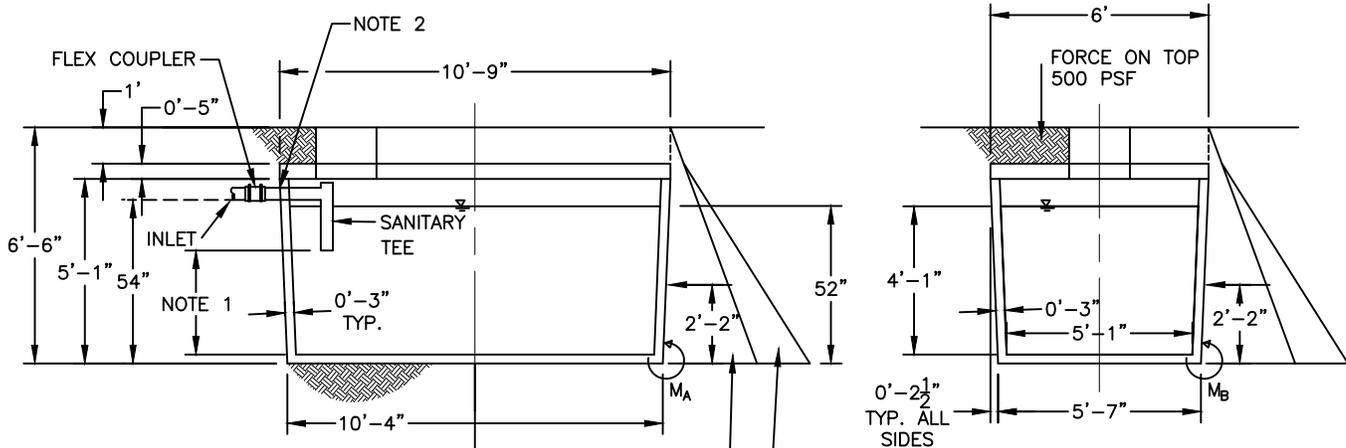
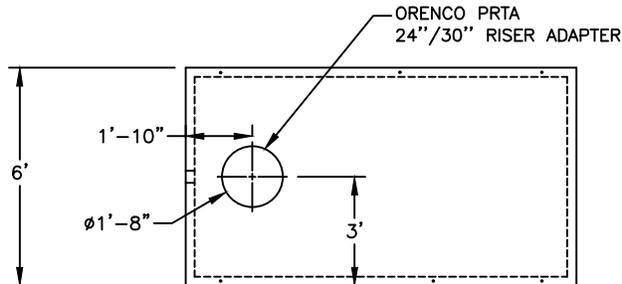


POPE ENGINEERING

CIVIL ENGINEERING - LAND SURVEYING

R.C.E. 65228 - P.L.S. 8903

1500 GAL. PUMPED TANK SKETCH



EMPTY WEIGHT OF TANK = 13,478.0 LB
FULL WEIGHT OF TANK = 26,614.4 LB

BUOYANCY FORCE = $342.4 \times 62.4 = 21365.7$ LB
(ASSUMES WATER TABLE AT TOP OF TANK)

GROUND WATER FORCE
 $1/2 \times H^2 \times \text{DENSITY WATER} = 1/2 \times 5.5^2 \times 62.4 \text{ LB/CF} = 943.8$ LB/FT OF WALL WIDTH (NOTE THIS IS INCLUDED IN THE SOIL DENSITY BECAUSE SATURATED SOIL WAS USED)

SOIL FORCE
 $1/2 \times H^2 \times \text{DENSITY OF SOIL} = 1/2 \times 6.5^2 \times 150 \text{ LB/CF} = 3168.8$ LB/FT OF WALL WIDTH

NOTES

1. BOTTOM OF INLET TEE TO BE 24.5" TO 36.75" FROM TANK BOTTOM
2. PRESS-SEAL 4" CAST-A-SEAL COUPLER. ALL SEALS BETWEEN PIPE AND TANK MUST MEET ASTM C1644

MOMENT FORCE ON TOP

2043.9 LB-FT/FT AS DETERMINED BY AUTODESK ROBOT STRUCTURAL ANALYSIS PROGRAM

OUTER FORCE ON WALL FROM SOIL LOAD IS:

MA (END WALL) = 879.8 LB-FT/FT AS DETERMINED BY AUTODESK ROBOT STRUCTURAL ANALYSIS PROGRAM

MB (SIDE WALL) = 2096.4 LB-FT/FT AS DETERMINED BY AUTODESK ROBOT STRUCTURAL ANALYSIS PROGRAM

INNER FORCE ON WALL FROM SEWAGE LOAD IS:

END WALLS = $1/2 \times (4.083 \text{ FT})^2 \times 62.4 \text{ PCF} \times 5.28 \text{ FT} = 2746.3$ LB
MOMENT = 208.1 LB-FT/FT

SIDE WALLS = $1/2 \times (4.083 \text{ FT})^2 \times 62.4 \text{ PCF} \times 6.5 \text{ FT} = 3380.9$ LB
MOMENT = 515.2 LB-FT/FT

TANK AIR SPACE = 42.5 CF

WORKING LIQUID VOLUME = 1500 GAL. = 200.5 CF