WEIGHT = 1900 LBS
HORIZONTAL FORCE ($E_h$) = 0.90W = 1710 LBS
VERTICAL FORCE ($E_v$) = 0.40W = 760 LBS

BOLT FORCES:

**TENSION (T)**

$$T_{\text{MAX}} = \left[ \frac{1710 \# (42") (12.8")}{1 \text{ bolt} (55.2") (28")} \times (0.3) \right] + \frac{1710 \# (42") (35.6")}{1 \text{ bolt} (28") (55.2")} - \frac{(1900 \# (0.9) - 760 \#) (35.6") (12.8")}{1 \text{ bolt} (55.2") (28")} = 1553 \text{ LBS/BOLT (MAX)}$$

**SHEAR (V)**

$$V_{\text{MAX}} = \frac{1710 \# (35.6")}{2 \text{ bolts} (55.2")} = 552 \text{ LBS/BOLT (MAX)}$$

NOTE:
ENGINEER OF RECORD SHALL PROVIDE DESIGN OF SUPPORT STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN.
WEIGHT = 1900 LBS
HORIZONTAL FORCE (E_h) = 150W_b = 2850 LBS
VERTICAL FORCE (E_v) = 0.40W_b = 760 LBS

BOLT FORCES:

TENSION (T)

\[
T_{\text{MAXIMUM}} = \left[ \frac{2850 \#(42\text{"})(12.8\text{"})}{1 \text{bolt}(55.2\text{"})(28\text{"})} \times (0.3) \right] + \frac{2850 \#(42\text{"})(35.6\text{"})}{1 \text{bolt}(28\text{"})(55.2\text{"})} \cdot \frac{(1900\#(0.9) - 760\#)(35.6\text{"})(12.8\text{"})}{1 \text{bolt}(55.2\text{"})(28\text{"})} = 2778 \text{ LBS/BOLT (MAX)}
\]

SHEAR (V)

\[
V_{\text{MAXIMUM}} = \frac{2850 \#(35.6\text{"})}{2 \text{ bolts}(55.2\text{"})} = 919 \text{ LBS/BOLT (MAX)}
\]

NOTE:
ENGINEER OF RECORD SHALL PROVIDE DESIGN OF SUPPORT STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN.