

This Version was compiled on 31-Dec-2024
The Plate Yield is set to 50 ksi
The number of load cases was increased to 300
Anchor bolt material and TPI will now be a user input
with the number of washers (0 or 1) on the leveling nut
in file C:\PLS\TEMP\ABOLTS113.TXT

Two passes thru the design routine will be done to select
plates with bolts on the X Axis and bolts that split the X Axis
A Summary Table of designs will be output after each pass

THIS IS THE ABOLTS113.TXT INPUT FILE THAT WAS READ

NUMBLT IS	11	GAPMAX IS	2.25			
DIAM	TPI	Fy	Fu	NW	BOLT SPACING	
1.0000	8.0000	80.0000	105.0000	0	4.00	
1.1250	8.0000	80.0000	105.0000	0	4.00	
1.2500	8.0000	80.0000	105.0000	0	4.00	
1.5000	8.0000	105.0000	125.0000	0	4.00	
1.7500	8.0000	105.0000	125.0000	0	4.00	
2.0000	8.0000	105.0000	125.0000	0	4.00	
2.2500	8.0000	105.0000	125.0000	0	4.00	
2.5000	8.0000	105.0000	125.0000	0	3.50	
2.7500	8.0000	105.0000	125.0000	0	3.50	
3.0000	8.0000	105.0000	125.0000	0	3.50	
2.2500	4.5000	75.0000	100.0000	0	4.00	

This design routine is based on the maximum possible
bending moment based on the pole shaft geometry.
It is up to the designer to choose one of the plate designs
and input the base plate values into PLS-POLE

Methods from ASCE 48-19 and 2nd Edition ASCE 113 are used

This post-processor to PLS-POLE was written by George Watson
with immense XML help from Arjen Markus to read the XML
file saved by PLS-POLE in C:\PLS\TEMP\POSTPROC.XML
the XML file must reside in this TEMP folder

The pole shaft flat is on the Neutral Axis

BASE PLATE DESIGN
MX = 43575.273 INCH KIPS
MY = 5960.487 INCH KIPS
AXIAL LOAD = 17.626 KIPS
VX = 72.226 KIPS
VY = 14.214 KIPS
POLE SIZE = 44.0000 INCHES ACROSS FLATS
POLE SHAFT THICKNESS = 0.4375 INCHES
NUMBER OF SIDES IS 12

Several Base Plates will be Designed for this Pole
This version uses ASCE 113 anchor bolt unity checks
and ASCE 48-19 Base Plate Thickness Design Assumptions

FOUNDATION REACTIONS
RESULTANT MOMENT 3665.09 FT-KIPS
RESULTANT SHEAR 73.61 KIPS
AXIAL LOAD 17.63 KIPS

Gap between TOC and Bottom of Baseplate is 2.250 bolt diameters

Include anchor bolt bending

THE RUN DATE IS 04 10 2025
THE RUN TIME IS 13:56:27

MAXIMUM GAP BETWEEN THE TOC AND BOTTOM OF BASEPLATE IS 4.5000 INCHES
ANCHOR BOLT BENDING IS INCLUDED IN THE UNITY CHECK

MAX BOLT TENSION = 168.231 KIPS
MAX BOLT COMPRESSION = -169.993 KIPS
SHEAR PER BOLT = 3.681 KIPS

TOTAL NUMBER OF BOLTS IS 20

2.0000 INCH BOLT DIAMETER WITH, 8.00 TPI 105.0 KSI ALLOWABLE YIELD STRENGTH
2.3125 OVERSIZE HOLE DIAMETER 0.0000 WASHER THICKNESS 1.9250 NUT HEIGHT (min)
The number of washers was 0

THE INITIAL ANGLE IS 0.0000 DEGREES
THE ANGLE BETWEEN BOLTS IS 18.0000 DEGREES

ANCHOR BOLT UNITY 8-23 = 0.8990 (1.0 Limit)
ANCHOR BOLT UNITY 8-24 = 0.7847 (1.2 Limit)

Bend DISTANCE ON BASE PLATE = 11.790 INCHES based on ASCE 48-19

MAX PLATE MOMENT = 1577.9951 IN. KIPS

4.5000 INCH PLATE THICKNESS from ASTM A572 Gr 50
BASE PLATE MATERIAL STRENGTH = 42.0 KSI

PLATE OD = 56.5000 INCHES
PLATE ID = 38.0000 INCHES
BASE PLATE WEIGHT = 1813.4 Pounds

51.5000 BOLT CIRCLE WITH 8.0564 INCHES SPACING BETWEEN BOLTS

BOLT NUMBER	X COORD	Y COORD	LOAD	MOMENT ARM	ANGLE FROM X AXIS
1	25.750	0.000	-169.99	3.7500	0.000
2	24.490	7.957	-154.57	3.1873	18.000
3	20.832	15.135	-124.10	3.6089	36.000
4	15.135	20.832	-81.57	3.6089	54.000
5	7.957	24.490	-31.14	3.1873	72.000
6	-0.000	25.750	22.25	3.7500	90.000
7	-7.957	24.490	73.38	3.1873	108.000
8	-15.135	20.832	117.23	3.6089	126.000
9	-20.832	15.135	149.53	3.6089	144.000
10	-24.490	7.957	167.10	3.1873	162.000
11	-25.750	-0.000	168.23	3.7500	180.000
12	-24.490	-7.957	152.81	3.1873	198.000
13	-20.832	-15.135	122.34	3.6089	216.000
14	-15.135	-20.832	79.81	3.6089	234.000
15	-7.957	-24.490	29.38	3.1873	252.000
16	0.000	-25.750	-24.01	3.7500	270.000
17	7.957	-24.490	-75.14	3.1873	288.000
18	15.135	-20.832	-119.00	3.6089	306.000
19	20.832	-15.135	-151.29	3.6089	324.000
20	24.490	-7.957	-168.86	3.1873	342.000

Start new plate solution

BASE PLATE DESIGN

MX = 43575.273 INCH KIPS
 MY = 5960.487 INCH KIPS
 AXIAL LOAD = 17.626 KIPS
 VX = 72.226 KIPS
 VY = 14.214 KIPS
 POLE SIZE = 44.0000 INCHES ACROSS FLATS
 POLE SHAFT THICKNESS = 0.4375 INCHES
 NUMBER OF SIDES IS 12

FOUNDATION REACTIONS

RESULTANT MOMENT 3665.09 FT-KIPS
 RESULTANT SHEAR 73.61 KIPS
 AXIAL LOAD 17.63 KIPS

MAXIMUM GAP BETWEEN THE TOC AND BOTTOM OF BASEPLATE IS 5.0625 INCHES
 ANCHOR BOLT BENDING IS INCLUDED IN THE UNITY CHECK

MAX BOLT TENSION = 206.229 KIPS
 MAX BOLT COMPRESSION = -208.433 KIPS
 SHEAR PER BOLT = 4.601 KIPS

TOTAL NUMBER OF BOLTS IS 16

2.2500 INCH BOLT DIAMETER WITH, 8.00 TPI 105.0 KSI ALLOWABLE YIELD STRENGTH
 2.5625 OVERSIZE HOLE DIAMETER 0.0000 WASHER THICKNESS 2.1550 NUT HEIGHT (min)
 The number of washers was 0

THE INITIAL ANGLE IS 0.0000 DEGREES
 THE ANGLE BETWEEN BOLTS IS 22.5000 DEGREES

ANCHOR BOLT UNITY 8-23 = 0.8604 (1.0 Limit)
 ANCHOR BOLT UNITY 8-24 = 0.7499 (1.2 Limit)

Bend DISTANCE ON BASE PLATE = 11.790 INCHES based on ASCE 48-19

MAX PLATE MOMENT = 1831.8247 IN. KIPS

4.7500 INCH PLATE THICKNESS from ASTM A572 Gr 50
 BASE PLATE MATERIAL STRENGTH = 42.0 KSI

PLATE OD = 58.0000 INCHES
 PLATE ID = 37.0000 INCHES
 BASE PLATE WEIGHT = 2184.3 Pounds

52.5000 BOLT CIRCLE WITH 10.2422 INCHES SPACING BETWEEN BOLTS

BOLT NUMBER	X COORD	Y COORD	LOAD	MOMENT ARM	ANGLE FROM X AXIS
1	26.250	0.000	-208.43	4.2500	0.000
2	24.252	10.045	-181.80	4.0254	22.500
3	18.562	18.562	-127.65	3.3556	45.000
4	10.045	24.252	-54.24	4.0254	67.500
5	-0.000	26.250	27.26	4.2500	90.000
6	-10.045	24.252	104.44	4.0254	112.500
7	-18.562	18.562	165.56	3.3556	135.000
8	-24.252	10.045	201.30	4.0254	157.500
9	-26.250	-0.000	206.23	4.2500	180.000
10	-24.252	-10.045	179.59	4.0254	202.500
11	-18.562	-18.562	125.45	3.3556	225.000
12	-10.045	-24.252	52.04	4.0254	247.500
13	0.000	-26.250	-29.46	4.2500	270.000
14	10.045	-24.252	-106.64	4.0254	292.500
15	18.562	-18.562	-167.76	3.3556	315.000
16	24.252	-10.045	-203.50	4.0254	337.500

Start new plate solution

BASE PLATE DESIGN

MX = 43575.273 INCH KIPS
 MY = 5960.487 INCH KIPS
 AXIAL LOAD = 17.626 KIPS
 VX = 72.226 KIPS
 VY = 14.214 KIPS
 POLE SIZE = 44.0000 INCHES ACROSS FLATS
 POLE SHAFT THICKNESS = 0.4375 INCHES
 NUMBER OF SIDES IS 12

