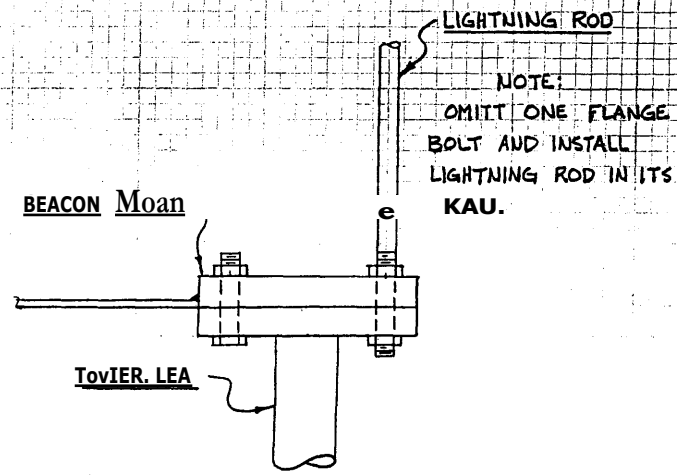


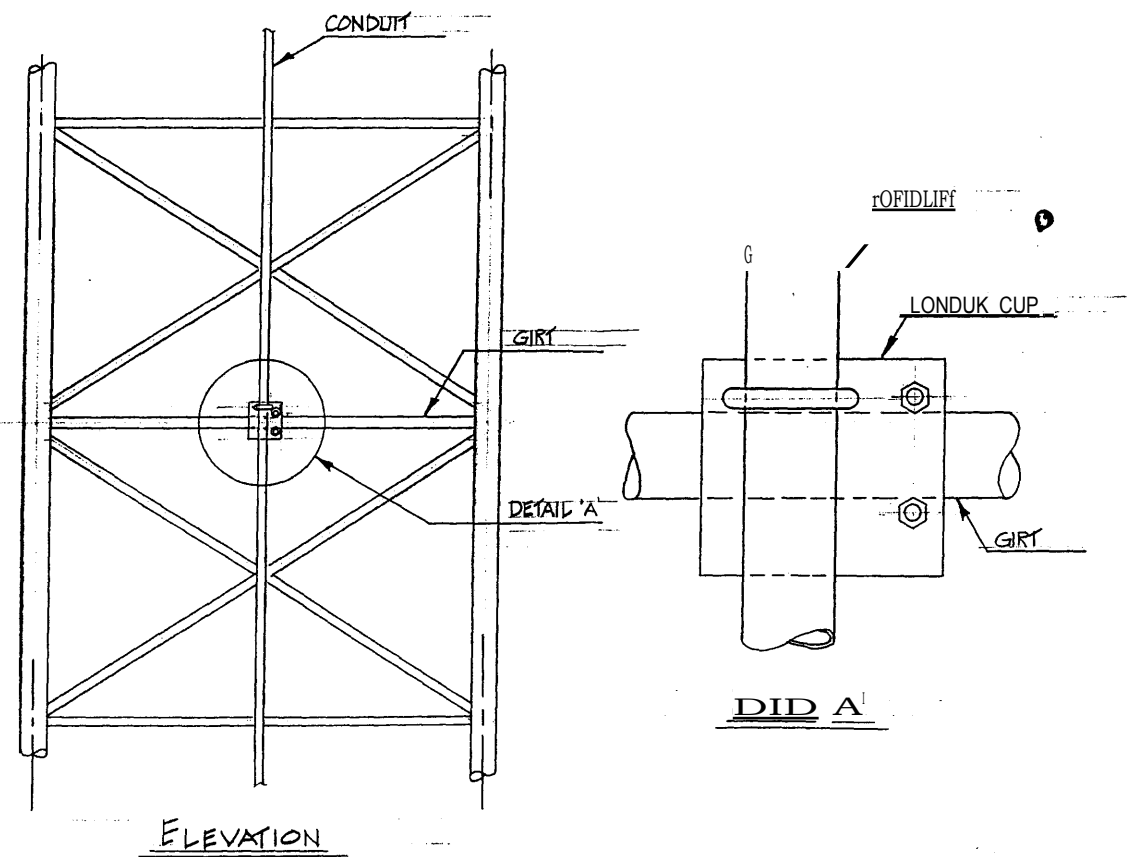
MATERIAL LIST		
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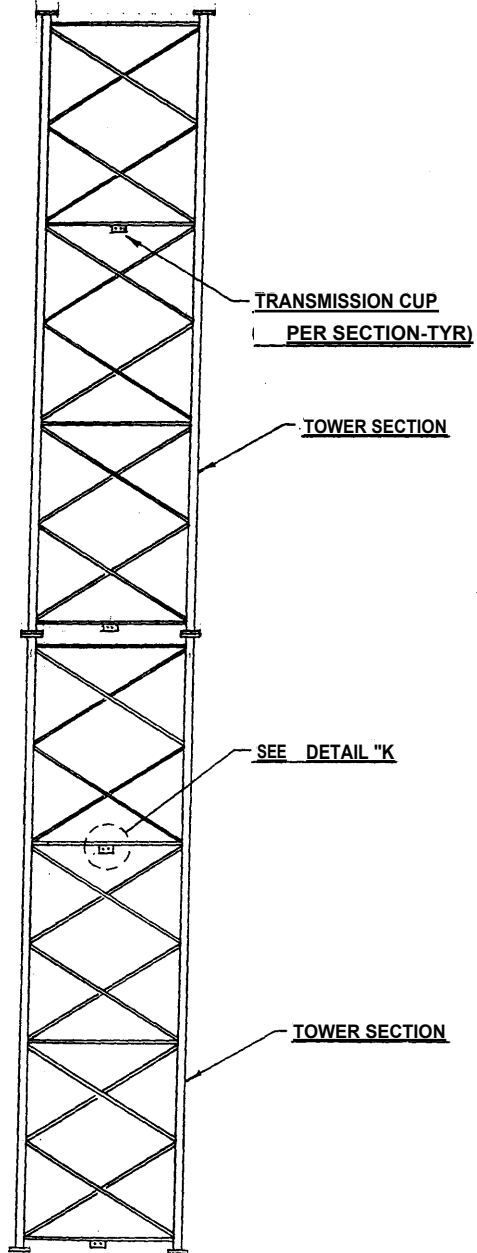
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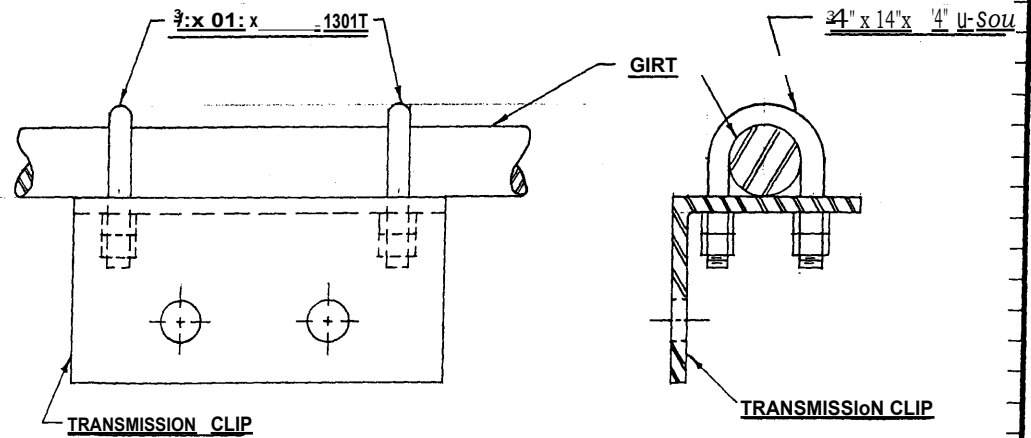


