

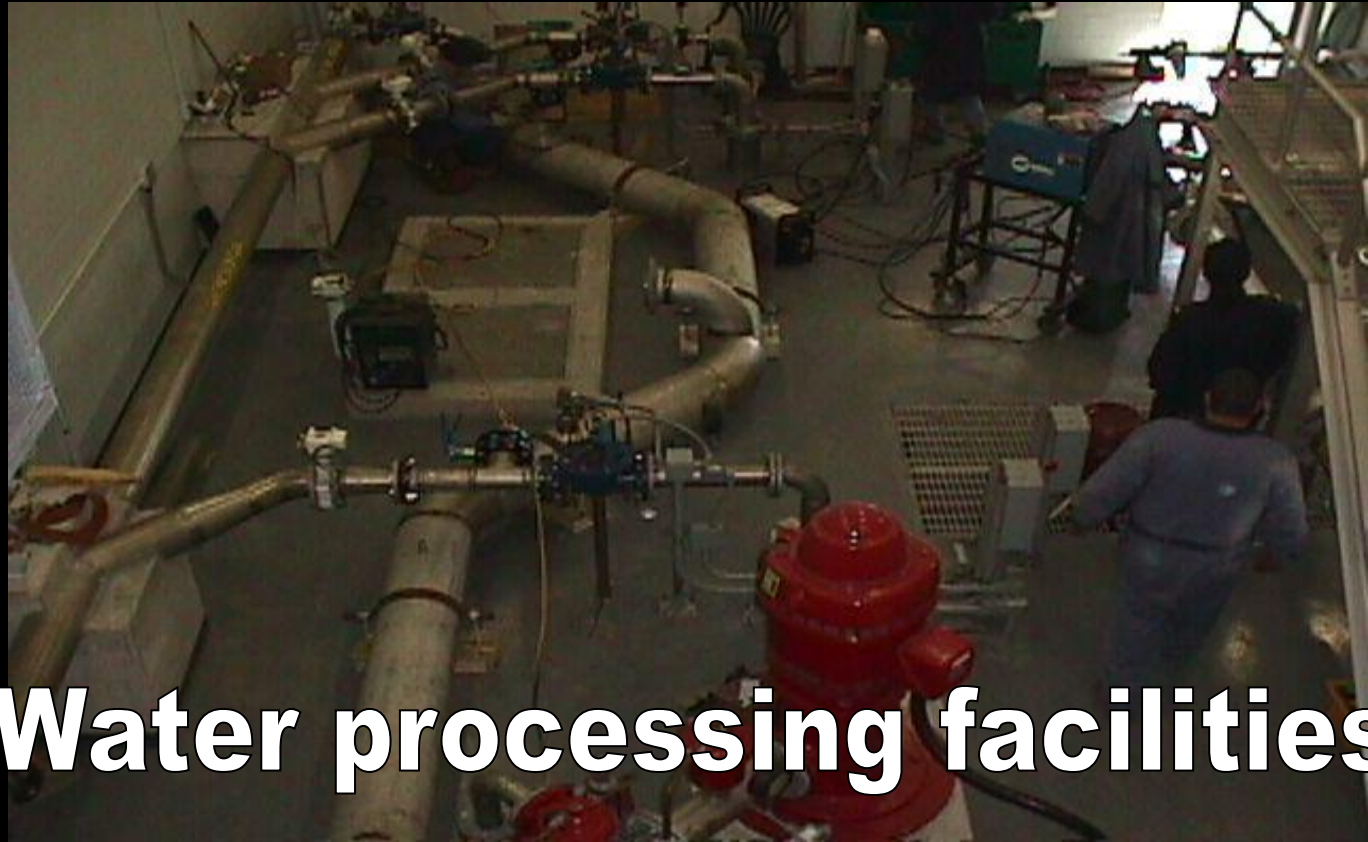
Water Supply



Water Supply Components



Water Supply Components



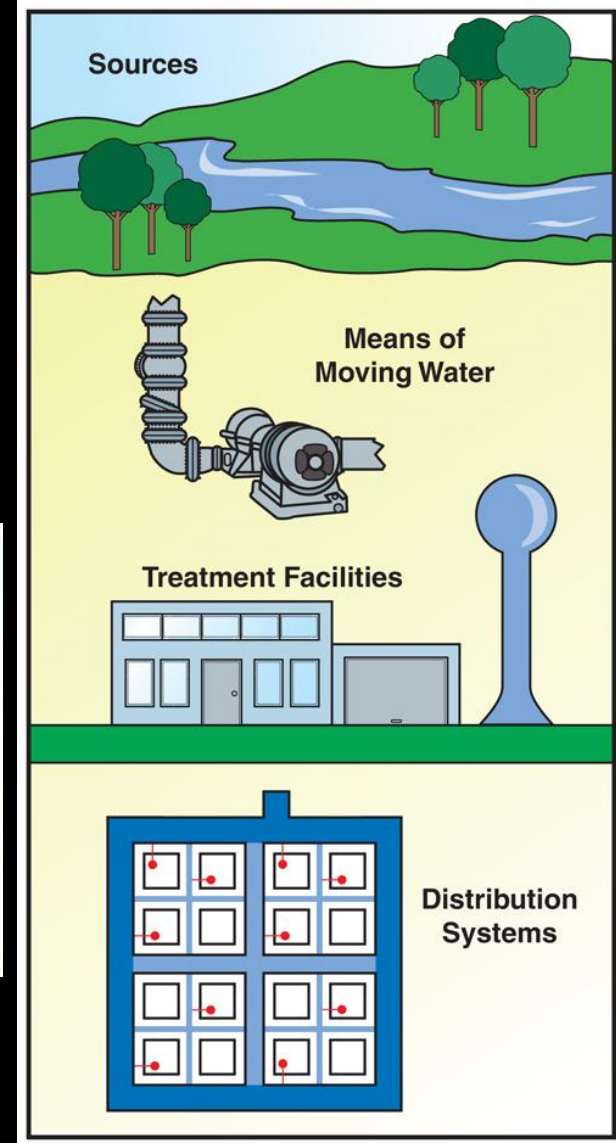
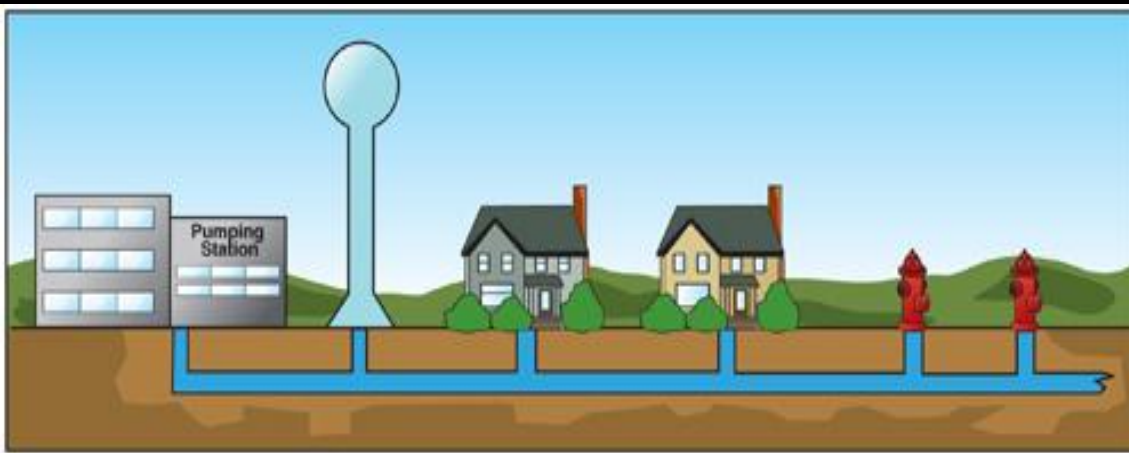
Water processing facilities

Water Supply Components



Means of moving Water

Water Supply Components



Distribution and Storage System

Water Supply Distribution System

◎ **Primary Feeders**

- Large pipes 400mm (16")
- Brings large amounts of water to different points of a water system