FOUNDATION REACTIONS

RESULTANT MOMENT 3665.09 FT-KIPS
 RESULTANT SHEAR 73.61 KIPS
 AXIAL LOAD 17.63 KIPS

MAXIMUM GAP BETWEEN THE TOC AND BOTTOM OF BASEPLATE IS 5.6250 INCHES
 ANCHOR BOLT BENDING IS INCLUDED IN THE UNITY CHECK

MAX BOLT TENSION = 272.314 KIPS
 MAX BOLT COMPRESSION = -275.251 KIPS
 SHEAR PER BOLT = 6.134 KIPS

TOTAL NUMBER OF BOLTS IS 12

2.5000 INCH BOLT DIAMETER WITH, 8.00 TPI 105.0 KSI ALLOWABLE YIELD STRENGTH
 2.8125 OVERSIZE HOLE DIAMETER 0.0000 WASHER THICKNESS 2.4010 NUT HEIGHT (min)
 The number of washers was 0

THE INITIAL ANGLE IS 0.0000 DEGREES
 THE ANGLE BETWEEN BOLTS IS 30.0000 DEGREES

ANCHOR BOLT UNITY 8-23 = 0.9104 (1.0 Limit)
 ANCHOR BOLT UNITY 8-24 = 0.7933 (1.2 Limit)

Bend DISTANCE ON BASE PLATE = 11.790 INCHES based on ASCE 48-19

MAX PLATE MOMENT = 2227.9419 IN. KIPS

5.2500 INCH PLATE THICKNESS from ASTM A572 Gr 50
 BASE PLATE MATERIAL STRENGTH = 42.0 KSI

PLATE OD = 59.5000 INCHES
 PLATE ID = 36.5000 INCHES
 BASE PLATE WEIGHT = 2672.0 Pounds

53.0000 BOLT CIRCLE WITH 13.7174 INCHES SPACING BETWEEN BOLTS

BOLT NUMBER	X COORD	Y COORD	LOAD	MOMENT ARM	ANGLE FROM X AXIS
1	26.500	0.000	-275.25	4.5000	0.000
2	22.950	13.250	-219.85	4.5000	30.000
3	13.250	22.950	-105.93	4.5000	60.000
4	-0.000	26.500	35.98	4.5000	90.000
5	-13.250	22.950	167.85	4.5000	120.000
6	-22.950	13.250	254.36	4.5000	150.000
7	-26.500	-0.000	272.31	4.5000	180.000
8	-22.950	-13.250	216.91	4.5000	210.000
9	-13.250	-22.950	102.99	4.5000	240.000
10	0.000	-26.500	-38.92	4.5000	270.000
11	13.250	-22.950	-170.79	4.5000	300.000
12	22.950	-13.250	-257.30	4.5000	330.000

Start new plate solution

BASE PLATE DESIGN

MX = 43575.273 INCH KIPS
 MY = 5960.487 INCH KIPS
 AXIAL LOAD = 17.626 KIPS
 VX = 72.226 KIPS
 VY = 14.214 KIPS
 POLE SIZE = 44.0000 INCHES ACROSS FLATS
 POLE SHAFT THICKNESS = 0.4375 INCHES
 NUMBER OF SIDES IS 12

FOUNDATION REACTIONS

RESULTANT MOMENT 3665.09 FT-KIPS
 RESULTANT SHEAR 73.61 KIPS
 AXIAL LOAD 17.63 KIPS

MAXIMUM GAP BETWEEN THE TOC AND BOTTOM OF BASEPLATE IS 6.1875 INCHES
 ANCHOR BOLT BENDING IS INCLUDED IN THE UNITY CHECK

MAX BOLT TENSION = 267.196 KIPS
 MAX BOLT COMPRESSION = -270.134 KIPS
 SHEAR PER BOLT = 6.134 KIPS

TOTAL NUMBER OF BOLTS IS 12

2.7500 INCH BOLT DIAMETER WITH, 8.00 TPI 105.0 KSI ALLOWABLE YIELD STRENGTH
 3.0625 OVERSIZE HOLE DIAMETER 0.0000 WASHER THICKNESS 2.6470 NUT HEIGHT (min)
 The number of washers was 0

THE INITIAL ANGLE IS 0.0000 DEGREES
 THE ANGLE BETWEEN BOLTS IS 30.0000 DEGREES

ANCHOR BOLT UNITY 8-23 = 0.7331 (1.0 Limit)
 ANCHOR BOLT UNITY 8-24 = 0.6380 (1.2 Limit)

Bend DISTANCE ON BASE PLATE = 11.790 INCHES based on ASCE 48-19

MAX PLATE MOMENT = 2429.4927 IN. KIPS

5.5000 INCH PLATE THICKNESS from ASTM A572 Gr 50
 BASE PLATE MATERIAL STRENGTH = 42.0 KSI

PLATE OD = 61.0000 INCHES
 PLATE ID = 35.5000 INCHES
 BASE PLATE WEIGHT = 3119.7 Pounds

54.0000 BOLT CIRCLE WITH 13.9762 INCHES SPACING BETWEEN BOLTS

BOLT NUMBER	X COORD	Y COORD	LOAD	MOMENT ARM	ANGLE FROM X AXIS
1	27.000	0.000	-270.13	5.0000	0.000
2	23.383	13.500	-215.76	5.0000	30.000
3	13.500	23.383	-103.98	5.0000	60.000
4	-0.000	27.000	35.28	5.0000	90.000
5	-13.500	23.383	164.69	5.0000	120.000
6	-23.383	13.500	249.58	5.0000	150.000
7	-27.000	-0.000	267.20	5.0000	180.000
8	-23.383	-13.500	212.83	5.0000	210.000
9	-13.500	-23.383	101.04	5.0000	240.000
10	0.000	-27.000	-38.22	5.0000	270.000
11	13.500	-23.383	-167.63	5.0000	300.000
12	23.383	-13.500	-252.51	5.0000	330.000

Start new plate solution

BASE PLATE DESIGN

MX = 43575.273 INCH KIPS
 MY = 5960.487 INCH KIPS
 AXIAL LOAD = 17.626 KIPS
 VX = 72.226 KIPS
 VY = 14.214 KIPS
 POLE SIZE = 44.0000 INCHES ACROSS FLATS
 POLE SHAFT THICKNESS = 0.4375 INCHES
 NUMBER OF SIDES IS 12

FOUNDATION REACTIONS

RESULTANT MOMENT 3665.09 FT-KIPS
 RESULTANT SHEAR 73.61 KIPS
 AXIAL LOAD 17.63 KIPS

MAXIMUM GAP BETWEEN THE TOC AND BOTTOM OF BASEPLATE IS 6.7500 INCHES
 ANCHOR BOLT BENDING IS INCLUDED IN THE UNITY CHECK

MAX BOLT TENSION = 397.013 KIPS
 MAX BOLT COMPRESSION = -401.420 KIPS
 SHEAR PER BOLT = 9.201 KIPS

TOTAL NUMBER OF BOLTS IS 8

3.0000 INCH BOLT DIAMETER WITH, 8.00 TPI 105.0 KSI ALLOWABLE YIELD STRENGTH
 3.3125 OVERSIZE HOLE DIAMETER 0.0000 WASHER THICKNESS 2.8930 NUT HEIGHT (min)
 The number of washers was 0

THE INITIAL ANGLE IS 0.0000 DEGREES
 THE ANGLE BETWEEN BOLTS IS 45.0000 DEGREES

ANCHOR BOLT UNITY 8-23 = 0.9091 (1.0 Limit)
 ANCHOR BOLT UNITY 8-24 = 0.7908 (1.2 Limit)

Bend DISTANCE ON BASE PLATE = 11.790 INCHES based on ASCE 48-19

MAX PLATE MOMENT = 2638.7327 IN. KIPS

5.7500 INCH PLATE THICKNESS from ASTM A572 Gr 50
 BASE PLATE MATERIAL STRENGTH = 42.0 KSI

PLATE OD = 62.0000 INCHES
 PLATE ID = 35.0000 INCHES
 BASE PLATE WEIGHT = 3471.3 Pounds

54.5000 BOLT CIRCLE WITH 20.8562 INCHES SPACING BETWEEN BOLTS

BOLT NUMBER	X COORD	Y COORD	LOAD	MOMENT ARM	ANGLE FROM X AXIS
1	27.250	0.000	-401.42	5.2500	0.000
2	19.269	19.269	-245.88	4.3215	45.000
3	-0.000	27.250	52.40	5.2500	90.000
4	-19.269	19.269	318.70	4.3215	135.000
5	-27.250	-0.000	397.01	5.2500	180.000
6	-19.269	-19.269	241.47	4.3215	225.000
7	0.000	-27.250	-56.81	5.2500	270.000
8	19.269	-19.269	-323.11	4.3215	315.000

Start new plate solution

BASE PLATE DESIGN

MX = 43575.273 INCH KIPS
MY = 5960.487 INCH KIPS
AXIAL LOAD = 17.626 KIPS
VX = 72.226 KIPS
VY = 14.214 KIPS
POLE SIZE = 44.0000 INCHES ACROSS FLATS
POLE SHAFT THICKNESS = 0.4375 INCHES
NUMBER OF SIDES IS 12

FOUNDATION REACTIONS

RESULTANT MOMENT 3665.09 FT-KIPS
RESULTANT SHEAR 73.61 KIPS
AXIAL LOAD 17.63 KIPS

Start new plate solution

Neglect anchor bolt bending

BASE PLATE DESIGN

MX = 43575.273 INCH KIPS
MY = 5960.487 INCH KIPS
AXIAL LOAD = 17.626 KIPS
VX = 72.226 KIPS
VY = 14.214 KIPS
POLE SIZE = 44.0000 INCHES ACROSS FLATS
POLE SHAFT THICKNESS = 0.4375 INCHES
NUMBER OF SIDES IS 12

Several Base Plates will be Designed for this Pole
This version uses ASCE 113 anchor bolt unity checks
and ASCE 48-19 Base Plate Thickness Design Assumptions