NOTE:  
 1) CONDUIT GRIP LOCATED VARY 10'-0 MAX,


 <b>TRANSMISSION STRUCTURES LIMITED</b> POST OFFICE BOX 972 VINITA, OKLA. 74301 (918) 256-7883	SCALE	DRAWN BY O.N.
		APPROVED BY A.K.
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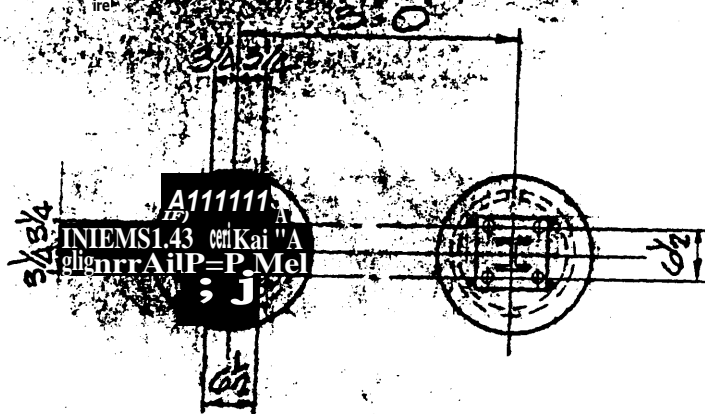
**DETAIL "As**

 TRANSMISSION STRUCTURES LIMITED POST OFFICE BOX 972 VINITA, OKLA 74301 815) 256-7883	FOR RIGID TRAM. LINE	
	SCALE	DRAWN BY L. R.13.
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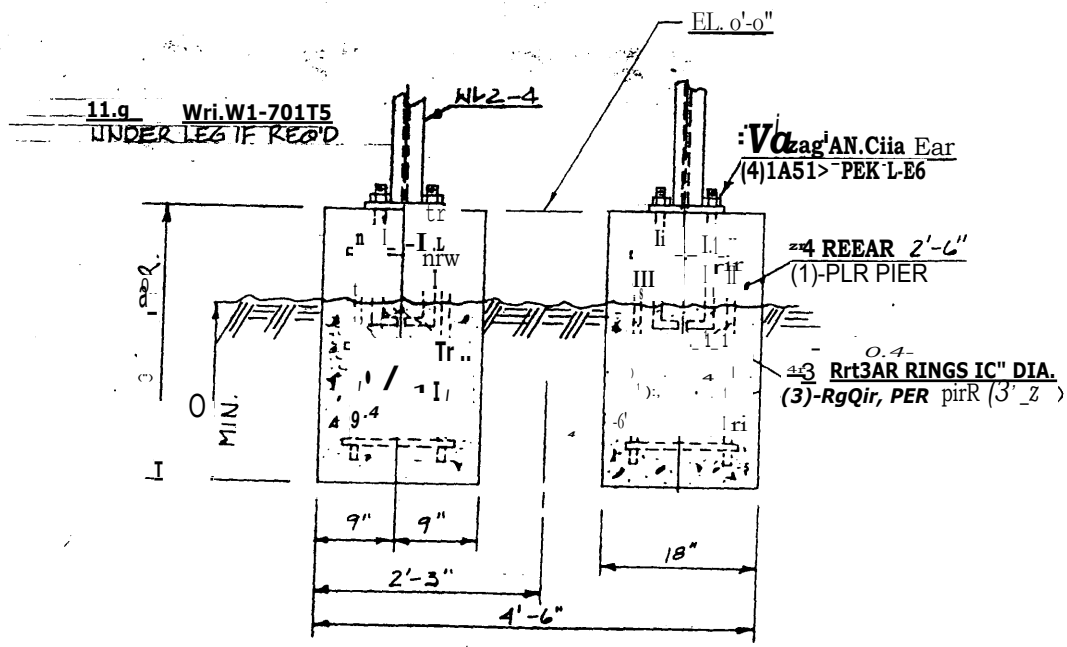
772" Vrfirw



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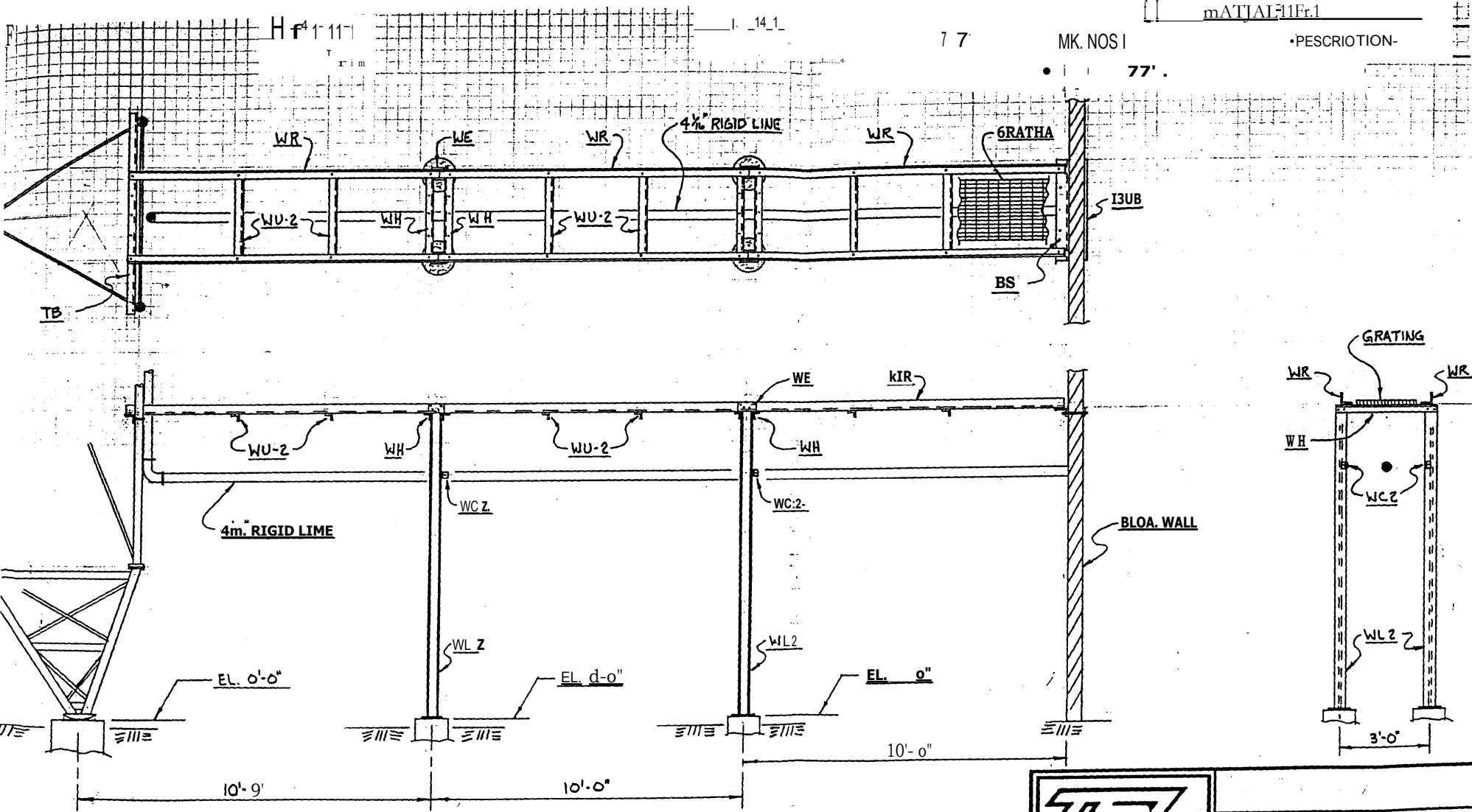
FOUNDATION NOTES

