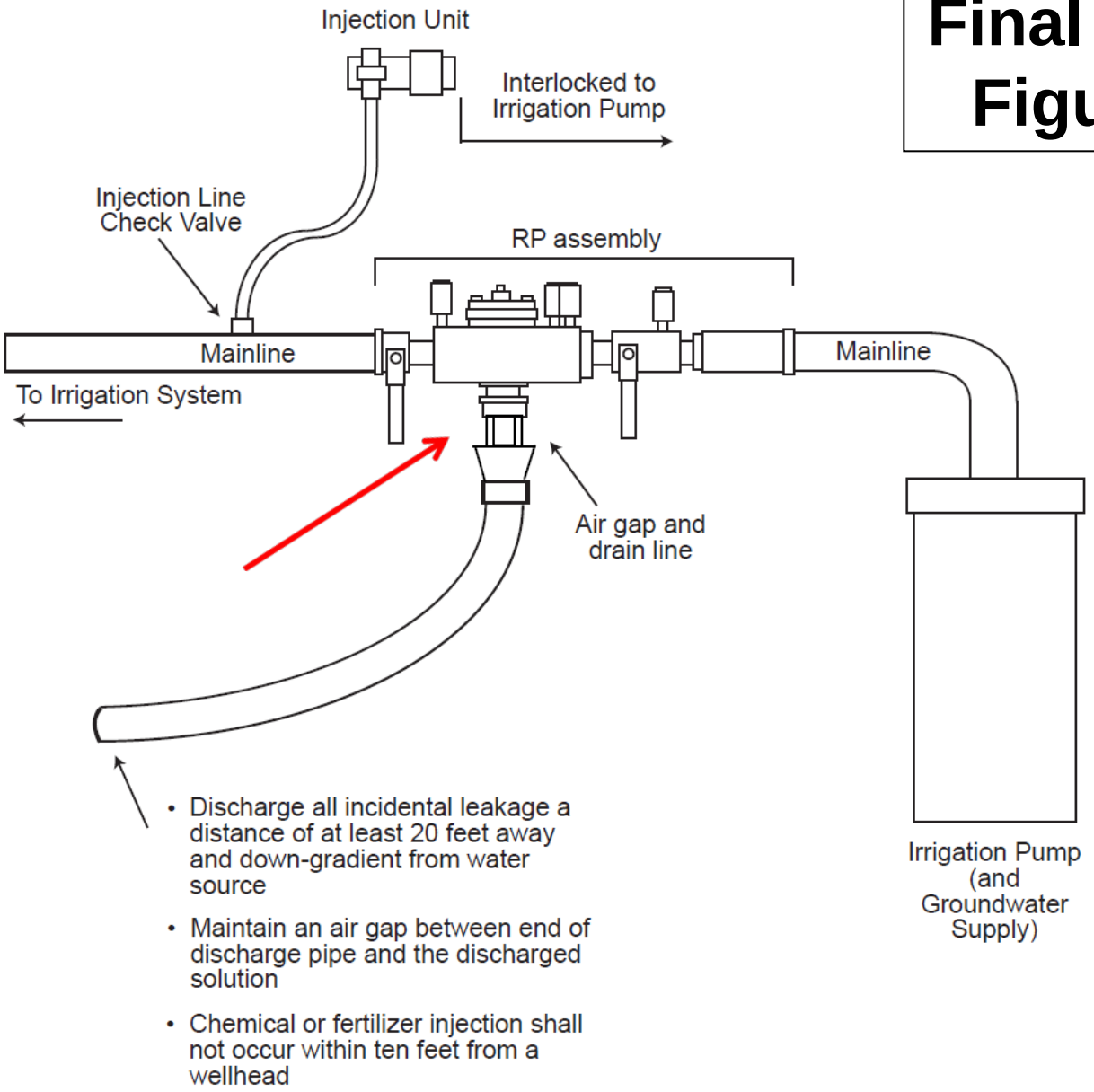
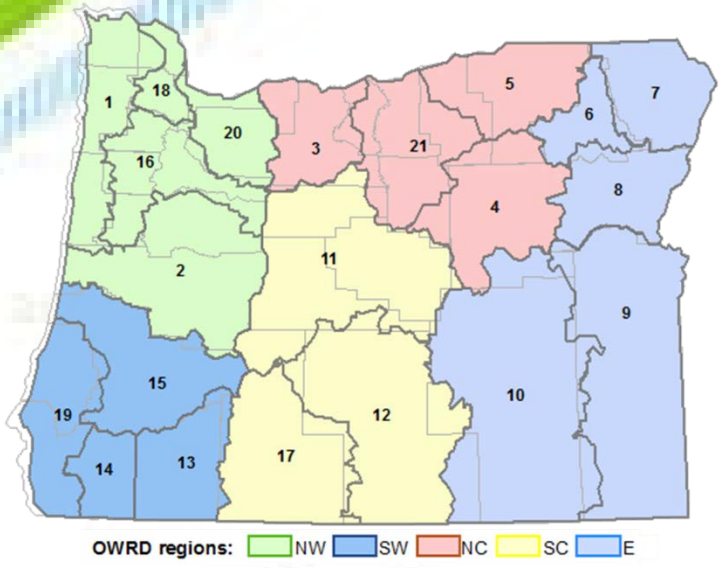
Final Proposed Figure 215-2



Backflow prevention device using a reduced pressure principle backflow prevention assembly (RP).

Outreach Efforts

- WRD Field Staff
- OHA Cross Connection Control Board
- Backflow Assembly Installers
- Well Constructors
- Pump Installers
- ODA Pesticides Program
- OLCC Marijuana Handbook
- Water Districts
- Counties
- State Agencies
- Posting in Offices
- Fertilizer Distributors
- Sanitarians



Alternatives

The Commission may consider the following alternatives:

1. Adopt final proposed rules in Attachment 2.

2. Adopt modified final proposed rules.

3. Not adopt rules and request the Department to further evaluate the issues.

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Questions?