FOUNDATION REACTIONS

RESULTANT MOMENT 3665.09 FT-KIPS
RESULTANT SHEAR 73.61 KIPS
AXIAL LOAD 17.63 KIPS

THE RUN DATE IS 04 10 2025
THE RUN TIME IS 13:56:27

MAXIMUM GAP BETWEEN THE TOC AND BOTTOM OF BASEPLATE IS 4.0000 INCHES
ANCHOR BOLT BENDING IS NOT INCLUDED IN THE UNITY CHECK

MAX BOLT TENSION = 210.288 KIPS
MAX BOLT COMPRESSION = -212.491 KIPS
SHEAR PER BOLT = 4.601 KIPS

TOTAL NUMBER OF BOLTS IS 16

2.0000 INCH BOLT DIAMETER WITH, 8.00 TPI 105.0 KSI ALLOWABLE YIELD STRENGTH
2.3125 OVERSIZE HOLE DIAMETER 0.0000 WASHER THICKNESS 1.9250 NUT HEIGHT (min)
The number of washers was 0

THE INITIAL ANGLE IS 0.0000 DEGREES
THE ANGLE BETWEEN BOLTS IS 22.5000 DEGREES

ANCHOR BOLT UNITY 8-23 = 0.9439 (1.0 Limit)
ANCHOR BOLT UNITY 8-24 = 0.9808 (1.2 Limit)

Bend DISTANCE ON BASE PLATE = 11.790 INCHES based on ASCE 48-19

MAX PLATE MOMENT = 1637.9265 IN. KIPS

4.5000 INCH PLATE THICKNESS from ASTM A572 Gr 50
BASE PLATE MATERIAL STRENGTH = 42.0 KSI

PLATE OD = 56.5000 INCHES
PLATE ID = 38.0000 INCHES
BASE PLATE WEIGHT = 1813.4 Pounds

51.5000 BOLT CIRCLE WITH 10.0472 INCHES SPACING BETWEEN BOLTS

BOLT NUMBER	X COORD	Y COORD	LOAD	MOMENT ARM	ANGLE FROM X AXIS
1	25.750	0.000	-212.49	3.7500	0.000
2	23.790	9.854	-185.33	3.5297	22.500
3	18.208	18.208	-130.13	2.8726	45.000
4	9.854	23.790	-55.28	3.5297	67.500
5	-0.000	25.750	27.81	3.7500	90.000
6	-9.854	23.790	106.51	3.5297	112.500
7	-18.208	18.208	168.82	2.8726	135.000
8	-23.790	9.854	205.26	3.5297	157.500
9	-25.750	-0.000	210.29	3.7500	180.000
10	-23.790	-9.854	183.13	3.5297	202.500
11	-18.208	-18.208	127.93	2.8726	225.000
12	-9.854	-23.790	53.08	3.5297	247.500

13	0.000	-25.750	-30.02	3.7500	270.000
14	9.854	-23.790	-108.71	3.5297	292.500
15	18.208	-18.208	-171.02	2.8726	315.000
16	23.790	-9.854	-207.47	3.5297	337.500

Start new plate solution

BASE PLATE DESIGN

MX = 43575.273 INCH KIPS
 MY = 5960.487 INCH KIPS
 AXIAL LOAD = 17.626 KIPS
 VX = 72.226 KIPS
 VY = 14.214 KIPS
 POLE SIZE = 44.0000 INCHES ACROSS FLATS
 POLE SHAFT THICKNESS = 0.4375 INCHES
 NUMBER OF SIDES IS 12

FOUNDATION REACTIONS

RESULTANT MOMENT 3665.09 FT-KIPS
 RESULTANT SHEAR 73.61 KIPS
 AXIAL LOAD 17.63 KIPS

MAXIMUM GAP BETWEEN THE TOC AND BOTTOM OF BASEPLATE IS 4.5000 INCHES
 ANCHOR BOLT BENDING IS NOT INCLUDED IN THE UNITY CHECK

MAX BOLT TENSION = 274.972 KIPS
 MAX BOLT COMPRESSION = -277.910 KIPS
 SHEAR PER BOLT = 6.134 KIPS

TOTAL NUMBER OF BOLTS IS 12

2.2500 INCH BOLT DIAMETER WITH, 8.00 TPI 105.0 KSI ALLOWABLE YIELD STRENGTH
 2.5625 OVERSIZE HOLE DIAMETER 0.0000 WASHER THICKNESS 2.1550 NUT HEIGHT (min)
 The number of washers was 0

THE INITIAL ANGLE IS 0.0000 DEGREES
 THE ANGLE BETWEEN BOLTS IS 30.0000 DEGREES

ANCHOR BOLT UNITY 8-23 = 0.9615 (1.0 Limit)
 ANCHOR BOLT UNITY 8-24 = 0.9998 (1.2 Limit)

Bend DISTANCE ON BASE PLATE = 11.790 INCHES based on ASCE 48-19

MAX PLATE MOMENT = 2124.4790 IN. KIPS

5.2500 INCH PLATE THICKNESS from ASTM A572 Gr 50
 BASE PLATE MATERIAL STRENGTH = 42.0 KSI

PLATE OD = 58.0000 INCHES
 PLATE ID = 37.0000 INCHES
 BASE PLATE WEIGHT = 2414.3 Pounds

52.5000 BOLT CIRCLE WITH 13.5880 INCHES SPACING BETWEEN BOLTS

BOLT NUMBER	X COORD	Y COORD	LOAD	MOMENT ARM	ANGLE FROM X AXIS
1	26.250	0.000	-277.91	4.2500	0.000
2	22.733	13.125	-221.97	4.2500	30.000
3	13.125	22.733	-106.94	4.2500	60.000
4	-0.000	26.250	36.34	4.2500	90.000
5	-13.125	22.733	169.50	4.2500	120.000
6	-22.733	13.125	256.84	4.2500	150.000
7	-26.250	-0.000	274.97	4.2500	180.000
8	-22.733	-13.125	219.03	4.2500	210.000
9	-13.125	-22.733	104.00	4.2500	240.000
10	0.000	-26.250	-39.28	4.2500	270.000
11	13.125	-22.733	-172.44	4.2500	300.000
12	22.733	-13.125	-259.78	4.2500	330.000

Start new plate solution

BASE PLATE DESIGN

MX = 43575.273 INCH KIPS
 MY = 5960.487 INCH KIPS
 AXIAL LOAD = 17.626 KIPS
 VX = 72.226 KIPS
 VY = 14.214 KIPS
 POLE SIZE = 44.0000 INCHES ACROSS FLATS
 POLE SHAFT THICKNESS = 0.4375 INCHES
 NUMBER OF SIDES IS 12

FOUNDATION REACTIONS

RESULTANT MOMENT 3665.09 FT-KIPS
 RESULTANT SHEAR 73.61 KIPS
 AXIAL LOAD 17.63 KIPS

MAXIMUM GAP BETWEEN THE TOC AND BOTTOM OF BASEPLATE IS 5.0000 INCHES
 ANCHOR BOLT BENDING IS NOT INCLUDED IN THE UNITY CHECK

MAX BOLT TENSION = 272.314 KIPS
 MAX BOLT COMPRESSION = -275.251 KIPS
 SHEAR PER BOLT = 6.134 KIPS

TOTAL NUMBER OF BOLTS IS 12

2.5000 INCH BOLT DIAMETER WITH, 8.00 TPI 105.0 KSI ALLOWABLE YIELD STRENGTH
 2.8125 OVERSIZE HOLE DIAMETER 0.0000 WASHER THICKNESS 2.4010 NUT HEIGHT (min)
 The number of washers was 0

THE INITIAL ANGLE IS 0.0000 DEGREES
 THE ANGLE BETWEEN BOLTS IS 30.0000 DEGREES

ANCHOR BOLT UNITY 8-23 = 0.7626 (1.0 Limit)
 ANCHOR BOLT UNITY 8-24 = 0.7933 (1.2 Limit)

Bend DISTANCE ON BASE PLATE = 11.790 INCHES based on ASCE 48-19

MAX PLATE MOMENT = 2227.9419 IN. KIPS

5.2500 INCH PLATE THICKNESS from ASTM A572 Gr 50
 BASE PLATE MATERIAL STRENGTH = 42.0 KSI

PLATE OD = 59.5000 INCHES
 PLATE ID = 36.5000 INCHES
 BASE PLATE WEIGHT = 2672.0 Pounds

53.0000 BOLT CIRCLE WITH 13.7174 INCHES SPACING BETWEEN BOLTS

BOLT NUMBER	X COORD	Y COORD	LOAD	MOMENT ARM	ANGLE FROM X AXIS
1	26.500	0.000	-275.25	4.5000	0.000
2	22.950	13.250	-219.85	4.5000	30.000
3	13.250	22.950	-105.93	4.5000	60.000
4	-0.000	26.500	35.98	4.5000	90.000
5	-13.250	22.950	167.85	4.5000	120.000
6	-22.950	13.250	254.36	4.5000	150.000
7	-26.500	-0.000	272.31	4.5000	180.000
8	-22.950	-13.250	216.91	4.5000	210.000
9	-13.250	-22.950	102.99	4.5000	240.000
10	0.000	-26.500	-38.92	4.5000	270.000
11	13.250	-22.950	-170.79	4.5000	300.000
12	22.950	-13.250	-257.30	4.5000	330.000

Start new plate solution

BASE PLATE DESIGN

MX = 43575.273 INCH KIPS
 MY = 5960.487 INCH KIPS
 AXIAL LOAD = 17.626 KIPS
 VX = 72.226 KIPS
 VY = 14.214 KIPS
 POLE SIZE = 44.0000 INCHES ACROSS FLATS
 POLE SHAFT THICKNESS = 0.4375 INCHES
 NUMBER OF SIDES IS 12

FOUNDATION REACTIONS

RESULTANT MOMENT 3665.09 FT-KIPS
 RESULTANT SHEAR 73.61 KIPS
 AXIAL LOAD 17.63 KIPS

MAXIMUM GAP BETWEEN THE TOC AND BOTTOM OF BASEPLATE IS 5.5000 INCHES
 ANCHOR BOLT BENDING IS NOT INCLUDED IN THE UNITY CHECK