1. 3002P
2. 3" MINIMUM CLEARANCE
3. 3/4" DIA. 15 GADE CO. DEFORMED REBAR TYPE



SECTION VIEW

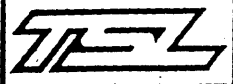
<p><b>TRANSMISSION STRUCTURES LIMITED</b>          POST OFFICE BOX 872          VINITA, OKLA 74301          (918) 256-7887</p>	SCALE	OFSAWN iRtar
	APPROVED BY	R
DATE	TITLE	
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30'WB-2		



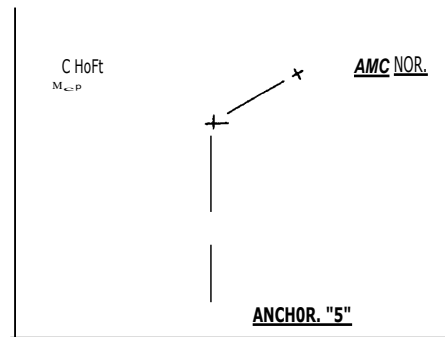
- a - x 3/4" C41, k: L3-BOLT
- 4 - REC., LOCKMUT
- Z - x IZ<sup>s</sup> ALL THREAD
- 4 - letv" REG LOCKMUT
- 4 - 1/4" IrLAT WASHER

- 40 - 14" i NV<sup>r</sup> GR.S BOLT
- 60 - 6/35" RE & LOEKMUT
- 5/6" X IS A JCIT. BOLT
- 31 - \*e." REA VIEX MUT
- 12 - GRATING CLIP

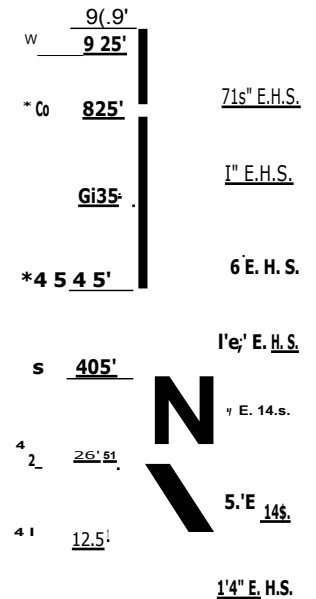
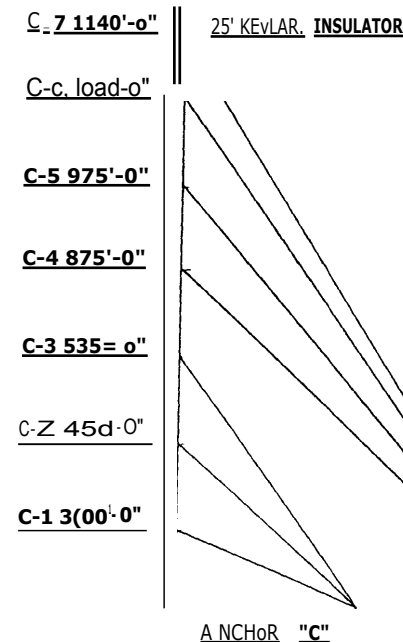
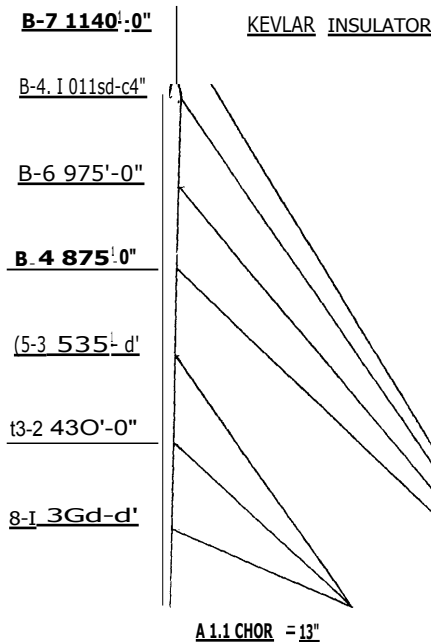
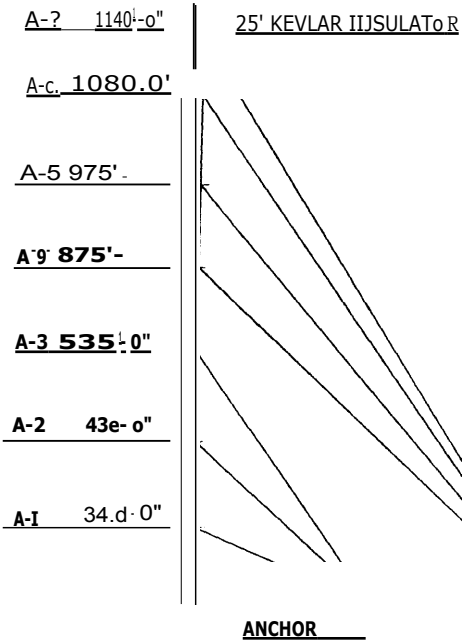
- IZ - \*Nr. 04' BoLi
- 1 - Ya" IREG HEx MuT
- 3 - 14-W\*4 GRATING 2.4" I e<sup>f</sup>

 <b>TRANSMISSION STRUCTURES LIMITED</b> Km OFFICE 90* 973 VINITA, OKLA. 74301 19181 266.7333	SCALE	DRAWN <b>S LA, B</b>
	APPROVED BY <i>[Signature]</i>	
TITLE		BRIDGE <b>ASSetiaLY</b>
DATE	DRAWING NO	PAGE
<i>[Redacted]</i>	<b>3d kai 5 - t</b>	

- 1.) ANCHORS ARE DESIGNATED CLOCKWISE FROM TRUE. NORTH
- 2.) GUY LENGTHS GIVEN ARE FOR A LEVEL SITE AND INCLUDE APPROX. 37 EXCESS
- 3.) CUTTING SEQUENCE SHOULD BEGIN WITH LONGEST WIRE. FIRST: CUT TOP WIRE FIRST, THEN SECOND WIRE DOWN FROM TOP, ETC.

