



ELECTRONICS RESEARCH, INC.

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Engineering Report

FM Multiplex Antenna Orientation
Proof of Performance

American Tower project for Miami, Florida
ERI Project #10345
February 18, 2005

Recently, American Tower installed a FM multiplex antenna for their multiplex FM facility in Miami, Florida. The FM multiplex antenna was manufactured by Electronics Research, Inc., and it was designed to be installed on an existing Kline tower. The antenna and its new support spine were both supplied as a top mounted system by Electronics Research, Inc., and the adapter for the attachment of the new ERI antenna to the existing Kline tower was designed and manufactured by Kline. With this report, I have included a drawing of the ERI antenna as Figure #1, a drawing showing the orientation of the Kline tower as Figure #2, a drawing of the Kline tower interface layout as Figure #3, and the surveyors report as Figure #4.

I have reviewed these documents carefully, and I have climbed the tower in Miami, Florida to verify that the Kline tower interface was manufactured and installed correctly. The final assembly on the tower of the Kline tower interface and the ERI FM Multiplex antenna is correct, and, based on the surveyor's report, the installed tower is orientated correctly. The Electronics Research design was based on the orientation of the Kline tower shown on Figure #2, and the final survey indicated that the tower is within twenty seconds of that. Therefore, based on my field observations of the install of the antenna, the installed antenna is within +/- 0.5 degrees of the specified orientation of N 10 degrees E.

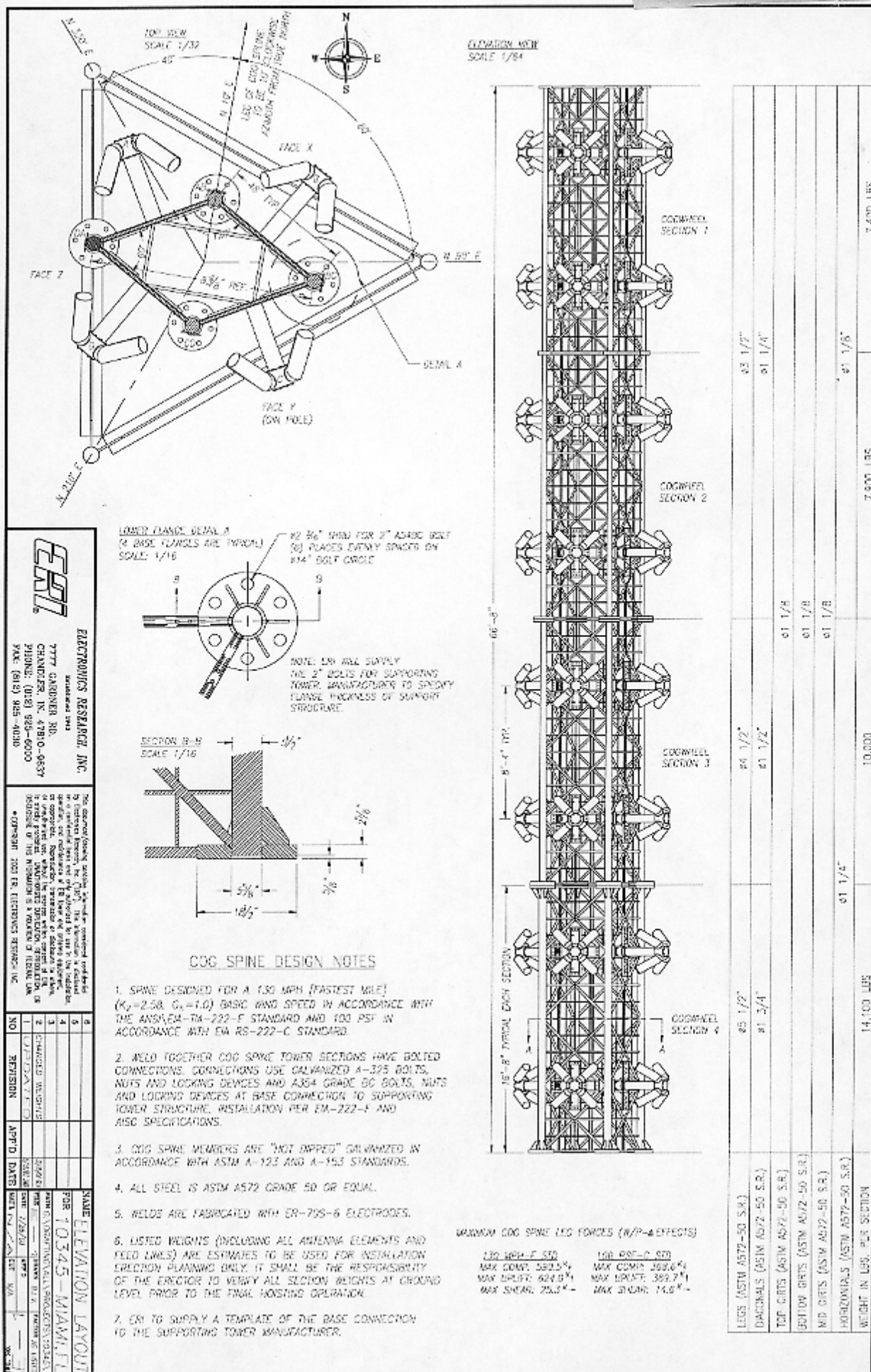
This report was prepared by Thomas B. Silliman of Electronics Research, Inc. whose qualifications are of record at the FCC. Any questions regarding this report should be directed to my attention.

Thomas B. Silliman
Thomas B. Silliman, P.E.
President
Electronics Research, Inc.



Feb 18, 2005





ENR

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The enclosed drawing is the property of Electronics Research, Inc. (ENR). It is to be used for the design and construction of the antenna system only. It is not to be used for any other purpose. The user assumes all liability for the use of this drawing. The user agrees to indemnify and hold ENR harmless from all claims, damages, and expenses, including attorney's fees, arising out of the use of this drawing. The user agrees to return this drawing to ENR upon completion of the project.

NO.	REVISION	DATE	BY	CHKD.	DATE	BY	CHKD.
1		1/2/93	J. L. T.				
2		1/2/93	J. L. T.				
3		1/2/93	J. L. T.				
4		1/2/93	J. L. T.				
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9		1/2/93	J. L. T.				
10		1/2/93	J. L. T.				

SCALE ELEVATION LAYOUT

FOR 10345-MIAM, FL
DATE: 1/2/93
BY: J. L. T.
CHKD.: J. L. T.
DATE: 1/2/93
BY: J. L. T.
CHKD.: J. L. T.

NEW L4x3x1/4 CLIP ANGLE

FIGURE #3

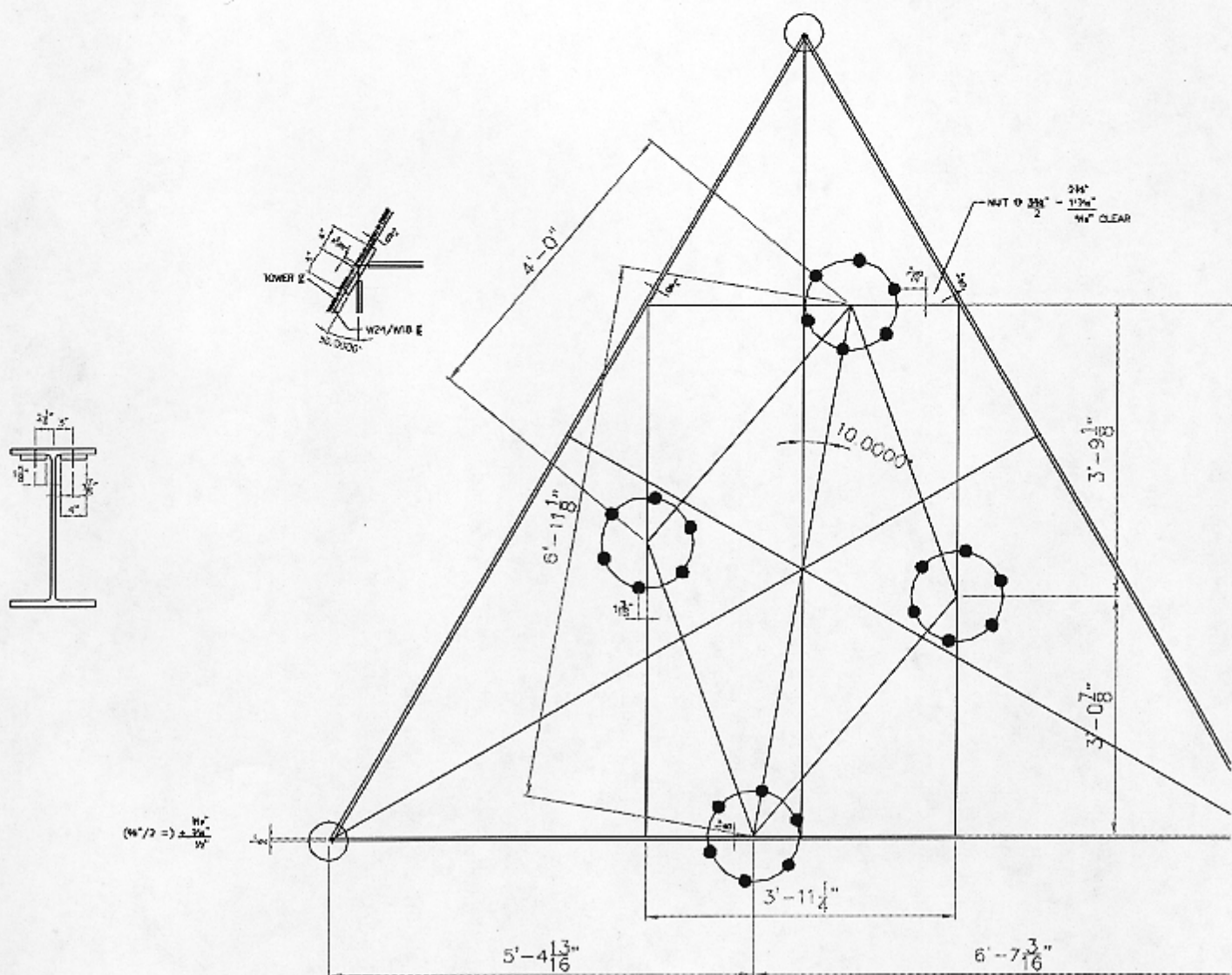
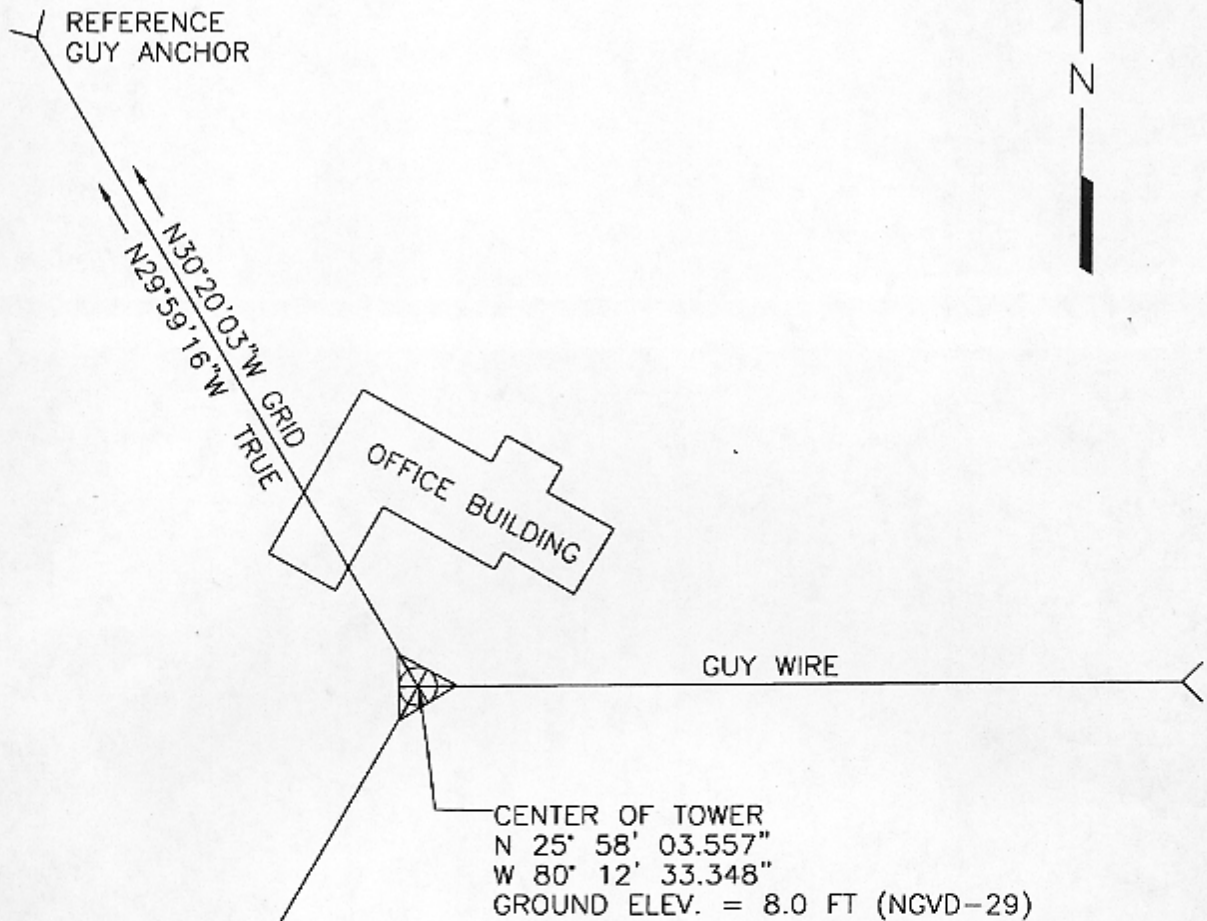


FIGURE #4



E. Thomas Conley

ALIGNMENT SURVEY
TOWER NUMBER 75010

SURVEYED FOR
AMERICAN TOWER CORPORATION
HILLANDALE, FLORIDA



**GEO
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GEODETIC SERVICES, INC.
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(757)-499-7985

DRAWN	SCALE	DATE	DOCUMENT NO.
ETC	1"=100'	2/07/05	10324