TOWN OF OHATCHEE

P.O. Box 645 Ohatchee, Alabama 36271 256-892-3233

"Biggest Little Town in the U.S.A."

Anthony Crosson
Council Member Place No. 3
Teresa G. Lott
Council Member Place No. 4
Perry R. Howard
Council Member Place No. 5

Steven E. Baswell
Mayor
Celesia S. Jennings
Council Member Place No. 1
J.M. "Butch" Mitchell
Council Member Place No. 2

August 14, 2023

PUBLIC MEETING NOTICE

The Town of Ohatchee will be hosting a Public Meeting on Tuesday, September 12, 2023, at 5:00 p.m. The meeting will be held at the Ohatchee Town Hall located at 7801 Highway 77, Ohatchee, Alabama 36271. The Public Meeting will be held to receive comments on a Tower Replacement to be installed at 7622 Alabama Highway 77, Ohatchee, AL 36271, proposed by PowerSouth- COOP Member Coosa Valley.

Sincerely,

Mayor Steve Baswell

Ot & Bowell

256-892-3233

TOWN OF OHATCHEE

P.O. Box 645 Ohatchee, Alabama 36271 256-892-3233

"Biggest Little Town in the U.S.A."

Anthony Crosson Council Member Place No. 3 Teresa G. Lott Council Member Place No. 4 Perry R. Howard Council Member Place No. 5

SPECIAL CALLED HEARING SEPTEMBER 12, 2023

Steven E. Baswell

Mayor

Celesia S. Jennings Council Member Place No. 1

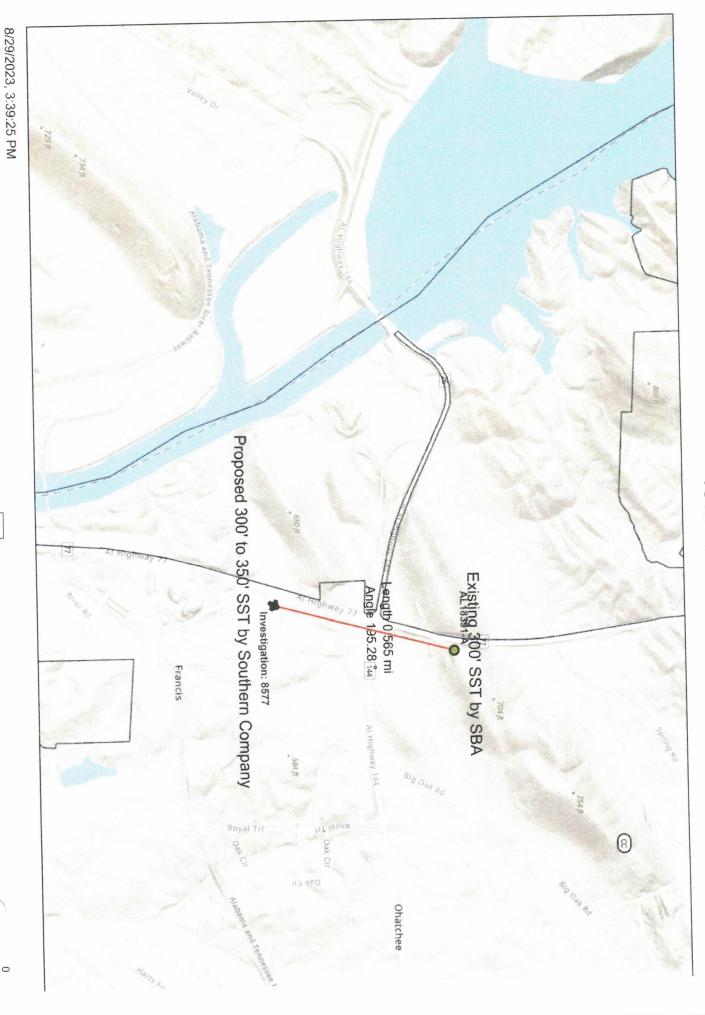
J.M. "Butch" Mitchell

Council Member Place No. 2

SIGN IN SHEET

NAME TO THE	PHONE 17371112	EMAIL Fabers @ br. com jharnis@ wetk. wreager. com
James A. Harist	= (205)901-6242	jharnis@ watk. Lreager. com
		Perny howard 22120 G-mai
Vern Howard	256-282-3277	Perry howard 22120 Gomai
Buton Mixeyell	ITLE-892-3954	
Derea Latt	256-454-1738	
Celesia Jenning		32 CelesiAjennings @ Gmail
Slely	256-689-0349	ChiefKelly Otownof dutcher.com
Ofmer D. Having	205-505-9303	
Sybil HARRIS	205-505-9413	
William T. KABEL	630 440478	
Hens Lutting	256-892-444	
Raymone underward	832-038-6950	lender nevahore Existen, ret
It baseull	7	

Town of Ohatchee - INV 877



Distance & Dire 'an - Line Graphics

.aw US Competitors

J Geographic Jurisdiction

O Override

Town of Ohatchee - INV 8577



SBA Communications
TNRIS, Various Counties, Various Vendors | Washington State Department of Ecology, Washington State Office of the Chief Information Officer (OCIO), Washington State Counties | Commonwealth of Massachusetts Office of Geographic Information (MassGIS) | The Forida Department of Revenue, the respective

