


VENTERA ENERGY CORP. RSSV-90G  
 80 FT SSV OVERALL HT. 90 FT  
 GENERIC  
 ROHN ID#: SV-100095  
 FILE NO.: 100095

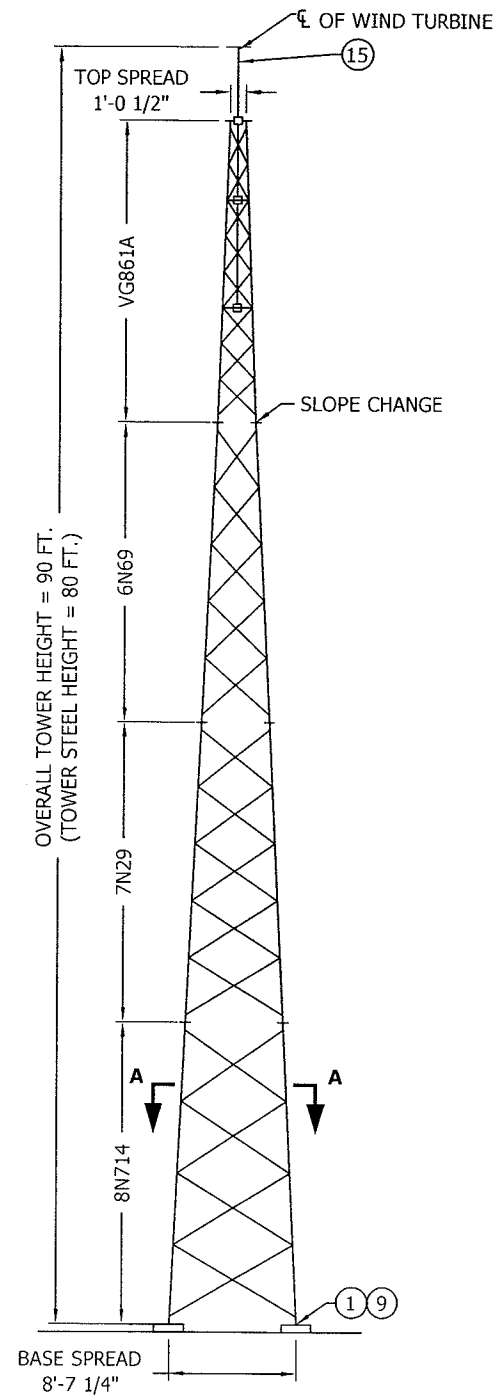
NO.	DESCRIPTION	DRAWING NO.	REV.
1	ERECTION PROFILE - 80 FT. SSV OVERALL HT. 90 FT.	100095-01-A1	0
2	ANCHOR BOLT LAYOUT - 1"(25mm)Ø BOLTS (12F0860H)	12F0860H	1
3	FOUNDATION - MAT WITH RAISED PIER REV G PRESUMPTIVE	100095-01-F1	0
4	FOUNDATION - PIER AND PAD REV G CLAY	100095-01-F2 1-3	0
5	SECTION ASSEMBLY - DETAILS FOR SSV 8N714 (SPECIAL BASE)	8N714	0
6	SECTION ASSEMBLY - DETAILS FOR SSV 7N29	A780168	2
7	SECTION ASSEMBLY - DETAILS FOR SSV 6N69	A790310	3
8	SECTION ASSEMBLY - DETAILS FOR SSV VG861A	VG861A	5
9	GROUNDING - TIA-222-G STANDARD - SS TWRS (GALV)	B070997	0
10	LEG - STEP BOLT INSTALLATION DETAIL	B651264	5
11	- BOLT ASSEMBLY INSTALLATION	A790135	6
12	BASE PLATE - HINGE ASSEMBLY PROFILE	DWG-0127	0

FILE NO.				
100095				
REVISIONS				
REV.	DESCRIPTION	DWN	CHK	APP
DWG REFERENCE				
 PO BOX 5999 PEORIA, IL 61601-5999 TOLL FREE 800-727-ROHN				
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VENTERA ENERGY CORP. RSSV-90G ERECTION INDEX 80 FT SSV OVERALL HT. 90 FT GENERIC				
DWN:	CHK'D:	DATE:		
		Jun/15/2010		
ENG'R:				
DRAWING NO:				REV:
SV-100095-XE00-01				0

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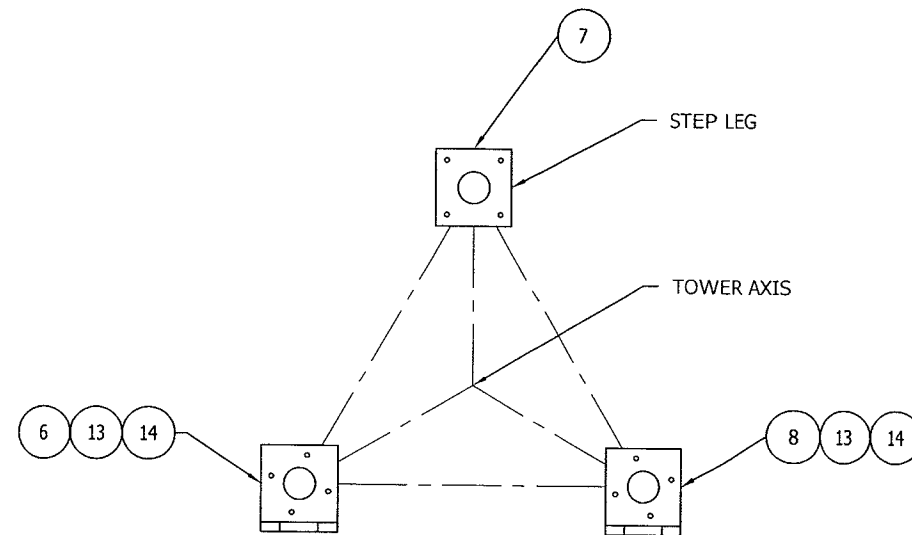
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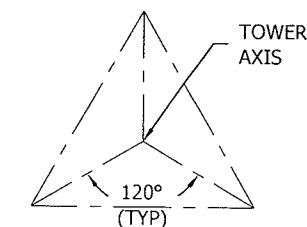


TOWER DESIGN LOADING		
DESIGN WIND LOAD PER ANSI/TIA/EIA-222-G: BASIC WIND SPEED (NO ICE) = 125 MPH BASIC WIND SPEED (ICE) = 60 MPH DESIGN ICE THICKNESS = 1.25 IN. STRUCTURE CLASS = II EXPOSURE CATEGORY = C TOPOGRAPHIC CATEGORY = 1 EARTHQUAKE SPECTRAL RESPONSE ACCELERATION, $S_s < 1.000$ THIS TOWER IS DESIGNED TO SUPPORT THE FOLLOWING LOADS:		
ELEVATION (FT)	ANTENNA TYPE	LINE SIZE (NOM)
TOP	VENTERA 10KW TURBINE ALLOWABLE THRUST = 1,000 LBS	(2) 1" CONDUIT

TOWER DESIGN IS BASED ON STATIC LOADING CONDITIONS ONLY. HARMONICS AND/OR DYNAMICS HAVE NOT BEEN CONSIDERED.



SECTION A-A



TOWER CONFIGURATION  
N.T.S.