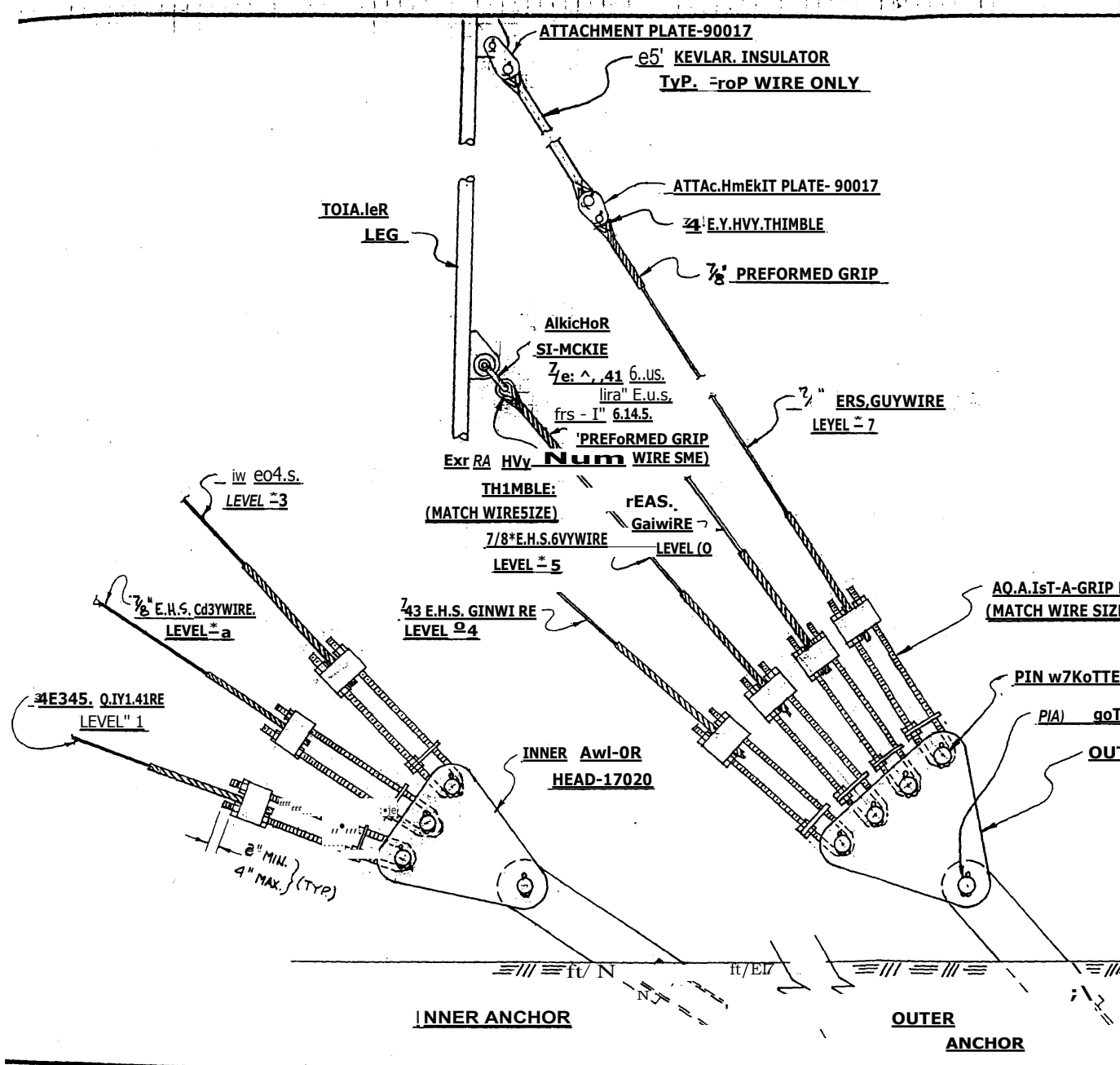


MATERIAL LIST		
MK. NO.	QTY.	DESCRIPTION




GUY LEVEL ELEVATION

ANCHOR "A"		ANCHOR "B"		ANCHOR "C"		TRANSMISSION STRUCTURES LIMITED POST OFFICE BOX 972 VINETA, OKLA 74301 1918) 256 7883	SCALE	DRAWN BY L	APPROVED BY A	TITLE GUY CUT SHEET	PAGE
INNER	OUTER	INNER	OUTER	INNER	OUTER						
ELEVATION: 0	ELEVATION: 0'-0"	ELEVATION: 0'-0"	ELEVATION: 0'-0"	ELEVATION: 0'-0"	ELEVATION: 0'-0"						
DISTANCE: 325'-0"	DISTANCE: 050'-0"	DISTANCE: 3a5'-0"	DISTANCE: G5C3-0"	DISTANCE: 325'-0"	DISTANCE: G50'-0"	110111					



