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Peoria, IL 61603 USA  
Phone: (309)-566-3000  
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**DATE:** APRIL 29, 2025

**PURCHASER:** ENERGENECS INC

**PROJECT:** 70FT RSL SELF SUPPORT TOWER  
SAYLESVILLE WELL 8, WI

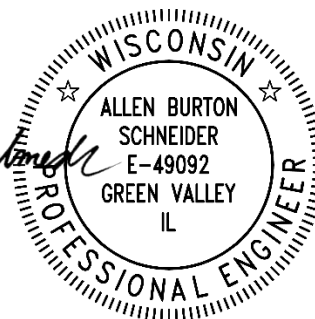
**FILE NUMBER:**248333

I CERTIFY THAT THE ATTACHED DRAWINGS WERE PREPARED UNDER MY SUPERVISION IN ACCORDANCE WITH THE DESIGN AND LOADING CRITERIA SPECIFIED BY THE PURCHASER AND THAT I AM A REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF WISCONSIN.

THE REFERENCED FOUNDATION DESIGN IS BASED ON PRESUMPTIVE SOIL PARAMETERS. A GEOTECHNICAL SITE INVESTIGATION SHOULD BE PERFORMED PRIOR TO INSTALLATION FOR COMPETENT PROFESSIONAL EXAMINATION AND VALIDATION OF THE SUITABILITY OF THE PRESUMPTIVE SOIL PARAMETERS FOR THE SITE.

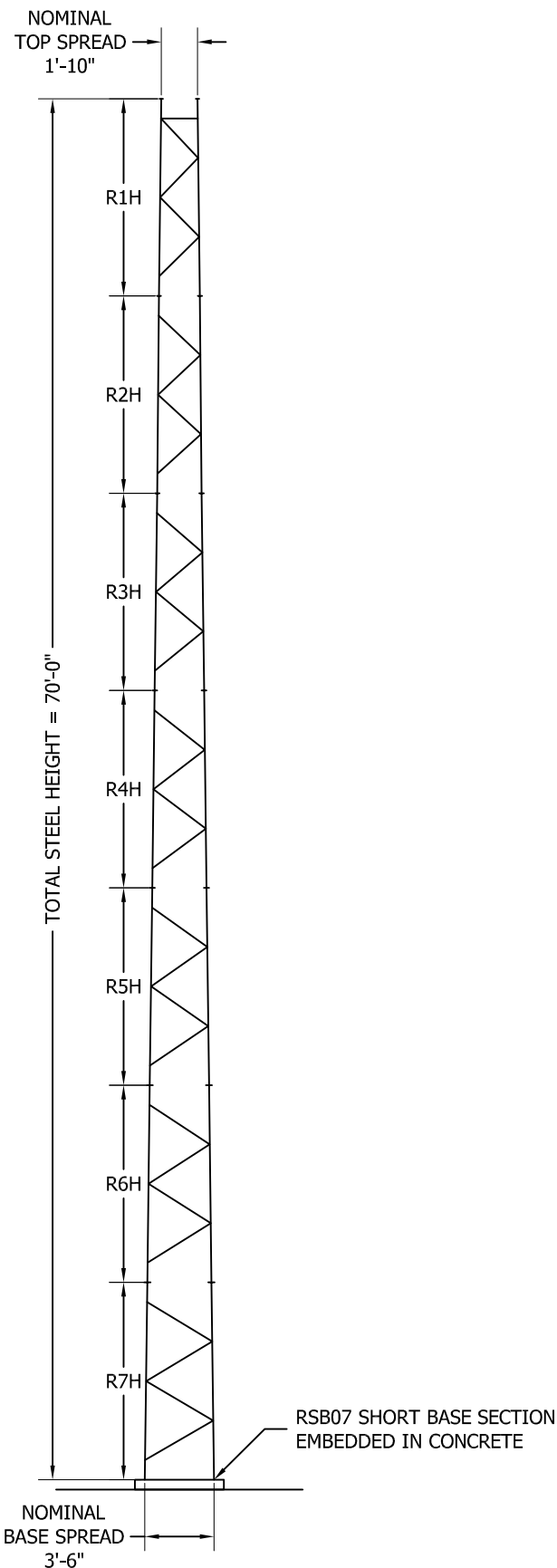
*Allen Schneider*

04/29/2025

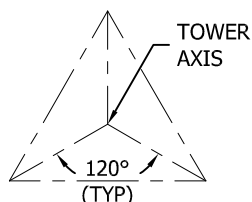


**GENERAL NOTES**

- ROHN PRODUCTS, LLC TOWER DESIGNS CONFORM TO ANSI/TIA-222-H UNLESS OTHERWISE SPECIFIED UNDER TOWER DESIGN LOADING.
- THE DESIGN LOADING CRITERIA INDICATED HAS BEEN PROVIDED TO ROHN. THE DESIGN LOADING CRITERIA HAS BEEN ASSUMED TO BE BASED ON SITE-SPECIFIC DATA IN ACCORDANCE WITH ANSI/TIA-222-H AND MUST BE VERIFIED BY OTHERS PRIOR TO INSTALLATION.
- ANTENNAS AND LINES LISTED IN TOWER DESIGN LOADING TABLE ARE PROVIDED BY OTHERS UNLESS OTHERWISE SPECIFIED.
- STEP BOLTS WITH SAFETY CLIMB SYSTEM ARE PROVIDED AS A CLIMBING FACILITY FOR THE INSTALLATION OF THE STRUCTURE.
- TOWER MEMBER DESIGN DOES NOT INCLUDE STRESSES DUE TO ERECTION SINCE ERECTION EQUIPMENT AND CONDITIONS ARE UNKNOWN. DESIGN ASSUMES COMPETENT AND QUALIFIED PERSONNEL WILL ERECT THE TOWER.
- WORK SHALL BE IN ACCORDANCE WITH ANSI/TIA-222-H, "STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES".
- THE MINIMUM YIELD STRENGTH OF STRUCTURAL STEEL MEMBERS SHALL BE 50 KSI, EXCEPT AS NOTED BELOW:  
ALL ANGLE BRACING SHALL BE 36 KSI.  
STRUCTURAL PLATES SHALL BE 36 KSI.
- FIELD CONNECTIONS SHALL BE BOLTED. NO FIELD WELDS SHALL BE ALLOWED.
- STRUCTURAL BOLTS SHALL CONFORM TO GRADE A325 PER ASTM F3125, EXCEPT WHERE NOTED.
- A NUT LOCKING DEVICE IS PROVIDED FOR ALL TOWER BOLTS.
- STRUCTURAL STEEL AND CONNECTION BOLTS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION, IN ACCORDANCE WITH ANSI/TIA-222-H.
- ALL HIGH STRENGTH BOLTS, UNLESS OTHERWISE NOTED FOR DOUBLE ANGLE MEMBERS, ARE TO BE TIGHTENED TO A "SNUG TIGHT" CONDITION AS DEFINED IN THE RCSC "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS". NO OTHER MINIMUM BOLT TENSION OR TORQUE VALUES ARE REQUIRED.
- PURCHASER SHALL VERIFY THE INSTALLATION IS IN CONFORMANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS FOR OBSTRUCTION MARKING AND LIGHTING.
- TOLERANCE ON TOWER STEEL HEIGHT IS EQUAL TO PLUS 1% OR MINUS 1/2%.
- DESIGN ASSUMES THAT, AS A MINIMUM, MAINTENANCE AND INSPECTION WILL BE PERFORMED OVER THE LIFE OF THE STRUCTURE IN ACCORDANCE WITH ANSI/TIA-222-H.
- DESIGN ASSUMES LEVEL GRADE AT TOWER SITE.
- DESIGN ASSUMES ALL ANTENNAS ARE MOUNTED SYMMETRICALLY TO MINIMIZE TORQUE, IF APPLICABLE.
- THE PURCHASER SHALL VERIFY THAT ACTUAL SITE SOIL PARAMETERS MEET OR EXCEED ANSI/TIA-222-H "PRESUMPTIVE" CLAY SOIL PARAMETERS.



MAXIMUM FACTORED REACTIONS	
COMPRESSION PER LEG	= 27.2 KIPS
TENSION PER LEG	= 21.9 KIPS
SHEAR PER LEG	= 1.2 KIPS
TOTAL SHEAR	= 2.0 KIPS
TOTAL O.T.M	= 77.9 FT-KIPS



**TOWER CONFIGURATION**  
N.T.S.

**TOWER DESIGN LOADING**

DESIGN WIND LOAD PER ANSI/TIA-222-H USING THE FOLLOWING DESIGN CRITERIA:  
 RISK CATEGORY: II  
 BASIC WIND SPEED (NO ICE): 107 MPH PER ASCE 7-16  
 BASIC WIND SPEED (W/ICE): 40 MPH PER ASCE 7-16  
 DESIGN ICE THICKNESS: 1.50 INCHES PER ASCE 7-16  
 GROUND ELEVATION, Z<sub>s</sub>: 850 FT  
 EXPOSURE CATEGORY: C  
 TOPOGRAPHIC METHOD: 1, CATEGORY: 1  
 SEISMIC DESIGN PARAMETERS, S<sub>s</sub>: 0.078, S<sub>1</sub>: 0.049, T<sub>l</sub>: 12, SITE CLASS: D

THIS STRUCTURE HAS BEEN DESIGNED TO SUPPORT THE FOLLOWING LOADS:

ELEVATION (FT)	ANTENNA LOADING	LINE SIZE (NOM)
TOP	LIGHTNING ROD	-
TOP	(1) AIRMUX 5000I ON A TOP-MOUNTED PIPE MAST	(1) 0-3/8"

SECTION MAIN MEMBER SCHEDULE			
SECTION	LEGS	DIAGONALS	HORIZONTALS
R1H	U2.75x0.1875	PIPE 1.250x0.065 (4)	L3 1/2x3 1/2x1/4 (1)
R2H	U2.75x0.1875	PIPE 1.250x0.065 (4)	N/A
R3H	U2.75x0.1875	PIPE 1.250x0.065 (4)	N/A
R4H	U2.75x0.1875	PIPE 1.250x0.065 (4)	N/A
R5H	U2.75x0.1875	PIPE 1.250x0.065 (4)	N/A
R6H	U2.75x0.1875	PIPE 1.250x0.065 (4)	N/A
R7H	U2.75x0.1875	PIPE 1.250x0.065 (4)	N/A

**NOTE:**  
SECTION NUMBERS ARE FOR REFERENCE ONLY. FOR NOMINAL FACE WIDTH DIMENSIONS, REFER TO THE STRESS ANALYSIS. THE NUMBERS SHOWN IN PARENTHESES INDICATE THE NUMBER OF BAYS FROM TOP TO BOTTOM.

FILE NO. 248333

REVISIONS			
REV.	DESCRIPTION	DWN	CHK



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ENERGENECS INC  
DESIGN PROFILE  
RSL70H17  
SAYLESVILLE WELL 8, WI

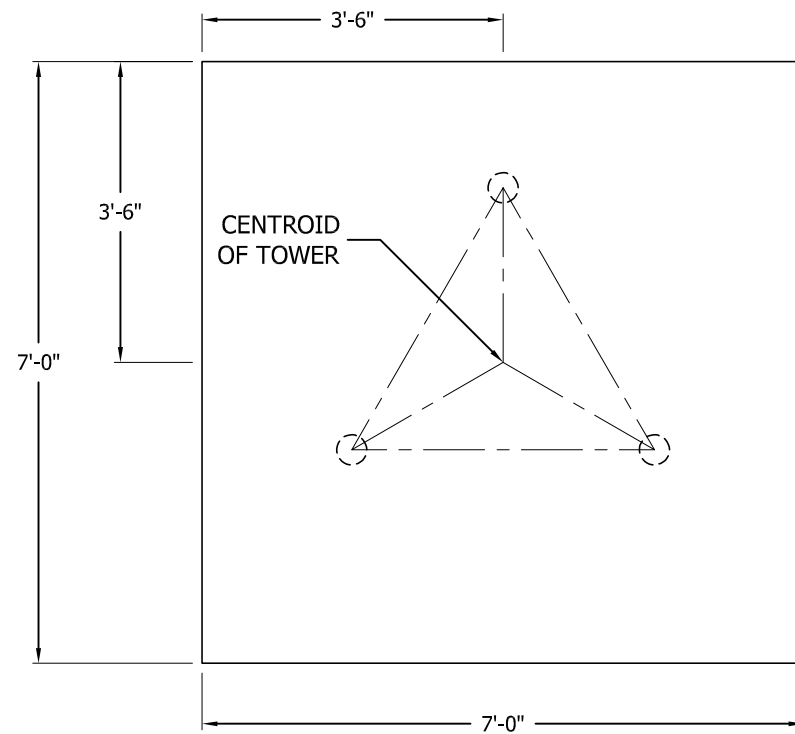
DWN: AS    CHK'D: SY    DATE: 04/29/2025

ENGR: AS    SHEET #: 1 OF 1

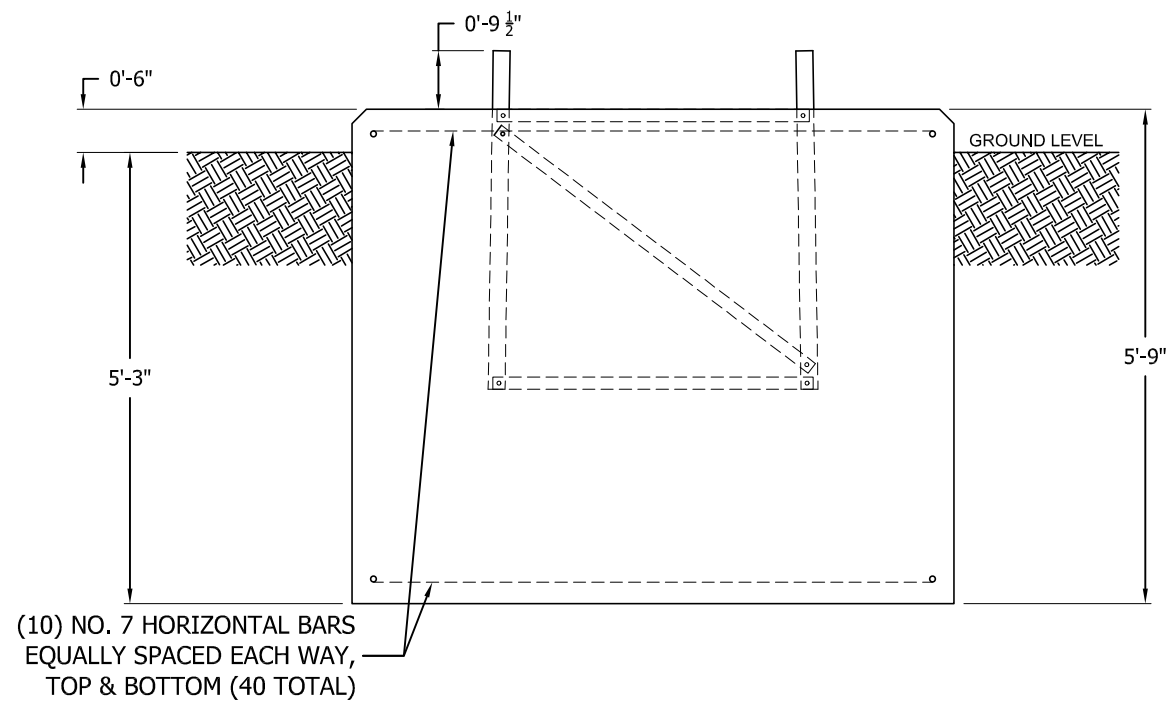
PRJ. ENGR: AS    PRJ. MANG'R:

DRAWING NO: 248333-01-D1    REV: 0

NOTE: SEE DRAWING NO. B090548 FOR STANDARD FOUNDATION NOTES.



**PLAN VIEW**



**ELEVATION VIEW**

**FACTORED REACTIONS**

Maximum O.T.M = 77.9 FT-K  
 Total Tower Wt = 1.6 KIPS  
 Total Shear = 2.0 KIPS  
 Max. Shear/Leg = 1.2 KIPS  
 Max. Ten./Leg = 21.9 KIPS  
 Max. Comp./Leg = 27.2 KIPS

**CONCRETE VOLUME**

PAD = 10.4 CU.YDS.

FILE NO.

248333

REVISIONS

REV.	DESCRIPTION	DWN	CHK	APP
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MAT  
 PRESUMPTIVE CLAY PER ANSI/TIA-222-H

DWN:	CHK'D:	DATE:
AS	SY	04/29/2025

ENGR:	SHEET #:
AS	1 OF 1

PRJ. ENGR:	PRJ. MANG'R:
AS	

DRAWING NO:	REV:
248333-01-F1	0

**STANDARD FOUNDATION NOTES**  
**ANSI/TIA-222-G/H**

1. STANDARD FOUNDATION DESIGNS ARE IN ACCORDANCE WITH ANSI/TIA-222-G/H, "STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES" FOR THE FOLLOWING PRESUMPTIVE CLAY SOIL PARAMETERS:

N (blows/ft) [blows/m]	Φ (deg)	Y (lb/ft <sup>3</sup> ) [kN/m <sup>3</sup> ]	C (psf) [kPa]	Ultimate Bearing (psf) [kPa]		Ultimate Skin Friction (psf) [kPa]	k (pci) [kN/m <sup>3</sup> ]	ε <sub>50</sub>
				Shallow Fnds.	Deep Fnds.			
8 [26]	0	110 [17]	1000 [48]	5000 [240]	9000 [431]	500 [24]	150 [41,000]	0.01
GROUND WATER TABLE IS AT OR BELOW FOUNDATION DEPTH MAXIMUM FROST PENETRATION DEPTH LESS THAN FOUNDATION DEPTH								

- THE PURCHASER SHALL VERIFY THAT ACTUAL SITE SOIL PARAMETERS MEET OR EXCEED ANSI/TIA-222-G/H PRESUMPTIVE CLAY SOIL DESIGN PARAMETERS AND THAT THE DEPTH OF STANDARD FOUNDATIONS ARE ADEQUATE BASED ON THE FROST PENETRATION AND/OR ZONE OF SEASONAL MOISTURE VARIATION AT THE SITE. FOUNDATION DESIGN MODIFICATIONS MAY BE REQUIRED IN THE EVENT PRESUMPTIVE CLAY SOIL PARAMETERS ARE NOT APPLICABLE FOR THE ACTUAL SUBSURFACE CONDITIONS ENCOUNTERED.
- A SITE-SPECIFIC INVESTIGATION IS REQUIRED FOR CLASS III STRUCTURES IN ACCORDANCE WITH ANSI/TIA-222-G/H.
- FOUNDATION DESIGNS ASSUME FIELD INSPECTIONS WILL BE PERFORMED BY THE PURCHASER'S REPRESENTATIVE TO VERIFY THAT CONSTRUCTION MATERIALS, INSTALLATION METHODS AND ASSUMED DESIGN PARAMETERS ARE ACCEPTABLE BASED ON THE CONDITIONS EXISTING AT THE SITE.
- WORK SHALL BE IN ACCORDANCE WITH THE PROJECT CONSTRUCTION DOCUMENTS, LOCAL CODES, SAFETY REGULATIONS AND UNLESS OTHERWISE NOTED, THE LATEST REVISION OF ACI 318, "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE". PROCEDURES FOR THE PROTECTION OF EXCAVATIONS, EXISTING CONSTRUCTION AND UTILITIES SHALL BE ESTABLISHED PRIOR TO FOUNDATION INSTALLATION.
- CONCRETE MATERIALS SHALL CONFORM TO THE APPROPRIATE STATE REQUIREMENTS FOR EXPOSED STRUCTURAL CONCRETE.
- PROPORTIONS OF CONCRETE MATERIALS SHALL BE SUITABLE FOR THE INSTALLATION METHOD UTILIZED AND SHALL RESULT IN DURABLE CONCRETE FOR RESISTANCE TO LOCAL ANTICIPATED AGGRESSIVE ACTIONS. THE DURABILITY REQUIREMENT OF ACI 318 SHALL BE SATISFIED BASED ON THE CONDITIONS EXPECTED AT THE SITE. AS A MINIMUM, CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 4500 PSI (31.0 MPa) IN 28 DAYS.
- MAXIMUM SIZE OF AGGREGATE SHALL NOT EXCEED SIZE SUITABLE FOR INSTALLATION METHOD UTILIZED OR 3/4 CLEAR DISTANCE BEHIND OR BETWEEN REINFORCING. WORKABILITY AND METHODS OF CONSOLIDATION SUCH AS VIBRATING SHALL BE UTILIZED TO PREVENT HONEYCOMBS OR VOIDS.
- REINFORCEMENT SHALL BE DEFORMED AND CONFORM TO THE REQUIREMENTS OF ASTM A615 GRADE 60 UNLESS OTHERWISE NOTED. SPLICES IN REINFORCEMENT SHALL NOT BE ALLOWED UNLESS OTHERWISE INDICATED.
- REINFORCING CAGES SHALL BE BRACED TO RETAIN PROPER DIMENSIONS DURING HANDLING, THROUGHOUT PLACEMENT OF CONCRETE AND DURING EXTRACTION OF TEMPORARY CASING.
- WELDING IS PROHIBITED ON REINFORCING STEEL AND EMBEDMENTS.
- MINIMUM CONCRETE COVER FOR REINFORCEMENT SHALL BE 3 INCHES (76 mm) UNLESS OTHERWISE NOTED. APPROVED SPACERS SHALL BE USED TO INSURE A 3 INCH (76 mm) MINIMUM COVER ON REINFORCEMENT. CONCRETE COVER FROM TOP OF FOUNDATION TO ENDS OF VERTICAL REINFORCEMENT SHALL NOT EXCEED 3 INCHES (76 mm) NOR BE LESS THAN 2 INCHES (51 mm).

- SPACERS SHALL BE ATTACHED INTERMITTENTLY THROUGHOUT THE ENTIRE LENGTH OF VERTICAL REINFORCING CAGES TO INSURE CONCENTRIC PLACEMENT OF CAGES IN EXCAVATIONS.
- FOUNDATION DESIGNS ASSUME STRUCTURAL BACKFILL TO BE COMPACTED IN 8 INCH (200 mm) MAXIMUM LAYERS TO 95% OF MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D698. ADDITIONALLY, STRUCTURAL BACKFILL MUST HAVE A MINIMUM COMPACTED UNIT WEIGHT OF 110 POUNDS PER CUBIC FOOT (17 kN/m<sup>3</sup>).
- FOUNDATION DESIGNS ASSUME AN INSTALLATION ON A PROPERLY DRAINED LEVEL SITE.
- FOUNDATION INSTALLATION SHALL BE SUPERVISED BY PERSONNEL KNOWLEDGEABLE AND EXPERIENCED WITH THE PROPOSED FOUNDATION TYPE. CONSTRUCTION SHALL BE IN ACCORDANCE WITH GENERALLY ACCEPTED INSTALLATION PRACTICES.
- ALL CONSTRUCTION AND SAFETY EQUIPMENT AND TEMPORARY SUPPORTS REQUIRED FOR CONSTRUCTION SHALL BE DETERMINED, FURNISHED AND INSTALLED BY THE CONTRACTOR BASED ON THE MEANS AND METHODS CHOSEN BY THE CONTRACTOR. ALL CONSTRUCTION ACTIVITIES SHALL BE PERFORMED BY COMPETENT, QUALIFIED AND TRAINED PERSONNEL.
- FOR FOUNDATION AND ANCHOR TOLERANCES SEE ANCHOR ROD LAYOUT DRAWING.
- LOOSE MATERIAL SHALL BE REMOVED FROM BOTTOM OF EXCAVATION PRIOR TO CONCRETE PLACEMENT. SIDES OF EXCAVATION SHALL BE ROUGH AND FREE OF LOOSE CUTTINGS.
- CONCRETE SHALL BE PLACED IN A MANNER THAT WILL PREVENT SEGREGATION OF CONCRETE MATERIALS, INFILTRATION OF WATER OR SOIL AND OTHER OCCURRENCES WHICH MAY DECREASE THE STRENGTH OR DURABILITY OF THE FOUNDATION.
- FREE FALL CONCRETE MAY BE USED PROVIDED FALL IS VERTICAL DOWN WITHOUT HITTING SIDES OF EXCAVATION, FORMWORK, REINFORCING BARS, ANCHORAGES, FORM TIES, CAGE BRACING OR OTHER OBSTRUCTIONS. UNDER NO CIRCUMSTANCES SHALL CONCRETE FALL THROUGH WATER.
- CONCRETE SHALL BE PLACED AGAINST UNDISTURBED SOIL EXCEPT FOR PIERS SUPPORTED ON SPREAD FOUNDATIONS. FORMS FOR PIERS SHALL BE REMOVED PRIOR TO PLACING STRUCTURAL BACKFILL.
- CONSTRUCTION JOINTS, IF REQUIRED IN DRILLED PIER OR CAISSON FOUNDATIONS, SHALL BE AT LEAST 12 INCHES (305 mm) BELOW BOTTOM OF EMBEDMENTS AND MUST BE INTENTIONALLY ROUGHENED TO A FULL AMPLITUDE OF 1/4 INCH (6 mm). FOUNDATION DESIGN ASSUMES NO OTHER CONSTRUCTION JOINTS.
- CONSTRUCTION JOINTS, IF REQUIRED AT THE BASE OF PIERS SUPPORTED ON SPREAD FOUNDATIONS, SHALL BE INTENTIONALLY ROUGHENED TO A FULL AMPLITUDE OF 1/4 INCH (6 mm). FOUNDATION DESIGN ASSUMES NO OTHER CONSTRUCTION JOINTS.
- CASING, IF USED, SHALL NOT BE LEFT IN PLACE. EQUIPMENT, PROCEDURES, AND PROPORTIONS OF CONCRETE MATERIALS SHALL INSURE CONCRETE WILL NOT BE ADVERSELY DISTURBED UPON CASING REMOVAL. DRILLING FLUID, IF USED, SHALL BE FULLY DISPLACED BY CONCRETE AND SHALL NOT BE DETRIMENTAL TO CONCRETE OR SURROUNDING SOIL. CONTAMINATED CONCRETE SHALL BE REMOVED FROM TOP OF FOUNDATION AND REPLACED WITH FRESH CONCRETE.
- TOP OF FOUNDATION SHALL BE SLOPED TO DRAIN WITH A FLOATED FINISHED. EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 3/4" X 3/4" (19 mm X 19 mm) MINIMUM.
- FOR ANCHOR BLOCK TYPE FOUNDATIONS, FOR GUYED MASTS, ADDITIONAL CORROSION PROTECTION MAY BE REQUIRED FOR STEEL GUY ANCHORS IN DIRECT CONTACT WITH SOIL. DESIGN ASSUMES PERIODIC INSPECTIONS WILL BE PERFORMED OVER THE LIFE OF THE STRUCTURE TO DETERMINE IF ADDITIONAL ANCHOR CORROSION PROTECTION MEASURES SHALL BE IMPLEMENTED BASED ON OBSERVED SITE-SPECIFIC CONDITIONS.

FILE NO.

REVISIONS				
REV.	DESCRIPTION	DWN	CHK	APP
6	REVISED TO ANSI/TIA-222-G/H DATE: 1/28/2020	SWG	HA	HA



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**ANSI/TIA-222-G/H**  
**STANDARD FOUNDATION DESIGN NOTES**

DWN: FAD	CHK'D: HA	DATE: 11/20/2009
ENG'R: HA	SHEET #: 1 OF 1	
PRJ. ENG'R:	PRJ. MANG'R:	
DRAWING NO: B090548	REV: 6	



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File: \\rohnfs3\jobs\2025\248333\ENGINEERING\248333.out  
 Contract: 248333  
 Project: RSL70H17  
 Date and Time: 4/29/2025 9:23:37 AM

Revision: 0  
 Site: SAYLESVILLE WELL 8- WI  
 Engineer: AS

**Section A: PROJECT DATA**

ENGINEERING  
 CHECKED BY: SY  
 04/29/2025

Project Title: RSL70H17  
 Customer Name: ENERGENECS INC  
 Site: SAYLESVILLE WELL 8- WI  
 Contract No.: 248333  
 Revision: 0  
 Engineer: AS  
 Date: Apr 29 2025  
 Time: 09:23:08 AM

Design Standard: ANSI/TIA-222-H-2017

GENERAL DESIGN CONDITIONS

Start wind direction: 0.00 (Deg)  
 End wind direction: 330.00 (Deg)  
 Increment wind direction: 30.00 (Deg)  
 Elevation above ground: 0.00 (ft)  
 Mean elevation of base of structure above sea level Zs: 850.00 (ft)  
 Rooftop wind speed-up factor Ks: 1.00  
 Gust Response Factor Gh: 0.85  
 Risk category: II  
 Exposure category: C  
 Topographic category: 1  
 Material Density: 490.1 (lbs/ft^3)  
 Young's Modulus: 29000.0 (ksi)  
 Poisson Ratio: 0.30  
 Weight Multiplier: 1.06  
 Minimum Bracing Resistance as per 4.4.1

WIND ONLY CONDITIONS:  
 Basic Wind Speed (No Ice): 107.00 (mph)  
 Directionality Factor Kd: 0.85  
 Importance Factor I: 1.00  
 Wind Load Factor: 1.00  
 Dead Load Factor: 1.20  
 Dead Load Factor for Uplift: 0.90

WIND AND ICE CONDITIONS:  
 Basic Wind Speed (With Ice): 40.00 (mph)  
 Directionality Factor Kd: 0.85  
 Wind Load Importance Factor Iw: 1.00  
 Ice Thickness Importance Factor Ii: 1.00  
 Ice Thickness: 1.50 (in)  
 Ice Density: 56.19 (lbs/ft^3)  
 Wind Load Factor: 1.00  
 Dead Load Factor: 1.20  
 Ice Load Factor: 1.00

WIND ONLY SERVICEABILITY CONDITIONS:  
 Serviceability Wind Speed: 60.00 (mph)  
 Directionality Factor Kd: 0.85  
 Importance Factor I: 1.00  
 Wind Load Factor: 1.00  
 Dead Load Factor: 1.00

EARTHQUAKE CONDITIONS:  
 Site class definition: D  
 Spectral response acceleration Ss: 0.078  
 Spectral response acceleration Sl: 0.049  
 Long-period transition period TL: 12.000



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Project: RSL70H17

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Revision: 0

Site: SAYLESVILLE WELL 8- WI

Engineer: AS

Accelaration-based site coefficient Fa: 1.600  
Velocity-based site coefficient Fv: 2.400  
Design spectral response acceleration Sds: 0.083  
Design spectral response acceleration Sd1: 0.078  
Seismic analysis method: 1  
Fundamental frequency of structure f1: 1.281  
Total seismic shear Vs (Kips) : 0.05

Analysis performed using: TowerSoft Finite Element Analysis Program

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Contract: 248333

Project: RSL70H17

Date and Time: 4/29/2025 9:23:37 AM

Revision: 0

Site: SAYLESVILLE WELL 8- WI

Engineer: AS

**Section B: STRUCTURE GEOMETRY**

TOWER GEOMETRY

Cross-Section	Height (ft)	Tot Height (ft)	# of Section	Bot Width (in)	Top Width (in)
Triangular	70.00	70.00	7	42.20	21.50

SECTION GEOMETRY

Sec #	Sec. Name	Elevation		Widths		Legs (lbs)	Brcg. (lbs)	Masses			Brcg. Clear. (in)	
		Bottom (ft)	Top (ft)	Bottom (in)	Top (in)			Sec.Brc (lbs)	Int.Brc (lbs)	Sect. (lbs)		Database (lbs)
7	R1	60.00	70.00	25	22	124	63	0	0	187	158	0.787
6	R2	50.00	60.00	27	25	127	34	0	0	160	161	0.787
5	R3	40.00	50.00	30	27	126	35	0	0	162	162	0.787
4	R4	30.00	40.00	33	30	126	37	0	0	163	163	0.787
3	R5	20.00	30.00	36	33	126	39	0	0	165	166	0.787
2	R6	10.00	20.00	39	36	127	41	0	0	168	168	0.787
1	R7	0.00	10.00	42	39	126	43	0	0	169	169	0.787
Total Mass:						882	291	0	0	1173	1147	

PANEL GEOMETRY

Sec#	Pnl#	Type	SecBrcg	Mid. Horiz Continuous	Horiz	Height (ft)	Bottom Width (in)	Top Width (in)	Plan Bracing	Hip Bracing	Gusset Plate Area (ft^2)	Gusset Plate Weight (lbs)
7	4	Single	(None)		Yes	2.5	22.3	21.5	(None)	(None)	0.000	0.00
7	3	Single	(None)		None	2.5	23.0	22.3	(None)	(None)	0.000	0.53
7	2	Single	(None)		None	2.5	23.8	23.0	(None)	(None)	0.000	0.53
7	1	Single	(None)		None	2.5	24.5	23.8	(None)	(None)	0.000	0.53
6	4	Single	(None)		None	2.5	25.2	24.5	(None)	(None)	0.000	0.60
6	3	Single	(None)		None	2.5	26.0	25.2	(None)	(None)	0.000	0.60
6	2	Single	(None)		None	2.5	26.7	26.0	(None)	(None)	0.000	0.60
6	1	Single	(None)		None	2.5	27.4	26.7	(None)	(None)	0.000	0.60
5	4	Single	(None)		None	2.5	28.2	27.4	(None)	(None)	0.000	0.56
5	3	Single	(None)		None	2.5	28.9	28.2	(None)	(None)	0.000	0.56
5	2	Single	(None)		None	2.5	29.7	28.9	(None)	(None)	0.000	0.56
5	1	Single	(None)		None	2.5	30.4	29.7	(None)	(None)	0.000	0.56
4	4	Single	(None)		None	2.5	31.1	30.4	(None)	(None)	0.000	0.51
4	3	Single	(None)		None	2.5	31.9	31.1	(None)	(None)	0.000	0.51
4	2	Single	(None)		None	2.5	32.6	31.9	(None)	(None)	0.000	0.51
4	1	Single	(None)		None	2.5	33.3	32.6	(None)	(None)	0.000	0.51
3	4	Single	(None)		None	2.5	34.1	33.3	(None)	(None)	0.000	0.56
3	3	Single	(None)		None	2.5	34.8	34.1	(None)	(None)	0.000	0.56
3	2	Single	(None)		None	2.5	35.6	34.8	(None)	(None)	0.000	0.56
3	1	Single	(None)		None	2.5	36.3	35.6	(None)	(None)	0.000	0.56
2	4	Single	(None)		None	2.5	37.0	36.3	(None)	(None)	0.000	0.59
2	3	Single	(None)		None	2.5	37.8	37.0	(None)	(None)	0.000	0.59
2	2	Single	(None)		None	2.5	38.5	37.8	(None)	(None)	0.000	0.59
2	1	Single	(None)		None	2.5	39.2	38.5	(None)	(None)	0.000	0.59
1	4	Single	(None)		None	2.5	40.0	39.2	(None)	(None)	0.000	0.52
1	3	Single	(None)		None	2.5	40.7	40.0	(None)	(None)	0.000	0.52
1	2	Single	(None)		None	2.5	41.5	40.7	(None)	(None)	0.000	0.52
1	1	Single	(None)		None	2.5	42.2	41.5	(None)	(None)	0.000	0.52

