CONNECTICUT SITING COUNCIL
NOTICE OF INTENT TO MODIFY ... EM-AT&T-049-120716 ...LITY
EXEMPT MC
Public Utility Environmental Standard ... 50g - 16-50aa
Regulations of Connecticut S...)j-73

TO BE COMPLETED BY FILER

Date: 7/12/12

ORIGINAL

RECEIVED
JUL 16 2012
CONNECTICUT
SITING COUNCIL

Filer Name and Contact Information
Name: Stephanie Wenderoth
Address: Nexlink Global Services; Suite A Building 2
800 Marshall Phelps Road, Windsor, CT 06095
Phone Number: 401.477.2938

Wireless Carrier: AT&T

Tower Owner: AT&T

Tower Site Address: 566 Enfield Street, Enfield CT

Municipality and Name of Chief Elected Official Provided A Copy Of This Notice:
Matthew W. Coppler
Enfield Town Manager

Description of Exempt Modification (including antenna and equipment changes):
Add 3 LTE Antennas, new conduit, TMA, RRUs and surge arrestor.

Attachments
X Plans
X Power density calculations if applicable
X Tower structural report if applicable
X $625.00 Filing Fee

If required:
Municipality w/i 2,500' & Name of Chief Elected Official Provided A Copy Of This Notice:

Underlying Property Owner Provided A Copy Of This Notice:

FOR STAFF USE ONLY

____ Modification will not result in an increase in tower height
____ Modification is within existing site boundaries
____ Modification will not increase noise levels at the site boundary by 6 dbA or more, or to levels that exceed State & local criteria
____ Modification will meet FCC and DEEP MPE limits

C&F: 1890146.1

____ Modification will not result in significant adverse change in physical or environmental characteristics of the site

____ Modification will not impair the structural integrity of the facility as determined by PE

____ If yes to all of the above, approval of acknowledgement letter

Nexlink Global Services
Suite A Building 2, 800 Marshall Phelps Road
Windsor, CT 06095

B&T Engineering, Inc.
1717 S. Boulder, Suite 300
Tulsa, OK 74119

June 5, 2012

B&T No.: 84444.000.0001

STRUCTURAL ANALYSIS
68.5' Monopole Tower

AT&T DESIGNATION:	Site ID:	4555 (CT5156)
	Site FA:	10071277
	Site Name:	Thompsonville
	AT&T Project:	MOD LTE W3 012312
ANALYSIS CRITERIA:	Codes:	TIA/EIA-222-F (80 mph fastest mile) IBC 2003 2005 CT Building Code
SITE DATA:		566 Enfield Street, Enfield, CT, Hartford County Latitude 42.008092°, Longitude -72.593599° Market MA/RI/VT/NH/ME/CT

Ms. Stephanie S. Wenderoth,

B&T Engineering, Inc. is pleased to submit this Structural Analysis Report to determine the structural integrity of the aformentioned tower. The purpose of the analysis is to determine the suitability of the tower with the existing and proposed loading configuration detailed in the analysis report.

Analysis Results

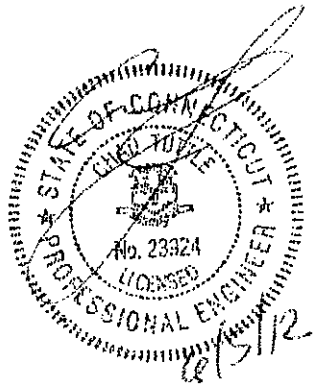
Tower Stress Level with Proposed Equipment:	**97.1%**	**Pass**
Foundation Ratio with Proposed Equipment:	**49.8%**	**Pass**

We at B&T Engineering, Inc. appreciate the opportunity of providing our continuing professioinal services to you and Nexlink Global Services. If you have any questions or need further assistance on this or any other project please give us a call.

Respectfully Submitted by: B&T Engineering, Inc.

Analysis Prepared by: Kristin Mears, E.I.