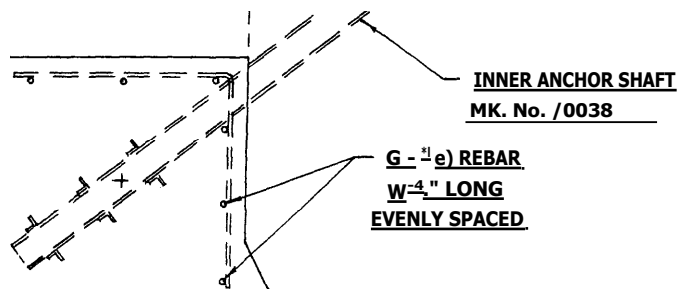
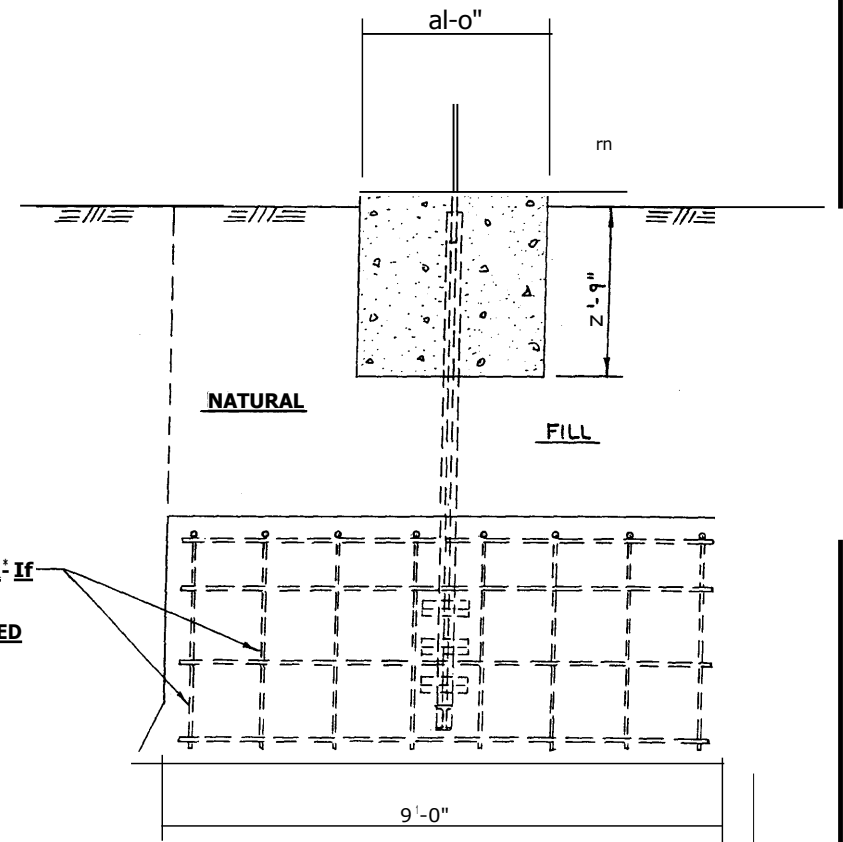
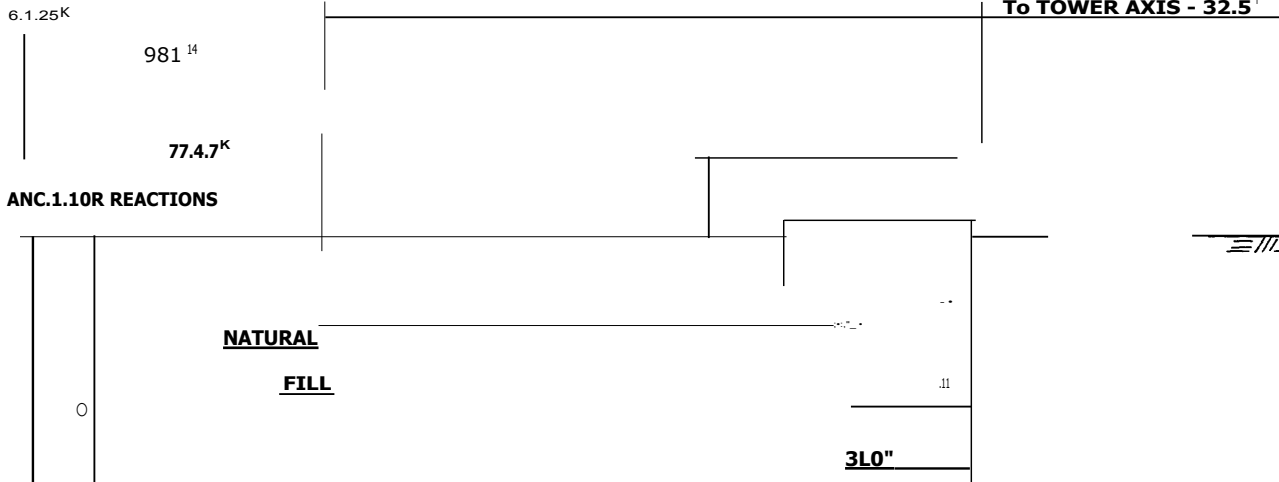
MATERIAL LIST		
MK. NO.	QTY.	DESCRIPTION

GENERAL NOTES

 <p>TRANSMISSION STRUCTURES LIMITED POST OFFICE BOX 972 VINITA, OKLA 74391 (918) 256-7883</p>	SCALE	DRAWN BY	LRB
	TITLE		APPROVED BY g-
	GUY ASSEMBLY		
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11/1/11	111111		

MATERIAL LIST

MK. NO.	QTY.	DESCRIPTION
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\* 8 REBAR<sup>1</sup> If  
EVENLY SPACED

NOTES

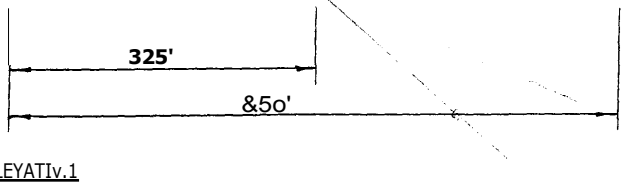
- 1.) 3° MIN. CONCRETE COVER ON ALL REBAR
- 2.) 3,000 P.S.I. MI1.1. CONCRETE AT 28 DAYS CURE
- 3.) MBAR ASTM A 705 GRADE 40 DEFORMED BAR TYR
- 4.) ANCHOR DESIGNED FOR AN ALLOWABLE MEI SOIL PRESSURE OF \*3,000 P.S.F.
- 5.) APPROX. 1/4 Cu. YD. C ONCRETE PER ANCHOR

SUPPLIED BY OTHERS

 TRANSMISSION STRUCTURES LIMITED POST OFFICE BOX 972 VINITA, OKLA. 74301 (910) 256-78E13	SCALE	DRAWN BY L.R.B.
	APPROVED BY Z	
TITLE INNER ANCHOR		PAGE
DATE 1111.110	DRAWING NO	

1.26 ~ 1.20/24

FLANGE BOLT	9 ~ 3/4"	BAR 1" DIA. ~ A-36 TYP	18 ~ 5/8" (CONDUIT)
GIRTS	BAR 3/4" DIA. ~ A-36 TYP	BAR 3" DIA. ~ C108	1" BAR 3/4" DIA.
DIAGONALS	BAR 3/4" DIA. ~ A-36 TYP	HOT-DIP GALVANIZED ~ PAINT PER F&S REG.	BAR 3" DIA.
LEGS	BAR 3" DIA. ~ C108	F.A.A. APPROVE E.2 "A-3" REDUCED	BAR 3" DIA.
COATING	HOT-DIP GALVANIZED ~ PAINT PER F&S REG.		
LIGHTING	F.A.A. APPROVE E.2 "A-3" REDUCED		