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MEMBER PROPERTIES

Sec/ Member Pnl Spacing	Type	Description	Steel Grade	Conn. Type	Bolt #-Size	Bolt Grade	End Dist.	Edge Dist.	Gusset Thick.	Gusset Grade	Bolt Space	Dble Mem.
7/4	Leg	U2.75x0.1875	A572	gr.65Tension	1-1.000	RSLSL						
7/4	Diag	PIPE 1.250x0.065	A500	gr.CSBolted	1-0.375	Grade5N0.750	0.625	0.187	A500	gr.CS	1.500	
7/4	Horiz	L3 1/2x3 1/2x1/4	A529	gr.50Bolted	1-0.625	A325N	0.938	2.000	0.394	A529	gr.50	1.875
7/3	Leg	U2.75x0.1875	A572	gr.65Tension	1-1.000	RSLSL						
7/3	Diag	PIPE 1.250x0.065	A500	gr.CSBolted	1-0.375	Grade5N0.750	0.625	0.188	A500	gr.CS	1.500	
7/2	Leg	U2.75x0.1875	A572	gr.65Tension	1-1.000	RSLSL						
7/2	Diag	PIPE 1.250x0.065	A500	gr.CSBolted	1-0.375	Grade5N0.750	0.625	0.188	A500	gr.CS	1.500	
7/1	Leg	U2.75x0.1875	A572	gr.65Tension	1-1.000	RSLsmm						
7/1	Diag	PIPE 1.250x0.065	A500	gr.CSBolted	1-0.375	Grade5N0.750	0.625	0.188	A500	gr.CS	1.500	
6/4	Leg	U2.75x0.1875	A572	gr.65Tension	1-1.000	RSLsmm						
6/4	Diag	PIPE 1.250x0.065	A500	gr.CSBolted	1-0.375	Grade5N0.750	0.625	0.187	A500	gr.CS	1.500	
6/3	Leg	U2.75x0.1875	A572	gr.65Tension	1-1.000	RSLSL						
6/3	Diag	PIPE 1.250x0.065	A500	gr.CSBolted	1-0.375	Grade5N0.750	0.625	0.188	A500	gr.CS	1.500	
6/2	Leg	U2.75x0.1875	A572	gr.65Tension	1-1.000	RSLSL						
6/2	Diag	PIPE 1.250x0.065	A500	gr.CSBolted	1-0.375	Grade5N0.750	0.625	0.188	A500	gr.CS	1.500	
6/1	Leg	U2.75x0.1875	A572	gr.65Tension	1-1.000	RSLsmm						
6/1	Diag	PIPE 1.250x0.065	A500	gr.CSBolted	1-0.375	Grade5N0.750	0.625	0.188	A500	gr.CS	1.500	
5/4	Leg	U2.75x0.1875	A572	gr.65Tension	1-1.000	RSLsmm						
5/4	Diag	PIPE 1.250x0.065	A500	gr.CSBolted	1-0.375	Grade5N0.750	0.625	0.187	A500	gr.CS	1.500	
5/3	Leg	U2.75x0.1875	A572	gr.65Tension	1-1.000	RSLSL						
5/3	Diag	PIPE 1.250x0.065	A500	gr.CSBolted	1-0.375	Grade5N0.750	0.625	0.188	A500	gr.CS	1.500	
5/2	Leg	U2.75x0.1875	A572	gr.65Tension	1-1.000	RSLSL						
5/2	Diag	PIPE 1.250x0.065	A500	gr.CSBolted	1-0.375	Grade5N0.750	0.625	0.188	A500	gr.CS	1.500	
5/1	Leg	U2.75x0.1875	A572	gr.65Tension	1-1.000	RSLsmm						
5/1	Diag	PIPE 1.250x0.065	A500	gr.CSBolted	1-0.375	Grade5N0.750	0.625	0.188	A500	gr.CS	1.500	
4/4	Leg	U2.75x0.1875	A572	gr.65Tension	1-1.000	RSLsmm						
4/4	Diag	PIPE 1.250x0.065	A500	gr.CSBolted	1-0.375	Grade5N0.750	0.625	0.187	A500	gr.CS	1.500	
4/3	Leg	U2.75x0.1875	A572	gr.65Tension	1-1.000	RSLSL						
4/3	Diag	PIPE 1.250x0.065	A500	gr.CSBolted	1-0.375	Grade5N0.750	0.625	0.188	A500	gr.CS	1.500	
4/2	Leg	U2.75x0.1875	A572	gr.65Tension	1-1.000	RSLSL						
4/2	Diag	PIPE 1.250x0.065	A500	gr.CSBolted	1-0.375	Grade5N0.750	0.625	0.188	A500	gr.CS	1.500	
4/1	Leg	U2.75x0.1875	A572	gr.65Tension	1-1.000	RSLsmm						
4/1	Diag	PIPE 1.250x0.065	A500	gr.CSBolted	1-0.375	Grade5N0.750	0.625	0.188	A500	gr.CS	1.500	

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3/4	Leg	U2.75x0.1875	A572 gr.65Tension	1-1.000	RSLsmm						
3/4	Diag	PIPE 1.250x0.065	A500 gr.CSBolted	1-0.375	Grade5N0.750	0.625	0.187	A500	gr.CS		
											1.500
3/3	Leg	U2.75x0.1875	A572 gr.65Tension	1-1.000	RSLSL						
3/3	Diag	PIPE 1.250x0.065	A500 gr.CSBolted	1-0.375	Grade5N0.750	0.625	0.188	A500	gr.CS		
											1.500
3/2	Leg	U2.75x0.1875	A572 gr.65Tension	1-1.000	RSLSL						
3/2	Diag	PIPE 1.250x0.065	A500 gr.CSBolted	1-0.375	Grade5N0.750	0.625	0.188	A500	gr.CS		
											1.500
3/1	Leg	U2.75x0.1875	A572 gr.65Tension	1-1.000	RSLsmm						
3/1	Diag	PIPE 1.250x0.065	A500 gr.CSBolted	1-0.375	Grade5N0.750	0.625	0.188	A500	gr.CS		
											1.500
2/4	Leg	U2.75x0.1875	A572 gr.65Tension	1-1.000	RSLsmm						
2/4	Diag	PIPE 1.250x0.065	A500 gr.CSBolted	1-0.375	Grade5N0.750	0.625	0.187	A500	gr.CS		
											1.500
2/3	Leg	U2.75x0.1875	A572 gr.65Tension	1-1.000	RSLSL						
2/3	Diag	PIPE 1.250x0.065	A500 gr.CSBolted	1-0.375	Grade5N0.750	0.625	0.188	A500	gr.CS		
											1.500
2/2	Leg	U2.75x0.1875	A572 gr.65Tension	1-1.000	RSLSL						
2/2	Diag	PIPE 1.250x0.065	A500 gr.CSBolted	1-0.375	Grade5N0.750	0.625	0.188	A500	gr.CS		
											1.500
2/1	Leg	U2.75x0.1875	A572 gr.65Tension	1-1.000	RSLsmm						
2/1	Diag	PIPE 1.250x0.065	A500 gr.CSBolted	1-0.375	Grade5N0.750	0.625	0.188	A500	gr.CS		
											1.500
1/4	Leg	U2.75x0.1875	A572 gr.65Tension	1-1.000	RSLsmm						
1/4	Diag	PIPE 1.250x0.065	A500 gr.CSBolted	1-0.375	Grade5N0.750	0.625	0.187	A500	gr.CS		
											1.500
1/3	Leg	U2.75x0.1875	A572 gr.65Tension	1-1.000	RSLSL						
1/3	Diag	PIPE 1.250x0.065	A500 gr.CSBolted	1-0.375	Grade5N0.750	0.625	0.188	A500	gr.CS		
											1.500
1/2	Leg	U2.75x0.1875	A572 gr.65Tension	1-1.000	RSLSL						
1/2	Diag	PIPE 1.250x0.065	A500 gr.CSBolted	1-0.375	Grade5N0.750	0.625	0.188	A500	gr.CS		
											1.500
1/1	Leg	U2.75x0.1875	A572 gr.65Tension	1-1.000	RSLsmbg						
1/1	Diag	PIPE 1.250x0.065	A500 gr.CSBolted	1-0.375	Grade5N0.750	0.625	0.187	A500	gr.CS		
											1.500



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**Section D: TRANSMISSION LINE DATA**

Transmission Lines Position

No.	Bot El (ft)	Top El (ft)	Desc.	Radius (ft)	Az.	Orient.	No.	No. of Rows	Vert.	Antenna	User Ka
1	0.00	70.00	3/8 CABLE	2.45	60.00	0.00	1	1	No		
2	0.00	70.00	LDF2-50	1.58	60.00	10.00	1	1	No		

Transmission Lines Details

No.	Desc.	Width (in)	Depth (in)	Unit Mass (lb/ft)	Line Spacing (in)	Row Spacing (in)
1	3/8 CABLE	0.38	0.38	1.00	2.750	2.750
2	LDF2-50	0.43	0.43	0.08	2.750	2.750



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**Section F: POINT LOAD DATA**

Structure Azimuth from North:0.00

POINT LOADS

No.	Description	Elev. (ft)	Radius (ft)	Azim. (Deg)	Orient. (Deg)	Vertical Offset (ft)	Tx Line	Comments
1	LIGHTNING ROD	70.00	1.00	0.0	0.0	0.00		
2	AIRMUX 5000I	73.00	0.50	0.0	0.0	0.00		
3	RSLTMA ASSEMBLY	70.00	0.00	0.0	0.0	0.00		

POINT LOADS WIND AREAS AND WEIGHTS

No.	Description	Frontal Bare Area (ft^2)	Lateral Bare Area (ft^2)	Frontal Iced Area (ft^2)	Lateral Iced Area (ft^2)	Weight Bare (Kips)	Weight Iced (Kips)	Gh
1	LIGHTNING ROD	1.00	1.00	2.00	2.00	0.10	0.20	0.85
2	AIRMUX 5000I	1.25	0.75	2.50	1.50	0.05	0.10	0.85
3	RSLTMA ASSEMBLY	1.00	1.00	2.00	2.00	0.15	0.30	0.85



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**Section H: STRUCTURE DISPLACEMENT DATA**

Load Combination Wind Only - Serviceability

Wind Direction Maximum displacements

Node	Elev. (ft)	N-S Disp (in)	W-E Disp (in)	Vert.Disp (in)	N-S Rot (Deg)	W-E Rot (Deg)	Twist (Deg)
87	70.0	2.7	2.3	0.0	0.27	0.23	-0.02
84	67.5	2.6	2.2	0.0	0.27	0.23	-0.02
81	65.0	2.4	2.1	0.0	0.27	0.23	-0.02
78	62.5	2.3	2.0	0.0	0.27	0.23	-0.02
75	60.0	2.1	1.8	0.0	0.26	0.23	-0.02
72	57.5	2.0	1.7	0.0	0.26	0.22	-0.02
69	55.0	1.9	1.6	0.0	0.26	0.22	-0.01
66	52.5	1.7	1.5	0.0	0.25	0.22	-0.01
63	50.0	1.6	1.4	0.0	0.25	0.21	-0.01
60	47.5	1.5	1.3	0.0	0.24	0.21	-0.01
57	45.0	1.3	1.2	0.0	0.24	0.20	-0.01
54	42.5	1.2	1.1	0.0	0.23	0.20	-0.01
51	40.0	1.1	1.0	0.0	0.22	0.19	-0.01
48	37.5	1.0	0.9	0.0	0.21	0.18	-0.01
45	35.0	0.9	0.8	0.0	0.20	0.18	-0.01
42	32.5	0.8	0.7	0.0	0.19	0.17	-0.01
39	30.0	0.7	0.6	0.0	0.18	0.16	-0.01
36	27.5	0.6	0.5	0.0	0.17	0.15	-0.01
33	25.0	0.5	0.4	0.0	0.16	0.14	0.00
30	22.5	0.4	-0.3	0.0	0.15	0.13	0.00
27	20.0	0.3	-0.3	0.0	0.13	0.11	0.00
24	17.5	0.2	-0.2	0.0	0.12	0.10	0.00
21	15.0	0.2	-0.2	0.0	0.10	-0.09	0.00
18	12.5	0.1	-0.1	0.0	0.09	-0.07	0.00
15	10.0	0.1	-0.1	0.0	0.07	0.06	0.00
12	7.5	0.1	0.0	0.0	0.05	0.05	0.00
9	5.0	0.0	0.0	0.0	0.03	-0.03	0.00
6	2.5	0.0	0.0	0.0	0.01	0.01	0.00
3	0.0	0.0	0.0	0.0	0.00	0.00	0.00

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**Section L: STRENGTH ASSESSMENT SORTED DATA**

Load Combination Max Envelope  
Wind Direction Maximum

Sec	Pnl	Elev.	MType	Desc.	Len	kl/r	Gov.	Gov.	Max	Max	Asses.
		(ft)			(ft)		comp.	tens.	Compr.	Tens.	Ratio
							cap.	cap.	(Kips)	(Kips)	
							(Kips)	(Kips)			
7	4	67.50	Leg	U2.75x0.1875	2.50	62.3	53.6	50.5	0.5	0.1	0.01
7	3	65.00	Leg	U2.75x0.1875	2.50	62.0	53.7	50.5	0.7	0.3	0.01
7	2	62.50	Leg	U2.75x0.1875	2.50	60.7	54.3	50.5	1.0	0.6	0.02
7	1	60.00	Leg	U2.75x0.1875	2.50	65.5	52.1	36.1	1.5	1.0	0.03
6	4	57.50	Leg	U2.75x0.1875	2.50	66.9	51.4	36.1	2.1	1.4	0.04
6	3	55.00	Leg	U2.75x0.1875	2.50	62.2	53.6	50.5	2.7	1.9	0.05
6	2	52.50	Leg	U2.75x0.1875	2.50	60.7	54.3	50.5	3.4	2.5	0.06
6	1	50.00	Leg	U2.75x0.1875	2.50	65.6	52.0	36.1	4.1	3.1	0.08
5	4	47.50	Leg	U2.75x0.1875	2.50	67.1	51.3	36.1	5.0	3.7	0.10
5	3	45.00	Leg	U2.75x0.1875	2.50	62.3	53.6	50.5	5.8	4.4	0.11
5	2	42.50	Leg	U2.75x0.1875	2.50	60.7	54.3	50.5	6.7	5.2	0.12
5	1	40.00	Leg	U2.75x0.1875	2.50	65.6	52.0	36.1	7.7	5.9	0.16
4	4	37.50	Leg	U2.75x0.1875	2.50	67.3	51.2	36.1	8.7	6.8	0.19
4	3	35.00	Leg	U2.75x0.1875	2.50	62.5	53.5	50.5	9.7	7.6	0.18
4	2	32.50	Leg	U2.75x0.1875	2.50	60.7	54.3	50.5	10.8	8.5	0.20
4	1	30.00	Leg	U2.75x0.1875	2.50	65.6	52.0	36.1	11.9	9.4	0.26
3	4	27.50	Leg	U2.75x0.1875	2.50	67.5	51.1	36.1	13.0	10.3	0.29
3	3	25.00	Leg	U2.75x0.1875	2.50	62.6	53.4	50.5	14.2	11.3	0.27
3	2	22.50	Leg	U2.75x0.1875	2.50	60.7	54.3	50.5	15.3	12.2	0.28
3	1	20.00	Leg	U2.75x0.1875	2.50	65.6	52.0	36.1	16.5	13.2	0.37
2	4	17.50	Leg	U2.75x0.1875	2.50	67.7	51.0	36.1	17.7	14.2	0.39
2	3	15.00	Leg	U2.75x0.1875	2.50	62.8	53.3	50.5	19.0	15.2	0.36
2	2	12.50	Leg	U2.75x0.1875	2.50	60.6	54.3	50.5	20.2	16.2	0.37
2	1	10.00	Leg	U2.75x0.1875	2.50	65.6	52.0	36.1	21.5	17.2	0.48
1	4	7.50	Leg	U2.75x0.1875	2.50	67.8	51.0	36.1	22.7	18.3	0.51
1	3	5.00	Leg	U2.75x0.1875	2.50	62.9	53.3	50.5	24.0	19.3	0.45
1	2	2.50	Leg	U2.75x0.1875	2.50	60.5	54.4	50.5	25.3	20.4	0.47
1	1	0.00	Leg	U2.75x0.1875	2.50	66.9	51.4	34.1	26.5	21.4	0.63
7	4	67.50	Diag	PIPE 1.250x0.065	3.02	103.2	5.0	4.8	0.2	0.2	0.03
7	3	65.00	Diag	PIPE 1.250x0.065	3.06	103.0	5.0	4.8	0.2	0.2	0.05
7	2	62.50	Diag	PIPE 1.250x0.065	3.09	103.0	5.0	4.8	0.3	0.3	0.06
7	1	60.00	Diag	PIPE 1.250x0.065	3.13	103.0	5.0	4.8	0.4	0.3	0.07
6	4	57.50	Diag	PIPE 1.250x0.065	3.17	105.0	4.9	4.8	0.4	0.4	0.08
6	3	55.00	Diag	PIPE 1.250x0.065	3.21	105.0	4.9	4.8	0.5	0.4	0.09
6	2	52.50	Diag	PIPE 1.250x0.065	3.24	105.0	4.9	4.8	0.5	0.5	0.10
6	1	50.00	Diag	PIPE 1.250x0.065	3.28	105.0	4.9	4.8	0.5	0.5	0.11
5	4	47.50	Diag	PIPE 1.250x0.065	3.32	107.0	4.7	4.8	0.6	0.6	0.12
5	3	45.00	Diag	PIPE 1.250x0.065	3.36	107.0	4.7	4.8	0.6	0.6	0.13
5	2	42.50	Diag	PIPE 1.250x0.065	3.41	107.0	4.7	4.8	0.7	0.7	0.14
5	1	40.00	Diag	PIPE 1.250x0.065	3.45	107.0	4.7	4.8	0.7	0.7	0.15
4	4	37.50	Diag	PIPE 1.250x0.065	3.49	110.0	4.5	4.8	0.7	0.7	0.16
4	3	35.00	Diag	PIPE 1.250x0.065	3.53	110.0	4.5	4.8	0.8	0.8	0.17
4	2	32.50	Diag	PIPE 1.250x0.065	3.58	110.0	4.5	4.8	0.8	0.8	0.18
4	1	30.00	Diag	PIPE 1.250x0.065	3.62	110.0	4.5	4.8	0.8	0.8	0.19
3	4	27.50	Diag	PIPE 1.250x0.065	3.66	112.0	4.4	4.8	0.9	0.9	0.20
3	3	25.00	Diag	PIPE 1.250x0.065	3.71	112.0	4.4	4.8	0.9	0.9	0.20
3	2	22.50	Diag	PIPE 1.250x0.065	3.76	112.0	4.4	4.8	0.9	0.9	0.21
3	1	20.00	Diag	PIPE 1.250x0.065	3.80	112.0	4.4	4.8	0.9	0.9	0.21
2	4	17.50	Diag	PIPE 1.250x0.065	3.85	115.0	4.1	4.8	1.0	1.0	0.23
2	3	15.00	Diag	PIPE 1.250x0.065	3.90	115.0	4.1	4.8	1.0	1.0	0.24
2	2	12.50	Diag	PIPE 1.250x0.065	3.94	115.0	4.1	4.8	1.0	1.0	0.24
2	1	10.00	Diag	PIPE 1.250x0.065	3.99	115.0	4.1	4.8	1.0	1.0	0.25
1	4	7.50	Diag	PIPE 1.250x0.065	4.04	118.0	3.9	4.8	1.0	1.0	0.26
1	3	5.00	Diag	PIPE 1.250x0.065	4.09	118.0	3.9	4.8	1.1	1.1	0.27



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Site: SAYLESVILLE WELL 8- WI