◎ **Secondary Feeders**

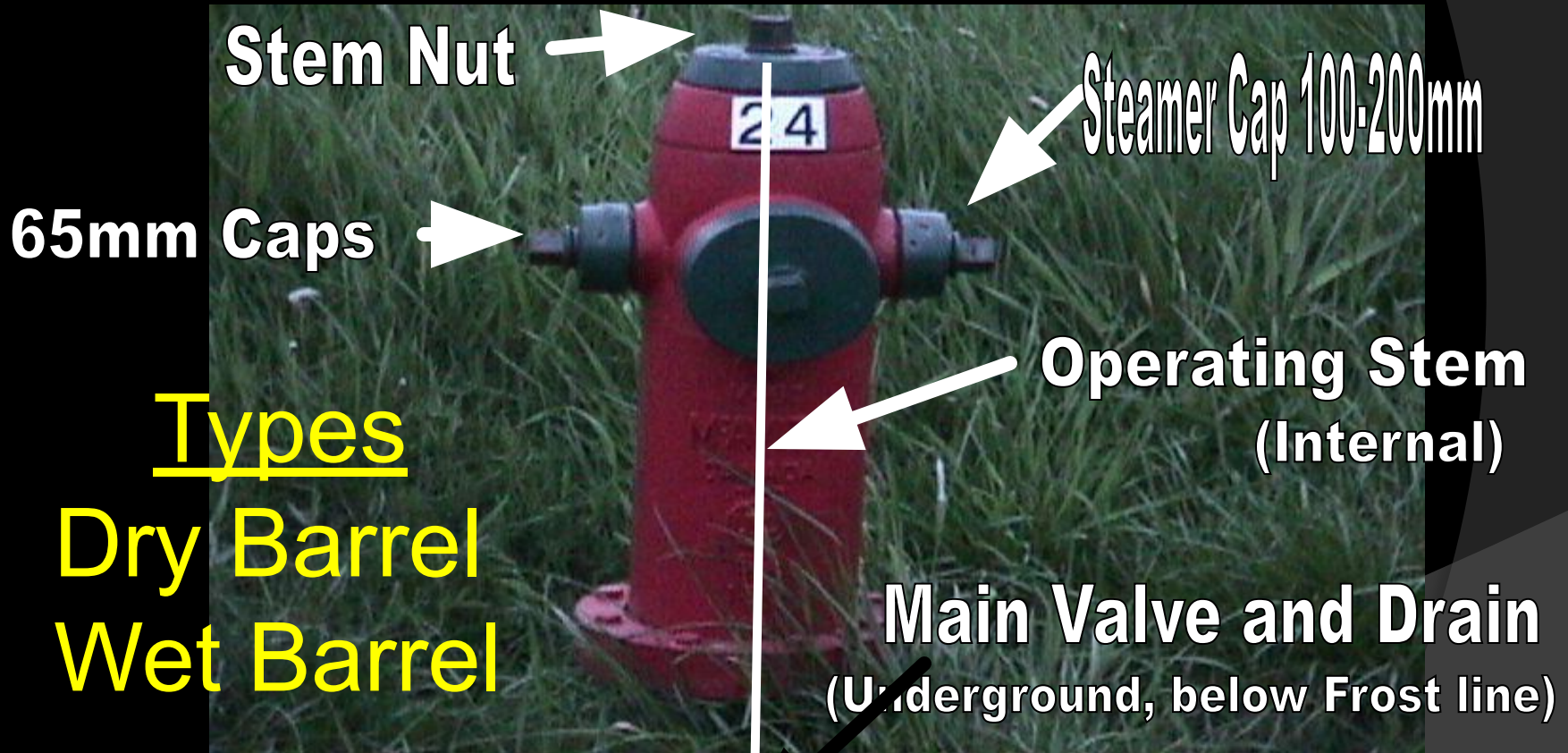
- Intermediate pipes 300mm (12")
- Pipes that form a grid between the primary pipes

Water Supply Distribution System

◎ **Distributors**

- Grid of smaller mains 200mm (8") supplying hydrants and blocks

Water Supply Hydrants



Types

Dry Barrel

Wet Barrel

Water Supply Hydrant Colour Codes



- ⦿ Class AA – **Light blue** 5,000 LPM (1,500 gpm) or greater
- ⦿ Class A – **Green** 3,785 – 5675 LPM (1,000-1,499 gpm)
- ⦿ Class B – **Orange** 1,900-3780 LPM (500-999 gpm)

Water Supply Hydrant Colour Codes



- Class C – **Red** less than 1,900 LPM (500 gpm)
- Dead End– Black Sttipe or **Grey** – not reliable

Water Supply

Hydrants

Locations

- ◎ 90m (300 ft) in high value areas

Basic Rule:

- ◎ Near each street intersection

Pre-Plan your areas

Water Supply Pressures

◎ **Static**

- Water is not moving. It is the potential energy available to force water through a pipe.

◎ **Normal Operating Pressure**

- The normal pressure found in a distribution system during a period of normal consumption

Water Supply Pressures

◎ **Residual**

- The pressure left in a distribution system at a specific location when a quantity of water is flowing

◎ **Flow**

- The forward velocity pressure at a discharge opening

Water Supply Alternative Sources



- ◉ Yard Hydrants
- ◉ Hose Hydrants
- ◉ Draft Sources
- ◉ Cisterns/Pools
- ◉ Rivers/Lakes/Ponds
- ◉ Ditches/Creeks

Water Supply

Rural Water Supply



- Ponds
- Wells
- Swimming pools
- Cisterns
- Ditches
- Rivers/Creeks
- Tankers
- Pumpers
- Hydrants

Water Supply Considerations

- ⦿ Resistance or friction loss in municipal systems
- ⦿ Corrosion
- ⦿ Chemicals in water
- ⦿ Sediment
- ⦿ Pipe size and length
- ⦿ **Water hammer**

Water Supply Hydrants



- Open and Close Slowly
- Open or Close Fully
- Drain Completely
- Know open and close direction before trying

Water Supply Drafting



Equipment Needed

- Portable pump
- Hard suction hose with strainer
- Fire hose
- Static water source

Water Supply

Determining Hydrant Flow

- ⦿ Open hydrant fully
- ⦿ Open pitot tube pet-cock
- ⦿ Place blade in stream
 - Hold parallel to port
- ⦿ Record velocity pressure

