

# CERTIFICATE OF APPROPRIATENESS PLACARD

for Raleigh Historic Resources

519 S WILMINGTON STREET

Address

PRINCE HALL

Historic District

Historic Property

178-16-MW

Certificate Number

11-17-2016

Date of Issue

05-17-2017

Expiration Date

## Project Description:

- Install cellular antenna and equipment on existing power pole

*This card must be kept pasted in a location within public view until all phases of the described project are complete. The work must conform with the code of the City of Raleigh and laws of the state of North Carolina. When your project is complete, you are required to ask for a final zoning inspection in a historic district area. Telephone the RHDC office at 832-7238 and commission staff will coordinate the inspection with the Inspections Department. If you do not call for this final inspection, your Certificate of Appropriateness is null and void.*

Signature, \_\_\_\_\_

Raleigh Historic Development Commission

*Pending the resolution of appeals, commencement of work is at your own risk.*



# Raleigh Historic Development Commission – Certificate of Appropriateness (COA) Application



**DEVELOPMENT  
SERVICES  
DEPARTMENT**

Development Services  
Customer Service Center  
One Exchange Plaza  
1 Exchange Plaza, Suite 400  
Raleigh, North Carolina 27601  
Phone 919-996-2495  
eFax 919-996-1831



- Minor Work (staff review) – 1 copy
- Major Work (COA Committee review) – 13 copies
  - Additions Greater than 25% of Building Square Footage
  - New Buildings
  - Demo of Contributing Historic Resource
  - All Other
- Post Approval Re-review of Conditions of Approval

For Office Use Only	
Transaction #	490665
File #	178-16-MW
Fee	29
Amount Paid	329
Received Date	10/11/16
Received By	ACH
	New fee rec'd 10/25

Property Street Address Near 519 S Wilmington St, Raleigh, NC 27601

Historic District Print Hall Historic Overlay District

Historic Property/Landmark name (if applicable)

Owner's Name Fibertech

Lot size	(width in feet)	(depth in feet)
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For applications that require review by the COA Committee (Major Work), provide addressed, stamped envelopes to owners of all properties within 100 feet (i.e. both sides, in front (across the street), and behind the property) not including the width of public streets or alleys:

Property Address	Property Address
511 S Wilmington Street	105 Stronachs Alley
513 S Wilmington Street	106 Stronachs Alley
519 S Wilmington Street	107 Stronachs Alley
521 S Wilmington Street	108 Stronachs Alley
529 S Wilmington Street	111 Stronachs Alley
501 Fayetteville Street	100 E Cabarrus Street

process as minor => do not post check => John will contact client

I understand that all applications that require review by the commission's Certificate of Appropriateness Committee must be submitted by 4:00 p.m. on the application deadline; otherwise, consideration will be delayed until the following committee meeting. An incomplete application will not be accepted.

Type or print the following:

**Applicant** Lighttower Fiber Networks, Attn: Legal ROW Access Group

**Mailing Address** 300 Meridian Centre Blvd

<b>City</b> Rochester	<b>State</b> NY	<b>Zip Code</b> 14618
-----------------------	-----------------	-----------------------

<b>Date</b> 10/7/16	<b>Daytime Phone</b> 585-568-8456
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**Email Address** Lighttower-rowaccess@lighttower.com

**Applicant Signature** *Linda Michael, Manager*

**Will you be applying for state or federal rehabilitation tax credits for this project?**

Yes     No

**Office Use Only**

Type of Work \_\_\_\_\_

*62*

**Design Guidelines** - Please cite the applicable sections of the design guidelines ([www.rhdc.org](http://www.rhdc.org)).

Section/Page	Topic	Brief Description of Work (attach additional sheets as needed)
2.1.10 / 9	Utility Pole/Telecommunications Antennae	Fibertech proposes to collocate telecommunications equipment on an existing Duke Energy wooden utility pole. The overall height with appurtenances will be approximately 41.5 feet above ground level. Please see the attached plans for detailed information on the proposed collocation.



**Minor Work Approval (office use only)**

Upon being signed and dated below by the Planning Director or designee, this application becomes the Minor Work Certificate of Appropriateness. It is valid until 5/17/17. Please post the enclosed placard form of the certificate as indicated at the bottom of the card. Issuance of a Minor Work Certificate shall not relieve the applicant, contractor, tenant, or property owner from obtaining any other permit required by City Code or any law. Minor Works are subject to an appeals period of 30 days from the date of approval.

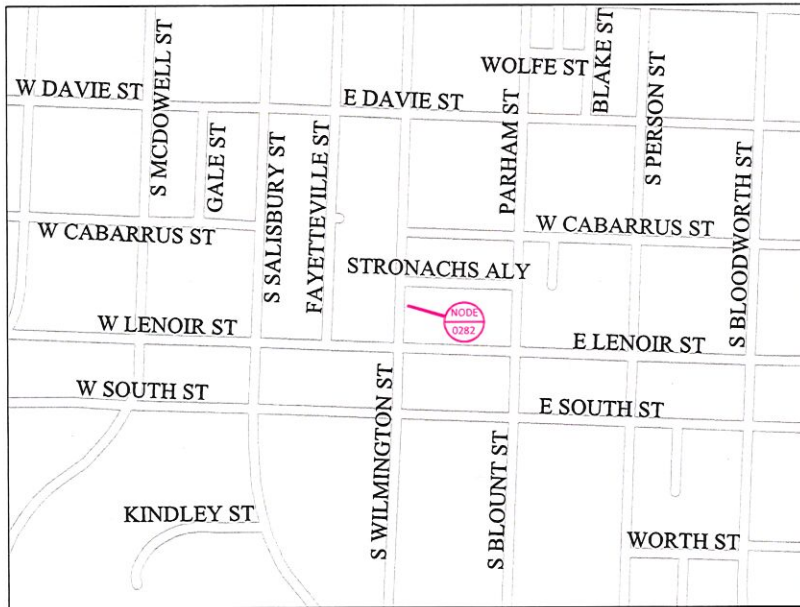
Signature (City of Raleigh) [Signature] Date 11/17/16

	TO BE COMPLETED BY APPLICANT		TO BE COMPLETED BY CITY STAFF		
	YES	N/A	YES	NO	N/A
Attach 8-1/2" x 11" sheets with written descriptions and drawings, photographs, and other graphic information necessary to completely describe the project. Use the checklist below to be sure your application is complete.  <b>Minor Work (staff review) – 1 copy</b>  <b>Major Work (COA Committee review) – 13 copies</b>			✓		
1. <b>Written description.</b> Describe clearly and in detail the nature of your project. Include exact dimensions for materials to be used (e.g. width of siding, window trim, etc.)	<input checked="" type="checkbox"/>		✓		
2. <b>Description of materials</b> (Provide samples, if appropriate)	<input checked="" type="checkbox"/>		✓		
3. <b>Photographs</b> of existing conditions are required.	<input checked="" type="checkbox"/>		✓		
4. <b>Paint Schedule</b> (if applicable)	<input type="checkbox"/>	<input type="checkbox"/>			✓
5. <b>Plot plan</b> (if applicable). A plot plan showing relationship of buildings, additions, sidewalks, drives, trees, property lines, etc., must be provided if your project includes any addition, demolition, fences/walls, or other landscape work. Show accurate measurements. You may also use a copy of the survey you received when you bought your property. Revise the copy as needed to show existing conditions and your proposed work.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	✓		
6. <b>Drawings</b> showing proposed work <input type="checkbox"/> Plan drawings <input type="checkbox"/> Elevation drawings showing the new façade(s) <input type="checkbox"/> Dimensions shown on drawings and/or graphic scale <input type="checkbox"/> 8-1/2" x 11" or 11" x 17" reductions of full-size drawings. If reduced size is so small as to be illegible, make 8-1/2" x 11" or 11" x 17" snap shots of individual drawings on the big sheet.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	✓		
7. Stamped envelopes addressed to all property owners within 100 feet of property not counting the width of public streets and alleys (required for Major Work). Use the <a href="#">Label Creator</a> to determine the addresses.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	✓		
8. Fee ( <a href="#">See Development Fee Schedule</a> )	<input checked="" type="checkbox"/>		✓		

