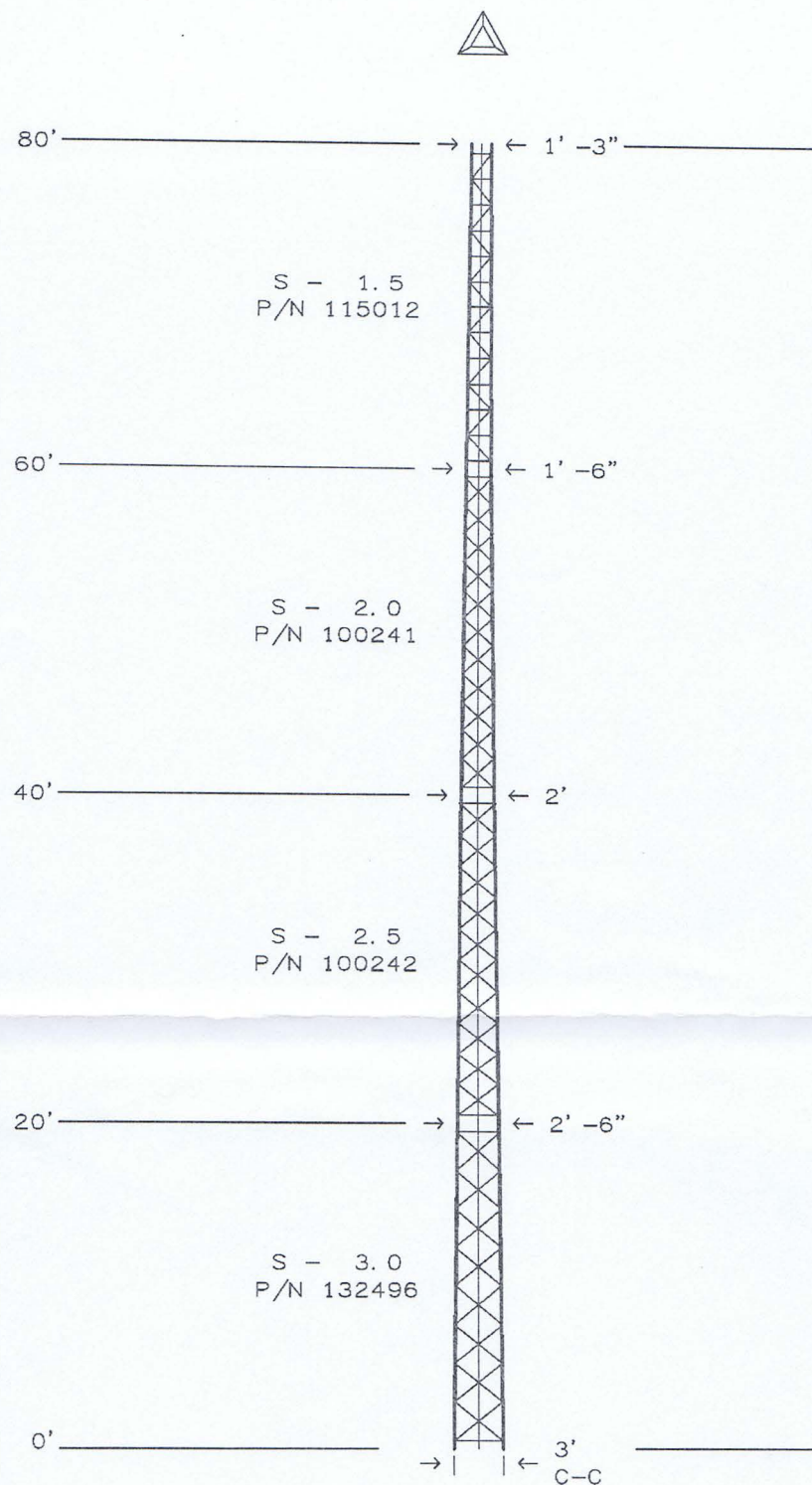




FABRICATED SECTIONS
SEE PAGE 2

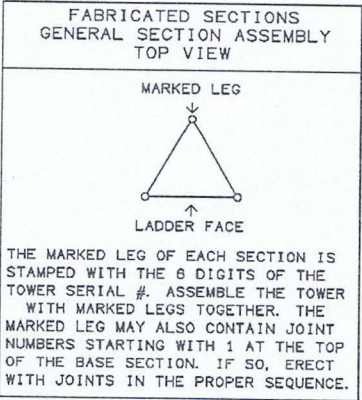
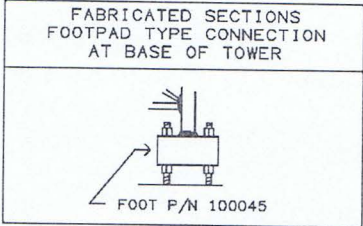
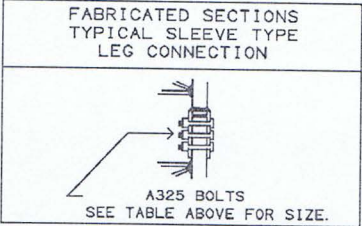
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ILLINOIS COA #184004782



				TOWER WORKS QUEEN BEE SOUTH SITE, IL U-3.0 X 80'			
B	CHANGE TOP SECTION FROM 7/8"	SKK	12/11/2009	APPROVED/ENG.	SKK	12/11/2009	valmont 1-877-467-4763 Plymouth, IN 1-888-880-9191 Salem, OR STRUCTURES
A	ADDED FOUNDATION PER ASSUMED SOIL	WRH	12/07/2009	APPROVED/FOUND.	N/A		
REV	DESCRIPTION OF REVISIONS	INI	DATE	COPYRIGHT 2009			
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FABRICATED SECTION DATA 0' - 80' ELEVATION									
SECT LEN	SEC #	SECTION PART#	LEG SIZE	BRACE SIZE	SECT WT. #	BOLTS AT BOTTOM			
						DIAM	LENGTH		
20'	S- 1.5	115012	1	1/2 "	270#	1/2 "	3"	9	
20'	S- 2.0	100241	1- 1/4 "	1/2 "	471#	1/2 "	3"	9	
20'	S- 2.5	100242	1- 1/4 "	1/2 "	451#	9/16"	3-1/2"	9	
20'	S- 3.0	132496	1- 1/2 "	5/8 "	663#				

* THE WEIGHTS LISTED ARE THEORETICAL. THE ACTUAL WEIGHTS WILL VARY. ALL WEIGHTS SHOULD BE CONFIRMED IN THE FIELD PRIOR TO ERECTION.