8/29/2023, 3:44:08 PM

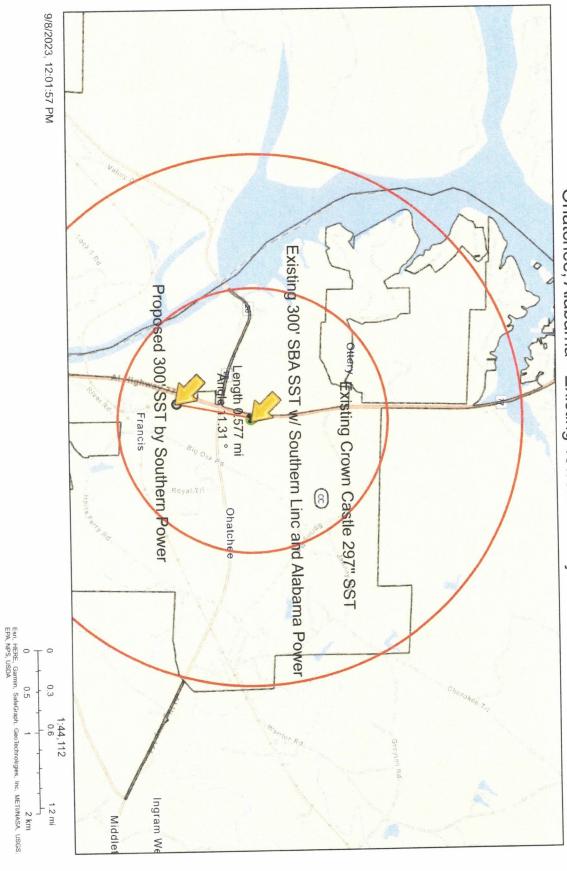
Esri Community Maps Contributors, @ OpenStreetMap, Microsoft, Esri, HERE, Garmin SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Maxar

0.07 0.13

0.15 0.25

0.3 mi 0.5 km

Ohatchee, Alabama - Existing Towers within jurisdiction



TNRIS, Various Counties, Various Vendors | Washington State Department of Ecology, Washington State Office of the Chief Information Officer (OCIO), Washington State Counties | Conmor aalth of Massachusetts Office of Geographic Information (MassGIS) | The Florida Department of

SBA Communications

TO: SBA

Subject: RF Coverage Plot Analysis: City of Ohatchee, AL

Date: September 11, 2023

1. METHODOLOGY. The attached plots depict broadcast radio frequency (RF) coverage from the existing site to City of Ohatchee, AL and a proposed site approximately 0.57 miles to the South. At each location, cellular industry typical LTE operating parameters were considered for omnidirectional antennas mounted at 290 feet above ground level at the existing site, and at 290 feet above ground level for the proposed site. Ground elevations are 608 and 511 feet above mean sea level, respectively.

The provided predictive coverage plots were created using established radiowave propagation models with terrain and clutter data, implemented by qualified engineers specializing in this discipline and having years of US Industry experience.

Plots for both locations were generated for 700, 850, 1900 and 2100 MHz operations. The signal levels depicted are associated with LTE service reliability where the strong coverage levels in green and blue occur near the towers and decrease with distance from the sites and intervening terrain obstructions. Signal levels greater than -70 dBm shown as blue are associated with feasible coverage within buildings. Marginal coverage is provided in the regions depicted in yellow between -90 dBm and -80 dBm and signal levels between -100 dBm and -90 dBm shown as red represent poor coverage associated with call failures.

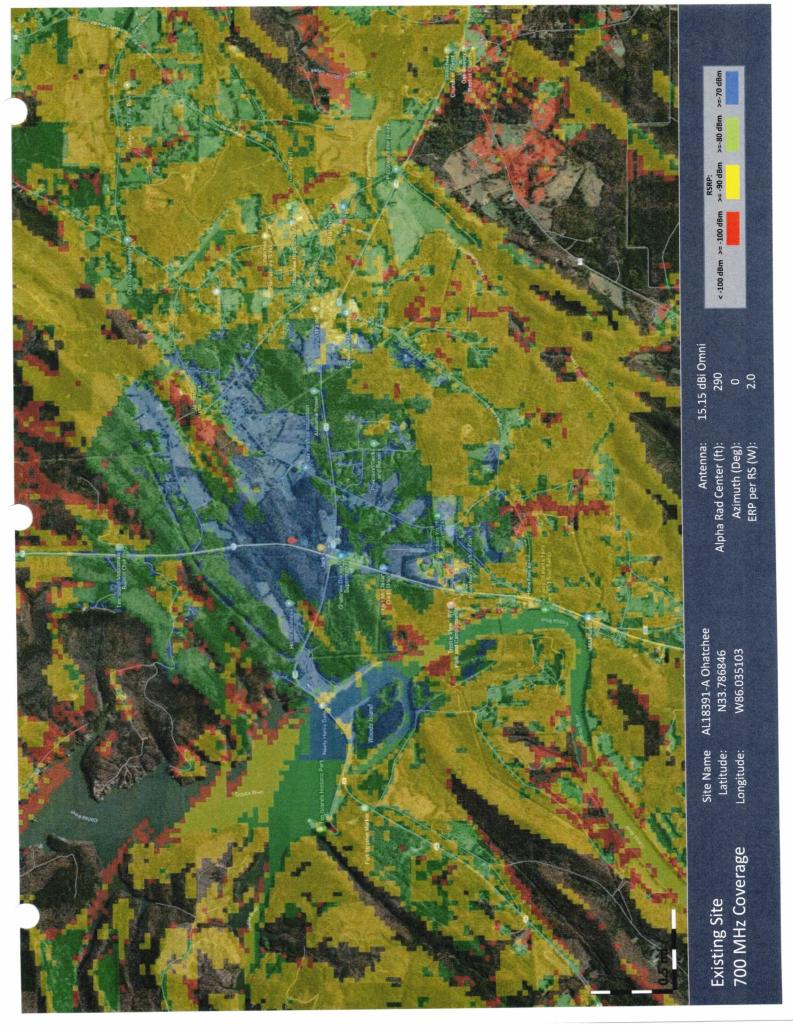
A comparison of coverage performance for each site is based on low band (700 and 850 MHz) and high band (1900 and 2100 MHz) prediction results. Radiowave propagation conditions between these bands differ because of terrain and ground clutter (e.g. vegetation) effects at different frequencies. Generally, low band operations provide greater area coverage. Therefore, high band operations provide additional customer traffic capacity closer to the cellular site.