Analysis Reviewed by: Chad E. Tuttle, P.E.



ANALYSIS PROCEDURE:

Table 4 - Documents Provided

Document	Description	Date	Source
Tower Data	SA Report by GPD	6/7/2011	Siterra
Foundation Information	SA Report by GPD	6/7/2011	Siterra
Geotech Report	Information Not Available	N/A	N/A
Loading	Equip Mod Form	3/6/2012	Siterra
	Previous SA by GPD (with Modification Design)	6/7/2011	Siterra
	RFSD	3/20/2012	Nexlink
Previous Structural Analysis	GPD	6/7/2011	Siterra

ANALYSIS METHOD:

tnxTower, a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix B.

ASSUMPTIONS:

1. Tower and structures were built in accordance with the manufacturer's specifications.
2. The tower and structures have been maintained in accordance with the manufacturer's specifications.
3. The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Appendix A of this report.
4. Mount areas and weights are assumed based on photographs provided.
5. Refer to the base level drawing for transmission line distribution.
6. Existing and proposed loading was taken from the RF Data Sheet.
7. Shroud sizes were assumed.
8. Tower geometry and material grades were taken from the previous analysis by GPD. The pole above 69' was considered an appurtenance and therefore not analyzed as part of this report.

If any of these assumptions have been made in error, B&T Engineering should be notified to determine the effect on the structural integrity of the tower.

TOWER ANALYSIS LOADING:

Existing / Reserved Loading

Antenna						Mount		Transmission Line	
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Manufacturer	Model	Quantity	Type	Quantity	Size (in)
AT&T Mobility	**95**	**95**	**3***	**UMTS***	**AWS 1900***		**Inside Concealment**	**6**	**1 1/4"**

*Equipment to be Removed

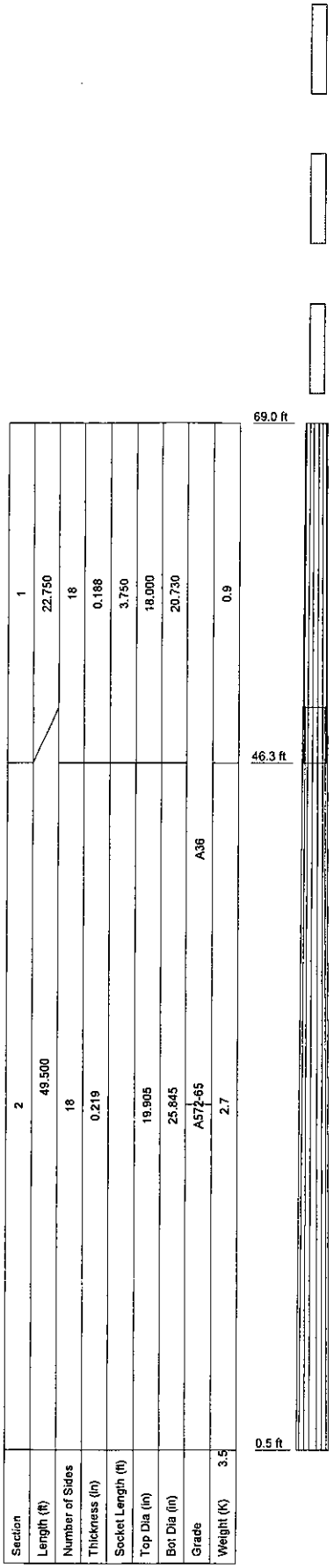
Proposed Loading

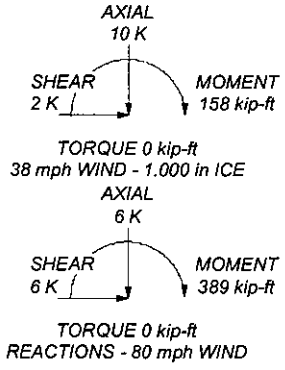
Antenna						Mount		Transmission Line	
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Manufacturer	Model	Quantity	Type	Quantity	Size (in)
AT&T Mobility	**95**	**95**	**3**	**KMW**	**AM-X-CD-16-65-00T-RET**		**Inside Concealment**		
AT&T Mobility	**95**	**95**	**3**	**CCI**	**DTMABP7819VG12A**				
AT&T Mobility	**85**	**85**	**3**	**KMW**	**AM-X-CD-16-65-00T-RET**			**1**	**1/2"**
AT&T Mobility	**85**	**85**	**3**	**CCI**	**DTMABP7819VG12A**			**2**	**1/2"**
AT&T Mobility	**85**	**85**	**3**	**Powerwave**	**LGP 12104**				

Proposed loading must be installed within 36" diameter or smaller canister

Future Loading

Antenna						Mount		Transmission Line	
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Manufacturer	Model	Quantity	Type	Quantity	Size (in)





DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
18" Flag Ball (E)	100	AM-X-CD-16-65-00T-RET w/ Mount Pipe (ATI-P(Inside Shroud))	85
AM-X-CD-16-65-00T-RET w/ Mount Pipe (ATI-P(Inside Shroud))	95	AM-X-CD-16-65-00T-RET w/ Mount Pipe (ATI-P(Inside Shroud))	85
AM-X-CD-16-65-00T-RET w/ Mount Pipe (ATI-P(Inside Shroud))	95	CCI DTMABP7819VG12A (ATI-P(Inside Shroud))	85
AM-X-CD-16-65-00T-RET w/ Mount Pipe (ATI-P(Inside Shroud))	95	CCI DTMABP7819VG12A (ATI-P(Inside Shroud))	85
CCI DTMABP7819VG12A (ATI-P(Inside Shroud))	95	CCI DTMABP7819VG12A (ATI-P(Inside Shroud))	85
CCI DTMABP7819VG12A (ATI-P(Inside Shroud))	95	LGP 12104	85
CCI DTMABP7819VG12A (ATI-P(Inside Shroud))	95	LGP 12104	85
36" x 10' Stealth Concealment (E)	94	LGP 12104	85
30'x20' Flag	93.5	36" x 10' Stealth Concealment (E)	84
AM-X-CD-16-65-00T-RET w/ Mount Pipe (ATI-P(Inside Shroud))	85	36" x 10' Stealth Concealment (E)	74

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A36	36 ksi	58 ksi	A572-65	65 ksi	80 ksi