MAX BOLT TENSION = 400.794 KIPS
 MAX BOLT COMPRESSION = -405.201 KIPS
 SHEAR PER BOLT = 9.201 KIPS

TOTAL NUMBER OF BOLTS IS 8

2.7500 INCH BOLT DIAMETER WITH, 8.00 TPI 105.0 KSI ALLOWABLE YIELD STRENGTH
 3.0625 OVERSIZE HOLE DIAMETER 0.0000 WASHER THICKNESS 2.6470 NUT HEIGHT (min)
 The number of washers was 0

THE INITIAL ANGLE IS 0.0000 DEGREES
 THE ANGLE BETWEEN BOLTS IS 45.0000 DEGREES

ANCHOR BOLT UNITY 8-23 = 0.9193 (1.0 Limit)
 ANCHOR BOLT UNITY 8-24 = 0.9569 (1.2 Limit)

Bend DISTANCE ON BASE PLATE = 11.790 INCHES based on ASCE 48-19

MAX PLATE MOMENT = 2532.3037 IN. KIPS

5.7500 INCH PLATE THICKNESS from ASTM A572 Gr 50
 BASE PLATE MATERIAL STRENGTH = 42.0 KSI

PLATE OD = 61.0000 INCHES
 PLATE ID = 35.5000 INCHES
 BASE PLATE WEIGHT = 3261.5 Pounds

54.0000 BOLT CIRCLE WITH 20.6649 INCHES SPACING BETWEEN BOLTS

BOLT NUMBER	X COORD	Y COORD	LOAD	MOMENT ARM	ANGLE FROM X AXIS
1	27.000	0.000	-405.20	5.0000	0.000
2	19.092	19.092	-248.19	4.0800	45.000
3	-0.000	27.000	52.92	5.0000	90.000
4	-19.092	19.092	321.74	4.0800	135.000
5	-27.000	-0.000	400.79	5.0000	180.000
6	-19.092	-19.092	243.78	4.0800	225.000
7	0.000	-27.000	-57.33	5.0000	270.000
8	19.092	-19.092	-326.14	4.0800	315.000

Start new plate solution

BASE PLATE DESIGN

MX = 43575.273 INCH KIPS
 MY = 5960.487 INCH KIPS
 AXIAL LOAD = 17.626 KIPS
 VX = 72.226 KIPS
 VY = 14.214 KIPS
 POLE SIZE = 44.0000 INCHES ACROSS FLATS
 POLE SHAFT THICKNESS = 0.4375 INCHES
 NUMBER OF SIDES IS 12

FOUNDATION REACTIONS

RESULTANT MOMENT 3665.09 FT-KIPS
 RESULTANT SHEAR 73.61 KIPS
 AXIAL LOAD 17.63 KIPS

MAXIMUM GAP BETWEEN THE TOC AND BOTTOM OF BASEPLATE IS 6.0000 INCHES
 ANCHOR BOLT BENDING IS NOT INCLUDED IN THE UNITY CHECK

MAX BOLT TENSION = 397.013 KIPS
 MAX BOLT COMPRESSION = -401.420 KIPS
 SHEAR PER BOLT = 9.201 KIPS

TOTAL NUMBER OF BOLTS IS 8

3.0000 INCH BOLT DIAMETER WITH, 8.00 TPI 105.0 KSI ALLOWABLE YIELD STRENGTH
 3.3125 OVERSIZE HOLE DIAMETER 0.0000 WASHER THICKNESS 2.8930 NUT HEIGHT (min)
 The number of washers was 0

THE INITIAL ANGLE IS 0.0000 DEGREES
 THE ANGLE BETWEEN BOLTS IS 45.0000 DEGREES

ANCHOR BOLT UNITY 8-23 = 0.7593 (1.0 Limit)
 ANCHOR BOLT UNITY 8-24 = 0.7908 (1.2 Limit)

Bend DISTANCE ON BASE PLATE = 11.790 INCHES based on ASCE 48-19

MAX PLATE MOMENT = 2638.7327 IN. KIPS

5.7500 INCH PLATE THICKNESS from ASTM A572 Gr 50
 BASE PLATE MATERIAL STRENGTH = 42.0 KSI

PLATE OD = 62.0000 INCHES
 PLATE ID = 35.0000 INCHES
 BASE PLATE WEIGHT = 3471.3 Pounds

54.5000 BOLT CIRCLE WITH 20.8562 INCHES SPACING BETWEEN BOLTS

BOLT NUMBER	X COORD	Y COORD	LOAD	MOMENT ARM	ANGLE FROM X AXIS
1	27.250	0.000	-401.42	5.2500	0.000
2	19.269	19.269	-245.88	4.3215	45.000
3	-0.000	27.250	52.40	5.2500	90.000
4	-19.269	19.269	318.70	4.3215	135.000
5	-27.250	-0.000	397.01	5.2500	180.000
6	-19.269	-19.269	241.47	4.3215	225.000
7	0.000	-27.250	-56.81	5.2500	270.000
8	19.269	-19.269	-323.11	4.3215	315.000

Start new plate solution

BASE PLATE DESIGN

MX = 43575.273 INCH KIPS
 MY = 5960.487 INCH KIPS
 AXIAL LOAD = 17.626 KIPS
 VX = 72.226 KIPS
 VY = 14.214 KIPS
 POLE SIZE = 44.0000 INCHES ACROSS FLATS
 POLE SHAFT THICKNESS = 0.4375 INCHES
 NUMBER OF SIDES IS 12

FOUNDATION REACTIONS

RESULTANT MOMENT 3665.09 FT-KIPS
 RESULTANT SHEAR 73.61 KIPS
 AXIAL LOAD 17.63 KIPS

MAXIMUM GAP BETWEEN THE TOC AND BOTTOM OF BASEPLATE IS 4.5000 INCHES
 ANCHOR BOLT BENDING IS NOT INCLUDED IN THE UNITY CHECK

MAX BOLT TENSION = 206.244 KIPS
 MAX BOLT COMPRESSION = -208.447 KIPS
 SHEAR PER BOLT = 4.601 KIPS

TOTAL NUMBER OF BOLTS IS 16

2.2500 INCH BOLT DIAMETER WITH, 4.50 TPI 75.0 KSI ALLOWABLE YIELD STRENGTH
 2.5625 OVERSIZE HOLE DIAMETER 0.0000 WASHER THICKNESS 2.1550 NUT HEIGHT (min)
 The number of washers was 0

18J REBAR BOLTS

THE INITIAL ANGLE IS 0.0000 DEGREES
 THE ANGLE BETWEEN BOLTS IS 22.5000 DEGREES

ANCHOR BOLT UNITY 8-23 = 0.9874 (1.0 Limit)
 ANCHOR BOLT UNITY 8-24 = 1.0268 (1.2 Limit)

Bend DISTANCE ON BASE PLATE = 11.790 INCHES based on ASCE 48-19

MAX PLATE MOMENT = 1831.9548 IN. KIPS

4.7500 INCH PLATE THICKNESS from ASTM A572 Gr 50
 BASE PLATE MATERIAL STRENGTH = 42.0 KSI

PLATE OD = 58.0000 INCHES
 PLATE ID = 37.0000 INCHES
 BASE PLATE WEIGHT = 2184.3 Pounds

52.5000 BOLT CIRCLE WITH 10.2422 INCHES SPACING BETWEEN BOLTS

BOLT NUMBER	X COORD	Y COORD	LOAD	MOMENT ARM	ANGLE FROM X AXIS
1	26.250	0.000	-208.45	4.2500	0.000
2	24.252	10.045	-181.81	4.0254	22.500
3	18.562	18.562	-127.66	3.3556	45.000
4	10.045	24.252	-54.25	4.0254	67.500
5	-0.000	26.250	27.26	4.2500	90.000
6	-10.045	24.252	104.45	4.0254	112.500
7	-18.562	18.562	165.57	3.3556	135.000
8	-24.252	10.045	201.31	4.0254	157.500
9	-26.250	-0.000	206.24	4.2500	180.000
10	-24.252	-10.045	179.61	4.0254	202.500
11	-18.562	-18.562	125.46	3.3556	225.000
12	-10.045	-24.252	52.04	4.0254	247.500
13	0.000	-26.250	-29.46	4.2500	270.000
14	10.045	-24.252	-106.65	4.0254	292.500
15	18.562	-18.562	-167.77	3.3556	315.000
16	24.252	-10.045	-203.52	4.0254	337.500

SUMMARY OF BASE PLATES DESIGNED WITH BOLT BENDING CONSIDERED
 Max Gap is 2.250 Bolt Diameters

NUM BLTS	DIAM	ALLOW	BOLT CIR	THICK	PLATE OD	PLATE ID	WEIGHT	TPI
20.	2.000	105.	51.50	4.500	56.500	38.000	1813.	8.00
16.	2.250	105.	52.50	4.750	58.000	37.000	2184.	8.00
12.	2.500	105.	53.00	5.250	59.500	36.500	2672.	8.00
12.	2.750	105.	54.00	5.500	61.000	35.500	3120.	8.00
8.	3.000	105.	54.50	5.750	62.000	35.000	3471.	8.00

SUMMARY OF BASE PLATES DESIGNED WITH BOLT BENDING NOT CONSIDERED
 Max Gap is 2.000 Bolt Diameters

NUM BLTS	DIAM	ALLOW	BOLT CIR	THICK	PLATE OD	PLATE ID	WEIGHT	TPI
16.	2.000	105.	51.50	4.500	56.500	38.000	1813.	8.00
12.	2.250	105.	52.50	5.250	58.000	37.000	2414.	8.00
12.	2.500	105.	53.00	5.250	59.500	36.500	2672.	8.00
8.	2.750	105.	54.00	5.750	61.000	35.500	3262.	8.00
8.	3.000	105.	54.50	5.750	62.000	35.000	3471.	8.00
16.	2.250	75.	52.50	4.750	58.000	37.000	2184.	4.50

