

WATER STORAGE TANKS APPLICATIONS & SANITATION



Valentine A. Lehr P.E., LEED AP

LEHR CONSULTANTS INTERNATIONAL

TANK APPLICATIONS

DOMESTIC WATER



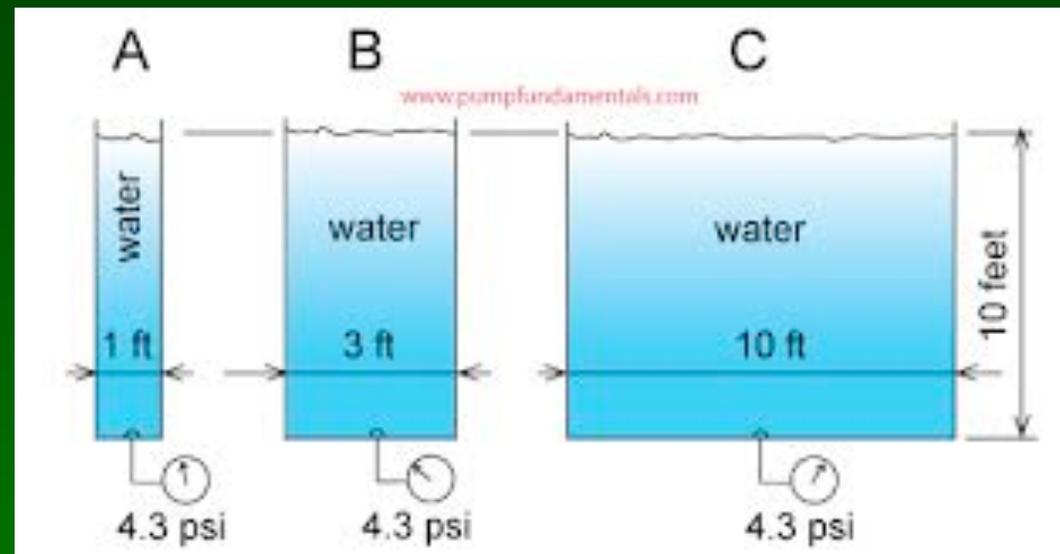
FIRE PROTECTION



WHY ELEVATED?

PRESSURE

- MINIMUM REQUIRED PRESSURE = 20 psi
- ONE psi = 2.31 FEET
- THEREFORE LOWEST WATER LEVEL IN TANK NEEDS TO BE 46.2 FEET ABOVE THE POINT OF USAGE (+PRESSURE DROP)



TYPES OF STORAGE TANKS

ROOFTOP ELEVATED



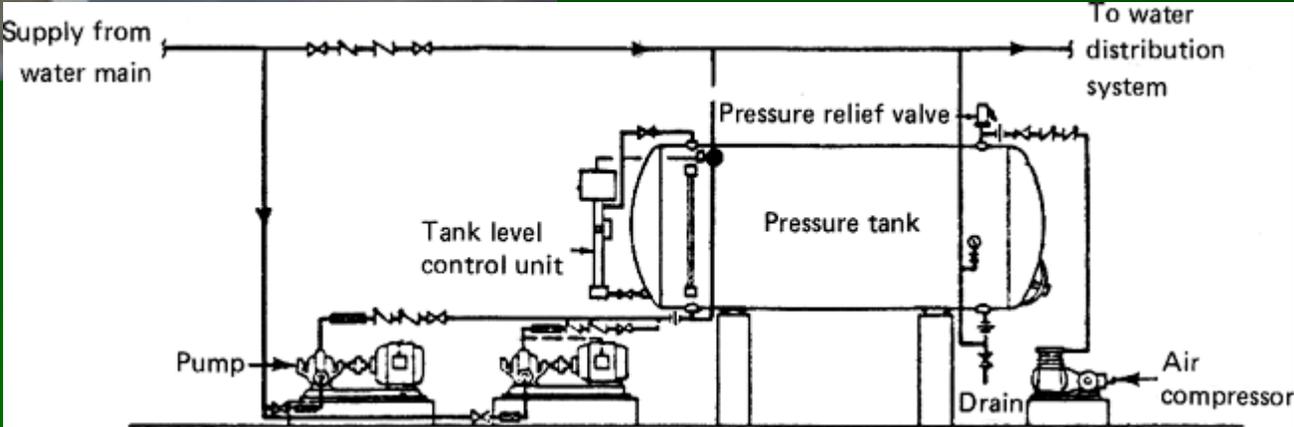
IN BUILDING STORAGE (BRAITWAITE)



BELOW GRADE CONCRETE



HYDROPNEUMATIC PRESSURE TANKS



SANITATION



PRIMARYLY A POTABLE WATER ISSUE



NEW YORK CITY DEPARTMENT OF HEALTH & MENTAL HYGIENE
BOARD OF HEALTH

NOTICE OF ADOPTION TO REPEAL AND RE-ENACT ARTICLE 141
OF THE NEW YORK CITY HEALTH CODE

§141.07 Building Drinking Water Storage Tanks

(b) Inspection Requirements. The owner, agent or other person in control of a building shall have the water tank inspected at least once annually

The inspection shall include sampling of the water in the water tank to verify the bacteriological quality of the water supply

(e) Corrective Actions. When an inspection identifies any unsanitary condition, the owner, agent or other person in control of a building shall take the necessary steps to immediately correct the condition



TANK CLEANING

- **EMPTY THE TANK**
- **SCRUB THE INTERIOR SURFACES**
- **DISINFECT WITH CHLORINE (Calcium Hypochlorite – HSCH)**
- **WASH DOWN AND FLUSH THOROUGHLY**



THINGS TO REMEMBER

- IF A FIRE WATER STORAGE, NOTIFY THE FIRE DEPARTMENT
- USE APPROVED CHEMICALS AND MATERIALS FOR DISINFECTION AND REPAIR
- PROTECT THE WORKERS
- PROTECT YOURSELF – TAKE FREQUENT RESIDUAL CHLORINE READINGS AND RECORD THEM; PERFORM A REGULAR WATER QUALITY ANALYSIS (CHEMICAL AND BIOLOGICAL
- CONSIDER INSTALLING CONTINUOUS DISINFECTION



RPZ's

- RPZ's ARE A HOT TOPIC
- INTENDED TO PROTECT THE PUBLIC WATER SUPPLY
- PREVENTS BACKFLOW FROM THE BUILDING
- STORAGE TANKS FORM A PROTECTIVE BREAK
- THEREFORE NOT SO CRITICAL FOR TANKS
- BUT, INTERNAL PROTECTION IS!



DISINFECTION



ULTRA VIOLET (UV)



REVERSE OSMOSIS (RO)



OZONE (O₂)

LEHR CONSULTANTS INTERNATIONAL



THANK YOU FOR YOUR ATTENTION

- QUESTIONS?
- COMMENTS?
- VERBAL ABUSE???



WATER STORAGE TANKS APPLICATIONS & SANITATION



Valentine A. Lehr P.E., LEED AP

LEHR CONSULTANTS INTERNATIONAL