MAXIMUM FACTORED REACTIONS	
COMPRESSION	= 66.5 KIPS
TENSION	= 58.5 KIPS
TOTAL SHEAR	= 10.3 KIPS
O.T.M.	= 481.5 FT-KIPS

ANCHOR MATERIAL				
ITEM	QTY	PART NO.	DESCRIPTION	DWG. NO.
1	1	12F0860H	ANCHOR BOLT STR ASSY 12-1X48	12F0860H
100095LAB - TOWER ACCESSORIES				
ITEM	QTY	PART NO.	DESCRIPTION	DWG. NO.
2	1	8N714	SECTION ASSY 8N 20' 3EH BASE	8N714
3	1	7N29	SECTION ASSY 7N 20' 2.5EH	A780168
4	1	6N69	SECTION ASSY 6N 20' 2.5STD	A790310
5	1	VG861A	SECTION ASSY VG1S 2.5STD S9	VG861A
6	1	VH059	HINGED BASE PLATE FOR 1" ANC	N/A
7	1	VH060	HINGED BASE PLATE FOR 1" ANC	N/A
8	1	VH061	HINGED BASE PLATE FOR 1" ANC	N/A
9	3	BGK8GGX	KIT BASE GRD SSV 1"AB GALV.	B070997
10	1	ACWS	SIGN ANTI-CLIMB WARNING ASSY	N/A
11	1	B651264	STEPBOLT DETAIL	B651264
12	1	A790135	DRAWING BOLT ASSY	A790135
13	4	1CTLFG/2H	LOCK NUT 1 A563 DH HDG	N/A
14	2	290033	THREADED ROD 1(-8)X14.00 LG	N/A
15	1	KH8083	MOUNT TUBE 5.56ODX.258WX19.06'	N/A
16	1	710004	CARTON, NO. 80	N/A
17	1	ROHN-TAG	STANDARD ROHN TAG	N/A
18	1	DWG-0127	TOWER HINGE ASSEMBLY	DWG-0127

- ROHN PRODUCTS, LLC TOWER DESIGNS CONFORM TO ANSI/TIA/EIA-222-G UNLESS OTHERWISE SPECIFIED UNDER TOWER DESIGN LOADING.
- TURBINE AND LINES LISTED IN TOWER DESIGN LOADING TABLE ARE PROVIDED BY OTHERS UNLESS OTHERWISE SPECIFIED.
- 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/EIA-222-G AND MUST BE VERIFIED BY OTHERS PRIOR TO INSTALLATION.
- SEE INDIVIDUAL SECTION ASSEMBLY DRAWINGS FOR PART NUMBERS AND SECTION ASSEMBLY DETAILS.
- STEP BOLTS ARE PROVIDED ON ONE LEG ONLY FOR ALL TOWER SECTIONS.
- REFER TO THE LATEST REVISIONS OF THE DRAWINGS SHOWN IN THE BILL OF MATERIALS.
- PAL NUTS ARE PROVIDED FOR ALL TOWER AND ANCHOR BOLTS (SEE DWG. A790135).
- THE LEG PART NUMBER IS STAMPED AT THE BOTTOM OF EACH LEG OF EACH SECTION.
- DESIGN ASSUMES LEVEL GRADE AT TOWER SITE.
- WORK SHALL BE IN ACCORDANCE WITH ANSI/TIA/EIA-222-G, "STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES".
- TOLERANCE ON TOWER STEEL HEIGHT IS EQUAL TO PLUS 1% OR MINUS 1/2%.
- PURCHASER SHALL VERIFY THE INSTALLATION IS IN CONFORMANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS FOR OBSTRUCTION MARKING AND LIGHTING.
- 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.
- DESIGN ASSUMES THAT, AS A MINIMUM, MAINTENANCE AND INSPECTION WILL BE PERFORMED OVER THE LIFE OF THE STRUCTURE IN ACCORDANCE WITH ANSI/TIA/EIA-222-G.
- NUMBERS SHOWN IN BALLOONS DENOTE ITEM NUMBERS IN BILL OF MATERIAL.
- WIND TURBINE & ATTACHMENT HARDWARE TO BE SUPPLIED BY OTHERS.
- FOUNDATIONS SHALL BE DESIGNED TO SUPPORT THE CONDITIONS EXISTING AT THE SITE.
- TOWER ORIENTATION TO BE DETERMINED BY OTHERS.
- THE DESIGN OF THE REFERENCED STRUCTURE HAS BEEN BASED ON EQUIVALENT STATIC LOADING CONDITIONS PROVIDED BY THE TURBINE MANUFACTURER. THE TURBINE MANUFACTURER MUST APPROVE THE DESIGN FOR PROPER PERFORMANCE WITH THE INTENDED TURBINE CONSIDERING AS A MINIMUM, FATIGUE, HARMONICS AND DYNAMIC LOADING. ROHN DOES NOT ACCEPT RESPONSIBILITY AND PROVIDES NO WARRANTY FOR FATIGUE, HARMONICS, OR DYNAMIC LOADING RELATED ISSUES.

FILE NO. 100095				
REVISIONS				
REV.	DESCRIPTION	DWN	CHK	APP
DWG REFERENCE				
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<b>VENTERA ENERGY CORP. RSSV-90G ERECTION PROFILE 80 FT. SSV OVERALL HT. 90 FT. GENERIC</b>				
DWN:	LGC	CHK'D:	KTL	DATE: Jun/02/2010
ENGR:	HA			
DRAWING NO:	100095-01-A1			REV:
				0

FILE NO.	100095			
REVISIONS				
REV	DESCRIPTION	DWN	CHK	APP
1	REVISED DETAIL 'X' FROM P/M TO S.P. MAX	LCC	KTL	HA
	DATE: 04/02/2010			

DWG REFERENCE	

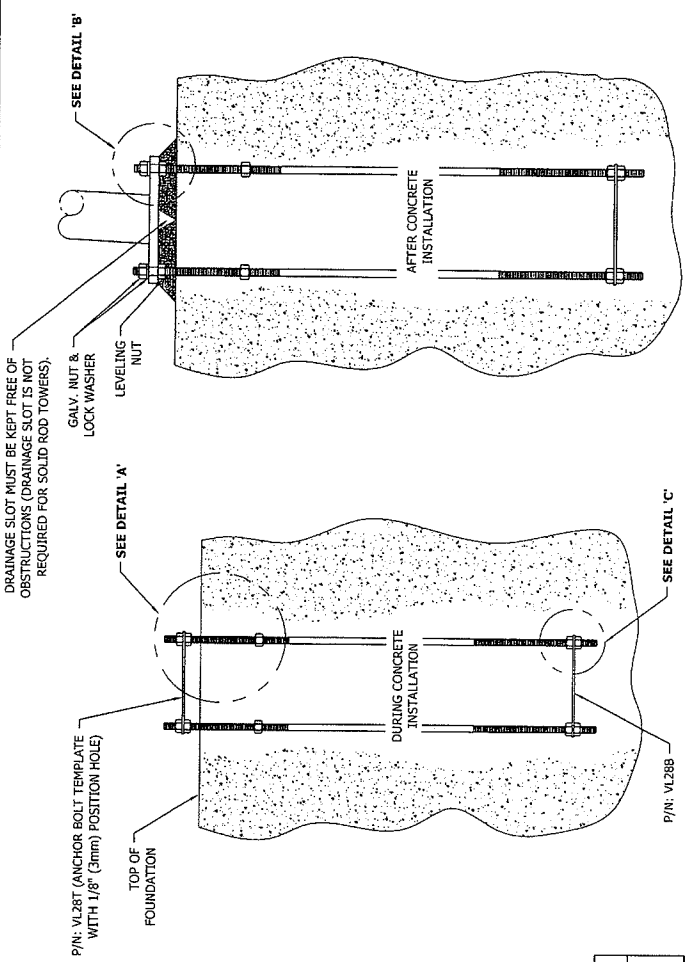
DWG REFERENCE	

DWN:	LCC	CHKD:	KTL	DATE:	May/11/2010
ENGR:	HA				
DRAWING NO:	12F0860H				
REV:	1				

**ROHN**  
PRODUCTS LLC  
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PEORIA, IL 61601-5999  
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VENTERA ENERGY CORP. RSSV-90G  
ANCHOR BOLT LAYOUT  
1"(25mm)Ø BOLTS (12F0860H)  
GENERIC



**PLAN VIEW**  
N.T.S.

A	B	C	D	E
8'-7 1/4" (2.623M)	7'-5 7/16" (2.271M)	4'-11 5/8" (1.515M)	8'-0 5/8" (2.454M)	8'-7 1/4" (2.623M)

**ELEVATION VIEWS**

DETAIL 'A': 5.50" (140mm) (MAX) 6.00" (152mm) 1/2" (13mm)

DETAIL 'B': (1") MAX.