FOUNDATION REACTIONS

RESULTANT MOMENT 3665.09 FT-KIPS
 RESULTANT SHEAR 73.61 KIPS
 AXIAL LOAD 17.63 KIPS

THE BOLTS ARE ON THE X AXIS

This design routine is based on the maximum possible bending moment based on the pole shaft geometry. It is up to the designer to choose one of the plate designs and input the base plate values into PLS-POLE

Methods from ASCE 48-19 and 2nd Edition ASCE 113 are used

This post-processor to PLS-POLE was written by George Watson with immense XML help from Arjen Markus to read the XML file saved by PLS-POLE in C:\PLS\TEMP\POSTPROC.XML the XML file must reside in this TEMP folder

A NEW SET OF PLATES AND BOLTS WILL BE DESIGNED WHERE THE BOLTS SPLIT THE X AND Y AXIS

BASE PLATE DESIGN

MX = 43575.273 INCH KIPS
MY = 5960.487 INCH KIPS
AXIAL LOAD = 17.626 KIPS
VX = 72.226 KIPS
VY = 14.214 KIPS
POLE SIZE = 44.0000 INCHES ACROSS FLATS
POLE SHAFT THICKNESS = 0.4375 INCHES
NUMBER OF SIDES IS 12

Several Base Plates will be Designed for this Pole
This version uses ASCE 113 anchor bolt unity checks
and ASCE 48-19 Base Plate Thickness Design Assumptions

FOUNDATION REACTIONS

RESULTANT MOMENT 3665.09 FT-KIPS
RESULTANT SHEAR 73.61 KIPS
AXIAL LOAD 17.63 KIPS

Gap between TOC and Bottom of Baseplate is 2.250 bolt diameters

Include anchor bolt bending

THE RUN DATE IS 04 10 2025
THE RUN TIME IS 13:56:27

MAXIMUM GAP BETWEEN THE TOC AND BOTTOM OF BASEPLATE IS 4.5000 INCHES
ANCHOR BOLT BENDING IS INCLUDED IN THE UNITY CHECK

MAX BOLT TENSION = 169.767 KIPS
MAX BOLT COMPRESSION = -171.530 KIPS
SHEAR PER BOLT = 3.681 KIPS

TOTAL NUMBER OF BOLTS IS 20

2.0000 INCH BOLT DIAMETER WITH, 8.00 TPI 105.0 KSI ALLOWABLE YIELD STRENGTH
2.3125 OVERSIZE HOLE DIAMETER 0.0000 WASHER THICKNESS 1.9250 NUT HEIGHT (min)
The number of washers was 0

THE INITIAL ANGLE IS 9.0000 DEGREES
THE ANGLE BETWEEN BOLTS IS 18.0000 DEGREES

ANCHOR BOLT UNITY 8-23 = 0.9058 (1.0 Limit)
ANCHOR BOLT UNITY 8-24 = 0.7915 (1.2 Limit)

Bend DISTANCE ON BASE PLATE = 11.790 INCHES based on ASCE 48-19

MAX PLATE MOMENT = 1826.3882 IN. KIPS

4.7500 INCH PLATE THICKNESS from ASTM A572 Gr 50
BASE PLATE MATERIAL STRENGTH = 42.0 KSI

PLATE OD = 56.5000 INCHES
PLATE ID = 38.0000 INCHES
BASE PLATE WEIGHT = 1914.2 Pounds

51.5000 BOLT CIRCLE WITH 8.0564 INCHES SPACING BETWEEN BOLTS

BOLT NUMBER	X COORD	Y COORD	LOAD	MOMENT ARM	ANGLE FROM X AXIS
1	25.433	4.028	-164.29	3.4330	9.000
2	22.943	11.690	-141.06	3.7147	27.000
3	18.208	18.208	-104.10	2.8726	45.000
4	11.690	22.943	-57.05	3.7147	63.000
5	4.028	25.433	-4.49	3.4330	81.000
6	-4.028	25.433	48.42	3.4330	99.000
7	-11.690	22.943	96.50	3.7147	117.000
8	-18.208	18.208	135.06	2.8726	135.000
9	-22.943	11.690	160.30	3.7147	153.000
10	-25.433	4.028	169.77	3.4330	171.000

11	-25.433	-4.028	162.53	3.4330	189.000
12	-22.943	-11.690	139.30	3.7147	207.000
13	-18.208	-18.208	102.34	2.8726	225.000
14	-11.690	-22.943	55.28	3.7147	243.000
15	-4.028	-25.433	2.73	3.4330	261.000
16	4.028	-25.433	-50.18	3.4330	279.000
17	11.690	-22.943	-98.27	3.7147	297.000
18	18.208	-18.208	-136.82	2.8726	315.000
19	22.943	-11.690	-162.06	3.7147	333.000
20	25.433	-4.028	-171.53	3.4330	351.000

Start new plate solution

BASE PLATE DESIGN

MX = 43575.273 INCH KIPS
 MY = 5960.487 INCH KIPS
 AXIAL LOAD = 17.626 KIPS
 VX = 72.226 KIPS
 VY = 14.214 KIPS
 POLE SIZE = 44.0000 INCHES ACROSS FLATS
 POLE SHAFT THICKNESS = 0.4375 INCHES
 NUMBER OF SIDES IS 12

FOUNDATION REACTIONS

RESULTANT MOMENT 3665.09 FT-KIPS
 RESULTANT SHEAR 73.61 KIPS
 AXIAL LOAD 17.63 KIPS

MAXIMUM GAP BETWEEN THE TOC AND BOTTOM OF BASEPLATE IS 5.0625 INCHES
 ANCHOR BOLT BENDING IS INCLUDED IN THE UNITY CHECK

MAX BOLT TENSION = 207.778 KIPS
 MAX BOLT COMPRESSION = -209.982 KIPS
 SHEAR PER BOLT = 4.601 KIPS

TOTAL NUMBER OF BOLTS IS 16

2.2500 INCH BOLT DIAMETER WITH, 8.00 TPI 105.0 KSI ALLOWABLE YIELD STRENGTH
 2.5625 OVERSIZE HOLE DIAMETER 0.0000 WASHER THICKNESS 2.1550 NUT HEIGHT (min)
 The number of washers was 0

THE INITIAL ANGLE IS 11.2500 DEGREES
 THE ANGLE BETWEEN BOLTS IS 22.5000 DEGREES

ANCHOR BOLT UNITY 8-23 = 0.8658 (1.0 Limit)
 ANCHOR BOLT UNITY 8-24 = 0.7552 (1.2 Limit)

Bend DISTANCE ON BASE PLATE = 11.790 INCHES based on ASCE 48-19

MAX PLATE MOMENT = 2193.0811 IN. KIPS

5.2500 INCH PLATE THICKNESS from ASTM A572 Gr 50
 BASE PLATE MATERIAL STRENGTH = 42.0 KSI

PLATE OD = 58.0000 INCHES
 PLATE ID = 37.0000 INCHES
 BASE PLATE WEIGHT = 2414.3 Pounds

52.5000 BOLT CIRCLE WITH 10.2422 INCHES SPACING BETWEEN BOLTS

BOLT NUMBER	X COORD	Y COORD	LOAD	MOMENT ARM	ANGLE FROM X AXIS
1	25.746	5.121	-198.92	3.7456	11.250
2	21.826	14.584	-157.74	4.1938	33.750
3	14.584	21.826	-92.71	4.1938	56.250
4	5.121	25.746	-13.73	3.7456	78.750
5	-5.121	25.746	67.16	3.7456	101.250
6	-14.584	21.826	137.67	4.1938	123.750
7	-21.826	14.584	187.04	4.1938	146.250
8	-25.746	5.121	207.78	3.7456	168.750
9	-25.746	-5.121	196.71	3.7456	191.250
10	-21.826	-14.584	155.53	4.1938	213.750
11	-14.584	-21.826	90.50	4.1938	236.250
12	-5.121	-25.746	11.53	3.7456	258.750
13	5.121	-25.746	-69.36	3.7456	281.250
14	14.584	-21.826	-139.87	4.1938	303.750
15	21.826	-14.584	-189.25	4.1938	326.250
16	25.746	-5.121	-209.98	3.7456	348.750

Start new plate solution

BASE PLATE DESIGN

MX = 43575.273 INCH KIPS
 MY = 5960.487 INCH KIPS
 AXIAL LOAD = 17.626 KIPS
 VX = 72.226 KIPS
 VY = 14.214 KIPS
 POLE SIZE = 44.0000 INCHES ACROSS FLATS
 POLE SHAFT THICKNESS = 0.4375 INCHES
 NUMBER OF SIDES IS 12

FOUNDATION REACTIONS

RESULTANT MOMENT 3665.09 FT-KIPS
 RESULTANT SHEAR 73.61 KIPS
 AXIAL LOAD 17.63 KIPS

MAXIMUM GAP BETWEEN THE TOC AND BOTTOM OF BASEPLATE IS 5.6250 INCHES
 ANCHOR BOLT BENDING IS INCLUDED IN THE UNITY CHECK

MAX BOLT TENSION = 272.678 KIPS
 MAX BOLT COMPRESSION = -275.615 KIPS
 SHEAR PER BOLT = 6.134 KIPS

TOTAL NUMBER OF BOLTS IS 12

2.5000 INCH BOLT DIAMETER WITH, 8.00 TPI 105.0 KSI ALLOWABLE YIELD STRENGTH
 2.8125 OVERSIZE HOLE DIAMETER 0.0000 WASHER THICKNESS 2.4010 NUT HEIGHT (min)
 The number of washers was 0