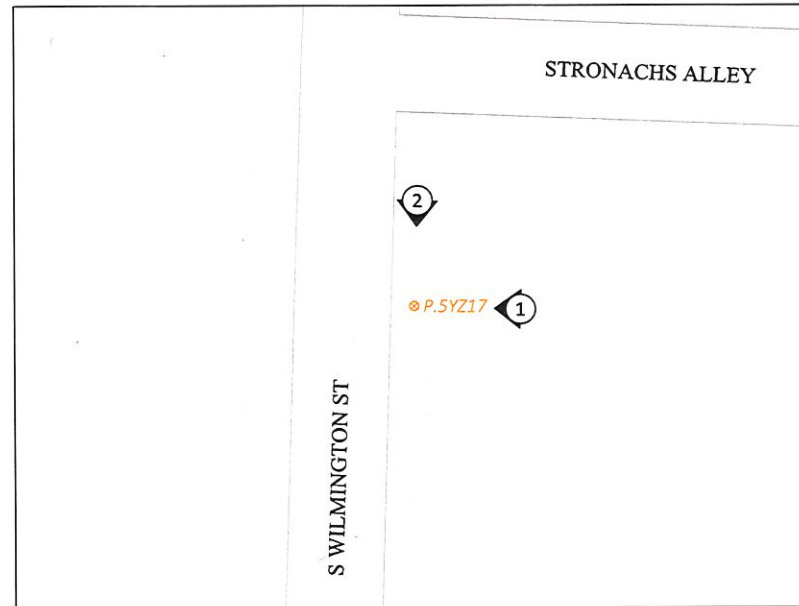
Per John A. Do Not Process Check.



SMALL CELL  
PROPOSED NODE SC-NC 0282 LOCATION  
RALEIGH, NC



**LOCATION MAP**  
LAT: 35.773364° LONG: -78.638365°  
1" = 500'



**NODE PLACEMENT**  
1" = 50'



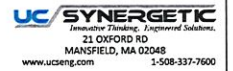
LOCATION:  
RALEIGH, NORTH CAROLINA  
35.773364°, -78.638365°

NOTES:

PREPARED FOR:



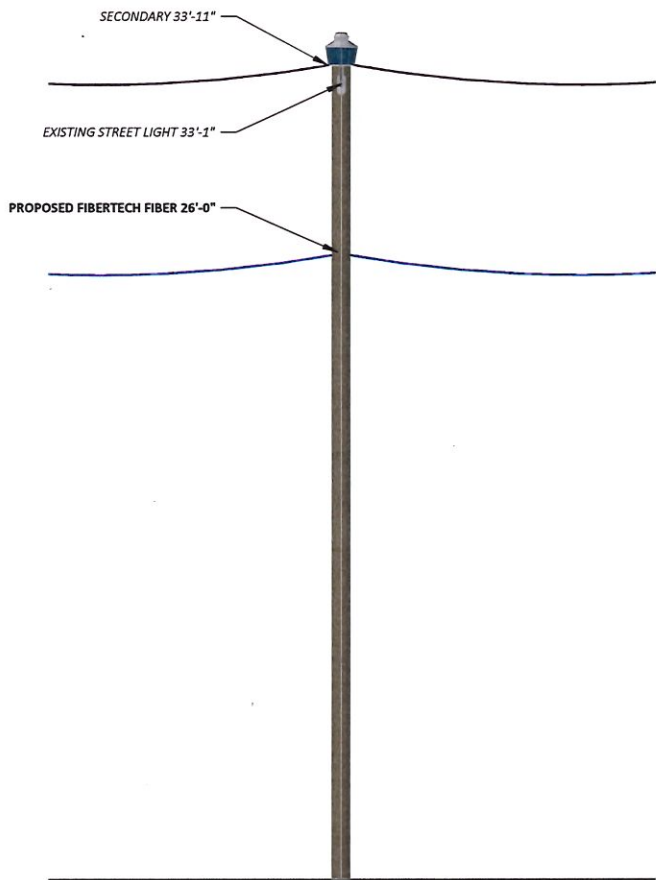
PREPARED BY:



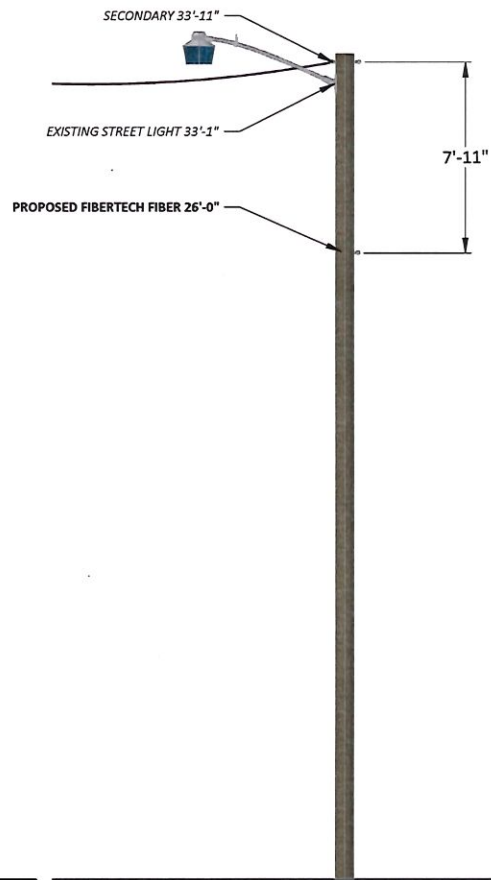
FIBERTECH SMALL CELL  
LOCATION MAPS

REVISIONS		
REV	DESCRIPTION	DATE

DRAFTER: WP	<b>1</b>
SCALE: AS NOTED	
ISSUE DATE: 10/27/15	
INDEX NAME: SC-NC 0282	
SHEET #: 1 OF 11	



① PROPOSED PROFILE - REAR VIEW  
LOOKING WEST TOWARDS S WILMINGTON ST



② PROPOSED PROFILE - SIDE VIEW  
LOOKING SOUTH FROM STRONACHS ALLEY



LOCATION: RALEIGH, NC  
35.773364°, -78.638365°

NOTES:

PREPARED FOR:



PREPARED BY:  
**UC SYNERGETIC**  
Innovative Fiberoptic Engineering Solutions  
21 OXFORD RD  
MANSFIELD, MA 02048  
www.uceng.com 1-508-337-7600