DETAIL 'C': 1/2" (13mm)

**ANCHOR BOLT INSTALLATION TOLERANCES**

- FACE SPREAD DIMENSION CENTER-TO-CENTER OF ANCHOR BOLT CIRCLES - PLUS OR MINUS 1/16" (2mm) OR 1/16" (2mm) PER 20 FT. (6m) OF FACE SPREAD.
- MAXIMUM DIFFERENCE BETWEEN ANY TWO FOUNDATION ELEVATIONS - 1/2" (13mm).
- CONCRETE DIMENSIONS - PLUS OR MINUS 1" (25mm).
- DEPTH OF FOUNDATION - PLUS 3" (76mm) OR MINUS 0".
- DRILLED FOUNDATIONS OUT OF PLUMB - 1.0 DEGREE.
- REINFORCING STEEL PLACEMENT - PER A.C.I. 301.
- PROJECTION OF EMBEDMENTS - PLUS OR MINUS 1/8" (3mm).
- VERTICAL EMBEDMENTS OUT OF PLUMB - 1/2 DEGREE.
- MAXIMUM DISTANCE FROM CENTERLINE OF ANCHOR BOLTS TO CENTERLINE OF FOUNDATION - 1/4 OF PIER DIAMETER UP TO A MAXIMUM OF 2" (50mm).
- ANCHOR BOLT SPACING - 1/16" (2mm).
- ANCHOR BOLT CIRCLE ORIENTATION - 1/4 DEGREE.
- ANCHOR BOLT CIRCLE DIAMETER - PLUS OR MINUS 1/16" (2mm).

**NOTES**

- ALL ANCHOR BOLTS MUST MEET OR EXCEED REQUIREMENTS OF A.S.T.M. F1554-S2, S5 GRADE 105.
- GROUT TO BE 5000 PSI MIN. ULTIMATE STRENGTH/7 DAY NON-SHRINKING AND NON-METALLIC.
- SPECIAL CARE MUST BE TAKEN WHEN LIFTING ANCHOR BOLT CLUSTER, IN ORDER TO PREVENT ANCHOR BOLT TEMPLATE DISTORTION.
- ANCHOR BOLT ASSEMBLY MUST BE ADEQUATELY SUPPORTED AND RESTRAINED TO PREVENT MOVEMENT OF THE CLUSTER DURING CONCRETE INSTALLATION.
- IT IS THE RESPONSIBILITY OF THE FOUNDATION CONTRACTOR TO VERIFY THAT THE CORRECT ANCHOR BOLT TEMPLATE AND FOUNDATION SHOWN ON RESPECTIVE SITE DRAWINGS ARE BEING USED.
- IT IS THE RESPONSIBILITY OF THE FOUNDATION DESIGN ENGINEER TO INSURE THAT THE ANCHORAGES PROVIDED ARE COMPATIBLE WITH THE PROPOSED FOUNDATION DESIGNS AND THAT THE CAPACITIES OF THE ANCHORAGES ARE NOT LIMITED BY THE STRENGTH OF THE FOUNDATIONS.

**WARNING III**

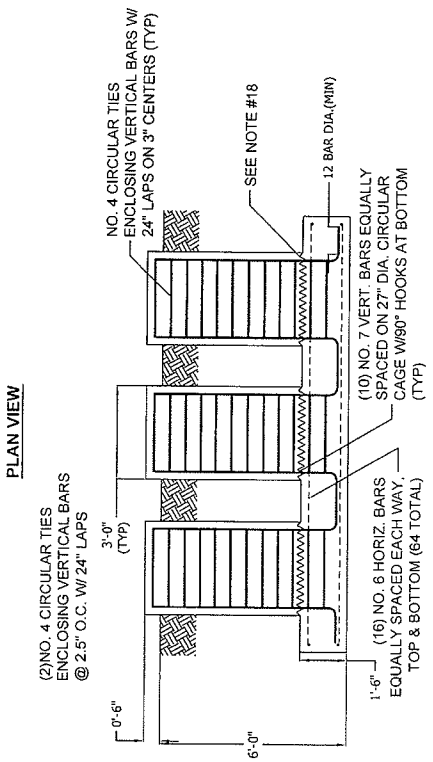
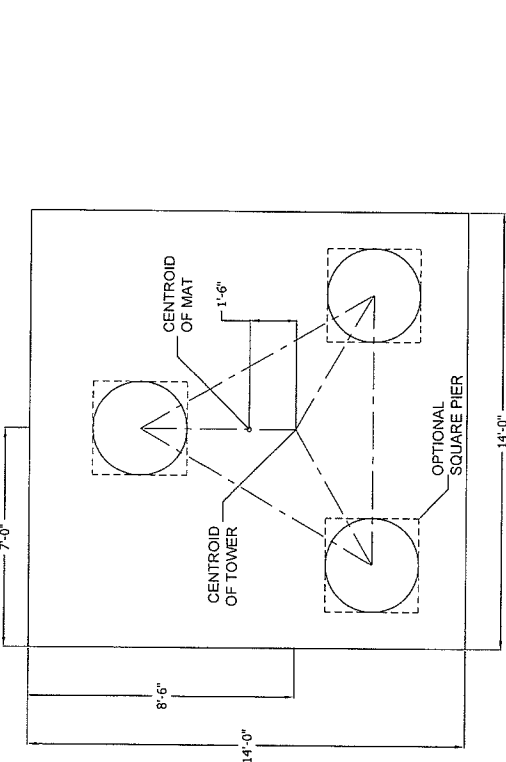
- ENSURE DIMENSIONS 'D' & 'E' ARE CORRECT ON ALL FACES PRIOR TO PLACING CONCRETE.
- AFTER ANCHOR BOLTS ARE INSTALLED AND CONCRETE HAS TAKEN ITS INITIAL SET, ANCHOR BOLTS MUST NOT BE MOVED, BENT OR REALIGNED IN ANY MANNER. A NUT LOCKING DEVICE MUST BE INSTALLED ON ALL ANCHOR BOLTS.