THE INITIAL ANGLE IS 15.0000 DEGREES
 THE ANGLE BETWEEN BOLTS IS 30.0000 DEGREES

ANCHOR BOLT UNITY 8-23 = 0.9114 (1.0 Limit)
 ANCHOR BOLT UNITY 8-24 = 0.7943 (1.2 Limit)

Bend DISTANCE ON BASE PLATE = 11.790 INCHES based on ASCE 48-19

MAX PLATE MOMENT = 894.1483 IN. KIPS

3.2500 INCH PLATE THICKNESS from ASTM A572 Gr 50
 BASE PLATE MATERIAL STRENGTH = 50.0 KSI

PLATE OD = 59.5000 INCHES
 PLATE ID = 36.5000 INCHES
 BASE PLATE WEIGHT = 1654.1 Pounds

53.0000 BOLT CIRCLE WITH 13.7174 INCHES SPACING BETWEEN BOLTS

BOLT NUMBER	X COORD	Y COORD	LOAD	MOMENT ARM	ANGLE FROM X AXIS
1	25.597	6.859	-256.23	3.5970	15.000
2	18.738	18.738	-168.58	3.5970	45.000
3	6.859	25.597	-36.16	3.5970	75.000
4	-6.859	25.597	105.56	3.5970	105.000
5	-18.738	18.738	218.61	3.5970	135.000
6	-25.597	6.859	272.68	3.5970	165.000
7	-25.597	-6.859	253.29	3.5970	195.000
8	-18.738	-18.738	165.64	3.5970	225.000
9	-6.859	-25.597	33.22	3.5970	255.000
10	6.859	-25.597	-108.50	3.5970	285.000
11	18.738	-18.738	-221.54	3.5970	315.000
12	25.597	-6.859	-275.62	3.5970	345.000

Start new plate solution

BASE PLATE DESIGN

MX = 43575.273 INCH KIPS
 MY = 5960.487 INCH KIPS
 AXIAL LOAD = 17.626 KIPS
 VX = 72.226 KIPS
 VY = 14.214 KIPS
 POLE SIZE = 44.0000 INCHES ACROSS FLATS
 POLE SHAFT THICKNESS = 0.4375 INCHES
 NUMBER OF SIDES IS 12

FOUNDATION REACTIONS

RESULTANT MOMENT 3665.09 FT-KIPS
 RESULTANT SHEAR 73.61 KIPS
 AXIAL LOAD 17.63 KIPS

MAXIMUM GAP BETWEEN THE TOC AND BOTTOM OF BASEPLATE IS 6.1875 INCHES
 ANCHOR BOLT BENDING IS INCLUDED IN THE UNITY CHECK

MAX BOLT TENSION = 267.553 KIPS
 MAX BOLT COMPRESSION = -270.491 KIPS
 SHEAR PER BOLT = 6.134 KIPS

TOTAL NUMBER OF BOLTS IS 12

2.7500 INCH BOLT DIAMETER WITH, 8.00 TPI 105.0 KSI ALLOWABLE YIELD STRENGTH
 3.0625 OVERSIZE HOLE DIAMETER 0.0000 WASHER THICKNESS 2.6470 NUT HEIGHT (min)
 The number of washers was 0

THE INITIAL ANGLE IS 15.0000 DEGREES
 THE ANGLE BETWEEN BOLTS IS 30.0000 DEGREES

ANCHOR BOLT UNITY 8-23 = 0.7339 (1.0 Limit)
 ANCHOR BOLT UNITY 8-24 = 0.6388 (1.2 Limit)

Bend DISTANCE ON BASE PLATE = 11.790 INCHES based on ASCE 48-19

MAX PLATE MOMENT = 995.3568 IN. KIPS

3.2500 INCH PLATE THICKNESS from ASTM A572 Gr 50
 BASE PLATE MATERIAL STRENGTH = 50.0 KSI

PLATE OD = 61.0000 INCHES
 PLATE ID = 35.5000 INCHES
 BASE PLATE WEIGHT = 1843.5 Pounds

54.0000 BOLT CIRCLE WITH 13.9762 INCHES SPACING BETWEEN BOLTS

BOLT NUMBER	X COORD	Y COORD	LOAD	MOMENT ARM	ANGLE FROM X AXIS
1	26.080	6.988	-251.47	4.0800	15.000
2	19.092	19.092	-165.46	4.0800	45.000
3	6.988	26.080	-35.51	4.0800	75.000
4	-6.988	26.080	103.56	4.0800	105.000
5	-19.092	19.092	214.49	4.0800	135.000
6	-26.080	6.988	267.55	4.0800	165.000
7	-26.080	-6.988	248.53	4.0800	195.000
8	-19.092	-19.092	162.52	4.0800	225.000
9	-6.988	-26.080	32.57	4.0800	255.000
10	6.988	-26.080	-106.50	4.0800	285.000
11	19.092	-19.092	-217.43	4.0800	315.000
12	26.080	-6.988	-270.49	4.0800	345.000

Start new plate solution

BASE PLATE DESIGN

MX = 43575.273 INCH KIPS
MY = 5960.487 INCH KIPS
AXIAL LOAD = 17.626 KIPS
VX = 72.226 KIPS
VY = 14.214 KIPS
POLE SIZE = 44.0000 INCHES ACROSS FLATS
POLE SHAFT THICKNESS = 0.4375 INCHES
NUMBER OF SIDES IS 12

FOUNDATION REACTIONS

RESULTANT MOMENT 3665.09 FT-KIPS
RESULTANT SHEAR 73.61 KIPS
AXIAL LOAD 17.63 KIPS

MAXIMUM GAP BETWEEN THE TOC AND BOTTOM OF BASEPLATE IS 6.7500 INCHES
ANCHOR BOLT BENDING IS INCLUDED IN THE UNITY CHECK

MAX BOLT TENSION = 387.522 KIPS
MAX BOLT COMPRESSION = -391.928 KIPS
SHEAR PER BOLT = 9.201 KIPS

TOTAL NUMBER OF BOLTS IS 8

3.0000 INCH BOLT DIAMETER WITH, 8.00 TPI 105.0 KSI ALLOWABLE YIELD STRENGTH
3.3125 OVERSIZE HOLE DIAMETER 0.0000 WASHER THICKNESS 2.8930 NUT HEIGHT (min)
The number of washers was 0

THE INITIAL ANGLE IS 22.5000 DEGREES
THE ANGLE BETWEEN BOLTS IS 45.0000 DEGREES

ANCHOR BOLT UNITY 8-23 = 0.8911 (1.0 Limit)
ANCHOR BOLT UNITY 8-24 = 0.7728 (1.2 Limit)

Bend DISTANCE ON BASE PLATE = 11.790 INCHES based on ASCE 48-19

MAX PLATE MOMENT = 1966.2539 IN. KIPS

5.0000 INCH PLATE THICKNESS from ASTM A572 Gr 50
BASE PLATE MATERIAL STRENGTH = 42.0 KSI

PLATE OD = 62.0000 INCHES
PLATE ID = 35.0000 INCHES
BASE PLATE WEIGHT = 3018.5 Pounds

54.5000 BOLT CIRCLE WITH 20.8562 INCHES SPACING BETWEEN BOLTS

BOLT NUMBER	X COORD	Y COORD	LOAD	MOMENT ARM	ANGLE FROM X AXIS
1	25.176	10.428	-350.13	5.0169	22.500
2	10.428	25.176	-104.53	5.0169	67.500
3	-10.428	25.176	201.02	5.0169	112.500
4	-25.176	10.428	387.52	5.0169	157.500
5	-25.176	-10.428	345.73	5.0169	202.500
6	-10.428	-25.176	100.12	5.0169	247.500
7	10.428	-25.176	-205.43	5.0169	292.500
8	25.176	-10.428	-391.93	5.0169	337.500

Start new plate solution

BASE PLATE DESIGN

MX = 43575.273 INCH KIPS
MY = 5960.487 INCH KIPS
AXIAL LOAD = 17.626 KIPS
VX = 72.226 KIPS
VY = 14.214 KIPS
POLE SIZE = 44.0000 INCHES ACROSS FLATS
POLE SHAFT THICKNESS = 0.4375 INCHES
NUMBER OF SIDES IS 12

FOUNDATION REACTIONS

RESULTANT MOMENT 3665.09 FT-KIPS
RESULTANT SHEAR 73.61 KIPS
AXIAL LOAD 17.63 KIPS

Start new plate solution

Neglect anchor bolt bending

BASE PLATE DESIGN

MX = 43575.273 INCH KIPS
MY = 5960.487 INCH KIPS
AXIAL LOAD = 17.626 KIPS
VX = 72.226 KIPS
VY = 14.214 KIPS
POLE SIZE = 44.0000 INCHES ACROSS FLATS
POLE SHAFT THICKNESS = 0.4375 INCHES
NUMBER OF SIDES IS 12

Several Base Plates will be Designed for this Pole
This version uses ASCE 113 anchor bolt unity checks
and ASCE 48-19 Base Plate Thickness Design Assumptions

FOUNDATION REACTIONS

RESULTANT MOMENT 3665.09 FT-KIPS
RESULTANT SHEAR 73.61 KIPS
AXIAL LOAD 17.63 KIPS

THE RUN DATE IS 04 10 2025
THE RUN TIME IS 13:56:27

MAXIMUM GAP BETWEEN THE TOC AND BOTTOM OF BASEPLATE IS 4.0000 INCHES
ANCHOR BOLT BENDING IS NOT INCLUDED IN THE UNITY CHECK

MAX BOLT TENSION = 211.868 KIPS
MAX BOLT COMPRESSION = -214.071 KIPS
SHEAR PER BOLT = 4.601 KIPS

TOTAL NUMBER OF BOLTS IS 16

2.0000 INCH BOLT DIAMETER WITH, 8.00 TPI 105.0 KSI ALLOWABLE YIELD STRENGTH
2.3125 OVERSIZE HOLE DIAMETER 0.0000 WASHER THICKNESS 1.9250 NUT HEIGHT (min)
The number of washers was 0

THE INITIAL ANGLE IS 11.2500 DEGREES
THE ANGLE BETWEEN BOLTS IS 22.5000 DEGREES

ANCHOR BOLT UNITY 8-23 = 0.9509 (1.0 Limit)
ANCHOR BOLT UNITY 8-24 = 0.9878 (1.2 Limit)

Bend DISTANCE ON BASE PLATE = 11.790 INCHES based on ASCE 48-19

MAX PLATE MOMENT = 1951.1089 IN. KIPS

5.0000 INCH PLATE THICKNESS from ASTM A572 Gr 50
BASE PLATE MATERIAL STRENGTH = 42.0 KSI

PLATE OD = 56.5000 INCHES
PLATE ID = 38.0000 INCHES
BASE PLATE WEIGHT = 2014.9 Pounds

51.5000 BOLT CIRCLE WITH 10.0472 INCHES SPACING BETWEEN BOLTS

BOLT NUMBER	X COORD	Y COORD	LOAD	MOMENT ARM	ANGLE FROM X AXIS
1	25.255	5.024	-202.79	3.2552	11.250
2	21.410	14.306	-160.80	3.6949	33.750
3	14.306	21.410	-94.50	3.6949	56.250
4	5.024	25.255	-13.98	3.2552	78.750
5	-5.024	25.255	68.50	3.2552	101.250
6	-14.306	21.410	140.38	3.6949	123.750
7	-21.410	14.306	190.73	3.6949	146.250
8	-25.255	5.024	211.87	3.2552	168.750
9	-25.255	-5.024	200.59	3.2552	191.250
10	-21.410	-14.306	158.60	3.6949	213.750
11	-14.306	-21.410	92.30	3.6949	236.250
12	-5.024	-25.255	11.78	3.2552	258.750

13	5.024	-25.255	-70.70	3.2552	281.250
14	14.306	-21.410	-142.59	3.6949	303.750
15	21.410	-14.306	-192.93	3.6949	326.250
16	25.255	-5.024	-214.07	3.2552	348.750

Start new plate solution

BASE PLATE DESIGN

MX = 43575.273 INCH KIPS
 MY = 5960.487 INCH KIPS
 AXIAL LOAD = 17.626 KIPS
 VX = 72.226 KIPS
 VY = 14.214 KIPS
 POLE SIZE = 44.0000 INCHES ACROSS FLATS
 POLE SHAFT THICKNESS = 0.4375 INCHES
 NUMBER OF SIDES IS 12

FOUNDATION REACTIONS

RESULTANT MOMENT 3665.09 FT-KIPS
 RESULTANT SHEAR 73.61 KIPS
 AXIAL LOAD 17.63 KIPS

MAXIMUM GAP BETWEEN THE TOC AND BOTTOM OF BASEPLATE IS 4.5000 INCHES
 ANCHOR BOLT BENDING IS NOT INCLUDED IN THE UNITY CHECK

MAX BOLT TENSION = 275.340 KIPS
 MAX BOLT COMPRESSION = -278.277 KIPS
 SHEAR PER BOLT = 6.134 KIPS

TOTAL NUMBER OF BOLTS IS 12

2.2500 INCH BOLT DIAMETER WITH, 8.00 TPI 105.0 KSI ALLOWABLE YIELD STRENGTH
 2.5625 OVERSIZE HOLE DIAMETER 0.0000 WASHER THICKNESS 2.1550 NUT HEIGHT (min)
 The number of washers was 0

THE INITIAL ANGLE IS 15.0000 DEGREES
 THE ANGLE BETWEEN BOLTS IS 30.0000 DEGREES

ANCHOR BOLT UNITY 8-23 = 0.9628 (1.0 Limit)
 ANCHOR BOLT UNITY 8-24 = 1.0011 (1.2 Limit)

Bend DISTANCE ON BASE PLATE = 11.790 INCHES based on ASCE 48-19

MAX PLATE MOMENT = 842.1730 IN. KIPS

3.0000 INCH PLATE THICKNESS from ASTM A572 Gr 50
 BASE PLATE MATERIAL STRENGTH = 50.0 KSI

PLATE OD = 58.0000 INCHES
 PLATE ID = 37.0000 INCHES
 BASE PLATE WEIGHT = 1379.6 Pounds

52.5000 BOLT CIRCLE WITH 13.5880 INCHES SPACING BETWEEN BOLTS

BOLT NUMBER	X COORD	Y COORD	LOAD	MOMENT ARM	ANGLE FROM X AXIS
1	25.356	6.794	-258.70	3.3556	15.000
2	18.562	18.562	-170.20	3.3556	45.000
3	6.794	25.356	-36.49	3.3556	75.000
4	-6.794	25.356	106.60	3.3556	105.000
5	-18.562	18.562	220.74	3.3556	135.000
6	-25.356	6.794	275.34	3.3556	165.000
7	-25.356	-6.794	255.77	3.3556	195.000
8	-18.562	-18.562	167.27	3.3556	225.000
9	-6.794	-25.356	33.55	3.3556	255.000
10	6.794	-25.356	-109.54	3.3556	285.000
11	18.562	-18.562	-223.68	3.3556	315.000
12	25.356	-6.794	-278.28	3.3556	345.000

Start new plate solution

BASE PLATE DESIGN

MX = 43575.273 INCH KIPS
 MY = 5960.487 INCH KIPS
 AXIAL LOAD = 17.626 KIPS
 VX = 72.226 KIPS
 VY = 14.214 KIPS
 POLE SIZE = 44.0000 INCHES ACROSS FLATS
 POLE SHAFT THICKNESS = 0.4375 INCHES
 NUMBER OF SIDES IS 12

FOUNDATION REACTIONS

RESULTANT MOMENT 3665.09 FT-KIPS
 RESULTANT SHEAR 73.61 KIPS
 AXIAL LOAD 17.63 KIPS

MAXIMUM GAP BETWEEN THE TOC AND BOTTOM OF BASEPLATE IS 5.0000 INCHES
 ANCHOR BOLT BENDING IS NOT INCLUDED IN THE UNITY CHECK

MAX BOLT TENSION = 272.678 KIPS
 MAX BOLT COMPRESSION = -275.615 KIPS
 SHEAR PER BOLT = 6.134 KIPS

TOTAL NUMBER OF BOLTS IS 12

2.5000 INCH BOLT DIAMETER WITH, 8.00 TPI 105.0 KSI ALLOWABLE YIELD STRENGTH
 2.8125 OVERSIZE HOLE DIAMETER 0.0000 WASHER THICKNESS 2.4010 NUT HEIGHT (min)
 The number of washers was 0

THE INITIAL ANGLE IS 15.0000 DEGREES
 THE ANGLE BETWEEN BOLTS IS 30.0000 DEGREES

ANCHOR BOLT UNITY 8-23 = 0.7636 (1.0 Limit)
 ANCHOR BOLT UNITY 8-24 = 0.7943 (1.2 Limit)

Bend DISTANCE ON BASE PLATE = 11.790 INCHES based on ASCE 48-19

MAX PLATE MOMENT = 894.1483 IN. KIPS

3.2500 INCH PLATE THICKNESS from ASTM A572 Gr 50
 BASE PLATE MATERIAL STRENGTH = 50.0 KSI

PLATE OD = 59.5000 INCHES
 PLATE ID = 36.5000 INCHES
 BASE PLATE WEIGHT = 1654.1 Pounds

53.0000 BOLT CIRCLE WITH 13.7174 INCHES SPACING BETWEEN BOLTS

BOLT NUMBER	X COORD	Y COORD	LOAD	MOMENT ARM	ANGLE FROM X AXIS
1	25.597	6.859	-256.23	3.5970	15.000
2	18.738	18.738	-168.58	3.5970	45.000
3	6.859	25.597	-36.16	3.5970	75.000
4	-6.859	25.597	105.56	3.5970	105.000
5	-18.738	18.738	218.61	3.5970	135.000
6	-25.597	6.859	272.68	3.5970	165.000
7	-25.597	-6.859	253.29	3.5970	195.000
8	-18.738	-18.738	165.64	3.5970	225.000
9	-6.859	-25.597	33.22	3.5970	255.000
10	6.859	-25.597	-108.50	3.5970	285.000
11	18.738	-18.738	-221.54	3.5970	315.000
12	25.597	-6.859	-275.62	3.5970	345.000

Start new plate solution

BASE PLATE DESIGN

MX = 43575.273 INCH KIPS
 MY = 5960.487 INCH KIPS
 AXIAL LOAD = 17.626 KIPS
 VX = 72.226 KIPS
 VY = 14.214 KIPS
 POLE SIZE = 44.0000 INCHES ACROSS FLATS
 POLE SHAFT THICKNESS = 0.4375 INCHES
 NUMBER OF SIDES IS 12

FOUNDATION REACTIONS

RESULTANT MOMENT 3665.09 FT-KIPS
 RESULTANT SHEAR 73.61 KIPS
 AXIAL LOAD 17.63 KIPS

MAXIMUM GAP BETWEEN THE TOC AND BOTTOM OF BASEPLATE IS 5.5000 INCHES
 ANCHOR BOLT BENDING IS NOT INCLUDED IN THE UNITY CHECK

MAX BOLT TENSION = 391.213 KIPS
 MAX BOLT COMPRESSION = -395.620 KIPS
 SHEAR PER BOLT = 9.201 KIPS

TOTAL NUMBER OF BOLTS IS 8

2.7500 INCH BOLT DIAMETER WITH, 8.00 TPI 105.0 KSI ALLOWABLE YIELD STRENGTH
 3.0625 OVERSIZE HOLE DIAMETER 0.0000 WASHER THICKNESS 2.6470 NUT HEIGHT (min)
 The number of washers was 0

THE INITIAL ANGLE IS 22.5000 DEGREES
 THE ANGLE BETWEEN BOLTS IS 45.0000 DEGREES

ANCHOR BOLT UNITY 8-23 = 0.8975 (1.0 Limit)
 ANCHOR BOLT UNITY 8-24 = 0.9352 (1.2 Limit)

Bend DISTANCE ON BASE PLATE = 11.790 INCHES based on ASCE 48-19

MAX PLATE MOMENT = 1886.7136 IN. KIPS

5.0000 INCH PLATE THICKNESS from ASTM A572 Gr 50
 BASE PLATE MATERIAL STRENGTH = 42.0 KSI

PLATE OD = 61.0000 INCHES
 PLATE ID = 35.5000 INCHES
 BASE PLATE WEIGHT = 2836.1 Pounds

54.0000 BOLT CIRCLE WITH 20.6649 INCHES SPACING BETWEEN BOLTS

BOLT NUMBER	X COORD	Y COORD	LOAD	MOMENT ARM	ANGLE FROM X AXIS
1	24.945	10.332	-353.43	4.7690	22.500
2	10.332	24.945	-105.50	4.7690	67.500
3	-10.332	24.945	202.95	4.7690	112.500
4	-24.945	10.332	391.21	4.7690	157.500
5	-24.945	-10.332	349.02	4.7690	202.500
6	-10.332	-24.945	101.09	4.7690	247.500
7	10.332	-24.945	-207.35	4.7690	292.500
8	24.945	-10.332	-395.62	4.7690	337.500

Start new plate solution

BASE PLATE DESIGN

MX = 43575.273 INCH KIPS
 MY = 5960.487 INCH KIPS
 AXIAL LOAD = 17.626 KIPS
 VX = 72.226 KIPS
 VY = 14.214 KIPS
 POLE SIZE = 44.0000 INCHES ACROSS FLATS
 POLE SHAFT THICKNESS = 0.4375 INCHES
 NUMBER OF SIDES IS 12

FOUNDATION REACTIONS

RESULTANT MOMENT 3665.09 FT-KIPS
 RESULTANT SHEAR 73.61 KIPS
 AXIAL LOAD 17.63 KIPS

MAXIMUM GAP BETWEEN THE TOC AND BOTTOM OF BASEPLATE IS 6.0000 INCHES
 ANCHOR BOLT BENDING IS NOT INCLUDED IN THE UNITY CHECK

MAX BOLT TENSION = 387.522 KIPS
 MAX BOLT COMPRESSION = -391.928 KIPS
 SHEAR PER BOLT = 9.201 KIPS

TOTAL NUMBER OF BOLTS IS 8

3.0000 INCH BOLT DIAMETER WITH, 8.00 TPI 105.0 KSI ALLOWABLE YIELD STRENGTH
 3.3125 OVERSIZE HOLE DIAMETER 0.0000 WASHER THICKNESS 2.8930 NUT HEIGHT (min)
 The number of washers was 0

THE INITIAL ANGLE IS 22.5000 DEGREES
 THE ANGLE BETWEEN BOLTS IS 45.0000 DEGREES

ANCHOR BOLT UNITY 8-23 = 0.7414 (1.0 Limit)
 ANCHOR BOLT UNITY 8-24 = 0.7728 (1.2 Limit)

Bend DISTANCE ON BASE PLATE = 11.790 INCHES based on ASCE 48-19

MAX PLATE MOMENT = 1966.2539 IN. KIPS

5.0000 INCH PLATE THICKNESS from ASTM A572 Gr 50
 BASE PLATE MATERIAL STRENGTH = 42.0 KSI

PLATE OD = 62.0000 INCHES
 PLATE ID = 35.0000 INCHES
 BASE PLATE WEIGHT = 3018.5 Pounds

54.5000 BOLT CIRCLE WITH 20.8562 INCHES SPACING BETWEEN BOLTS

BOLT NUMBER	X COORD	Y COORD	LOAD	MOMENT ARM	ANGLE FROM X AXIS
1	25.176	10.428	-350.13	5.0169	22.500
2	10.428	25.176	-104.53	5.0169	67.500
3	-10.428	25.176	201.02	5.0169	112.500
4	-25.176	10.428	387.52	5.0169	157.500
5	-25.176	-10.428	345.73	5.0169	202.500
6	-10.428	-25.176	100.12	5.0169	247.500
7	10.428	-25.176	-205.43	5.0169	292.500
8	25.176	-10.428	-391.93	5.0169	337.500

Start new plate solution

BASE PLATE DESIGN

MX = 43575.273 INCH KIPS
 MY = 5960.487 INCH KIPS
 AXIAL LOAD = 17.626 KIPS
 VX = 72.226 KIPS
 VY = 14.214 KIPS
 POLE SIZE = 44.0000 INCHES ACROSS FLATS
 POLE SHAFT THICKNESS = 0.4375 INCHES
 NUMBER OF SIDES IS 12

FOUNDATION REACTIONS

RESULTANT MOMENT 3665.09 FT-KIPS
 RESULTANT SHEAR 73.61 KIPS
 AXIAL LOAD 17.63 KIPS

MAXIMUM GAP BETWEEN THE TOC AND BOTTOM OF BASEPLATE IS 4.5000 INCHES
 ANCHOR BOLT BENDING IS NOT INCLUDED IN THE UNITY CHECK

MAX BOLT TENSION = 207.793 KIPS
 MAX BOLT COMPRESSION = -209.996 KIPS
 SHEAR PER BOLT = 4.601 KIPS

TOTAL NUMBER OF BOLTS IS 16

2.2500 INCH BOLT DIAMETER WITH, 4.50 TPI 75.0 KSI ALLOWABLE YIELD STRENGTH
 2.5625 OVERSIZE HOLE DIAMETER 0.0000 WASHER THICKNESS 2.1550 NUT HEIGHT (min)
 The number of washers was 0

18J REBAR BOLTS

THE INITIAL ANGLE IS 11.2500 DEGREES
 THE ANGLE BETWEEN BOLTS IS 22.5000 DEGREES

ANCHOR BOLT UNITY 8-23 = 0.9948 (1.0 Limit)
 ANCHOR BOLT UNITY 8-24 = 1.0341 (1.2 Limit)

Bend DISTANCE ON BASE PLATE = 11.790 INCHES based on ASCE 48-19

MAX PLATE MOMENT = 2193.2368 IN. KIPS

5.2500 INCH PLATE THICKNESS from ASTM A572 Gr 50
 BASE PLATE MATERIAL STRENGTH = 42.0 KSI

PLATE OD = 58.0000 INCHES
 PLATE ID = 37.0000 INCHES
 BASE PLATE WEIGHT = 2414.3 Pounds

52.5000 BOLT CIRCLE WITH 10.2422 INCHES SPACING BETWEEN BOLTS

BOLT NUMBER	X COORD	Y COORD	LOAD	MOMENT ARM	ANGLE FROM X AXIS
1	25.746	5.121	-198.93	3.7456	11.250
2	21.826	14.584	-157.75	4.1938	33.750
3	14.584	21.826	-92.71	4.1938	56.250
4	5.121	25.746	-13.74	3.7456	78.750
5	-5.121	25.746	67.17	3.7456	101.250
6	-14.584	21.826	137.68	4.1938	123.750
7	-21.826	14.584	187.06	4.1938	146.250
8	-25.746	5.121	207.79	3.7456	168.750
9	-25.746	-5.121	196.73	3.7456	191.250
10	-21.826	-14.584	155.54	4.1938	213.750
11	-14.584	-21.826	90.51	4.1938	236.250
12	-5.121	-25.746	11.53	3.7456	258.750
13	5.121	-25.746	-69.37	3.7456	281.250
14	14.584	-21.826	-139.88	4.1938	303.750
15	21.826	-14.584	-189.26	4.1938	326.250
16	25.746	-5.121	-210.00	3.7456	348.750

SUMMARY OF BASE PLATES DESIGNED WITH BOLT BENDING CONSIDERED
 Max Gap is 2.250 Bolt Diameters

NUM BLTS	DIAM	ALLOW	BOLT CIR	THICK	PLATE OD	PLATE ID	WEIGHT	TPI
20.	2.000	105.	51.50	4.750	56.500	38.000	1914.	8.00
16.	2.250	105.	52.50	5.250	58.000	37.000	2414.	8.00
12.	2.500	105.	53.00	3.250	59.500	36.500	1654.	8.00
12.	2.750	105.	54.00	3.250	61.000	35.500	1843.	8.00
8.	3.000	105.	54.50	5.000	62.000	35.000	3018.	8.00

SUMMARY OF BASE PLATES DESIGNED WITH BOLT BENDING NOT CONSIDERED
 Max Gap is 2.000 Bolt Diameters

NUM BLTS	DIAM	ALLOW	BOLT CIR	THICK	PLATE OD	PLATE ID	WEIGHT	TPI
16.	2.000	105.	51.50	5.000	56.500	38.000	2015.	8.00
12.	2.250	105.	52.50	3.000	58.000	37.000	1380.	8.00
12.	2.500	105.	53.00	3.250	59.500	36.500	1654.	8.00
8.	2.750	105.	54.00	5.000	61.000	35.500	2836.	8.00
8.	3.000	105.	54.50	5.000	62.000	35.000	3018.	8.00
16.	2.250	75.	52.50	5.250	58.000	37.000	2414.	4.50

FOUNDATION REACTIONS

RESULTANT MOMENT 3665.09 FT-KIPS
 RESULTANT SHEAR 73.61 KIPS
 AXIAL LOAD 17.63 KIPS

THE BOLTS SPLIT THE X AXIS

This design routine is based on the maximum possible bending moment based on the pole shaft geometry. It is up to the designer to choose one of the plate designs and input the base plate values into PLS-POLE

Methods from ASCE 48-19 and 2nd Edition ASCE 113 are used

This post-processor to PLS-POLE was written by George Watson with immense XML help from Arjen Markus to read the XML file saved by PLS-POLE in C:\PLS\TEMP\POSTPROC.XML the XML file must reside in this TEMP folder