FIBERTECH SMALL CELL  
EXISTING

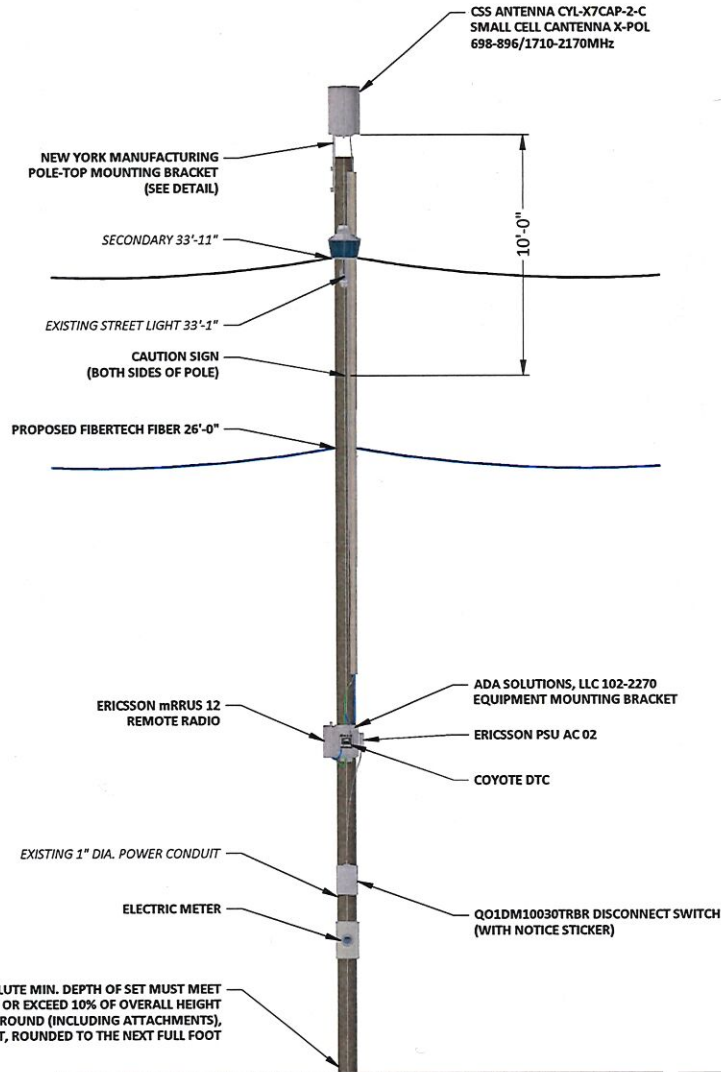
REVISIONS		
REV	DESCRIPTION	DATE

DRAWN BY: WP  
SCALE: 1" = 5'  
ISSUE DATE: 10/27/15  
NODE NAME: SC-NC 0282  
SHEET #: 2 OF 11

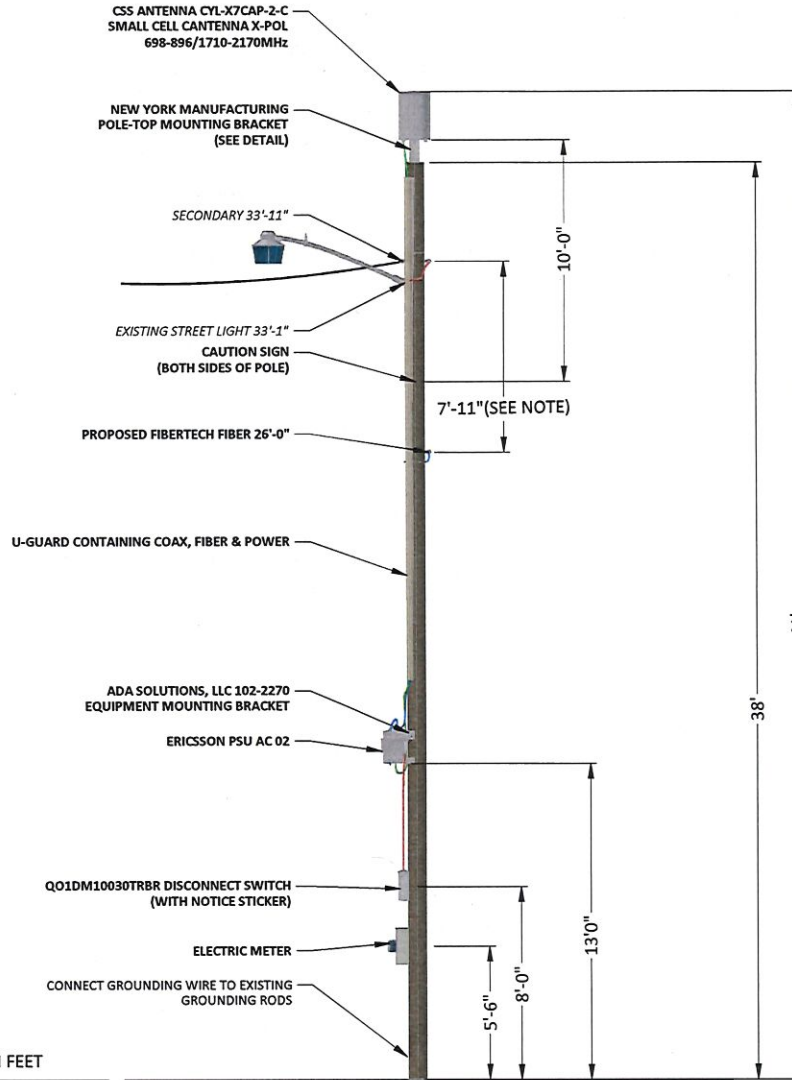


**NOTE:**  
40" MIN. WORKER SAFETY ZONE  
BETWEEN LOWEST ENERGIZED POWER  
& HIGHEST COMMUNICATIONS CABLE  
IN ACCORDANCE WITH NESC REGULATIONS

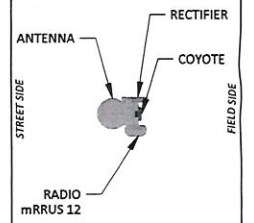
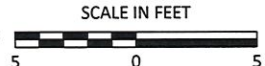
**NOTE 1:**  
REPLACE EXISTING POLE  
WITH NEW 45' CL 3 POLE



① PROPOSED PROFILE - REAR VIEW  
LOOKING WEST TOWARDS S WILMINGTON ST



② PROPOSED PROFILE - SIDE VIEW  
LOOKING SOUTH FROM STRONACHS ALLEY



**PROPOSED TOP VIEW**

**NOTE:**  
CABLES & EXISTING POLE EQUIPMENT  
NOT SHOWN FOR CLARITY

LOCATION: RALEIGH, NC  
35.773364°,-78.638365°

NOTES:

PREPARED FOR:

PREPARED BY:

UC SYNERGETIC  
Innovative Thinking, Engineered Solutions.  
21 OXFORD RD  
MASSFIELD, MA 02048  
www.ucseeng.com 1-508-337-7600

**FIBERTECH SMALL CELL  
PROPOSED**

REVISIONS		
REV	DESCRIPTION	DATE

DRAWN: WP  
SCALE: 1" = 5'  
ISSUE DATE: 10/27/15  
NODE NAME: SC-NC 0282  
SHEET #: 3 OF 11



EXISTING PHOTOGRAPHIC VIEW



PROPOSED PHOTOGRAPHIC SIMULATION

LOCATION: RALEIGH, NC

NOTES:

PREPARED FOR:



PREPARED BY:



FIBERTECH SMALL CELL  
PHOTOSIM

REVISIONS		
REV	DESCRIPTION	DATE

DRAWN BY: WP  
SCALE: NTS  
ISSUE DATE: 10/27/15  
NODE NAME: SC-NC-02B2  
SHEET #: 4 OF 11





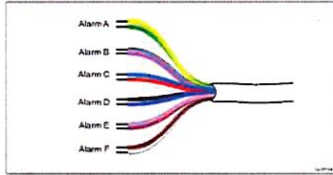
**POLE SIGNAGE**  
NOT TO SCALE

Host (B1)				Remote (D1)		
Color	TX	RX	Technologies	Color	TX	RX
		SFP Label				SFP Label
Purple	1471	1491	1900 PCS LTE	Gray	1491	1471
Green	1511	1531	850 CDMA	Blue	1531	1511
Orange	1551	1571	700 LTE	Yellow	1571	1551
Brown	1591	1611	2100 AWS LTE	Red	1611	1591

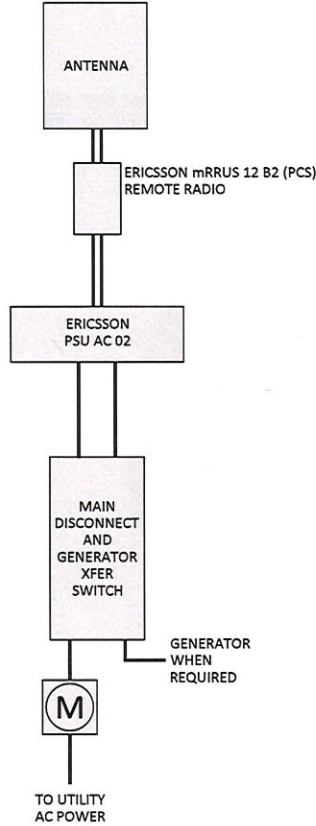
**SFP/CWDM**  
**COLOR CODING REFERENCE**

9.5.2 Connecting External Alarm Cable to External Equipment  
Connect the external alarm cable to the external equipment, using the following cable data:

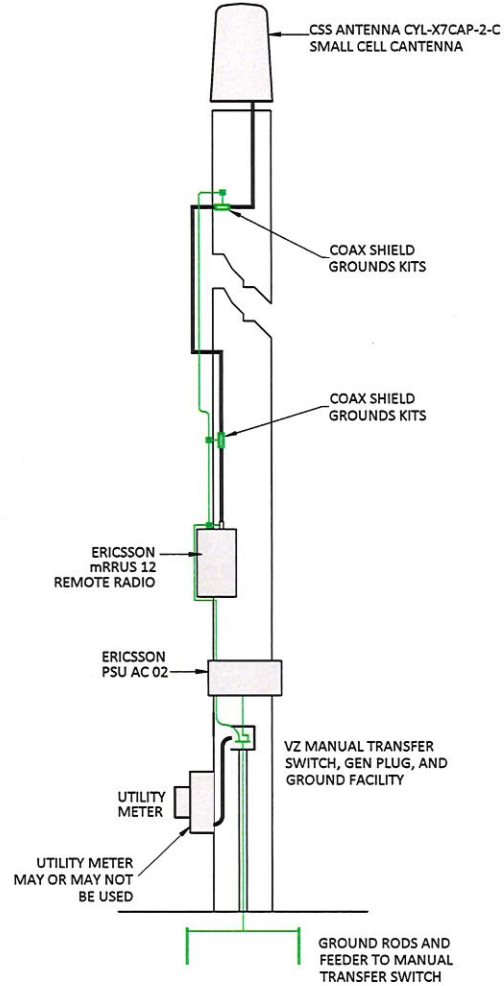
- Alarm A**
  - Yellow conductor
  - Green conductor
- Alarm B**
  - Grey conductor
  - Pink conductor
- Alarm C**
  - Blue conductor
  - Red conductor
- Alarm D**
  - Black conductor
  - Violet conductor
- Alarm E**
  - Grey-pink conductor
  - Red-blue conductor
- Alarm F**
  - Brown conductor
  - White conductor



**WIRING OPTION 1 - RRUS12 AWS**  
NOT TO SCALE



**ELECTRICAL DIAGRAM**  
NOT TO SCALE



**TYPICAL GROUNDING DIAGRAM**  
NOT TO SCALE

LOCATION: RALEIGH, NC

NOTES:

PREPARED FOR:



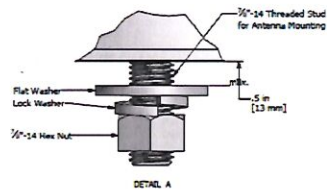
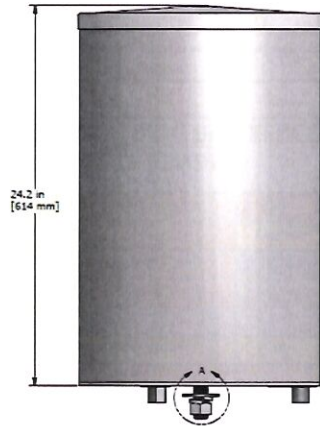
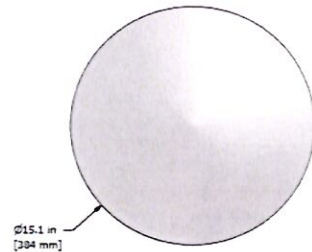
PREPARED BY:



**FIBERTECH SMALL CELL**  
**POLE SIGNAGE**  
**& WIRING DIAGRAM**

REV	DESCRIPTION	DATE

DRAFTER: WP  
SCALE: NTS  
ISSUE DATE: 10/27/15  
NODE NAME: SC-HC 03B2  
SHEET #: 5 OF 11



**CSS ANTENNA CYL-X7CAP-2-C SMALL CELL ANTENNA X-POL**  
698-896/1710-2170MHz  
SIDE VIEW

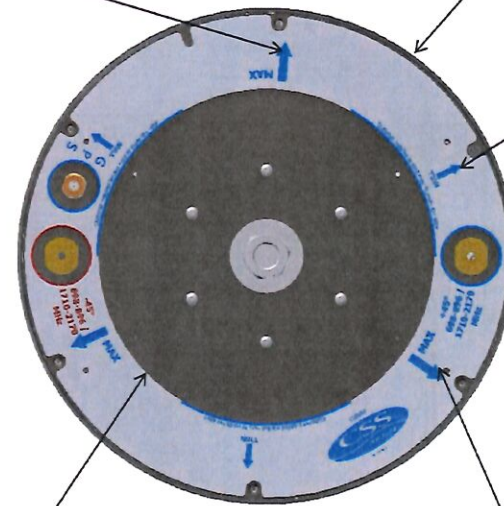
Max Labels point to the direction of maximum signal strength

15.1" [384 mm] dia

Null Labels point to the direction of minimum signal strength

Mounting brackets must stay inside 10" [254 mm] circle

Drain Holes (multiple places)  
(Avoid any obstructions to drain holes)



**CSS ANTENNA CYL-X7CAP-2-C SMALL CELL ANTENNA X-POL**  
698-896/1710-2170MHz  
BOTTOM VIEW

LOCATION: RALEIGH, NC

NOTES:

PREPARED FOR:



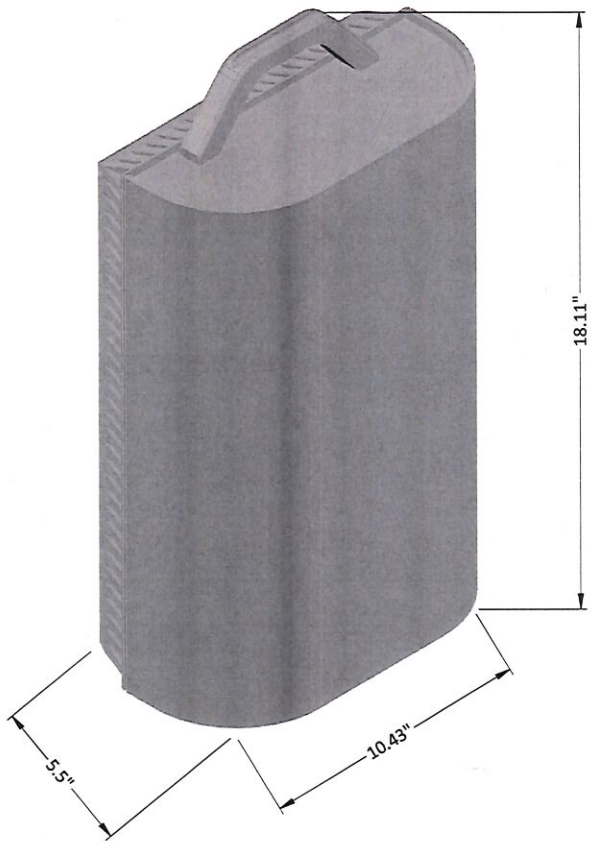
PREPARED BY:  
**UC SYNERGETIC**  
*Innovative Thinking. Engineered Solutions.*  
21 OXFORD RD  
MANSFIELD, MA 02048  
www.ucseng.com 1-508-337-7600

**FIBERTECH SMALL CELL**  
**CSS CYL-X7CAP-2-C**  
**ANTENNA DETAIL**

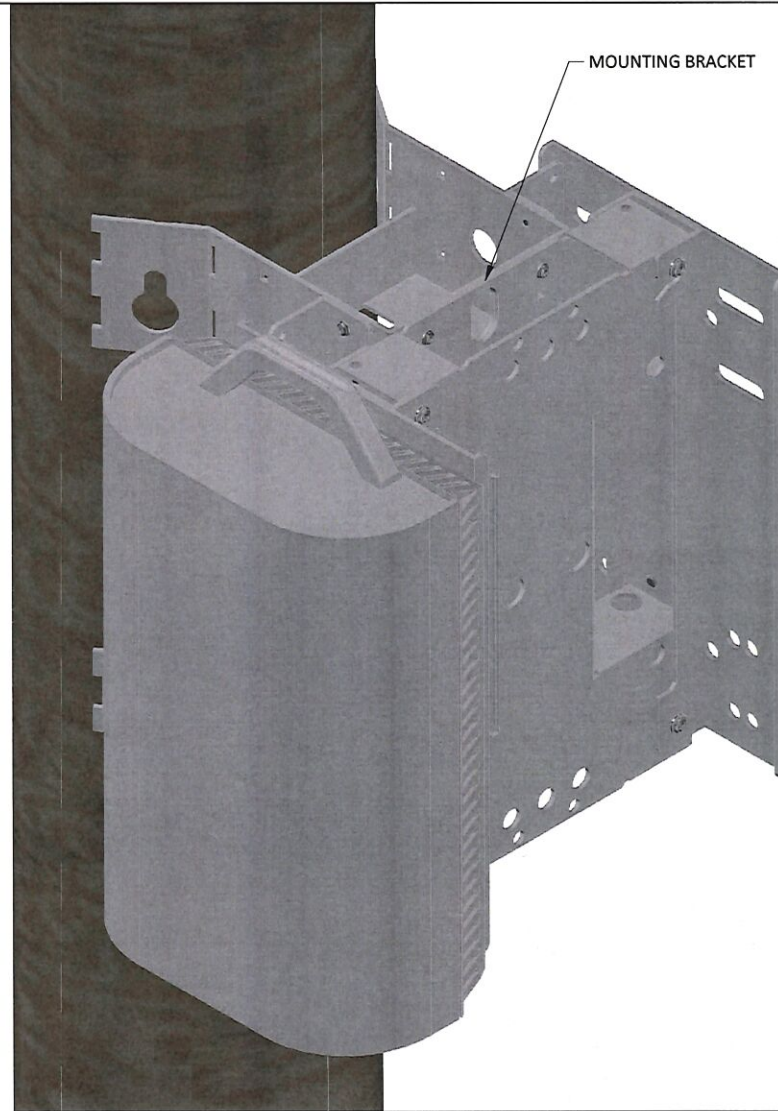
REVISIONS		
REV	DESCRIPTION	DATE

DRAFTER: WP  
SCALE: NTS  
ISSUE DATE: 10/27/15  
NODE NAME: SC-NC-02B2  
SHEET #: 6 OF 11





**ERICSSON mRRUS 12 REMOTE RADIO**  
ISOMETRIC VIEW



**ERICSSON mRRUS 12 REMOTE RADIO**  
**WITH ADA SOLUTIONS, LLC 102-2270 EQUIPMENT MOUNTING BRACKET**  
CONCEPTUAL VIEW

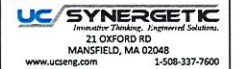
LOCATION: RALEIGH, NC

NOTES:

PREPARED FOR:



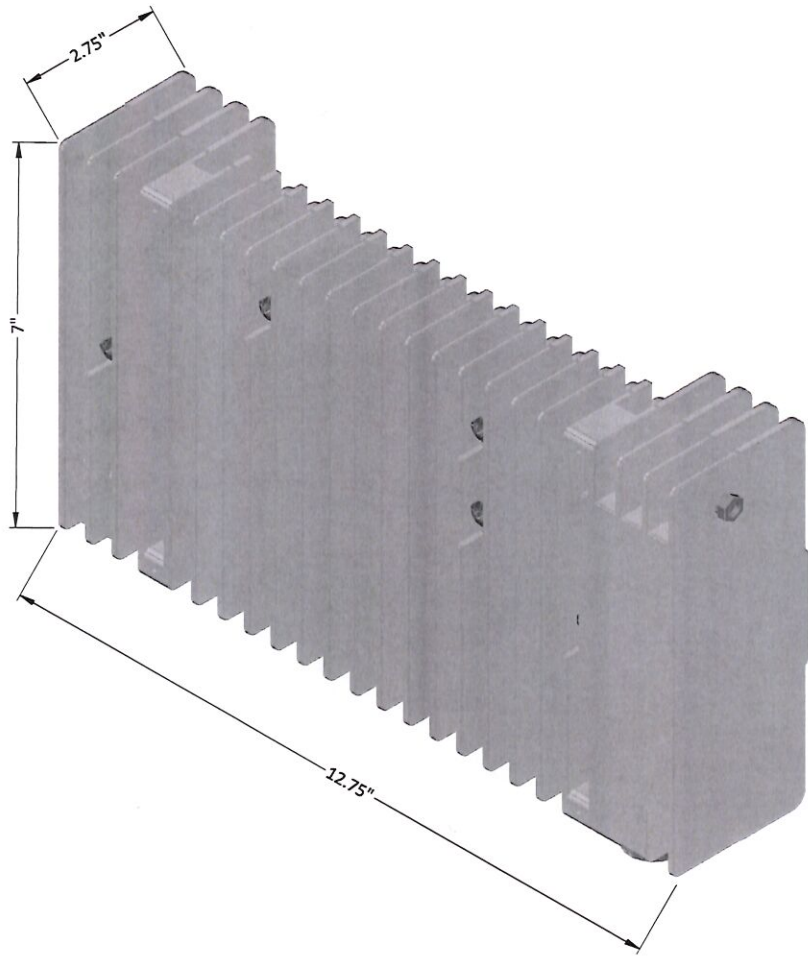
PREPARED BY:



FIBERTECH SMALL CELL  
ERICSSON  
mRRUS 12

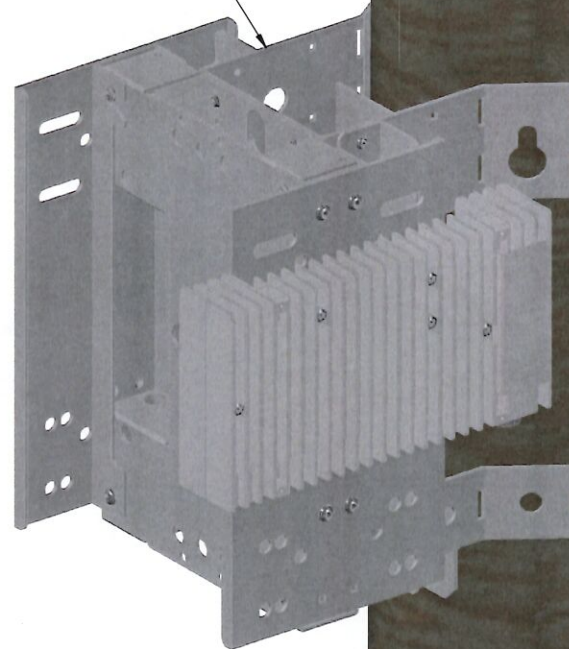
REV	REVISIONS DESCRIPTION	DATE

DRAFTER: WP  
SCALE: NTS  
ISSUE DATE: 10/27/15  
NODE NAME: SC-NC 0262  
SHEET #: 7 OF 11



**ERICSSON PSU AC 02**  
ISOMETRIC VIEW

MOUNTING BRACKET



**ERICSSON PSU AC 02**  
WITH ADA SOLUTIONS, LLC 102-2270 EQUIPMENT MOUNTING BRACKET  
CONCEPTUAL VIEW

LOCATION: RALEIGH, NC

NOTES:

PREPARED FOR:



PREPARED BY:

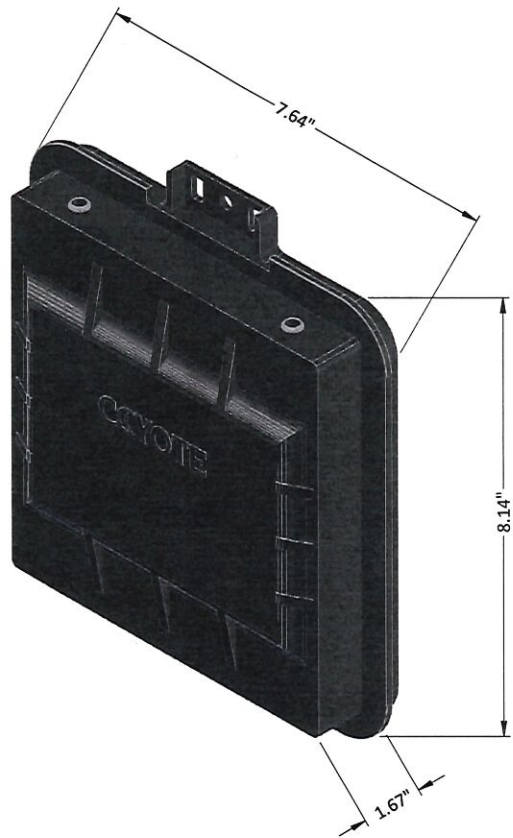
**UC SYNERGETIC**  
*Universal Planning, Engineering Solutions*  
21 OXFORD RD  
MANSFIELD, MA 02048  
www.uceng.com 1-508-337-7600

FIBERTECH SMALL CELL  
ERICSSON  
PSU AC 02

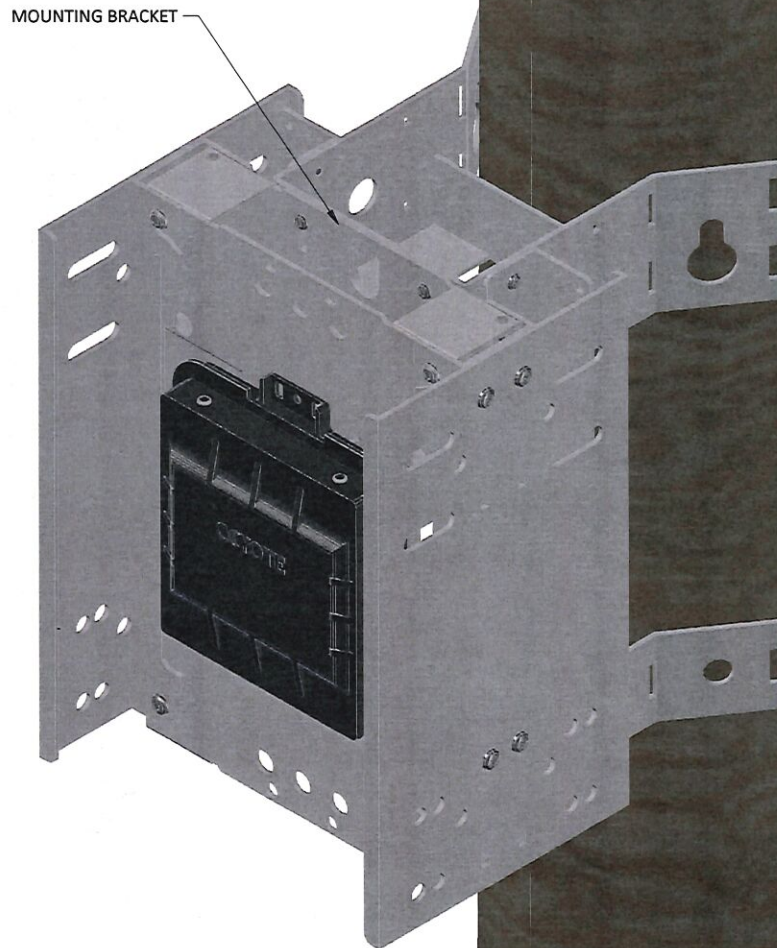
REVISIONS		
REV	DESCRIPTION	DATE

DRAWN: WP  
SCALE: NTS  
ISSUE DATE: 10/27/15  
NODE NAME: SC-AC 02B2  
SHEET #: 8 OF 11





COYOTE - DTC  
ISOMETRIC VIEW



COYOTE - DTC  
WITH ADA SOLUTIONS, LLC 102-2270 EQUIPMENT MOUNTING BRACKET  
CONCEPTUAL VIEW

LOCATION: RALEIGH, NC

NOTES:

PREPARED FOR:



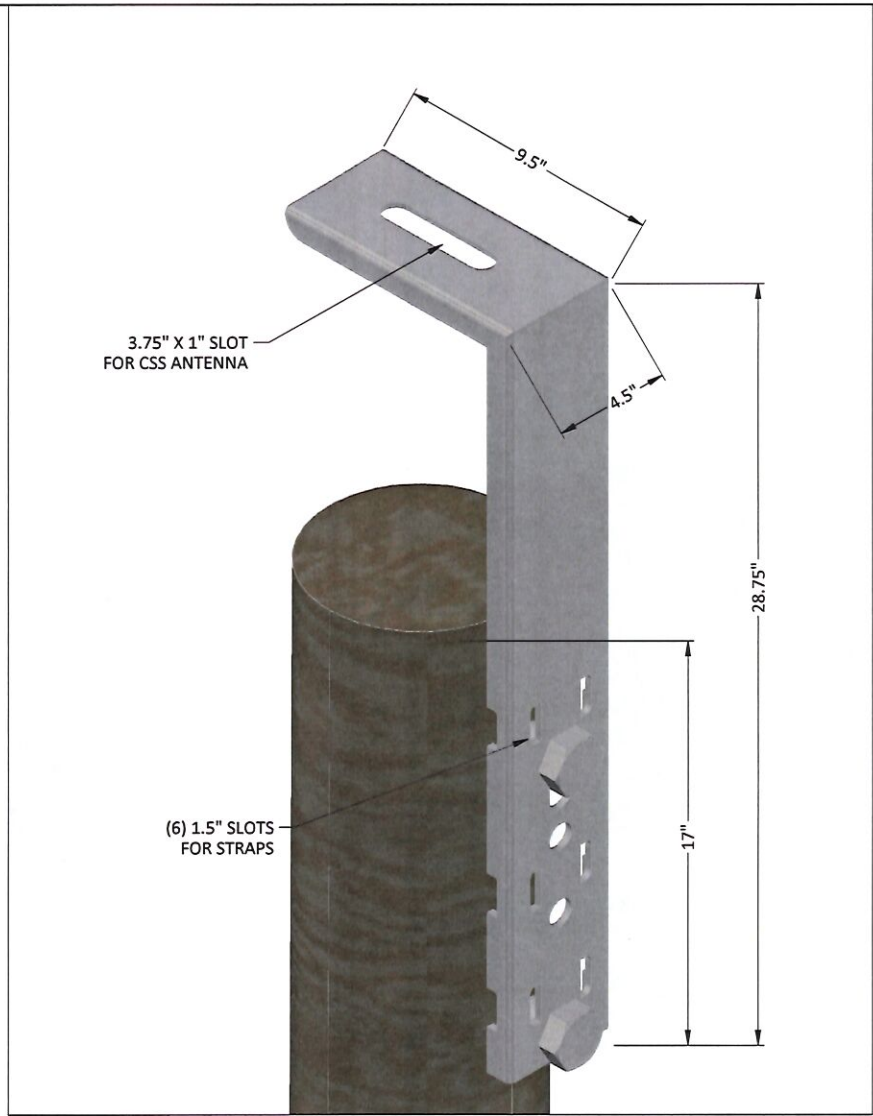
PREPARED BY:

**UC SYNERGETIC**  
Innovative Thinking. Engineered Solutions.  
21 OXFORD RD  
MANSFIELD, MA 02048  
www.ucseng.com 1-508-337-7600

FIBERTECH SMALL CELL  
COYOTE DTC

REV	DESCRIPTION	DATE

DRAFTER: WP  
SCALE: NTS  
ISSUE DATE: 10/27/15  
NODE NAME: SC-NC 0282  
SHEET #: 9 OF 11



**NEW YORK MANUFACTURING POLE TOP BRACKET  
FOR CSS ANTENNA  
CONCEPTUAL VIEW**

LOCATION: RALEIGH, NC

NOTES:

PREPARED FOR:



PREPARED BY:  
**UC SYNERGETIC**  
Innovative Thinking. Integrated Solutions.  
 21 OXFORD RD  
 MANSFIELD, MA 02048  
 www.ucseng.com 1-508-337-7600

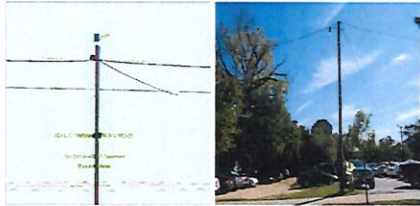
**MOUNTING BRACKET  
DETAILS**

REVISIONS		
REV	DESCRIPTION	DATE

DRAFTER: WP  
 SCALE: NTS  
 ISSUE DATE: 10/27/15  
 NODE NAME: SC-NC-0283  
 SHEET #: 10 OF 11



Pole Num:	P. SYZ17	Pole Length / Class:	45 / 3	Code:	NE5C	Structure Type:	Unguyed Tangent
Aux Data 1	SC-NC 0282	Species:	SOUTHERN PINE	NE5C Rule:	Rule 250B	Status:	Unguyed
Aux Data 2	Unset	Setting Depth (ft):	7.00	Construction Grade:	C	Pole Strength Factor:	0.85
Aux Data 3	Unset	GL Circumference (in):	37.13	Loading District:	Medium	Transverse Wind LF:	1.75
Aux Data 4	Unset	GL Fiber Stress (psi):	8,000	Ice Thickness (in):	0.25	Wire Tension LF:	1.00
Aux Data 5	Unset	Allowable Stress (psi):	6,800	Wind Speed (mph):	39.53	Vertical LF:	1.90
Aux Data 6	Unset	Fiber Stress HL Reduc:	No	Wind Pressure (psf):	4.00		
Latitude:	0.000000 Deg		Longitude:	0.000000 Deg		Elevation:	0 Feet



Pole Capacity Utilization (%)	Height (ft)	Wind Angle (deg)
Maximum	21.9	0.0
Groundline	21.9	0.0
Vertical	5.7	16.3

Pole Moments (ft-lb)	Load Angle (deg)	Wind Angle (deg)
Max Cap Util	19,749	203.2
Groundline	19,749	203.2
GL Allowable	91,831	

Groundline Load Summary - Reporting Angle Mode: Load - Reporting Angle: 203.2°

	Shear Load* (lbs)	Applied Load (%)	Bending Moment (ft-lb)	Applied Moment (%)	Pole Capacity (%)	Bending Stress (+/- psi)	Vertical Load (lbs)	Vertical Stress (psi)	Total Stress (psi)	Pole Capacity (%)
Powers	333	47.7	11,275	59.2	12.3	835	103	1	836	12.3
Corms	57	8.1	1,422	7.5	1.6	105	99	1	106	1.6
GenericEquipments	79	11.3	1,818	9.5	2.0	135	473	4	139	2.0
Pole	210	30.0	3,675	19.3	4.0	272	2,204	20	292	4.3
Streetlights	20	2.8	867	4.6	0.9	64	86	1	65	1.0
Insulators	0	0.0	3	0.0	0.0	0	11	0	0	0.0
Pole Load	699	100.0	19,060	100.0	20.8	1,411	2,976	27	1,438	21.2
Pole Reserve Capacity			72,771			5,389			5,362	78.8