Engineer: AS

1	2	2.50	Diag	PIPE 1.250x0.065	4.14	118.0	3.9	4.8	1.1	1.1	0.28
1	1	0.00	Diag	PIPE 1.250x0.065	4.19	118.0	3.9	4.8	1.1	1.0	0.27
7	4	67.50	Horiz	L3 1/2x3 1/2x1/4	1.66	74.5	13.8	11.7	0.1	0.0	0.00

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Revision: 0

Site: SAYLESVILLE WELL 8- WI

Engineer: AS

**Section M: SECTION PROPERTIES DATA**

Sec	Pan	Memb. Type	Steel Grade	Conn. Type	Bolts Bolts	Bolt Size (in)	Bolt Grade	End Dist. (in)	Gusset Thick. (in)	kl/r	Comp Cap. (Kips)	Tens Cap. (Kips)	Bolt Cap. (Kips)	Bear. Cap. (Kips)	Block Shear (Kips)
7	4	Leg	A572 gr.65	Tension	1	1.000	RSLSL	1.500	N/A	62.3	53.6	64.4	50.5T	N/A	N/A
7	4	Diag	A500 gr.CS	Bolted	1	0.375	Grade50	50.750N	0.187	103.2	5.0	10.9	5.0S	4.8	5.6
7	4	Horiz	A529 gr.50	Bolted	1	0.625	A325N	0.938	0.394	74.5	63.5	54.8	13.8S	11.7	23.8
7	3	Leg	A572 gr.65	Tension	1	1.000	RSLSL	1.500	N/A	62.0	53.7	64.4	50.5T	N/A	N/A
7	3	Diag	A500 gr.CS	Bolted	1	0.375	Grade50	50.750N	0.188	103.0	5.0	10.9	5.0S	4.8	5.6
7	2	Leg	A572 gr.65	Tension	1	1.000	RSLSL	1.500	N/A	60.7	54.3	64.4	50.5T	N/A	N/A
7	2	Diag	A500 gr.CS	Bolted	1	0.375	Grade50	50.750N	0.188	103.0	5.0	10.9	5.0S	4.8	5.6
7	1	Leg	A572 gr.65	Tension	1	1.000	RSLsms1.500m	N/A		65.5	52.1	64.4	36.1T	N/A	N/A
7	1	Diag	A500 gr.CS	Bolted	1	0.375	Grade50	50.750N	0.188	103.0	5.0	10.9	5.0S	4.8	5.6
6	4	Leg	A572 gr.65	Tension	1	1.000	RSLsms1.500m	N/A		66.9	51.4	64.4	36.1T	N/A	N/A
6	4	Diag	A500 gr.CS	Bolted	1	0.375	Grade50	50.750N	0.187	105.0	4.9	10.9	5.0S	4.8	5.6
6	3	Leg	A572 gr.65	Tension	1	1.000	RSLSL	1.500	N/A	62.2	53.6	64.4	50.5T	N/A	N/A
6	3	Diag	A500 gr.CS	Bolted	1	0.375	Grade50	50.750N	0.188	105.0	4.9	10.9	5.0S	4.8	5.6
6	2	Leg	A572 gr.65	Tension	1	1.000	RSLSL	1.500	N/A	60.7	54.3	64.4	50.5T	N/A	N/A
6	2	Diag	A500 gr.CS	Bolted	1	0.375	Grade50	50.750N	0.188	105.0	4.9	10.9	5.0S	4.8	5.6
6	1	Leg	A572 gr.65	Tension	1	1.000	RSLsms1.500m	N/A		65.6	52.0	64.4	36.1T	N/A	N/A
6	1	Diag	A500 gr.CS	Bolted	1	0.375	Grade50	50.750N	0.188	105.0	4.9	10.9	5.0S	4.8	5.6
5	4	Leg	A572 gr.65	Tension	1	1.000	RSLsms1.500m	N/A		67.1	51.3	64.4	36.1T	N/A	N/A
5	4	Diag	A500 gr.CS	Bolted	1	0.375	Grade50	50.750N	0.187	107.0	4.7	10.9	5.0S	4.8	5.6
5	3	Leg	A572 gr.65	Tension	1	1.000	RSLSL	1.500	N/A	62.3	53.6	64.4	50.5T	N/A	N/A
5	3	Diag	A500 gr.CS	Bolted	1	0.375	Grade50	50.750N	0.188	107.0	4.7	10.9	5.0S	4.8	5.6
5	2	Leg	A572 gr.65	Tension	1	1.000	RSLSL	1.500	N/A	60.7	54.3	64.4	50.5T	N/A	N/A
5	2	Diag	A500 gr.CS	Bolted	1	0.375	Grade50	50.750N	0.188	107.0	4.7	10.9	5.0S	4.8	5.6
5	1	Leg	A572 gr.65	Tension	1	1.000	RSLsms1.500m	N/A		65.6	52.0	64.4	36.1T	N/A	N/A
5	1	Diag	A500 gr.CS	Bolted	1	0.375	Grade50	50.750N	0.188	107.0	4.7	10.9	5.0S	4.8	5.6
4	4	Leg	A572 gr.65	Tension	1	1.000	RSLsms1.500m	N/A		67.3	51.2	64.4	36.1T	N/A	N/A
4	4	Diag	A500 gr.CS	Bolted	1	0.375	Grade50	50.750N	0.187	110.0	4.5	10.9	5.0S	4.8	5.6
4	3	Leg	A572 gr.65	Tension	1	1.000	RSLSL	1.500	N/A	62.5	53.5	64.4	50.5T	N/A	N/A
4	3	Diag	A500 gr.CS	Bolted	1	0.375	Grade50	50.750N	0.188	110.0	4.5	10.9	5.0S	4.8	5.6
4	2	Leg	A572 gr.65	Tension	1	1.000	RSLSL	1.500	N/A	60.7	54.3	64.4	50.5T	N/A	N/A
4	2	Diag	A500 gr.CS	Bolted	1	0.375	Grade50	50.750N	0.188	110.0	4.5	10.9	5.0S	4.8	5.6
4	1	Leg	A572 gr.65	Tension	1	1.000	RSLsms1.500m	N/A		65.6	52.0	64.4	36.1T	N/A	N/A
4	1	Diag	A500 gr.CS	Bolted	1	0.375	Grade50	50.750N	0.188	110.0	4.5	10.9	5.0S	4.8	5.6
3	4	Leg	A572 gr.65	Tension	1	1.000	RSLsms1.500m	N/A		67.5	51.1	64.4	36.1T	N/A	N/A
3	4	Diag	A500 gr.CS	Bolted	1	0.375	Grade50	50.750N	0.187	112.0	4.4	10.9	5.0S	4.8	5.6
3	3	Leg	A572 gr.65	Tension	1	1.000	RSLSL	1.500	N/A	62.6	53.4	64.4	50.5T	N/A	N/A
3	3	Diag	A500 gr.CS	Bolted	1	0.375	Grade50	50.750N	0.188	112.0	4.4	10.9	5.0S	4.8	5.6
3	2	Leg	A572 gr.65	Tension	1	1.000	RSLSL	1.500	N/A	60.7	54.3	64.4	50.5T	N/A	N/A
3	2	Diag	A500 gr.CS	Bolted	1	0.375	Grade50	50.750N	0.188	112.0	4.4	10.9	5.0S	4.8	5.6
3	1	Leg	A572 gr.65	Tension	1	1.000	RSLsms1.500m	N/A		65.6	52.0	64.4	36.1T	N/A	N/A
3	1	Diag	A500 gr.CS	Bolted	1	0.375	Grade50	50.750N	0.188	112.0	4.4	10.9	5.0S	4.8	5.6
2	4	Leg	A572 gr.65	Tension	1	1.000	RSLsms1.500m	N/A		67.7	51.0	64.4	36.1T	N/A	N/A
2	4	Diag	A500 gr.CS	Bolted	1	0.375	Grade50	50.750N	0.187	115.0	4.1	10.9	5.0S	4.8	5.6
2	3	Leg	A572 gr.65	Tension	1	1.000	RSLSL	1.500	N/A	62.8	53.3	64.4	50.5T	N/A	N/A
2	3	Diag	A500 gr.CS	Bolted	1	0.375	Grade50	50.750N	0.188	115.0	4.1	10.9	5.0S	4.8	5.6
2	2	Leg	A572 gr.65	Tension	1	1.000	RSLSL	1.500	N/A	60.6	54.3	64.4	50.5T	N/A	N/A
2	2	Diag	A500 gr.CS	Bolted	1	0.375	Grade50	50.750N	0.188	115.0	4.1	10.9	5.0S	4.8	5.6
2	1	Leg	A572 gr.65	Tension	1	1.000	RSLsms1.500m	N/A		65.6	52.0	64.4	36.1T	N/A	N/A
2	1	Diag	A500 gr.CS	Bolted	1	0.375	Grade50	50.750N	0.188	115.0	4.1	10.9	5.0S	4.8	5.6
1	4	Leg	A572 gr.65	Tension	1	1.000	RSLsms1.500m	N/A		67.8	51.0	64.4	36.1T	N/A	N/A
1	4	Diag	A500 gr.CS	Bolted	1	0.375	Grade50	50.750N	0.187	118.0	3.9	10.9	5.0S	4.8	5.6
1	3	Leg	A572 gr.65	Tension	1	1.000	RSLSL	1.500	N/A	62.9	53.3	64.4	50.5T	N/A	N/A