**TOWER DESIGN SPEC'S**

- ONE FACE-MOUNTED 12 - BAY E.R.I. FM AL/TENNA 841'-949'
- ONE RUN of 411: RIGID LINE 10'- 10'
  - ONE RUN of 3/8" (EUAX 10'- 50')
  - ONE (0' GRIP PIM AMTEMAJA AT 100'
  - ONE RUN of 1/8" HELIAX 100'
  - SIX 2-WAY Akrr imAs AT 6 (FUTURE)
  - SIX RUNS of 1/8" HELIAX 10'- 500' (FUTURE)
  - WE RUN OF 1" RIGID CONDUIT 10'-969'

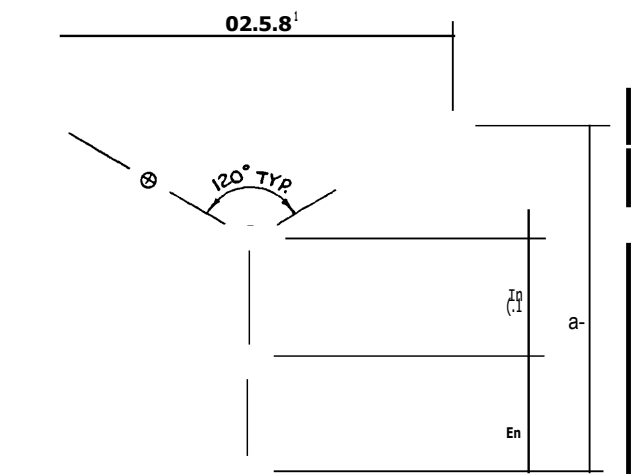
MATERIAL LIST		
MK. NO.	QTY. I	DESCRIPTION

**TOWER DESIGN SPEC'S**

- TOWER DESIGNED TO MEET E.I.A. RS -222-D 80 MPH. WINDZONE, NO ICE
- STRUCTURAL DETAILS TO MEET A.I.C.C. SPECS.

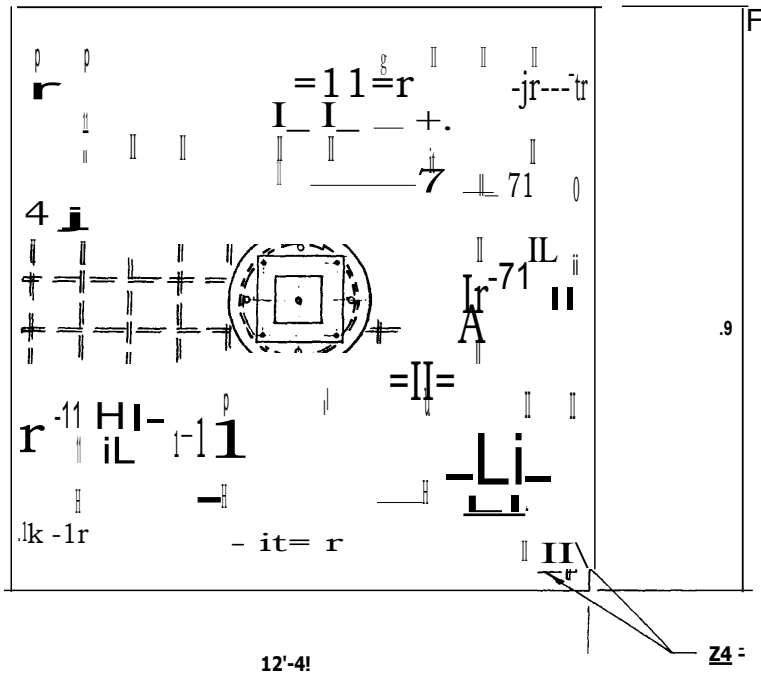
Co 'TRACTORS kIoTE

IT IS THE RESPONsIBILITY of THE ERECTOR To COMMON ICATE DIRECTLY WITH OW/Jag. FOFZ EX ACT LOCATION ORIENTATION of ALL AXITENNA5 f LIMES

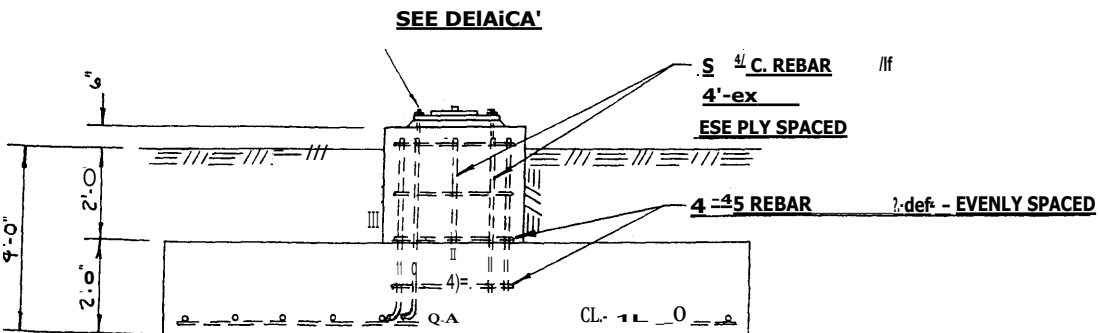


**FOUNDATION PLOT**

385.49 <sup>14</sup>	61.23"	100 28 <sup>14</sup>		SCALE	DRAWN BY L.R.
77.47				APPROVED BY	
BASE	IUMER	OUTER	TRANSMISSION STRUCTURES LIMITED	TITLE	
PIER	AIJcior	ANCHOR.	POST OFFICE BOX 972 VINITA, OKLA. 74301 (918) 2567883	<b>PLOT 4 ELEVATION</b>	
ANCHOR REACTON5			DATE	PRAWI NO	PAGE



24 = 7 REBAR (12 EA WAY) 4,  
12'-0" LONG,  
EVENLY SPACED

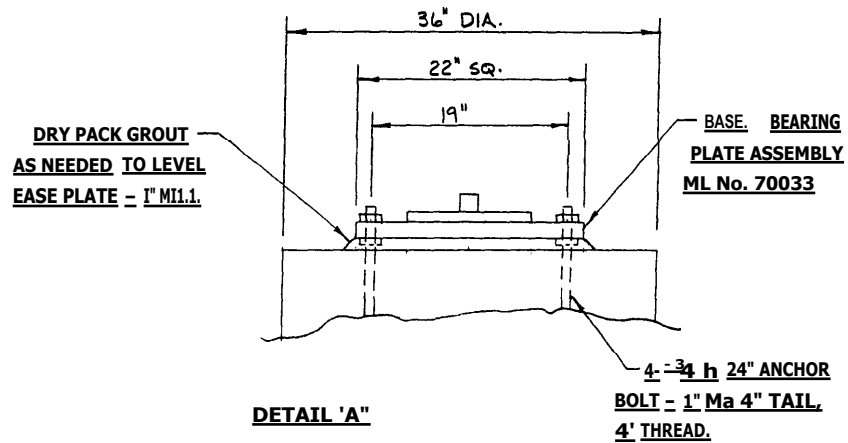


SUPPLIED BY OTHERS

MATERIAL LIST		
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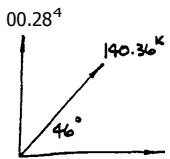
**NOTES**

- 1.) 3" MI/J. CONCRETE COVER. ON ALL REBAR
- 2.) 3,000 P. S. I. MIN. CONCRETE AT 28 DAYS COKE
- 3.) REBAR--- AST M · A-615 GRADE 40 DEFORMED BAR TYR
- 4.) FOUNDATION DESIGNED FOR AN ALLOWABLE MET 501L. PRESSURE OF 3,000 P. 5.F
- 5.) APPROX. 124. CU. YD. OF CONCRETE REM?.