FILE NO.	100095
REVISIONS	
DESCRIPTION	DOWN / CHK / APP
REV	

**GENERAL NOTES**

- A GEOTECHNICAL REPORT HAS NOT BEEN PROVIDED TO ROHN FOR FOUNDATION DESIGN. PURCHASER HAS REQUESTED FOUNDATION DESIGN TO BE BASED ON PRESUMPTIVE CLAY SOIL DESIGN PARAMETERS. IT IS THE RESPONSIBILITY OF THE PURCHASER TO VERIFY THAT PRESUMPTIVE SOIL DESIGN PARAMETERS ARE APPROPRIATE BASED UPON ACTUAL SOIL CONDITIONS. FOUNDATION DESIGN MODIFICATIONS MAY BE REQUIRED IN THE EVENT THE FOLLOWING DESIGN PARAMETERS ARE NOT APPLICABLE FOR THE SUBSURFACE CONDITIONS ENCOUNTERED.
  - ULTIMATE SOIL BEARING PRESSURE AT 6 FT DEPTH = 5,000 PSF.
  - GROUND WATER TABLE IS AT OR BELOW FOUNDATION DEPTH.
  - MAXIMUM FROST PENETRATION DEPTH LESS THAN FOUNDATION DEPTH.
- WORK SHALL BE IN ACCORDANCE WITH 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 REQUIREMENTS OF ACI 318 CHAPTER 4 SHALL BE SATISFIED BASED ON THE CONDITIONS EXPECTED AT THE SITE. AS A MINIMUM, CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI IN 28 DAYS.
- MAXIMUM SIZE OF AGGREGATE SHALL NOT EXCEED SIZE SUITABLE FOR INSTALLATION METHOD UTILIZED OR 1/3 CLEAR DISTANCE BEHIND OR BETWEEN REINFORCING. MAXIMUM SIZE MAY BE INCREASED TO 2/3 CLEAR DISTANCE PROVIDED WORKABILITY AND METHODS OF CONSOLIDATION SUCH AS VIBRATING WILL PREVENT HONEYCOMBS OR VOIDS.
- REINFORCEMENT SHALL BE DEFORMED AND CONFORM TO THE REQUIREMENTS OF ASTM A615 GRADE UNLESS OTHERWISE NOTED. SPLICES IN REINFORCEMENT SHALL NOT BE ALLOWED UNLESS OTHERWISE INDICATED.
- 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 (76MM) NOR BE LESS THAN 2 INCHES (51MM).
- FOUNDATION DESIGN ASSUMES STRUCTURAL BACKFILL TO BE COMPACTED IN 8 INCH (200 MM) MAXIMUM LAYERS TO 96% OF MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D698. ADDITIONALLY, STRUCTURAL BACKFILL MUST HAVE A MINIMUM COMPACTED UNIT WEIGHT OF 100 POUNDS PER CUBIC FOOT (16 KN/M<sup>3</sup>).
- 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.
- FOUNDATION DESIGN ASSUMES FIELD INSPECTIONS WILL BE PERFORMED TO VERIFY THAT CONSTRUCTION MATERIALS, INSTALLATION METHODS AND ASSUMED DESIGN PARAMETERS ARE ACCEPTABLE BASED ON CONDITIONS EXISTING AT THE SITE.
- FOR FOUNDATION AND ANCHOR TOLERANCES SEE DRAWING A810214.
- 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.
- CONCRETE PREFERABLY SHALL BE PLACED AGAINST UNDISTURBED SOIL. WHEN FORMS ARE NECESSARY, THEY SHALL BE REMOVED PRIOR TO PLACING STRUCTURAL BACKFILL.
- CONSTRUCTION JOINTS, IF REQUIRED AT THE BASE OF THE PIERS, MUST BE INTENTIONALLY ROUGHENED TO A FULL AMPLITUDE OF 1/4 INCH (6 MM). FOUNDATION DESIGN ASSUMES NO OTHER CONSTRUCTION JOINTS.
- TOP OF FOUNDATION OUTSIDE LIMITS OF ANCHOR BOLTS SHALL BE SLOPED TO DRAIN WITH A FLOATED FINISH. AREA INSIDE LIMITS OF ANCHOR BOLTS SHALL BE LEVEL WITH A SCRATCHED FINISH.
- EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 3/4" X 3/4" (19MM X 19MM) MINIMUM.

NOTE: SEE STRUCTURE ASSEMBLY DRAWING FOR FOUNDATION LAYOUT AND ANCHORAGE EMBEDMENT DRAWING NUMBER.



**CONCRETE VOLUME (cu.yds)**

PIER	ROUND	SQUARE
PIER	3.9	5.0
PAD	10.9	10.9
TOTAL	14.8	15.9

**REACTIONS**

Maximum O.T.M =	481.48 FT-K
Total Tower Wt =	4.92 KIPS
Total Shear =	10.25 KIPS
Max. Shear/Leg =	6.15 KIPS
Max. Ten./Leg =	58.50 KIPS
Max. Comp./Leg =	66.54 KIPS

DWG REFERENCE

MODEL RSSV-90G



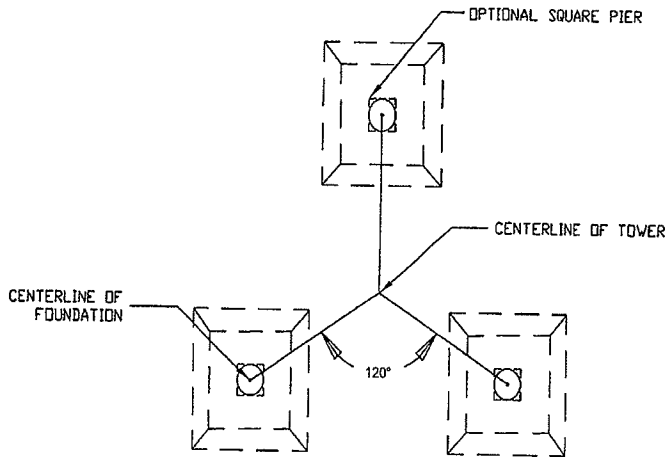
PO BOX 5999  
PEORIA, IL 61601-9999  
TOLL FREE 800-727-ROHN  
OUR MATERIALS DEPARTMENT

VENTERA ENERGY CORP. RSSV-90G  
FOUNDATION  
MAT WITH RAISED PIER REV G PRESUMPTIVY  
GENERIC

DWG: DWG  
ENGR: HA  
DATE: May/17/2010

DRAWING NO: 100095-01-F1  
REV: 0

NOTE: SEE TOWER ASSEMBLY DRAWING FOR FOUNDATION LAYOUT AND ANCHORAGE EMBEDMENT DRAWING NUMBER.



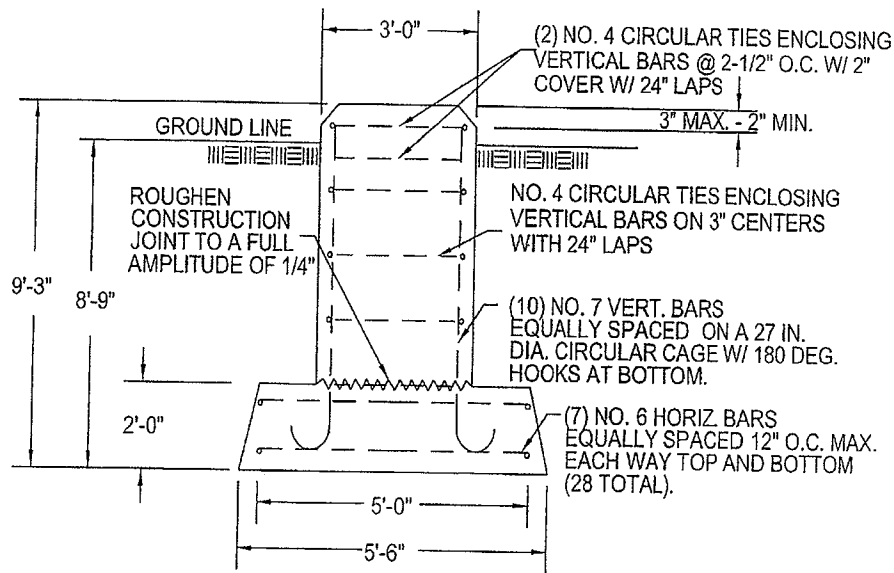
PLAN VIEW

**CONCRETE VOLUME**

- (1) FOUNDATION 3.9 CU. YDS
- (3) FOUNDATIONS 11.7 CU. YDS

**REACTIONS/LEG**

- DOWNLOAD = 66.5 KIPS
- UPLIFT = 58.5 KIPS
- SHEAR = 6.2 KIPS



ELEVATION VIEW

MODEL RSSV-90G

No.	Revision Description	Date	Rev By	Ckd By	Appd By
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Scale: NONE			<b>ROHN</b> PRODUCTS, LLC PEORIA, IL, USA PIER AND PAD FOUNDATION DETAILS PER ANSI/TIA-222-G PRESUMPTIVE SOIL - CLAY		
Drawn:	DWG	05/12/10			
Checked:	HA	5/13/10			
App. Eng.:	HA	5/13/10			
Parent File:		ENG. FILE: 100095	DWG. NO.: 100095-01-F2	SHEET 1 OF 3	
			REV.		