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Engineer: AS

1	3	Diag	A500	gr.CS	Bolted	1	0.375	Grade50.750N	0.188	118.0	3.9	10.9	5.0S	4.8	5.6	
1	2	Leg	A572	gr.65	Tension	1	1.000	RSLSL	1.500	N/A	60.5	54.4	64.4	50.5T	N/A	N/A
1	2	Diag	A500	gr.CS	Bolted	1	0.375	Grade50.750N	0.188	118.0	3.9	10.9	5.0S	4.8	5.6	
1	1	Leg	A572	gr.65	Tension	1	1.000	RSLsmb1.500g	N/A	66.9	51.4	64.4	34.1T	N/A	N/A	
1	1	Diag	A500	gr.CS	Bolted	1	0.375	Grade50.750N	0.187	118.0	3.9	10.9	5.0S	4.8	5.6	



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Site: SAYLESVILLE WELL 8- WI

Engineer: AS

**Section N: LEG REACTION DATA**

Load Combination	Max Envelope				
Wind Direction	Maximum				
	Force-Y Download (Kips)	Force-Y Uplift (Kips)	Shear-X (Kips)	Shear-Z (Kips)	Max Shear (Kips)
	27.15	21.87			1.19

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Site: SAYLESVILLE WELL 8- WI

Engineer: AS

**Section O: TOWER FOUNDATION DATA**

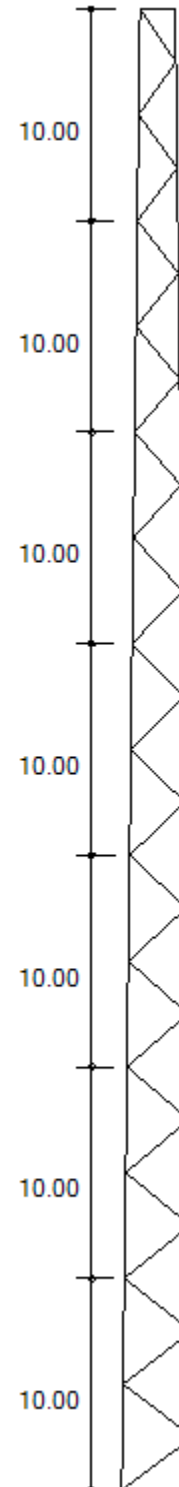
Load Combination		Max Envelope					
Wind Direction		Maximum					
Axial Load	Shear Load-X	Shear Load-Z	Total Shear	Moment-X	Moment-Y	Moment-Z	Total Moment
(Kips)	(Kips)	(Kips)	(Kips)	(Kipsft)	(Kipsft)	(Kipsft)	(Kipsft)
1.86	-1.97	-0.11	1.98	-0.17	0.02	77.89	77.89
1.40	-1.97	-0.11	1.98	-0.17	0.02	77.84	77.84

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Project: RSL70H17  
Date and Time: 4/29/2025 9:23:37 AM

Revision: 0  
Site: SAYLESVILLE WELL 8- WI  
Engineer: AS

**DESIGN SPECIFICATION**

Sct.	Length (ft)	Top W. (in)	Bot Width (in)
1	10.00	39.20	42.20
2	10.00	36.30	39.20
3	10.00	33.30	36.30
4	10.00	30.40	33.30
5	10.00	27.40	30.40
6	10.00	24.50	27.40
7	10.00	21.50	24.50



**MAXIMUM BASE REACTIONS**

Download (Kips)	27.2
Uplift (Kips)	21.9
Shear (Kips)	1.2

Customer: ENERGENECS INC  
 Project: RSL70H17  
 Site: SAYLESVILLE WELL 8, WI  
 Engr. File: 248333  
 Build Code: ANSI/TIA-222-H-2016



# Mat Foundation

ver.3.0.9

## Design Parameters

Description	Load Case					Service
	1	2	3	4	5	
Total Moment, ft-kips	77.89	77.84	20.35	4.03	3.98	24.60
Total Shear, kips	1.98	1.98	.49	.07	.07	.62
Total Tower Wt, kips	1.86	1.40	6.32	1.86	1.39	1.55
Max. Uplift, kips	21.70	21.87	4.22	.72	.86	6.48
Shear, kips	1.00	1.00	.22	.03	.03	.31
Max Download, kips	27.15	26.98	9.04	1.99	1.82	8.90
Shear	1.17	1.17	.33	.05	.05	.38
Soil L.F.	1.20	0.90	1.20	1.20	0.90	1.00
Concrete L.F.	1.20	0.90	1.20	1.20	0.90	1.00

Foundation	
Ht. AGL, ft	0.50
Depth, ft.	5.25
Tower	
Face Width, ft	3.52
Offset, in	.00
Soil	
Blow Count	N/A
Inplace Unit Wt, pcf	110.00
Submerged Unit Wt, pcf	60.00
Friction Angle, $\phi$ , deg.	30.00
Cohesion, ksf	N/A
Uplift Angle, deg.	30.00
Water Depth, ft	None
Ult Bearing Capacity, ksf	5.00

Mat	
Thickness, ft	5.75
Width, ft	7.00
EA, in	16.00
Batter, in/ft	0.00

Anchor Bolts	
Diameter, in	0.6250
No.	4
Length, in	42.00
Bolt Circle, in	7.00
Projection, in	3.50

Pocket	
Diameter, in	N/A
Thickness, ft	N/A

Concrete	
28 Day Strength, ksi	4.50
Dry Unit Wt, pcf	150.00
Wet Unit Wt, pcf	88.00

Rebar Fy	
Vertical, ksi	60.00
Circular, ksi	60.00
Horizontal, ksi	60.00

## Results

$\phi M_N$  – Parallel Axis                    108.40    ft-kips  
 $\phi M_N$  – Diagonal Axis                    109.94    ft-kips  
 Moment – Interaction Ratio                0.823  
 $\phi V_N$  – Lateral Load                        10.35    kips  
 Lateral Load – Interaction Ratio            0.191

Final Mat Dimension        : 7.00 x 7.00 x 5.75 ft. thick

Final Pocket Dimension    : Pockets not required

Total Volume of Concrete : 10.4 yd<sup>3</sup>

Designed By: AS  
 Date: 29 April, 2025 @ 09:40 AM

ENGINEERING  
 CHECKED BY: SY  
 04/29/2025

Customer: ENERGENECS INC  
 Project: RSL70H17  
 Site: SAYLESVILLE WELL 8, WI  
 Engr. File: 248333  
 Build Code: ANSI/TIA-222-H-2016



# Mat Foundation

ver.3.0.9

## OTM Capacity

Controlling Load Case: 2 [Wind w/Min. Dead Load]  
 Foundation Width = 7.00 ft  
 $M_U = 89.2$  ft-kips

	$\phi M_N$ , ft-kips	x, ft	N	$\sigma_{ur}$
Parallel	108.4	1.502	0.215	5.00
Diagonal	109.9	3.243	0.328	5.00

$\phi M_N = 108.40$  ft-kips      IRatio = 0.823  
 $\phi V_N = 10.35$  kips      IRatio = 0.191

## Mat Design

$\gamma_c = 150.00$  pcf

Exterior Slab	x, ft	N	$\sigma_R$ , ksf	$P_s$ , kips	$P_{su}$ , kips	Moment, ft-kips/ft		Shear, kips/ft	
						DownLoad Side	Uplift Side	Download Side	Uplift Side
Parallel	2.475	0.354	2.28	0.00	0.00	3.60	2.49	3.29	2.27
Diagonal	4.031	0.407	2.43	0.00	0.00	3.01	1.89	3.25	2.04

Interior Slab	Moment, ft-kips/ft			Shear, kips/ft		
	DownLoad Side	Uplift Side	Download Side	Uplift Side	Soil Pressure Termination	
	1.96	2.11	2.03	1.76	.14	

Punching Shear	Download			Uplift			Description
	Interior	Edge	Corner	Interior	Edge	Corner	
$b_o$ , ft	23.40	14.64	10.07	23.40	14.64	10.07	2-Way Shear
$V_{su}$ , psi	1.51	2.42	3.51	1.22	1.95	2.83	
$\phi V_c$ , psi	228.08	228.08	228.08	228.08	228.08	228.08	
IR	0.01	0.01	0.02	0.01	0.01	0.01	
$M_{ut}$ , ft-kips	N/A			N/A			Moment transfer to slab
$B_e$ , ft	N/A			N/A			
$M_u$ , ft-kips/ft	N/A			N/A			
Edge Distances: a = 1.47 ft.    b = 1.74 ft.    c = 2.48 ft.							

Summary	Max. Value	Utilization
Slab Moment, ft-kips/ft	3.60	0.014
Slab Shear, kips/ft	3.29	0.038
Punching Shear, psi	3.51	0.015
Soil Bearing Required, $\sigma_{UR}$ , ksf	3.24	0.647

Mat Reinforcement	
Min. Steel Area (Strength)	.012 in <sup>2</sup> /ft.
Min. Steel Area (Temperature)	.745 in <sup>2</sup> /ft.
Steel Strain Actual	0.068
Minimum Steel Strain Required	0.005

10 - #7 Horizontal bars equally spaced @8.67 in., each way, top and bottom, total of 40,  $A_s = 0.859$  in<sup>2</sup>/ft

Designed By: AS  
 Date: 29 April, 2025 @ 09:40 AM