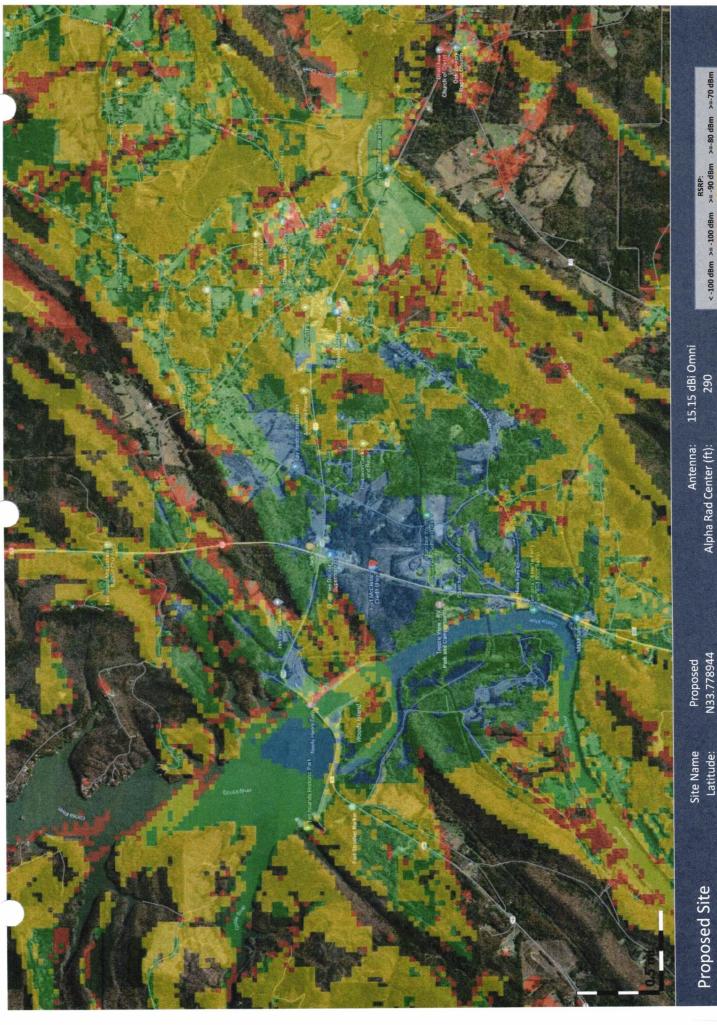
2. COMPARISON. The sites considered in these coverage plots provide service to the depicted locations and roads leading to City of Ohatchee, AL. For low band operations, the existing site provides strong coverage approximately 0.3 miles in all directions from the tower and to non-contiguous areas to 0.4 miles from the site. This includes 1.3 miles of Alabama State Route 77. The proposed site provides strong coverage approximately 0.3 miles in all directions from the tower and to non-contiguous areas to 0.4 miles from the site. This includes 1.3 miles of Alabama State Route 77.

For high band operations, both sites provide strong coverage to non-contiguous areas 0.4 miles in all directions from the tower.

3. CONCLUSION. Based on the coverage comparison presented above, the proposed site provides comparable coverage to City of Ohatchee, AL due to its close proximity to the existing site. For wireless

operators with antennas mounted on the existing site, the installation of additional antennas on the proposed site would be considered to be an "overbuild" or impractical given the coverage overlap.