# Foundation General Notes

1. A geotechnical report has not been provided to ROHN for foundation design. Purchaser has requested foundation design to be based on presumptive soil design parameters. It is the responsibility of the purchaser to verify that presumptive soil design parameters are appropriate based upon actual soil conditions. Foundation design modifications may be required in the event the following design parameters are not applicable for the subsurface conditions encountered.
  - A. Uplift angle with vertical = 30.0 degrees.
  - B. Ultimate net bearing pressure at 8.75 foot depth = 5.0 ksf.
  - C. Ground water table at or below depth of foundation.
2. Work shall be in accordance with 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.
3. Concrete materials shall conform to the appropriate state requirements for exposed structural concrete.
4. Proportions of concrete materials shall be suitable for installation method utilized and shall result in durable concrete for resistance to local anticipated aggressive actions. The durability requirements of ACI 318 Chapter 4 shall be satisfied based on the conditions expected at the site. As a minimum, concrete shall develop a minimum compressive strength of 4000 psi (27.6 MPa) in 28 days.
5. Maximum size of aggregate shall not exceed size suitable for the installation method utilized or 1/3 clear distance behind or between reinforcing. Maximum size may be increased to 2/3 clear distance provided workability and methods of consolidation such as vibrating will prevent honeycombs or voids.
6. 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.
7. Welding is prohibited on reinforcing steel and embedments.
8. 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.
9. Concrete cover from top of foundation to ends of vertical reinforcement shall not exceed 3 inches (76mm) nor be less than 2 inches (51mm).
10. Foundation design assumes 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 100 lb./cu.ft. (15.7 kn/m<sup>3</sup>).
11. 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.
12. Foundation design assumes field inspections will be performed to verify that construction materials, installation methods and assumed design parameters are acceptable based on

Foundation General Notes Continued

conditions existing at the site.

13. For foundation and anchor tolerances see structure assembly drawing.
14. Loose material shall be removed from bottom of excavation prior to concrete placement. Sides of excavation shall be rough and free of loose cuttings.
15. 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.
16. Concrete preferably shall be placed against undisturbed soil. When forms are necessary, they shall be removed prior to placing structural backfill.
17. Construction joints, if required in piers, must 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.
18. Top of foundation outside limits of anchor bolts shall be sloped to drain with a floated finish. Area inside limits of anchor bolts shall be level with a scratched finish.
19. Exposed edges of concrete shall be chamfered 3/4" x 3/4" (19mm x 19mm) minimum.

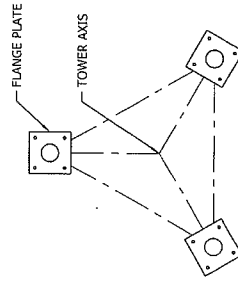
FILE NO. 100095

REV	DESCRIPTION	DWN	CHK	APP

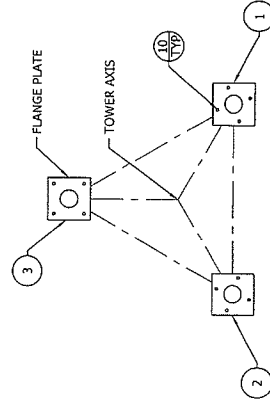
**BILL OF MATERIALS**

ITEM	PART NO.	QTY	DESCRIPTION
1	VL6135	1	LEG SSV 8N 3EH 20' 6-10 [PIPE 76mm EH]
2	VL6136	1	LEG SSV 8N 3EH 20' 6-10 [PIPE 76mm EH]
3	VL6137S	1	LEG SSV 8N 3EH 20' 6-10 [PIPE 76mm EH]
4	VB142	6	BRACE DS SS8T L1.75X1.3X7.95' [L 44x44x3]
5	VB143	6	BRACE DS SS8T L1.75X1.3X8.36' [L 44x44x3]
6	VB144	6	BRACE DS SS8T L1.75X1.3X8.79' [L 44x44x3]
7	VB145	6	BRACE DS SS8T L1.75X1.3X9.10' [L 44x44x3]
8	S/8STEP	16	BOLT ASSY STEP S/RX7 W/DBN [M16x1.78]
9	210017GA	60	BOLT ASSY 1/2 X 1-1/4 HSB A325 [M13x32]
10	210065GA	12	BOLT ASSY 7/8 X 3-1/2 HSB A325 [M22x69]

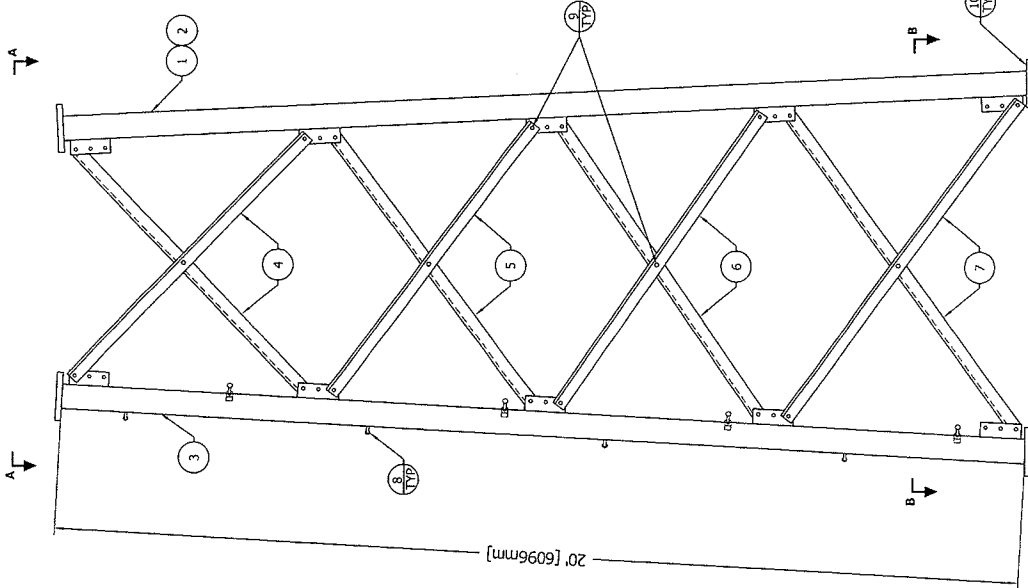
- GENERAL NOTES:**
1. LEG PART NUMBER IS STAMPED AT THE BOTTOM OF EACH LEG AND MUST BE LOCATED AT THE BOTTOM OF THE SECTION FOR PROPER ASSEMBLY.
  2. STEP BOLTS ARE PROVIDED ON ONE LEG ONLY.
  3. FLANGE BOLTS ARE FOR FLANGE PLATES AT THE BOTTOM OF THE SECTION.
  4. DRAWING IS N.T.S. AND IS FOR ASSEMBLY PURPOSES ONLY.
  5. NOMINAL METRIC EQUIVALENTS ARE GIVEN FOR REFERENCE ONLY AND SHALL NOT BE SUBSTITUTED FOR THE DESCRIBED SIZES UNLESS OTHERWISE APPROVED BY ROHN PRODUCTS.