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GENERAL NOTES

1. TOWER DESIGN CONFORMS TO STANDARD EIA/TIA-222-F FOR 75 MPH FASTEST-MILE BASIC WIND SPEED WITH .5" RADIAL ICE WITH LOAD DUE TO WIND REDUCED BY 25% WHEN CONSIDERED SIMULTANEOUSLY WITH ICE.
TOWER DESIGN CONFORMS TO STANDARD EIA/TIA-222-F FOR 75 MPH FASTEST-MILE BASIC WIND SPEED WITH NO ICE.
2. TWIST AND SWAY PER EIA/TIA-222-F FOR 2 FT. DIAMETER DISHES AT 23 GHZ (LESS THAN OR EQUAL TO 1.183 DEGREES) AT 50 MPH WITH NO ICE AT 80 FT. ABOVE THE BASE OF THE TOWER. ALL OPERATIONAL WINDLOADS ARE ASSUMED TO OCCUR AT 33 FT. ABOVE GROUND LEVEL.
3. MATERIAL: (A) SOLID RODS TO ASTM A572 GRADE 50. (B) ANGLES TO ASTM A36. (C) PIPE TO ASTM A500 GRADE B. (D) STEEL PLATES TO ASTM A36. (E) CONNECTION BOLTS TO ASTM A325 OR ASTM A449 (Fu=120 KSI AND Fy=92 KSI) AND ANCHOR BOLTS TO ASTM A572 GRADE 50.
4. BASE REACTIONS PER EIA/TIA-222-F FOR 75 MPH BASIC WIND SPEED WITH 0.50" RADIAL ICE: TOTAL WEIGHT = 3.7 KIPS. MAXIMUM COMPRESSION = 45.2 KIPS PER LEG. MOMENT = 114.3 KIP-FT. MAXIMUM UPLIFT = 42.8 KIPS PER LEG. MAXIMUM SHEAR = 2.5 KIPS TOTAL.
5. BASE REACTIONS PER EIA/TIA-222-F FOR 75 MPH BASIC WIND SPEED WITH NO ICE: TOTAL WEIGHT = 2.6 KIPS. MAXIMUM COMPRESSION = 34.5 KIPS PER LEG. MOMENT = 87.4 KIP-FT. MAXIMUM UPLIFT = 32.8 KIPS PER LEG. MAXIMUM SHEAR = 1.7 KIPS TOTAL.
6. FINISH: ALL BOLTS ARE GALVANIZED IN ACCORDANCE WITH ASTM A153 (HOT DIPPED) OR ASTM B695 CLASS 50 (MECHANICAL). ALL OTHER STRUCTURAL MATERIALS ARE GALVANIZED IN ACCORDANCE WITH ASTM123.
7. ANTENNAS: 80' -(4) 2' SOLID DISHES WITH (4) 1/2" LINES
80' -(1) 10' WHIP ANTENNA WITH (1) 1/2" LINE
NOTE: (A) ELEVATIONS ARE TO THE BOTTOM OF THE ANTENNAS EXCEPT FOR MICROWAVE DISHES, WHICH ARE TO THE CENTERLINE.
8. REMOVE FOUNDATION TEMPLATE PRIOR TO ERECTING TOWER. INSTALL BASE SECTION WITH MINIMUM OF 2" CLEARANCE ABOVE CONCRETE. SEE BASE SECTION PLACEMENT PAGE FOR MORE INFORMATION. PACK NON-SHRINK STRUCTURAL GROUT UNDER BASE SECTION AFTER LEVELING TOWER.
9. MIN. WELDS 5/16" UNLESS OTHERWISE SPECIFIED. ALL WELDING TO CONFORM TO AWS D1.1 SPECIFICATIONS.
10. THIS DRAWING DOES NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND HE SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, SEQUENCES AND PROCEDURES.
11. ALL BOLTS AND NUTS MUST BE IN PLACE BEFORE THE ADJOINING SECTIONS ARE INSTALLED.
12. ALL STRUCTURAL BOLTS ARE TO BE TIGHTENED TO A SNUG TIGHT CONDITION AS DEFINED BY AISC SPECIFICATION UNLESS OTHERWISE NOTED.
13. ATTENTION TOWER ERECTOR: COAT ALL BOLT ASSEMBLIES THAT USE PIN LOCK NUTS WITH ZINC RICH COLD GALVANIZING COMPOUND AFTER FINAL TIGHTENING.
14. EIA GROUNDING FOR TOWER.