Load Summary by Owner - Reporting Angle Mode: Load - Reporting Angle: 203.2°

	Shear Load* (lbs)	Applied Load (%)	Bending Moment (ft-lb)	Applied Moment (%)	Pole Capacity (%)	Bending Stress (+/- psi)	Vertical Load (lbs)	Vertical Stress (psi)	Total Stress (psi)	Pole Capacity (%)
Eloco	382	51.8	12,211	64.1	13.3	994	210	2	996	13.3
Fibertech	127	18.2	3,173	16.7	3.5	235	563	5	240	3.5
Pole	210	30.0	3,675	19.3	4.0	272	2,204	20	292	4.3
Totals:	699	100.0	19,060	100.0	20.8	1,411	2,976	27	1,438	21.2

Detailed Load Components:

Power	Owner	Height (ft)	Horiz. Offset (ft)	Cable Diameter (in)	Sag at Max Temp (ft)	Cable Weight (lb/ft)	Lead/Span Length (ft)	Span Angle (deg)	Span Length (ft)	Wire Length (ft)	Tension (lbs)	Tension Moment* (ft-lb)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)
Secondary	Secondary Cable	Eloco	33.92	6.15	0.5800	1.20	0.113	85.0	90.0	85.1	60	-401	-5	617	-130
Secondary	Secondary Cable	Eloco	33.92	6.15	0.5800	1.85	0.113	138.0	210.0	138.0	260	9,950	-11	48	9,94
Secondary	Secondary Cable	Eloco	33.92	6.15	0.5800	1.47	0.113	90.0	270.0	90.0	114	1,521	-7	855	2,393
											Totals:	9,786	-24	1,518	11,275

Comm	Owner	Height (ft)	Horiz. Offset (ft)	Cable Diameter (in)	Sag at Max Temp (ft)	Cable Weight (lb/ft)	Lead/Span Length (ft)	Span Angle (deg)	Span Length (ft)	Wire Length (ft)	Tension (lbs)	Tension Moment* (ft-lb)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)
Overhead Bundle	10M STRAND	Fibertech	25.00	6.27	0.3090	0.10	0.165	65.0	90.0	55.0	2,000	-20,454	-11	418	-20,047
Fiber Overhead	Fiber Cable	Fibertech	25.00	6.27	0.6100	0.147	65.0	90.0	90.0	55.0	2,000	-20,454	-11	189	-186
Overhead Bundle	10M STRAND	Fibertech	25.00	6.27	0.3090	0.20	0.165	90.0	270.0	90.0	2,000	-20,454	-15	580	-21,018
Fiber Overhead	Fiber Cable	Fibertech	25.00	6.27	0.6100	0.147	90.0	270.0	90.0	90.0	2,000	-20,454	-15	276	-261
											Totals:	0	-32	1,474	1,422

GenericEquipment	Owner	Height (ft)	Horiz. Offset (ft)	Offset Angle (deg)	Rotate Angle (deg)	Unit Weight (lbs)	Unit Height (ft)	Unit Depth (ft)	Unit Diameter (in)	Unit Length (ft)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)	
Cylinder	CSS ANTENNA CYL-XTCAP-2-G	Fibertech	40.00	0.92	90.0	0.0	22.00	24.20		15.08		762	762	
Box	Coyle-DTC	Fibertech	13.75	19.90	180.0	0.0	10.00	8.14	1.67		7.64	29	61	
Box	ERICSSON HRRUC-12 RR	Fibertech	13.72	17.38	220.0	0.0	10.00	17.33	6.58		17.33	28	297	
Box	ADA LIG 100-3270 MOUNTING BRACKET	Fibertech	13.65	12.18	180.0	0.0	175.00	15.50	14.11		11.25	310	188	
Box	ERICSSON PSU AC 02	Fibertech	13.50	14.41	140.0	0.0	10.00	6.75	2.60		12.75	10	37	
Box	OC1D1-0020TRBR	Fibertech	8.00	7.94	180.0	0.0	12.00	14.00	5.00		10.00	14	82	
Box	Electric Meter	Eloco	5.50	8.58	180.0	0.0	10.00	12.00	6.00		10.00	12	49	
											Totals:	493	1,413	1,818

Streetlight	Owner	Height (ft)	Horiz. Offset (ft)	Offset Angle (deg)	Rotate Angle (deg)	Unit Weight (lbs)	Unit Height (ft)	Unit Depth (ft)	Unit Diameter (in)	Unit Length (ft)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)
General	Streetlight - 3 ft. Arm	Eloco	33.03	3.90	180.0	180.0	45.00	24.00	20.00	3.00	36.00	218	649
											Totals:	218	649

Insulator	Owner	Height (ft)	Horiz. Offset (ft)	Offset Angle (deg)	Rotate Angle (deg)	Unit Weight (lbs)	Unit Height (ft)	Unit Depth (ft)	Unit Diameter (in)	Unit Length (ft)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)
Spool	Spool	Eloco	33.92	0.00	0.0	320.0	320.0	1.00	2.50		2.12	0	9
Bolt	Fibertech	25.00	0.00	0.0	0.0	0.0	5.00	3.00			0.00	-5	-5
											Totals:	-5	9

Pole Buckling	Buckling Constant	Buckling Column Height* (ft)	Buckling Section Height* (% Buckling Col. Hgt.)	Buckling Section Diameter (in)	Minimum Buckling Diameter at GL (in)	Diameter at Tip (in)	Modulus of Elasticity (psi)	Pole Density (pcf)	Ice Density (pcf)	Pole Tip Height (ft)	Buckling Load Capacity at Height (lbs)	Buckling Load Applied at Height (lbs)	Buckling Load Factor of Safety	
	2.00	18.32	32.75	11.11	12.25	7.32	11,82	1.60e+6	50.00	57.00	38.00	51,592	2,976	17.43

LOCATION: RALEIGH, NC

NOTES:

PREPARED FOR:



PREPARED BY:



O-CALC

REVISIONS

REV	DESCRIPTION	DATE

DRAFTER: WP  
 SCALE: NTS  
 ISSUE DATE: 10/27/15  
 NODE NAME: SC-NC-0282  
 SHEET #: 11 OF 11

11

# Photographic Simulation

Impact7G Project "Node NC-0282"



Image of existing conditions at the proposed project location, looking north.



# Photographic Simulation

Impact7G Project "Node NC-0282"



Photographic simulation of the proposed antenna installation, looking north.

## Photographic Simulation

Impact7G Project "Node NC-0282"



Image of existing conditions at the proposed project location, looking northeast.



# Photographic Simulation

Impact7G Project "Node NC-0282"



Photographic simulation of the proposed antenna installation, looking northeast.

# Photographic Simulation

Impact7G Project "Node NC-0282"



Image of existing conditions at the proposed project location, looking southwest.



# Photographic Simulation

Impact7G Project "Node NC-0282"



Photographic simulation of the proposed antenna installation, looking southwest.

# Photographic Simulation

Impact7G Project "Node NC-0282"



Image of existing conditions at the proposed project location, looking northwest.



# Photographic Simulation

Impact7G Project "Node NC-0282"



Photographic simulation of the proposed antenna installation, looking northwest.