VIEW A-A



SECTION B-B



ELEVATION VIEW

FLANGE	OFFSET	BEVEL	FLANGE PLATE (P/N)	SPREAD
TOP	N/A	N/A	6" X 6" X 3/4" (P/N: R-6C)	6'-7 1/4" [2013mm]
BOTTOM	N/A	3-1/3" STD	10" X 10" X 1" (SPEC)	8'-7 1/4" [2623mm]



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VENTERA ENERGY CORP. RSSV-90G  
SECTION ASSEMBLY  
DETAILS FOR SSV 8N714 (SPECIAL BASE)  
GENERIC

DWN: LGC KTL DATE: May/26/2010


ENGR: HA

DRAWING NO. 8N714

REV: 0

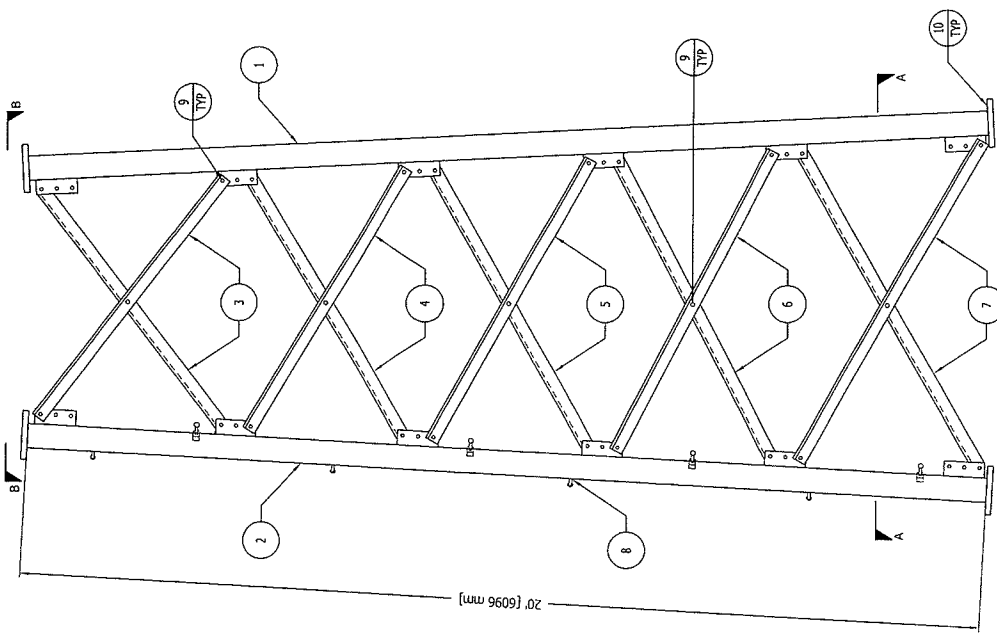
FILE NO. 100095	
REVISIONS	
REV	DESCRIPTION
1	UPDATED TO NEW STANDARDS
2	DATE: 04/13/2010
DWN	CHK
APP	APP
CHW	KTL
HA	HA

DWG REFERENCE	

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VENTURA ENERGY CORP. RSSV-90G SECTION ASSEMBLY DETAILS FOR SSV 7N29 GENERIC	
DWN:	AED
CHKD:	OH
DATE:	SEP/11/1978
ENGR:	T.S
DRAWING NO.:	A780168
REV:	2

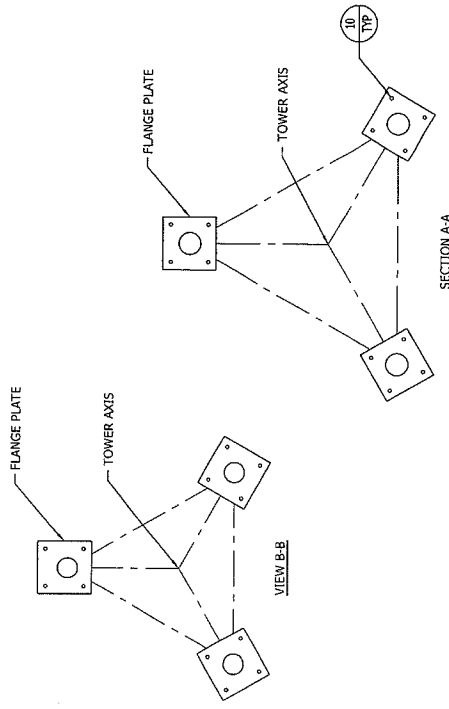
ITEM	QTY	PART NO.	DESCRIPTION	DWG. NO.
1	2	VL133	LEG SSV 6-7N 2.5EH 20' 5 GOF	[PIPE 76mm EH]
2	1	VL133S	LEG SSV 6-7N 2.5EH 20' 5 GOF	[PIPE 76mm EH]
3	6	N71	BRACE DS S57T L1.5X.13X6.71'	[L. 38x38x3]
4	6	N72	BRACE DS S57T L1.5X.13X6.03'	[L. 38x38x3]
5	6	N73	BRACE DS S57T L1.5X.13X6.35'	[L. 38x38x3]
6	6	N74	BRACE DS S57T L1.5X.13X6.69'	[L. 38x38x3]
7	6	N75	BRACE DS S57T L1.5X.13X6.92'	[L. 38x38x3]
8	16	5/8STEP	BOLT ASSY STEP 5/8X7 W/DBN	[M16x178]
9	75	210017GA	BOLT ASSY 1/2 X 1-1/4 HSB A325	[M13x32]
10	12	210050GA	BOLT ASSY 3/4 X 2-3/4 HSB A325	[M19x70]

- GENERAL NOTES:**
- LEG PART NUMBER IS STAMPED AT THE BOTTOM OF EACH LEG AND MUST BE LOCATED AT THE BOTTOM OF THE SECTION FOR PROPER ASSEMBLY.
  - STEP BOLTS ARE FOR USE ON ONE LEG ONLY.
  - FLANGE BOLTS ARE FOR USE AT THE BOTTOM OF THE SECTION.
  - DRAWING IS IN U.S. AND IS FOR ASSEMBLY PURPOSES ONLY.
  - NOMINAL METRIC EQUIVALENTS ARE GIVEN FOR REFERENCE ONLY AND SHALL NOT BE SUBSTITUTED FOR THE DESCRIBED SIZES UNLESS OTHERWISE APPROVED BY ROHN PRODUCTS.



**ELEVATION VIEW**

FLANGE	OFFSET	BEVEL	FLANGE PLATE (P/IN)	SPREAD
TOP	N/A	N/A	5" X 5" X 3/4" (P/IN: R-5C)	4'-6 3/4" [1391mm]
BOTTOM	1/4" [6mm] STD	N/A	6" X 6" X 3/4" (P/IN: R-6A)	6'-7 1/4" [2013mm]





FILE NO. 100095

REV	DESCRIPTION	DWN	CHK	APP
1	ADDED SECTION D-C, RENEGED RON	M.F	JDM	HA
2	DATE: 5/20/2009 ADDED D BRACE P/N: V6186	M.F	JDM	HA
3	DATE: 5/20/2009 ADDED P/N: 14 TO 140A; UPDATED 8.0A.	M.F	JDM	HA
4	DATE: 10/25/2010 REVISED 8.0A.	M.F	JDM	HA
5	DATE: 10/25/2010 ADDED NOTE TO VIEW A-A	M.F	JDM	HA
	DATE: 10/25/2010			

REV	DESCRIPTION	DWN	CHK	APP
1	ADDED SECTION D-C, RENEGED RON	M.F	JDM	HA

DWG REFERENCE

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VENTURA ENERGY CORP. RSSV-90G  
 SECTION ASSEMBLY  
 DETAILS FOR SSV V6861A  
 GENERIC