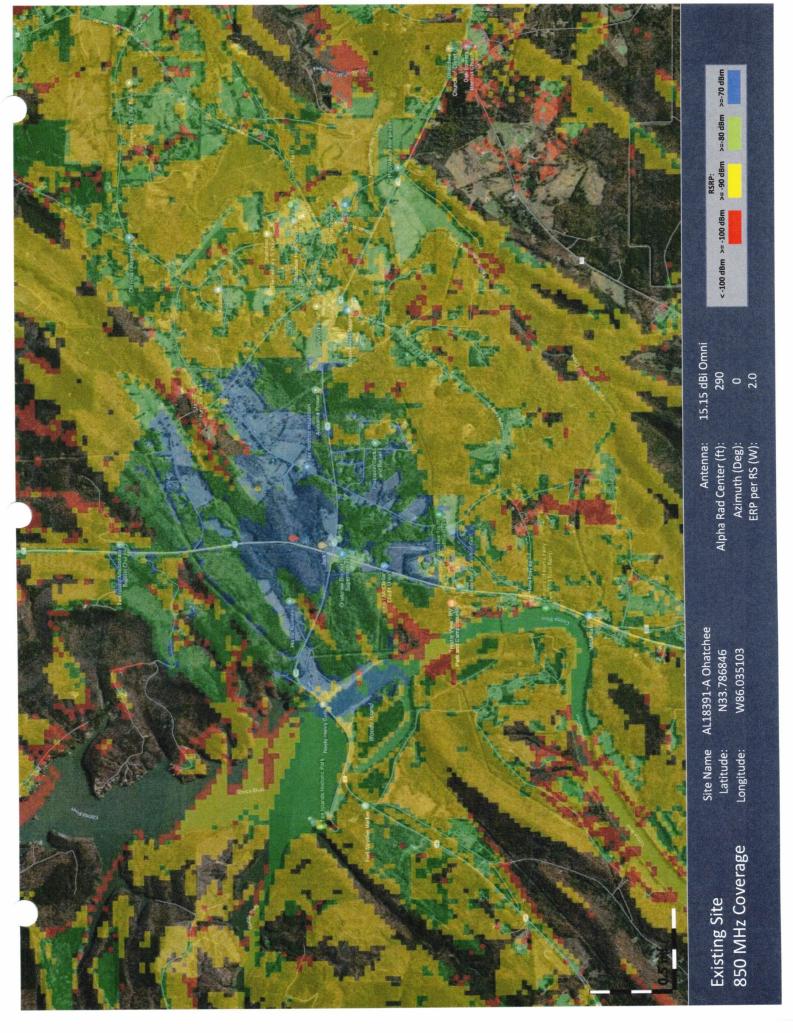


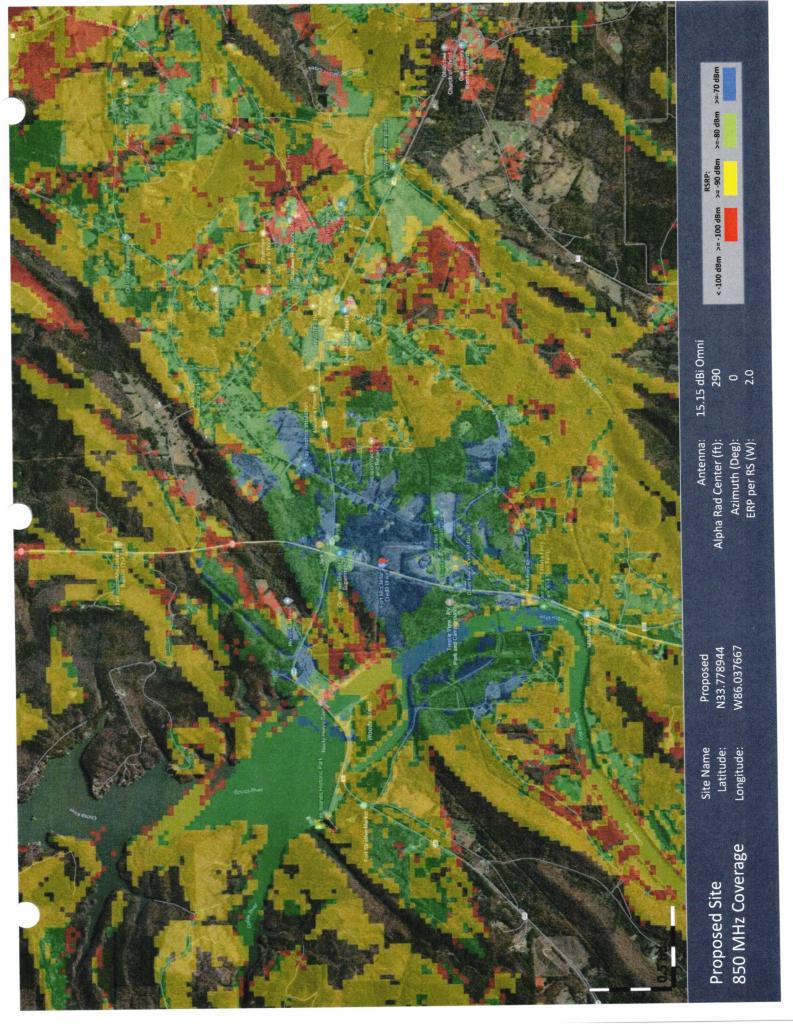
Site Name Latitude: Longitude: 700 MHz Coverage

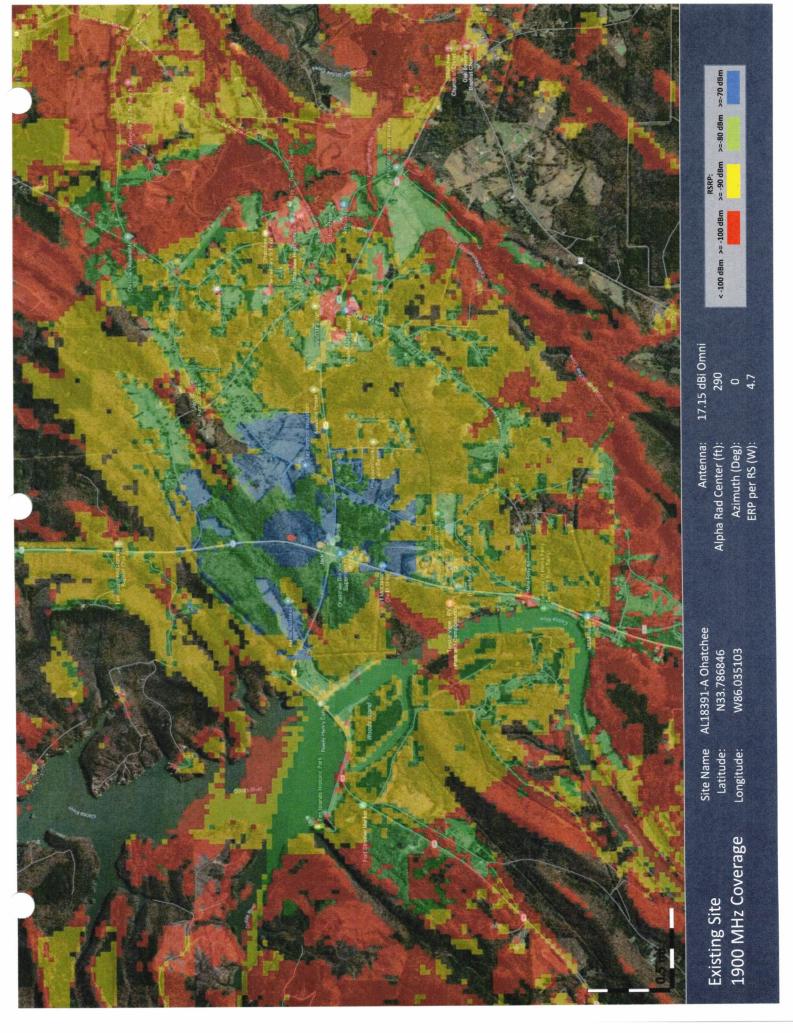
Proposed N33.778944 W86.037667

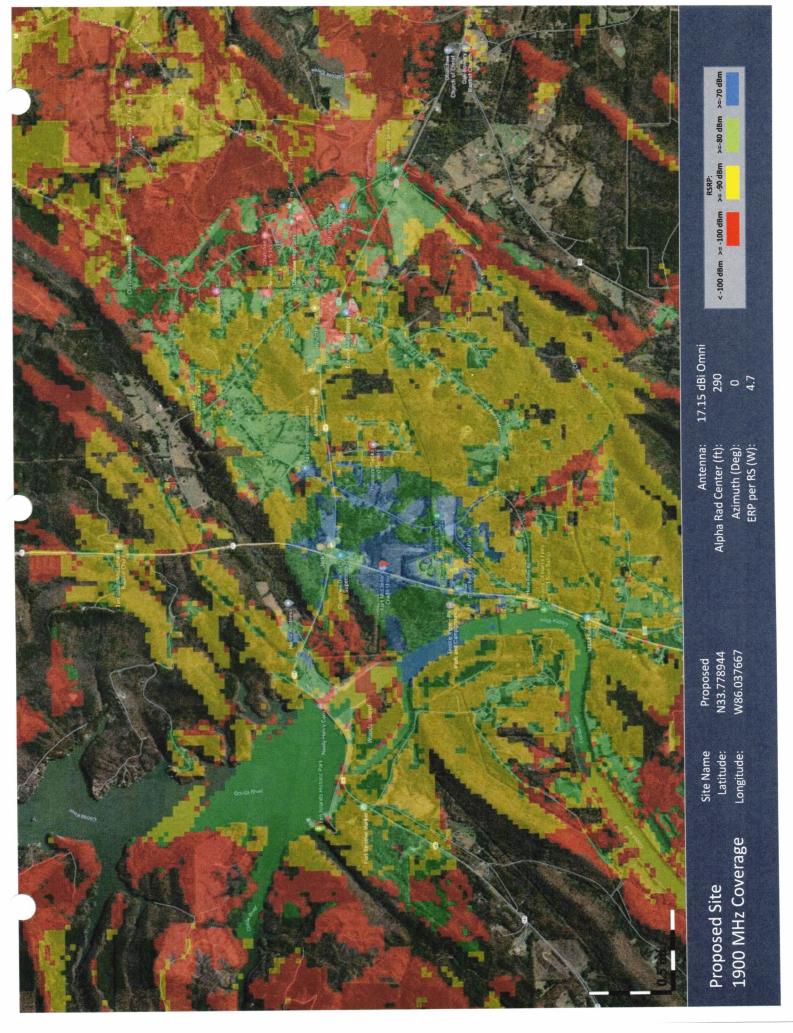
Alpha Rad Center (ft): Azimuth (Deg): ERP per RS (W):