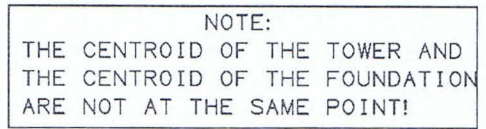
FOUNDATION NOTES

1. ALLOWABLE SOIL PRESSURE ASSUMED TO BE3000 PSF. ALLOWABLE PASSIVE PRESSURE ASSUMED TO BE330 LB PCF. THE PURCHASER & OWNER/CONTRACTOR MUST VERIFY THAT THE ACTUAL SITE SOIL PARAMETERS MEET OR EXCEED THE ASSUMED SOIL PARAMETERS PER THIS NOTE AND/OR SHOULD OBTAIN A SOIL REPORT TO DETERMINE THE SOIL CO
2. CONCRETE TO BE 3000 PSI @ 28 DAYS. REINFORCING BAR TO CONFORM TO ASTM A615 GRADE 60 SPECIFICATIONS. CONCRETE INSTALLATION TO CONFORM TO ACI-318 (2002) BUILDING REQUIREMENTS FOR REINFORCED CONCRETE. ALL CONCRETE TO BE PLACED AGAINST UNDISTURBED EARTH FREE OF WATER AND ALL FOREIGN OBJECTS AND MATERIALS. A MINIMUM OF THREE INCHES OF CONCRETE SHALL COVER ALL REINFORCEMENT. WELDING OF REBAR NOT PERMITTED.
3. BENDING, STRAIGHTENING OR REALIGNING (HOT OR COLD) OF THE ANCHOR BOLTS BY ANY METHOD IS PROHIBITED.
4. CROWN TOP OF FOUNDATION FOR PROPER DRAINAGE.
5. THIS DESIGN ASSUMES A MEDIUM DENSE SAND SOIL EXHIBITING A COHESION OF 0 PSF, A SOIL UNIT WEIGHT OF 110 PCF, AN ANGLE OF INTERNAL FRICTION OF 30 DEGREES AND NO GROUNDWATER ENCOUNTERED.

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TOWER WORKS QUEEN BEE SOUTH SITE, IL U-3.0 X 80'					
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0' - 6"

FINISH GRADE

4' - 6"

8' SQUARE

4 REBAR - 9 BARS EACH WAY.
SEE (A) ON PAGE 5.

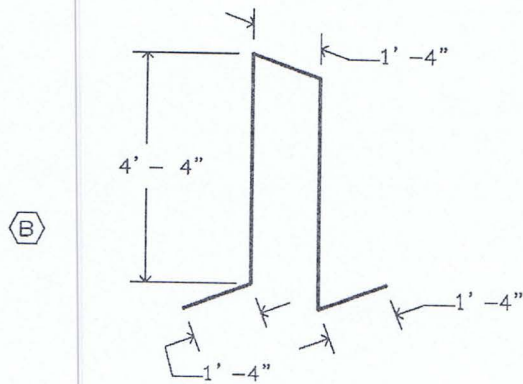
4 REBAR - 9 STANDEES TOTAL.
SEE (B) ON PAGE 5.

4 REBAR - 9 BARS EACH WAY.
SEE (A) ON PAGE 5.

NOTE: ALL REBAR REQUIRES MIN. 3" CONCRETE COVERAGE

574-277-0670				TOWER WORKS QUEEN BEE SOUTH SITE, IL U-3.0' X 30'	
ILLINOIS COA #184004782					
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(A)  # 4 REBAR - 36 PIECES REQ. TOTAL
APPROX WT = 5.0# EACH, 180# TOTAL



REBAR SUPPORTS MAY CONSIST OF ANY ACCEPTABLE MEANS OF SECURELY SUPPORTING THE TOP REINFORCEMENT GRID ABOVE THE BOTTOM REINFORCEMENT GRID WHILE MAINTAINING A SEPARATION OF 4'-6" (OUTSIDE REBAR TO OUTSIDE REBAR).

4 REBAR - 9 PIECES REQUIRED TOTAL
TYPE 26 STANDEE PLACED BETWEEN REBAR GRIDS ON NOMINAL 4' SPACING THROUGHOUT
APPROX UNBENT LENGTH = 12' - 8- 3/4"
APPROX WT = 8.5# EACH, 77# TOTAL

REBAR DETAIL

TOTAL APPROX REBAR WEIGHT = 257#
REINFORCING BAR TO CONFORM TO
ASTM A615 GRADE 60 SPECIFICATIONS.