DWN: M.F  
 CHKD: JDM  
 DATE: 10/26/2009

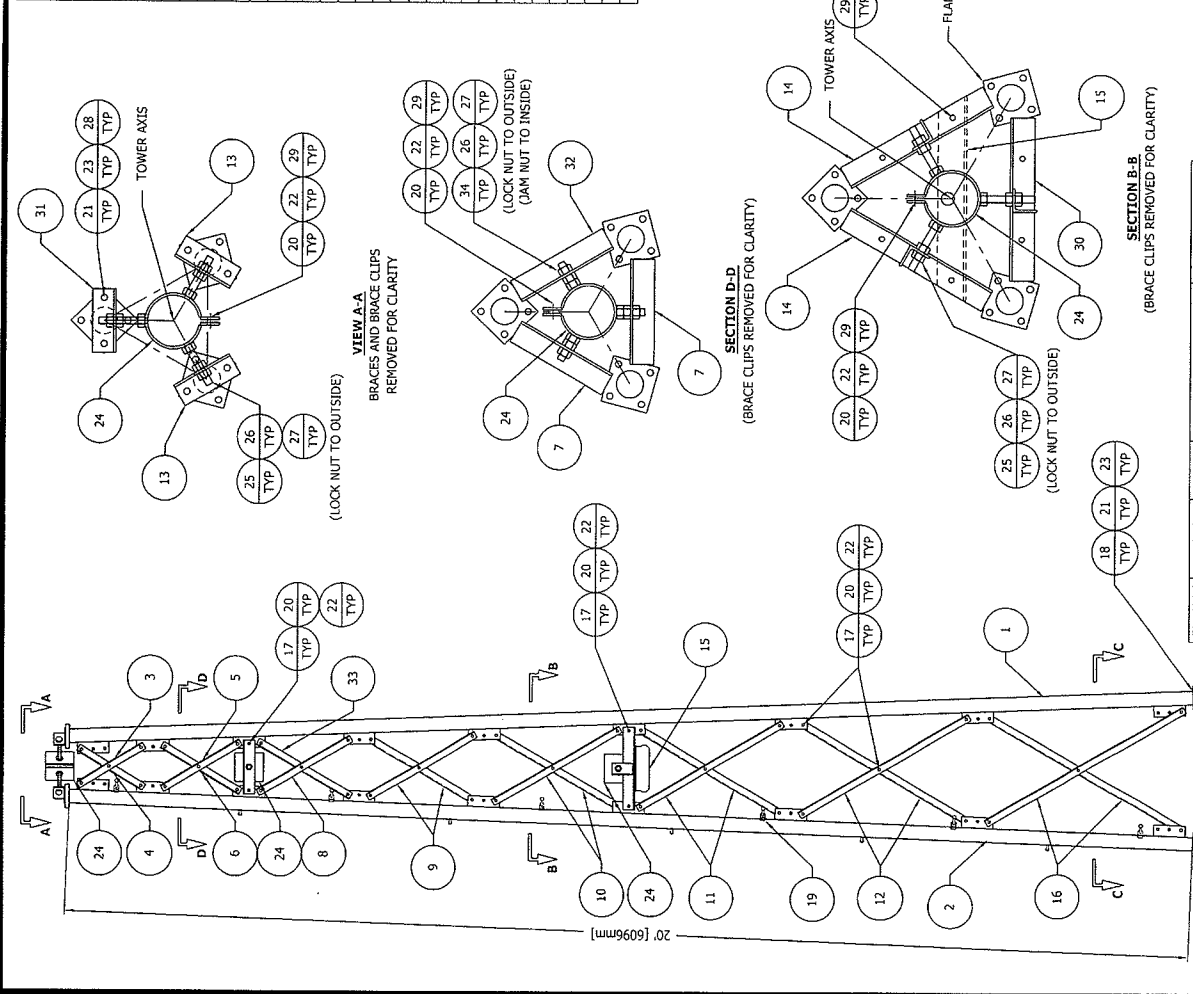
ENG: HA

DRAWING NO: V6861A

REV: 5

ITEM	PART NO.	QTY.	DESCRIPTION
1	R-VG52	2	LEG WGT. VGLS 2.5STD. 20" 5-S S9 (PIPE 64mm STD.)
2	R-VG52S	1	LEG WGT. VGLS 2.5STD. 20" 5-S S9 (PIPE 64mm STD.)
3	R-VG62	3	BRACE D VGLS 1.1 5X.19X1.339' (L 38X38X5)
4	R-VG68	3	BRACE D VGLS 1.1 5X.19X1.341' (L 38X38X5)
5	R-VG63	3	BRACE D VGLS 1.1 5X.19X1.615' (L 38X38X5)
6	R-VG889	3	BRACE D VGLS 1.1 5X.19X1.617' (L 38X38X5)
7	R-VG866	2	ANGLE SUPP L2 5X.25X11.25" HDG (L 64X64X6)
8	R-VG64	3	BRACE D VGLS 1.1 5X.19X1.896' (L 38X38X5)
9	R-VG55	6	BRACE D VGLS 1.1 5X.19X2.193' (L 38X38X5)
10	R-VG55	6	BRACE D VGLS 1.1 5X.19X2.594' (L 38X38X5)
11	R-VG56	6	BRACE D VGLS 1.1 5X.19X3.969' (L 38X38X5)
12	R-VG57	6	BRACE D VGLS 1.1 5X.19X3.467' (L 38X38X5)
13	R-VG67	2	ANGLE SUPP L2 5X.25X6.81" HDG (L 64X64X6)
14	R-VG84	2	ANGLE SUPP L2 5X.25X7.448" HDG (L 64X64X6)
15	R-VG85	1	ANGLE SUPP L3X.25X11.75" HDG (L 76X76X6)
16	R-VG58	6	BRACE D VGLS 1.1 5X.19X4.01" (L 38X38X5)
17	R-210017G	132	BOLT 1/2 X 1-1/4 HSB A325 HDG (M12X32)
18	R-210033G	12	BOLT 5/8X2-1/2 HSB A325 HDG (M16X64)
19	R-2/85TEP	16	BOLT ASSY STEP 5/8X7 W/DBN (M16X170)
20	110143	143	HEX NUT 1/2 (13 UNC) 2H GAL (M12)
21	110146	18	HEX NUT 5/8 (11 UNC) 2H GAL (M16)
22	110160	143	Nut 1/2 (3mm - P4) HDG (M12)
23	110161	18	Nut 5/8 (3mm - P4) HDG (M16)
24	R-418082	3	PIPE SUPP 6.00DX.159X6.0" (PIPE 152)
25	R-230020	6	NUT HVY HEX 3/4 DR TO HDG (M19)
26	R-75CT1FG/2H	9	LOCK NUT 3/4 A563 HDG (M19)
27	R-290035	9	THREADED ROD 3/4 (-10)X6.0" (M19X152)
28	R-210032G	6	BOLT 5/8X2-1/4 HSB A325 HDG (M16X57)
29	R-210018G	11	BOLT 1/2 X 1-1/2 HSB A325 HDG (M12X38)
30	R-VG864S	1	ANGLE SUPP L2 5X.25X11.448" HDG (L 64X64X6)
31	R-VG875	1	ANGLE SUPP L2 5X.25X6.81" HDG (L 64X64X6)
32	R-VG865S	1	ANGLE SUPP L2 5X.25X11.25" HDG (L 64X64X6)
33	R-VG889	3	BRACE D VGLS 1.1 5X.19X1.90" (L 38X38X5)
34	R-230082	3	NUT HVY HEX 3/4 JAM 3/4" (M19)

GENERAL NOTES:  
 1. LEG PART NUMBER IS STAMPED AT THE BOTTOM OF EACH LEG AND MUST BE LOCATED AT THE BOTTOM OF THE SECTION FOR PROPER ASSEMBLY.  
 2. STEP BOLTS ARE PROVIDED ON ONE LEG ONLY.  
 3. FLANGE BOLTS ARE FOR FLANGE PLATES AT THE BOTTOM OF THE SECTION.  
 4. DRAWING IS IN U.S. AND IS FOR ASSEMBLY PURPOSES ONLY.  
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FLANGE	OFFSET	BEVEL	FLANGE PLATE (P/N)	SPREAD
TOP	N/A	2 1/2" REV	5"X5"X3/4" (R-5C)	1'-0 1/2" (318mm)
BOTTOM	N/A	2 1/2" STD	5"X5"X3/4" (R-5C)	2'-6 1/2" (775mm)