TOWER DESIGN NOTES

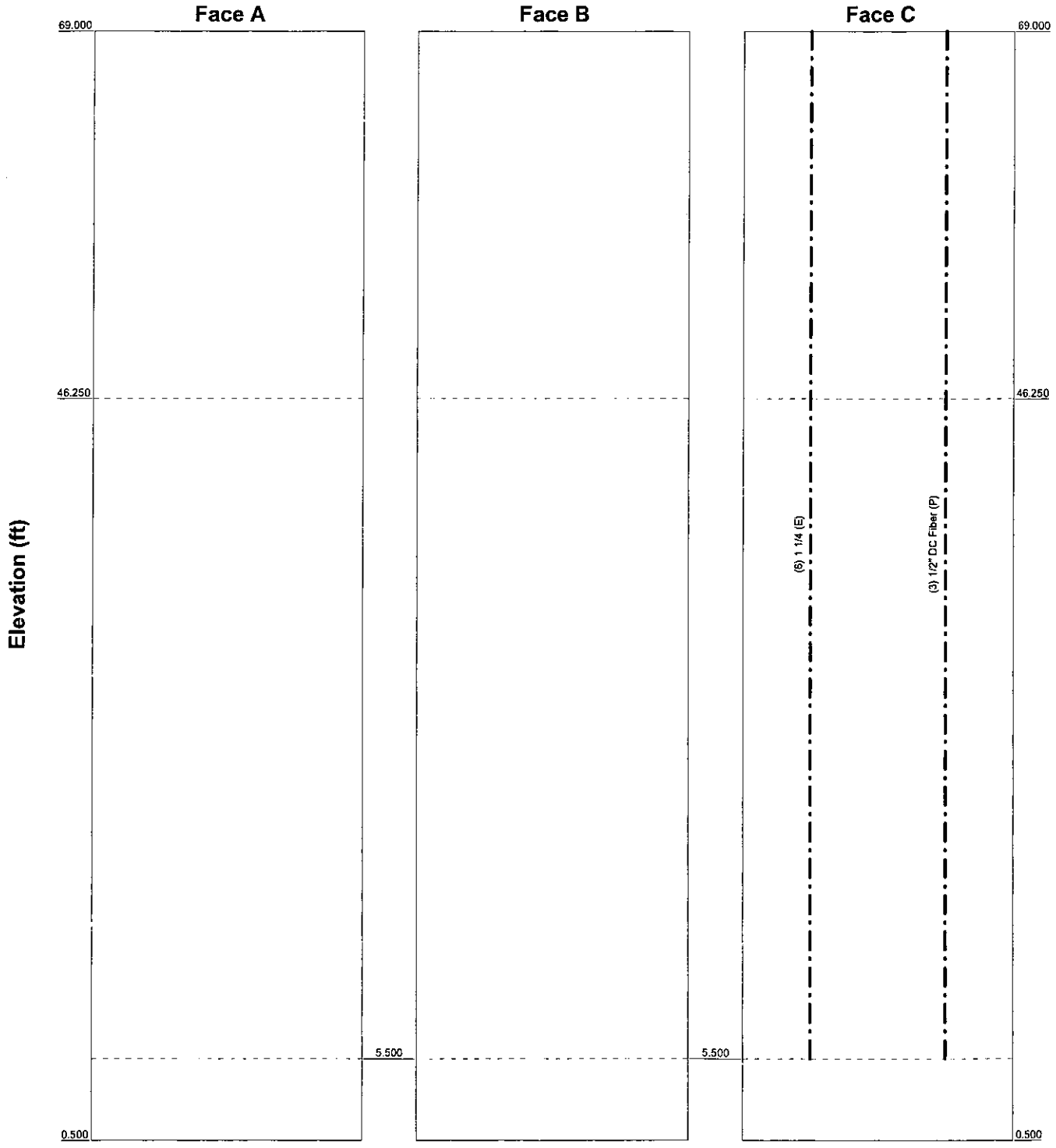
1. Tower is located in Hartford County, Connecticut.
2. Tower designed for a 80 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 38 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 50 mph wind.
5. TOWER RATING: 97.1%

B&T Engineering, Inc.
1717 S. Boulder, Suite 300
Tulsa, OK 74119
Phone: (918) 587-4630
FAX: (918) 295-0265

Job: 84444.000.0001 - THOMPSONVILLE, CT (USID# 455		
Project: 68.5' Monopole / AT&T Co-Locate		
Client: Nextlink	Drawn by: K. Mears	App'd:
Code: TIA/EIA-222-F	Date: 06/05/12	Scale: NTS
Path:		Dwg No. E-1

Feedline Distribution Chart
6" - 69'