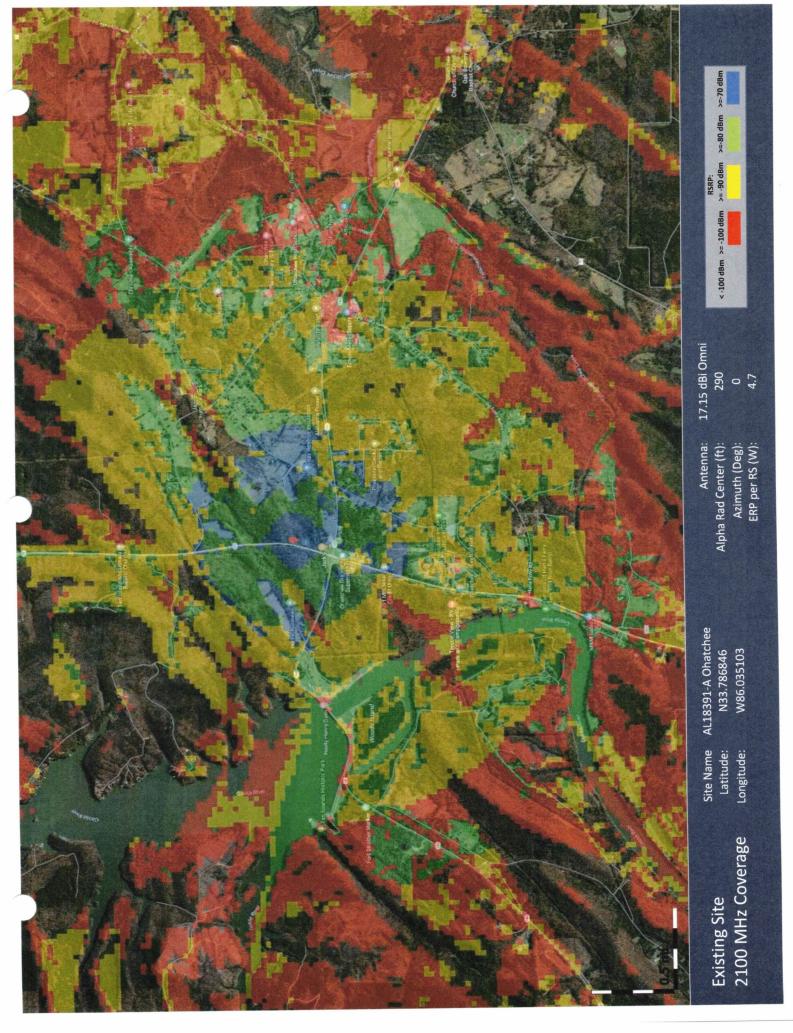
290 0 2.0

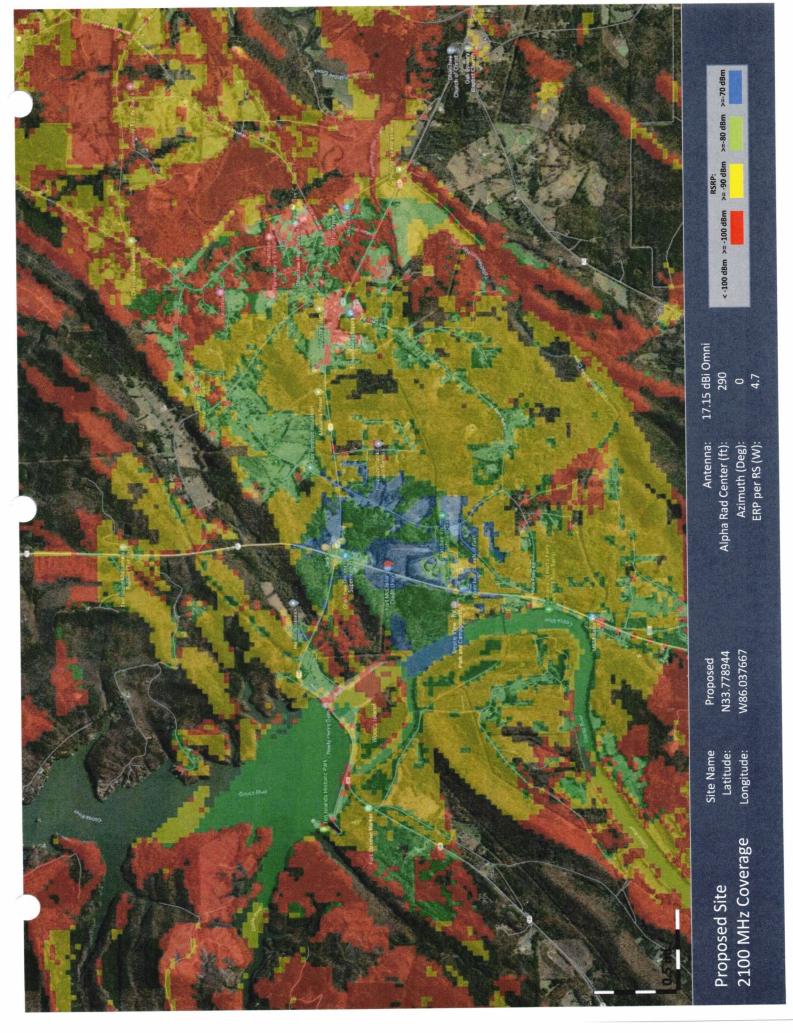














SBA Communications Corporation 8051 Congress Avenue Boca Raton, FL 33487-1307

> T + 561.995.7670 F + 561.995.7626

> > sbasite.com

Structural Analysis Report

Client: Alabama Power

Client Site ID: AL18391-A Client Site Name: Ohatchee (AL Power) AppID: 9248, v1

SBA Site Name: Ohatchee SBA Site ID: AL18391-A 300' Self Supporting Tower 8130 Alabama Highway 77 Ohatchee, AL 36271 Lat: 33°47'12.65", Long: -86°2'6.37"

Project number: AL18391-AL-073118

Analysis Results

Tower	55.90%	Pass
Foundation	37.60%	Pass

Client Mount modification / replacement

Net change in tower stress due to mount Modification / replacement

N/A

Twist and Sway with a 10 dB Degradation Limit

Elev. (ft)	Model	Frequency (GHz)	Calculated Twist/Sway (°)	Allowable Twist/Sway (°)	Analysis Results
(1.5)		10.700	1.654	0.376	Sufficient
280	280 ANT2 0.9 HPX 10/1 - Dish	11.700	1.513	0.376	Sufficient
		21,200	1.246	0.376	Sufficient
280	ANT2 0.6 HPX 18 - Dish	23.600	1.125	0.376	Sufficient

^{*} Client must review the operational limits of the Microwave dish

Prepared by:

Reviewed by:

Serge Berthomieux Structural Analyst 561-226-9365 SBerthomieux@sbasite.com Nitesh Ahuja, PE Director of Engineering 561-226-9452 nahuja@sbasite.com No. 31760
PROFESSIONAL AS SOLO DO 18

August 9, 2018

Prepared in compliance with:

ANSI/TIA-222-G Structural Standard for Antennas and Antenna Supporting Structures

2009 International Building Code (IBC)

^{**}Frequencies are assumed

Table of Contents

courting Summany	
Recutive Summary	,
ssumptions	c
mitations	4
stallation Requirements	4
pourtenance Loading	5
Existing Loading:	
Existing Loading: Proposed Loading:	5
oax Layout	6
oax Layoutesults	
Tower	
Foundation System	
ppendix	8
Tower Geometry	
tnxTower Report	
Foundation Analysis Report	



Executive Summary

The enclosed structural analysis was performed for *Alabama Power* on *August 9, 2018* to verify the structural capacity of the 300' Self Supporting Tower located at 8130 Alabama Highway 77, Ohatchee, AL 36271 to support the proposed antenna, transmission lines and mounting equipment in addition to those currently installed. The following documents were used to determine the geotechnical characteristics, foundation data, tower geometry and member sizes/type:

Table 1 List of Documents Used

Table I List of Documents 03	CO
Item	Document
Tower design/drawings	World Tower, Job #: Q15-366, Dated: 5/19/2015
Foundation drawings	World Tower, Job #: Q15366N, Dated: 5/21/2015
Geotechnical report	Environmental Corporation of America, Project # R0441, Dated: 5/7/2015
Latest SA	N/A

The analysis was performed in accordance with the following requirements:

Table 2 Code Related Data

Table 2 Code Related t	
Jurisdiction (State/County/City)	Alabama / Calhoun / Ohatchee
Governing Codes	ANSI/TIA-222-G , 2009 IBC
Base Wind Speed	90 mph
Wind Speed with Ice	30 mph
Ice Thickness	0.5 in
Structural Class	
Exposure Category	C
Topographic Category	1
Crest Height	0 ft