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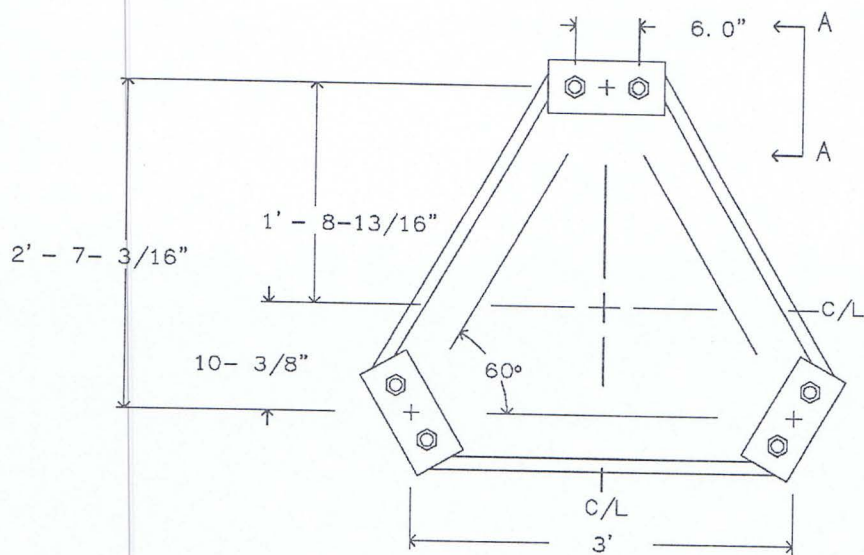


EXPIRES 11-30-2010

12-14-09

TOWER WORKS QUEEN BEE SOUTH SITE, IL U-3.0 X 80'			
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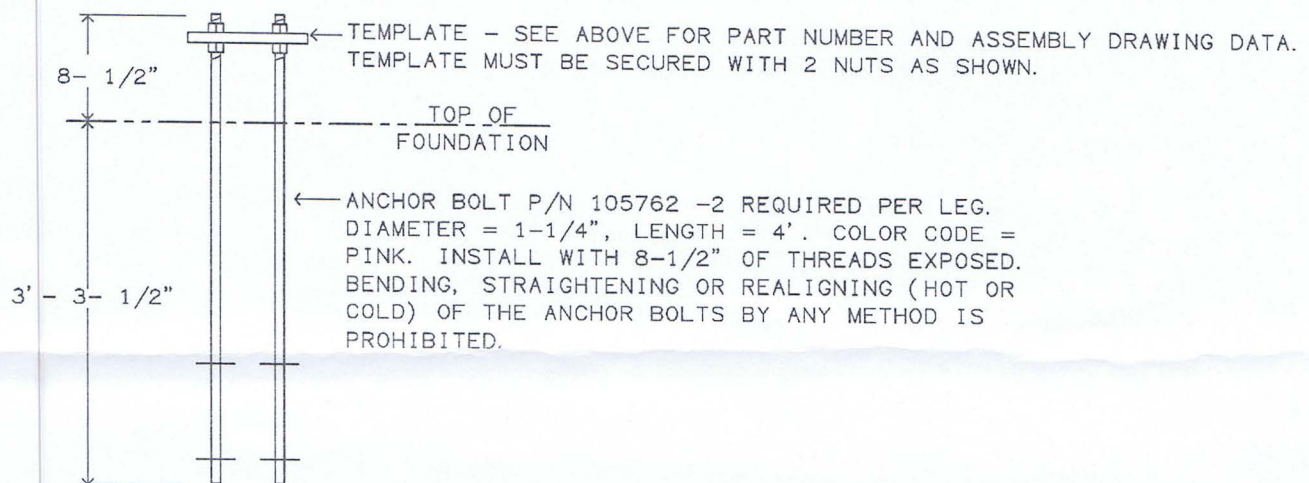


