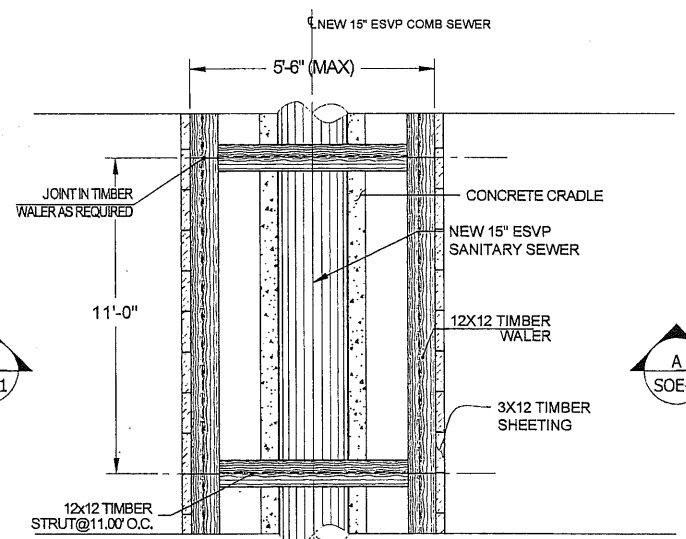


SECTION A-A

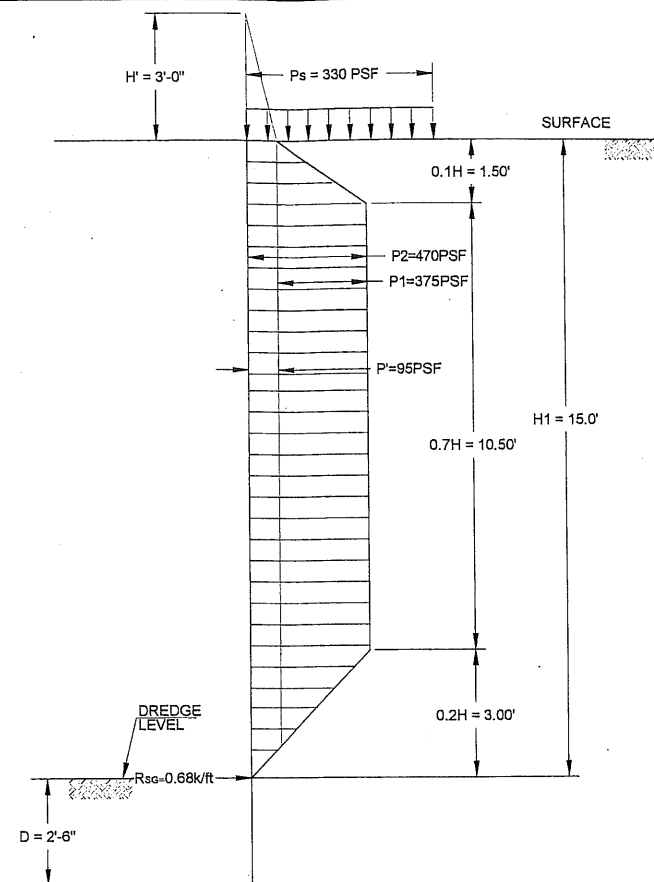
SCALE: 1/2" = 1'-0"



PLAN VIEW

24"/12"/8" DIP

SCALE: 1/2" = 1'-0"



LOAD DIAGRAM

N.T.S.

DESIGN CRITERIA:

$$\begin{aligned} \gamma &= \text{UNIT WEIGHT OF SOIL} = 110 \text{ PCF} \\ \gamma_w &= \text{UNIT WEIGHT OF WATER} = 62.4 \text{ PCF} \\ \gamma_s &= \text{SUBMERGED UNIT WEIGHT OF SOIL} = 47.6 \text{ PCF} \\ \phi &= \text{INTERNAL FRICTION ANGLE OF SOIL} = 34^\circ \\ K_{ra} &= \frac{(1 - \sin \phi)}{(1 + \sin \phi)} = 0.283 \text{ FOR ACTIVE EARTH PRESSURE} \\ K_{rp} &= \frac{(1 + \sin \phi)}{(1 - \sin \phi)} = 3.537 \text{ FOR PASSIVE EARTH PRESSURE} \\ H' &= 3 \text{ FEET} \\ P_s &= \gamma \times H' = 330 \text{ PSF} \\ P' &= K_{ra} \times P_s = 95 \text{ PSF} \\ P_1 &= (0.8 K_{ra}) \times \gamma \times H = 375 \text{ PSF} \\ P_2 &= P' + P_1 = 470 \text{ PSF} \\ D &= \sqrt{\frac{2R_{sg}}{\gamma_s(K_{rp} - K_{ra})}} = 1.93' \text{ MIN} \end{aligned}$$

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED

NOTES:

- THE SHEETING SYSTEM SHALL BE INSTALLED IN ACCORDANCE SECTION 4.05 OF NYCDDC STANDARD SEWER SPECIFICATIONS, DATED AUGUST 1 2009.
- TIMBER SHEETING AND STRUT/WALERS TO BE VISUALLY GRADED SOUTHERN PINE NO. 1 OR BETTER. ALLOWABLE STRESSES IN TIMBER MEMBERS SHALL BE AS FOLLOWS:

3X12 TIMBER SHEETING: $F_b = 1,300 \text{ psi}$
TIMBER STRUTS AND WALERS: $F_b = 1,550 \text{ psi}$, $F_c \text{ (II TO GRAIN)} = 825 \text{ psi}$, $F_v = 165 \text{ psi}$
- SOIL PROPERTIES USED IN DESIGN OF TRENCH SHEETING ARE AS FOLLOWS:

DRY UNIT WEIGHT OF SOIL: $\gamma = 110 \text{ pcf}$
ANGLE OF INTERNAL FRICTION OF SOIL: $\phi = 34^\circ$
- IF ACTUAL SURCHARGE IS IN EXCESS OF THREE HUNDRED THIRTY (330) POUNDS PER SQUARE FOOT THE CONTRACTOR SHALL ADEQUATELY REINFORCE THE SHEETING AND BRACING AS REQUIRED.
- MAXIMUM PILOT CUT SHALL BE FIVE (5) FEET
- THE SHEETING SYSTEM HAS NOT BEEN DESIGNED TO ACCOMMODATE HYDROSTATIC PRESSURE. PERCHED GROUNDWATER SHALL BE REMOVED FROM TRENCHES USING SUMPS, OPEN PUMPING OR OTHER METHODS APPROVED BY THE RESIDENT ENGINEER.

SUGGESTED SEQUENCE OF CONSTRUCTION OPERATIONS

- CAREFULLY DRIVE OR PUSH SHEETING WITH PNEUMATIC OR VIBRATORY HAMMERS, BACKHOE OR OTHER SUITABLE MEANS.
- EXCAVATE TO 4'-0" BELOW EXISTING GROUND LEVEL AND INSTALL UPPER TIMBER WALE/STRUT ASSEMBLY.
- CONTINUE EXCAVATION TO 10'-0" BELOW EXISTING GROUND LEVEL AND INSTALL MIDDLE TIMBER WALE/STRUT ASSEMBLY.
- CONTINUE EXCAVATION TO DREDGE LINE OR MAX 15'-0" BELOW EXISTING GROUND LEVEL.
- INSTALL ESVP PIPE. FORM AND POUR CONCRETE CRADLE.
- BACKFILL EXCAVATED SOIL REMOVE BRACES, WALERS AND TIMBER SHEETING AS BACKFILL PROCEEDS.