FILE NO. 100095

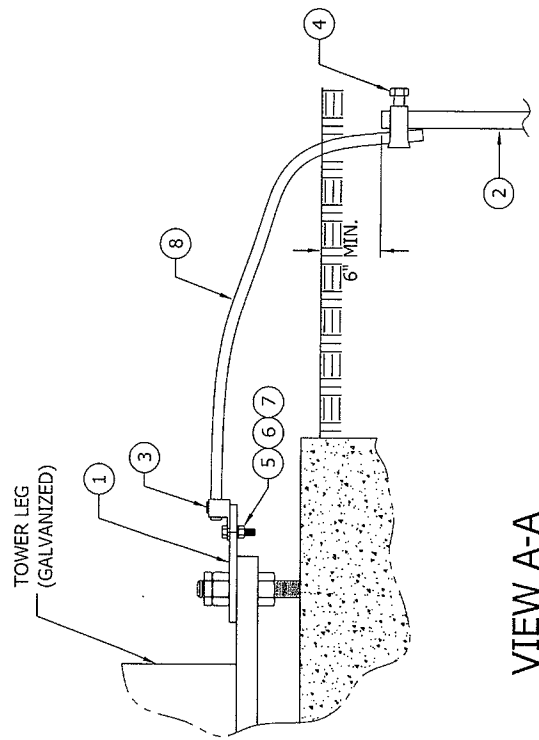
REVISIONS		DWN	CHK	APP
REV.	DESCRIPTION			

ITEM	QTY	PART NO.	ITEM DESCRIPTION
1	1	SEE CHART	GROUND LUG
2	2	6260	ROD GROUND 5/8" X 10' COP CLAD
3	1	ADR25-21	LUG, GALVAN 6 - 250 ALCU
4	2	340016	CLAMP NO.8034 WB 3/4
5	1	220021	SCREW 1/4 X 1 HHMS SIL BRONZE
6	1	240006	NUT 1/4 HEX SILICONE BRONZE
7	2	250004	WASHER 1/4 FLAT SILICON
8	2	150400-30	7/16 6X25 EIP IWRC RRL GALV X 30'

(B.O.M. SHOWN IS FOR ONE LEG ONLY)

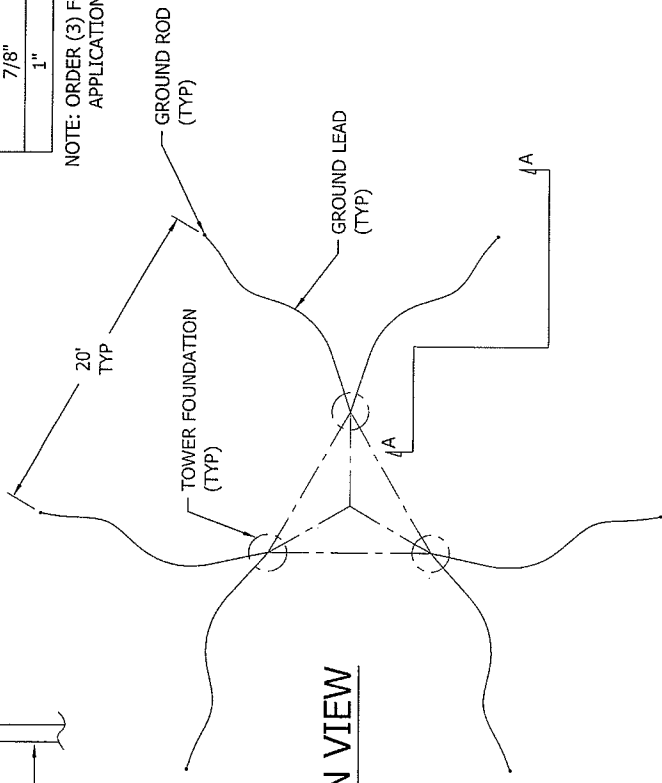
ORDERING INFO	
ANCHOR ROD SIZE	ASSY. P/N
1/2"	R-BGK4GGX
5/8"	R-BGK5GGX
3/4"	R-BGK6GGX
7/8"	R-BGK7GGX
1"	R-BGK8GGX

NOTE: ORDER (3) FOR TYPICAL REV. G APPLICATIONS



VIEW A-A

ANCHOR BOLT SIZE	GROUND PLATE
1/2"	GL4
5/8"	GL5
3/4"	GL6
7/8"	GL7
1"	GL8



PLAN VIEW



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VENTERA ENERGY CORP. RSSV-90G  
 GROUNDING  
 TIA-222-G STANDARD - SS TWRS (GALV)  
 GENERIC

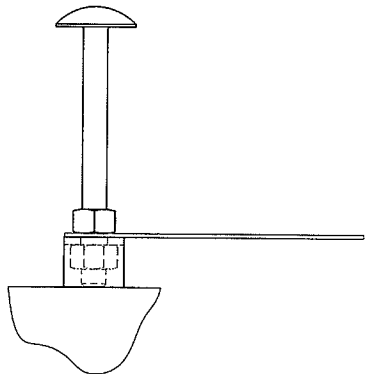
DWN:	J.K	CHKD:	JDM	DATE:	Dec27/2007
ENGR:		DWG:		DRAWING NO.:	E070997
REV:					0

FILE NO. 100095

REVISIONS		DWN	CHK	APP
REV.	DESCRIPTION			
1	DATE: 04/21/2005			
2	DATE: 04/21/2005 UPDATED			
3	DATE: 04/21/2005 ADDED WARNING SIGN	JOH	HA	HA
4	DATE: 04/21/2005 REVISED GENERAL NOTES	JOH	JMS	HA
5	DATE: 04/21/2007	JOH	M F	HA

DWG REFERENCE

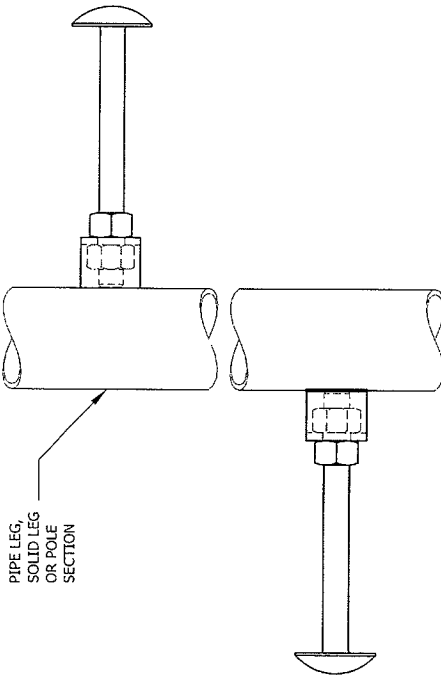
**STEP BOLT CLIMBING WARNING SIGN**  
(INSTALL WARNING SIGN IN BOTTOM 5' OF STRUCTURE)



STEP BOLTS TO BE CLIMBED BY A COMPETENT CLIMBER ONLY. 100% FALL PROTECTION IS REQUIRED AT ALL TIMES. CLIMBING STEP BOLTS IS DANGEROUS AND CAN CAUSE SERIOUS INJURY OR DEATH. PERFORM AN INSPECTION PRIOR TO CLIMBING TO IDENTIFY POTENTIAL CLIMBING HAZARDS.

STEP BOLTS SPACING AT SECTION JOINTS MAY NOT BE CONSISTENT WITH THE SPACING THROUGHOUT THE STRUCTURE. FLANGE PLATES AT SECTION JOINTS, GUYS, ATTACHMENTS TO LEGS, ETC. MAY BE AN OBSTRUCTION TO CONTINUOUS CLIMBING.

PIPE LEG,  
SOLID LEG  
OR POLE  
SECTION



**NOTE**

1. STEP BOLTS MUST BE TURNED UNTIL THE FRONT EDGE OF THE BOLT TOUCHES THE SIDE OF THE STRUCTURE.
2. STEP BOLTS ARE SUPPLIED FOR CONSTRUCTION PURPOSES AND ARE NOT INTENDED FOR USE BY UNQUALIFIED PERSONNEL.
3. DEVIATION FROM PERFECT ALIGNMENT IS ACCEPTABLE. SOME SPACING INCONSISTENCY MAY EXIST AT SPLICE LOCATIONS.
4. IF STEP BOLTS ARE BELIEVED TO PRESENT SAFETY PROBLEMS TO PERSONNEL, DO NOT INSTALL THE STEP BOLTS.



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VENTERA ENERGY CORP. RSSV-90G  
LEG  
STEP BOLT INSTALLATION DETAIL  
GENERIC

DWN: OH    CHKD: TWS    DATE: Apr/16/1974

ENGR: CW

DRAWING NO. B651264

REV: 5