[&]quot;This structural analysis is based upon the tower being classified as a class II; however, if a different classification is required subsequent to the date hereof, the tower classification will be changed to meet such requirement and a new structural analysis will be run."

The SBA Communications Corporation verifies that the 300' Self Supporting Tower located at 8130 Alabama Highway 77, Ohatchee, AL 36271 is <u>sufficient</u> to support the proposed loadings for Alabama Power in addition to those currently existing based on standards set forth in governing building codes and dependent on Alabama Power satisfying all Installation Requirements provided herein. The analysis performed assumes the site information provided is accurate and the tower/foundation has been properly designed, manufactured, installed and maintained. Additional details regarding the assumptions and limitations are provided within the Assumptions and Limitations section of this report.

Assumptions

This analysis was completed based on the following assumptions:

- Tower has been properly maintained
- Tower erection was in accordance to manufacturer drawings
- Leg flanges have been properly designed by manufacturer to not be a limiting reaction
- Welds have been properly designed and installed by manufacturer to not be a limiting reaction
- Foundation was constructed in accordance to manufacturer drawings
- Foundation does not have structural damage
- Bolts have been properly tightened according to manufacturer specifications
- Appurtenance, mount and transmission line sizes and weights are best estimates using the tnxTower database and manufacturer information



Limitations

The computer generated analysis performed by the tnxTower software is limited to theoretical capacities of the towers structural members and does not account for any missing or damaged members or connections. The tower and foundation are assumed to have been properly designed, fabricated, installed and maintained, barring any conflicting findings from the most recent inspection. All leg flanges, welds and bolts are assumed to be designed by the manufacturer in such a way that these are not limiting reactions.

SBA Communications Corporation has used its due diligence to verify the information provided to perform this analysis. It is unreasonable to perform a more detailed inspection of a tower and its components. This report is not a condition assessment of the tower or foundation.

Installation Requirements

This analysis was performed under the assumption that Alabama Power will place the proposed equipment and feed lines at a height of 280' and in accordance with the coax layout shown. RRUs are to be installed on existing mounts behind tenant's antennas unless otherwise noted. No equipment is to be installed directly in the climbing path. All equipment is to be installed per mount manufacturer specifications. In case site conditions do not allow for the required installation parameters to be met Alabama Power must notify SBA Communications Corporation engineers for approval of an alternative placement.