TOWER ANCHOR STEEL PLACEMENT - TOP VIEW

TEMPLATE ASSEMBLY P/N 102804 IS REQUIRED FOR INSTALLATION AND MUST BE PLACED AS SHOWN. SEE PAGE 4 FOR TOWER C/L LOCATION RELATIVE TO THE FOUNDATION LAYOUT. TEMPLATE PLACEMENT +/- 3". TEMPLATE IS COLOR CODED PINK. TEMPLATE MUST BE LEVEL +/- 1 DEGREE. INSTALL TEMPLATE WITH SUFFICIENT SPACE BENEATH (2" MINIMUM) TO PERMIT FINISHING OF CONCRETE AND TO FACILITATE TEMPLATE REMOVAL PRIOR TO TOWER ERECTION.

SEE PAGE 7 FOR BASE SECTION INSTALLATION DETAIL.

ANCHOR BOLTS MUST BE VERTICAL.
TEMPLATE MUST BE UTILIZED TO ASSIST IN PROPER PLACEMENT.



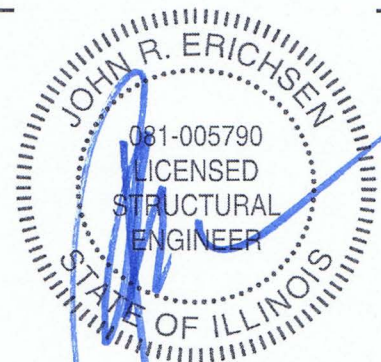
VIEW A - A - ANCHOR BOLT INSTALLATION DETAIL (NOT TO SCALE)

ATTENTION CONTRACTOR INSTALLING THE ANCHOR BOLTS!

1-1/4" DIAMETER ANCHOR BOLTS FOR FABRICATED TOWER.

VERIFY THE PART NUMBERS AND SIZES FOR ALL COMPONENTS ON THIS PAGE AND PAGE 7.

IF THERE ARE ANY DISCREPANCIES, PLEASE NOTIFY PIROD, INC. PRIOR TO INSTALLATION!!



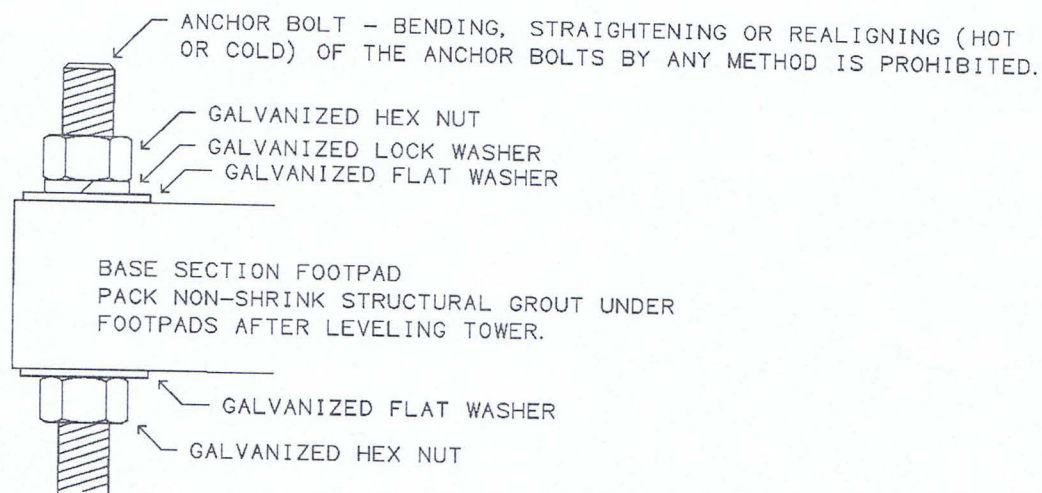
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TOWER WORKS
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U-3.0 X 80'

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BASE SECTION INSTALLATION DETAIL



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