**DETAIL 'A'**

<p>TRANSMISSION STRUCTURES LIMITED POST OFFICE BOX 972 VINITA, OKLA. 74301 (918) 256.7893</p>	SCALE	DRAWN BY L.A.G.
	APPROVED BY f.s.A.	
TITLE		5A5E FIER
DATE	DRAWING NO	PAGE

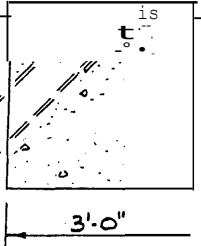


41C1.1<sup>OR</sup> REACTIoels

BI- 1" To T0%4E-R. A\$is - (oSo'

MATERIAL LIST		
MK. NO.	QTY.	DESCRIPTION

NATURAL  
FILL



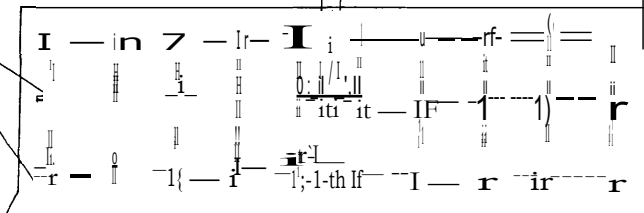
OUTER ANCHOR SHAFT  
MK. Ikl. 70039

ROAR \*  
LONG  
EVENLY SPACED

\* 10-#4 REBAR 12  
3'-G" 4'-G"  
EVENLY SPACED

NATURAL

FILL



1'-0"

NOTES

- 1.) MIKI. C.ohic.RETE coVER. ON ALL REBAR
- 2.) 3,000 P.S.I. CONCRETE AT 28 DAYS CURE
- 3.) REBAR ^ ASTM A-(IS GRADE 40 DEFORMED 5AR TYP
- 4.) ANCI•loR DESIGNED FOR AN ALLOWABLE NET SOIL PRESSURE OF 3, 000 F 5.F.
- 5.) APPRoX. 9 1/2 Cu.YD. or CONCRETE: PER ANCHOR

SUPPLIED E.L,Y oTHEes

<p>TRANSMISSION STRUCTURES LIMITED POST OFFICE BOX 972 VINETA, OKLA. 74301 (918)256-7883</p>	<p><b>4349</b> MERIDAN Ms.</p>	
	<p>SCALE</p>	<p>DRAWN BY L.S.</p>
	<p>APPROVED BY f.14</p>	
<p>TITLE</p> <p><b>OUTER AILICI-IoR</b></p>		
<p>DATE</p>	<p>DRAWING NO</p> <p><b>4349 -5</b></p>	<p>PAGE</p>

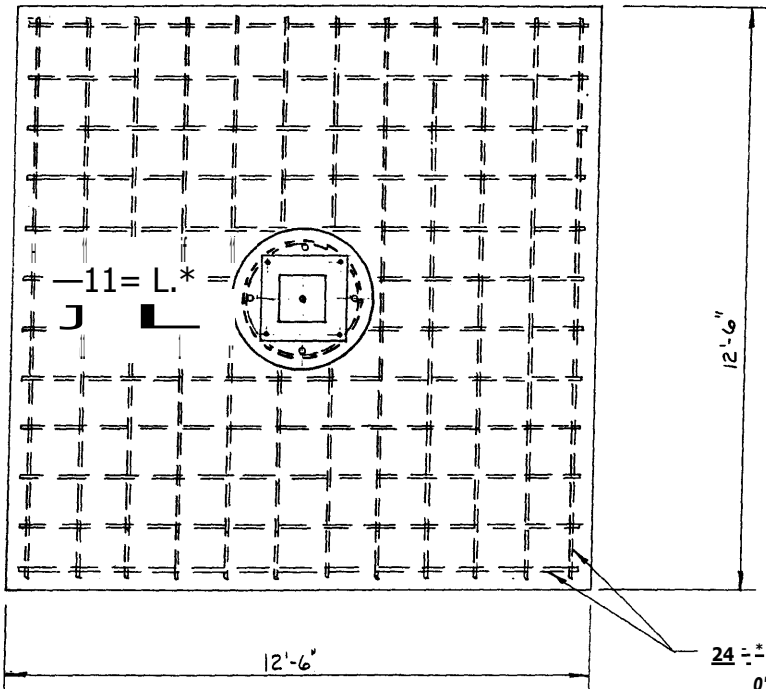




MATERIAL LIST		
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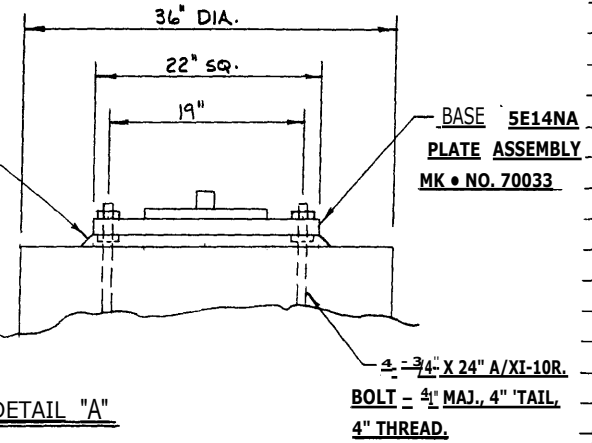
**NOTES .**

- 1) 3" MIN. CONCRETE COVER. ON ALL REBAR.
- 2) 3,000 P. S.F. MIN. CONCRETE AT ?SPAYS CURE
- 3.) RUMP.-- AST M A-615 CaRADE 40 DEFOR.MEO BAR TYP
- 4.) FOUNDATION DESIGNED FOR AN ALLOWABLE JET SOIL PRESSURE OF 3,000 P. S.F.
- 5,) APPROX .124. CU. YP. OF CONCRETE REa17.

