ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2009 RQMTS. (FINAL DEFLECTED POSITION)
BY BNS 5/12/2014 VERSION Fuse 1.10.0.540 32-bit

SUBJECT: VERMONT, 42' MAST ARM & 16' LUM ARM

FOLDER: VTTRAF FILE: 4216

THIS PAGE PROVIDES THE PERTINENT INFORMATION CONCERNING THE ANALYSIS
OF THE ARM-TO-POLE ATTACHMENT COMPONENTS OF THE SIGNAL AND SIGN ARMS.

********** INPUT DATA **********

ARM 1

CONNECTION BOLT DATA

NUMBER	=	4
BOLT DIAMETER (IN)	=	1.250
ASTM SPECIFICATION	=	A325
HORIZONTAL SPACING (IN)	=	14.50
VERTICAL SPACING (IN)	=	14.50

ATTACHMENT PLATE DATA

HORIZONTAL WIDTH (IN)	=	17.75
VERTICAL WIDTH (IN)	=	17.75
THICKNESS (IN)	=	1.500
YIELD STRENGTH (KSI)	=	36
GUSSET THICKNESS (IN)		
- VERTICAL	=	0.250
- HORIZONTAL	=	0.313

ATTACHMENT TYPE

ARM 1: SIMPLEX - RING-STIFFENED BOX, THRU, BASE WELD TYPE = Full-Pen

********** RESULTS **********

ANALYSIS OF SIGNAL/SIGN ARM SIMPLEX BOLTS

ARM	MAX. BOLT CSR	GROUP LOAD NO.	TENSION LBS	APPLIED STRESS KSI	ALLOWABLE STRESS KSI
1	0.59	3	32146	26.20	44.22

ANALYSIS OF SIGNAL/SIGN ARM SIMPLEX PLATES

ARM	MAX. PLATE CSR	GROUP LOAD NO.	APPLIED STRESS KSI	ALLOWABLE STRESS KSI	ANGLE OF FAILURE LINE DEGREES	LENGTH OF BEND LINE IN
1	0.86	3	27.17	31.60	45	12.56