Appurtenance Loading

Existing Loading:

The existing antenna and feed line information was obtained from the Site Summary and/or previous Structural Analysis. SBA Communications Corporation uses due diligence to ensure reasonably accurate information has been recorded. The existing loadings are shown in Table 3.

Table 3 Existing Appurtenances

Mount Elev. (ft)	CL Elev. (ft)	Carrier	Туре	Qty	Manufacturer	Model	Qty	Feed Line Size	Mount Type Qty
	294		Panel	6	Kathrein	800 10735V01		7/8" Hybrid	
294	005		RRU	3	Ericsson	RRUS 11	1		2.5' Standoff
	295	Southern	Filter	3	Ericsson	Public Safety Notch Filter			
		Linc	Dish	2	Antel	ANT1 0.9 11	2	3/8"	(1) Pipe Mount
280	280		ODU	1	Ericsson	20150720 ODU		3/0	(1)1 ipo ivioant

^{*(3)} Kathrein 800 10735V01 & (1) Antel ANT1 0.9 11 are reserved loading

Proposed Loading:

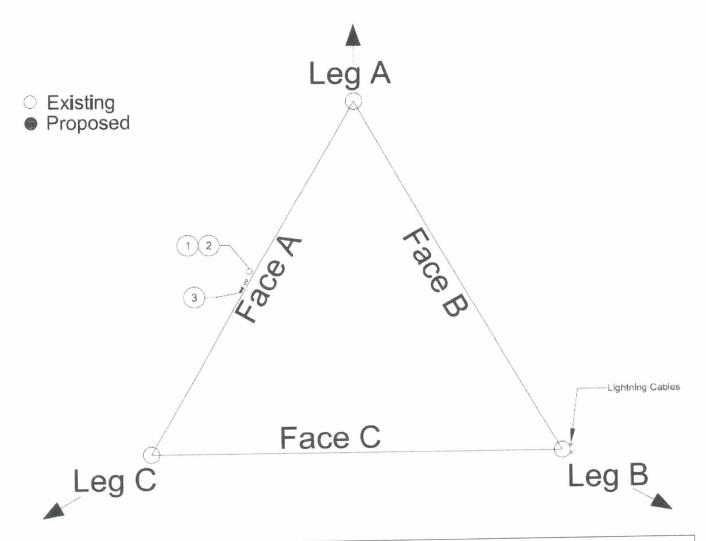
Information pertaining to proposed antennas and transmission lines were based upon the APP ID 92481 v1 from Alabama Power and is listed in Table 4.

Table 4 Proposed Appurtenances

Mount Elev. (ft)	CL Elev. (ft)	Carrier	Туре	Qty	Manufacturer	Model	Qty	Feed Line Size	Mount Type Qty
280	280	Alabama Power	Dish	1	Ericsson	ANT2 0.6 HPX 18	2	3/8"	(1) Pipe Mount



Coax Layout



			AL1839	91-A	
#	CARRIER	SIZE	QTY.	ELEVATION	NOTES
1	Southern Linc	7/8"	1	294'	Hybrid
2	Southern Linc	3/8"	2	280'	
3	Alabama Power	3/8"	2	280'	Proposed



Results

Tower

The results of the structural analysis performed with the tnxTower software are shown below. Table 5 shows the most critical member elements and the percentage of the force in the member with respect to the member capacity. Capacities of up to 105% are considered acceptable. The foundation reactions obtained from tnxTower are shown in Table 6 and Table 7. Table 8 displays the twist and sway at service wind speeds. These reactions are used for the analysis of the foundation systems. Additional information for the tower analysis is provided within the Appendix.

Table 5 Tower Analysis Summary

Structural Component	% capacity	Analysis Result
Leg	46.80	Pass
Diagonal	55.90	Pass
Horizontal	45.20	Pass
Top girt	12.50	Pass
Bottom girt	14.20	Pass
Anchor Bolt	37.40	Pass
Bolt	49.70	Pass
Tower	55.90	Pass

Table 6 Tower Base Reactions

Axial (kips)	65	
Shear (kips)	45	
Moment (kip-ft)	6355	

Table 7 Tower leg Reactions

Uplift (kips)	248	
Compression (kips)	304	
Shear (kips)	28	

Table 8 Twist and Sway with a 10 dB Degradation Limit (for dishes only)

Elev. (ft)	Model	Frequency (GHz)	Calculated Twist/Sway (°)	Allowable Twist/Sway (°)	Analysis Results
		10.700	1.654	0.376	Sufficient
280	ANT2 0.9 HPX 10/1 - Dish	11.700	1.513	0.376	Sufficient
		21,200	1.246	0.376	Sufficient
280	ANT2 0.6 HPX 18 - Dish	23.600	1.125	0.376	Sufficient

^{*} Client must review the operational limits of the Microwave dish

Foundation System

The results of the foundation based on the geotechnical report and foundation mapping or design drawings are shown below in Table 9. Additional information for the foundation analysis is provided within the Appendix.

Table 9 Foundation Analysis Summary

Structural Component		Analysis Result
Foundation	37.60	Pass



^{**}Frequencies are assumed

Appendix



	T14	T13	T12	TIT	T10			T8	D8v 322	D8v0 25	P6x 28	P5x 258	P4x.237	7	7 SR2
	P12.	P12x,375				P 10 S	1		F6X,322	LOX0,23	1 04.60	200.500	03 0234		
					A500-50								A3/2-30		
٧	1 44445/16	1 4x4x1/4		L3 1/2x3 1/2x1/4	/2×1/4	L3;	L3x3x1/4	L3x3x3/16	16	L2x2.	L2x2x3/16	L1-3/4x	L1-3/4x1-3/4x3/16		SR 1 1/4
	0.000							A36							
						AN							L1-3/4x1-3/4x1/8		SR 1 1/8
							A M								SR 1
							VIV								SR 1
L4x4x1/4														+	SR 1
							N.A.							+	
L3x3x3/16								N.A.							
13-1/2x3-1/2x1/4								N.A.							
19 11009 1100114								N.A.						- 1	
-1/CA1/4			00	10	16	14.5	13	11.5	10	8.5	100	7	5.5		
54		77	70	0	5	5					16.	5 @ 2			12 @ 3.20833
1@20					16 @ 10									+	
6.6	6.1	5,4	5.0	0 4.2	4.1		3.8	3.5	2.7	2.2	5.	e.		-1	5
	20.0 ft	40.0 ft	60,0 ft	80.0 ft	100.0 ft	120.0 ft	140.0 ft	160,0 ft		180.0 ft	200.0 ft	220.0 ft	240.0 ft		260.0 ft
								v							