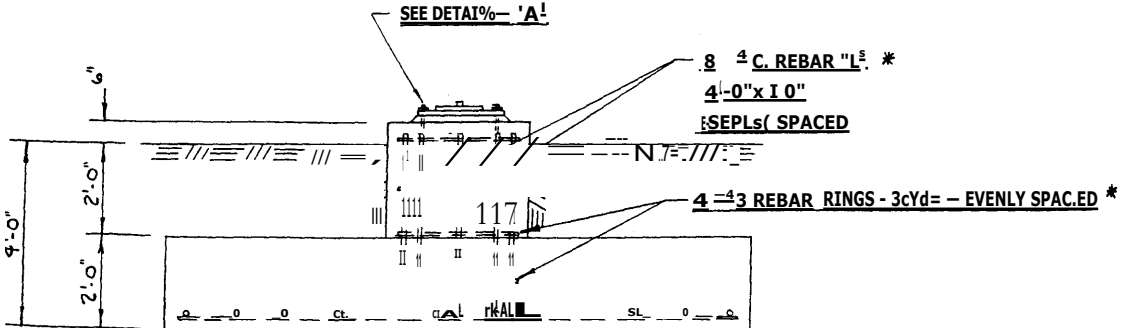


**24 #7 REBAR (12 EA. WAY) 12" O.C. IG  
EVENLY SPACED**

**DRY PACK GROUT  
AS NEEDED TO LEVEL  
BASE PLATE -- M11.**



**DETAIL "A"**



**SEE DETAIL -- 'A'**

**8 #4 C. REBAR "L" \*  
4'-0" x 10"  
SEPLs (SPACED)**

**4 #3 REBAR RINGS - 3c/d = - EVENLY SPACED \***

**\* SUPPLIED BY OTHERS**

<p><b>TRANSMISSION STRUCTURES LIMITED</b> POST OFFICE BOX 972 VINITA, OKLA. 74301 (918) 2567883</p>	43494	" MERIPAKI JMS
	SCALE	DRAWN BY L.G.B.
	APPROVED BY	
	TITLE	
	<b>BASE PIER</b>	
DATE	DRAWING NO	PAGE
1-2-8,7	4349 - 3	



## ERECTOR INSTRUCTIONS

### **I. MATERIAL HANDLING**

The careful unloading and stacking of tower steel is critical to quick and efficient erection. When unloading trucks always use boom hoist or gin trucks to remove steel from the trailers. Use nylon chokers to minimize damage to surface finish, and to prevent major physical damage to tower components. Always use slings when handling long members and tower sections. Use a copy of the packing list provided to conduct a physical inventory and piece-wise inspection of the tower parts. It is possible to have shortages and damages during shipment. **If this is the case, notify T.S.L. immediately, and use the receiving form/inspection report which must be returned to T.S.L.**

### **II. ACCEPTANCE OF MATERIAL**

Failure to report shortages, mis-fabs and or damaged goods within 24 hours after receipt of shipment will indicate that the erector has accepted all his materials in good condition. Again, use the receiving form/inspection report and if necessary, the damage report form.

### **III. MANUFACTURES DRAWINGS AND SPECIFICATION**

It is the erectors responsibility to assure that installation is in strict compliance with manufactures drawings and specifications. Any changes or modifications to original plans must be approved by T.S.L. prior to making change. Changes must be noted on erectors drawings and as built" drawings returned to T.S.L. immediately upon completion of job.

**X. LEVELING RACKS**

Leveling racks are to be used during assembly of individual bolt up tower sections. Levelness is to be checked at both ends of the completed sections, across the girts. It is good practice to check the leveling racks after each section.

**XI. TOWER TWIST**

Tower twist can be eliminated through the use of leveling racks during construction. There should be no visible twist to the tower. If twist is detected in the tower during assembly, the erector is to notify T.S.L. immediately.

**XII. GROUND CLAMPS**

The contact bolt of a ground clamp is to contact the tower structure at a prepared spot. The area of the spot is prepared by removing paint and galvanizing from the structure by use of a file, after the clamp is installed and bolts tightened, the area is to be touched up with cold galvanizing compound and paint.

**XIII. SURFACE PREPARATION IN THE FIELD**

The erector shall be responsible for final touch-up of all painted surfaces after complete erection and before leaving job site. Painting should not be done when temperature is below 45 degrees F and/or steel is wet. Paint should be applied only on clean surfaces and at a uniform thickness without voids, laps, runs or other defects. On galvanized towers the use of a cold galvanizing compound on minor surface abrasions is recommended.

If necessary, to meet the E.I.A. Linearity Specifications, the use of shims placed between the leg flanges of adjoining sections is an accepted practice to bring a leg connection to proper alignment. The shims are to be made as needed and should be of stainless steel 1/16" shim material. Up to 1/4" gap can be corrected in this manner. Larger gaps should be corrected by using an appropriate plate thickness in conjunction with shims

## **VII. GUYING DURING ERECTION**

Guys, other than permanent guys, are sometimes required to assure safety. As a rule of thumb, temporary guys should be used when the overhang above permanent guys is one half of the span between guys. Temporary guys should not be removed until the next higher level of permanent guys has been installed and tensioned. The tower should never be left with more than 60 ft. overhang at the end of a working day.

## **VIII. BOLT TIGHTNESS**

Correct bolt tension can be achieved by using the "turn-of-nut" method. 1) Bring all bolts in the connection to snug tight condition, when the connecting parts are fully compressed. 2) Rotate each nut 1/2 turn from snug tight. 3) Permissible tolerance: 1/6 turn over, nothing under.

## **IX. TEMPORARY LIGHTING**

Obstruction lights, conduit, and wire should be installed as the tower is erected. Temporary lights should be installed above tower steel at the end of each day. Temporary lighting is to be provided by the erector. Lighting is per FAA advisory circular 70/7460-IG.

#### IV. CORRECTION OF ERRORS

Normal erection **operations include the** correction of minor misfits by moderate amounts of reaming, chipping, or cutting and the drawing of elements into line through the use of drift pins. Errors which cannot be corrected by the foregoing means and require major changes in member configuration are to be reported immediately to T.S.L. by the erector. **This enables** whomever is responsible to correct the error or approve the most efficient and economic method of correction to be used by others.

#### V. FIELD CUTTING OF GUY WIRES

If guys are to be cut to length at the time of erection, the erector must first verify the elevations and distances of the base pier and the anchor heads as tabulated on the guy wire sheet. Guy wires should be cut to the specified lengths as recorded on the cutting sheet, do not add a percentage to the length. Cutting sequence should start **with** the longest wire first: top wire first, then the second level from top second, and so on. Report any **shortages to** T.S.L. immediately for corrective action. Final guy tensions are to be recorded and reported to T.S.L.

#### VI. TOWER PLUMBNESS

The tower is designed for initial tensions as specified on erection drawings. It is important that guys be tensioned accurately to assure tower stiffness. **Check** the plumbness of the tower as each span is completed. Use two separate set-ups of the transit at 90 degrees centered on a leg. Plumbness is to be maintained to E.I.A. RS-222-D Section 6.1.

Wind load on tower and guys change the tension in all guys, therefore, the tower should be plumbed in a "no wind condition". Tensions should, be measured at anchor maintaining elevation nearest that of the base pier.