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Flash Beacon Lighting	300	3' Standoff	294
Flash Beacon	300	2.4" X 7' Kickers	294
(2) 80010736V01 (96"x11.9"x3.9")	294	2,4" X 7' Kickers	294
(2) 80010736V01 (96"x11.9"x3.9")	294	2.4" X 7' Kickers	294
(2) 80010736V01 (96"x11.9"x3.9")	294	Dish Mount	280
RRUS 11 (17,8"x17"x7,3")	294	Dish Mount	280
RRUS 11 (17.8"x17"x7.3")	294	Dish Mount	280
RRUS 11 (17.8"x17"x7.3")	294	20150720 ODU	280
Public Safety Notch Filter (15" x 7.9" x 3.9")	294	ANT2 0.9 HPX 10/11 (39.3" x 39.3" x 24.3")	280
Public Safety Notch Filter (15" x 7.9" x 3.9")	294	ANT2 0.9 HPX 10/11 (39.3" x 39.3" x 24.3")	280
Public Safety Notch Filter (15" x 7.9" x 3.9")	294	ANT2 0.6 HPX 18 (26.1" x 26.1" x 22.6")	280
3' Standoff	294	Side Light	152
3' Standoff	294	Side Light	152

SYMBOL LIST

MARK	SIZE	MARK	SIZE			
Α	2L3-1/2x3-1/2x1/4x1/2					

MATERIAL STRENGTH

GRADE	Fv	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A500-50	50 ksi	62 ksi
A36	36 ksi	58 ksi			

TOWER DESIGN NOTES

- Tower is located in Calhoun County, Alabama.
 Tower designed for Exposure C to the TIA-222-G Standard.
 Tower designed for a 90 mph basic wind in accordance with the TIA-222-G Standard.
- Tower is also designed for a 30 mph basic wind with 0.50 in ice. Ice is considered to increase in thickness with height.
 Deflections are based upon a 60 mph wind.

- Tower Structure Class II.
 Topographic Category 1 with Crest Height of 0.00 ft
 TOWER RATING: 55.9%

ALL REACTIONS ARE FACTORED

MAX. CORNER REACTIONS AT BASE:

DOWN: 304 K SHEAR: 28 K

UPLIFT: -248 K SHEAR: 23 K

AXIAL 110 K

SHEAR MOMENT 729 kip-ft 5 K

TORQUE 2 kip-ft 30 mph WIND - 0.5000 in ICE

AXIAL 65 K

MOMENT SHEAR 45 K 6355 kip-ft

TORQUE 17 kip-ft REACTIONS - 90 mph WIND

> SBA Communications 8051 Congress Avenue

Boca Raton, FL 33487 Phone: (561) 226-9365 FAX:

Job: AL18391-A, Ohatchee		
Project: AI 18391-AP-073118		
Client: Alabama Power (Application #: 92481, v1)	Drawn by: sberthomieux	App a:
Code: TIA-222-G	Date: 08/09/18	Scale: NTS
TIA-222-G		Dwg No. F-1

tnxTower

SBA Communications

8051 Congress Avenue Boca Raton, FL 33487 Phone: (561) 226-9365 FAX:

Job	AL18391-A, Ohatchee	Page 1 of 27
Project	AL18391-AP-073118	Date 16:38:08 08/09/18
Client	Alabama Power (Application #: 92481, v1)	Designed by sberthomieux

Tower Input Data

The main tower is a 3x free standing tower with an overall height of 300.00 ft above the ground line.

The base of the tower is set at an elevation of 0.00 ft above the ground line.

The face width of the tower is 4.00 ft at the top and 26.00 ft at the base.

This tower is designed using the TIA-222-G standard.

The following design criteria apply:

Tower is located in Calhoun County, Alabama.

Basic wind speed of 90 mph.

Structure Class II.

Exposure Category C.

Topographic Category 1.

Crest Height 0.00 ft.

Nominal ice thickness of 0.5000 in.

Ice thickness is considered to increase with height.

Ice density of 56 pcf.

A wind speed of 30 mph is used in combination with ice.

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 60 mph.

A non-linear (P-delta) analysis was used.

Pressures are calculated at each section.

Stress ratio used in tower member design is 1.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification

- Use Code Stress Ratios
- Use Code Safety Factors Guys Escalate Ice Always Use Max Kz
 - Use Special Wind Profile
- Include Bolts In Member Capacity Leg Bolts Are At Top Of Section Secondary Horizontal Braces Leg
- Use Diamond Inner Bracing (4 Sided) SR Members Have Cut Ends SR Members Are Concentric

Distribute Leg Loads As Uniform Assume Legs Pinned

- Assume Rigid Index Plate
- Use Clear Spans For Wind Area
- Use Clear Spans For KL/r Retension Guys To Initial Tension
- Bypass Mast Stability Checks Use Azimuth Dish Coefficients
- √ Project Wind Area of Appurt. Autocalc Torque Arm Areas Add IBC .6D+W Combination
- Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Treat Feed Line Bundles As Cylinder

Use ASCE 10 X-Brace Ly Rules Calculate Redundant Bracing Forces

- Ignore Redundant Members in FEA SR Leg Bolts Resist Compression All Leg Panels Have Same Allowable Offset Girt At Foundation
- Consider Feed Line Torque
- Include Angle Block Shear Check Use TIA-222-G Bracing Resist. Exemption Use TIA-222-G Tension Splice Exemption Poles

Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets Pole Without Linear Attachments Pole With Shroud Or No Appurtenances Outside and Inside Corner Radii Are