Round ___ Flat ___ App In Face ___ . ___ App Out Face ___ .. ___ Truss Leg

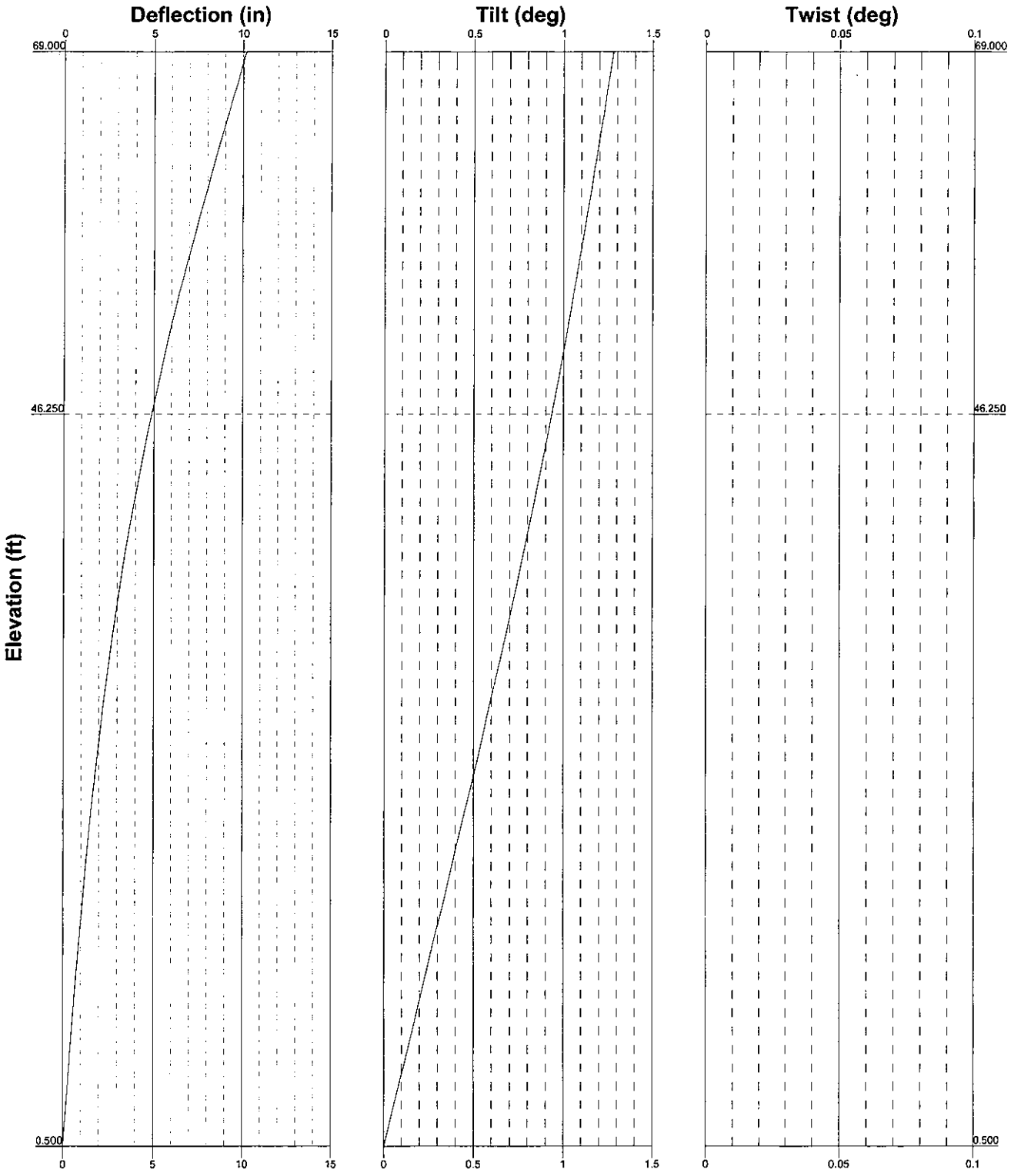


B&T Engineering, Inc.
1717 S. Boulder, Suite 300
Tulsa, OK 74119
Phone: (918) 587-4630
FAX: (918) 295-0265

Job: 84444.000.0001 - THOMPSONVILLE, CT (USID# 455		
Project: 68.5' Monopole / AT&T Co-Locate		
Client: Nexlink	Drawn by: K. Mears	App'd:
Code: TIA/EIA-222-F	Date: 06/05/12	Scale: NTS
Path:		Dwg No. E-7

TIA/EIA-222-F - Service - 50 mph

Maximum Values



B&T Engineering, Inc. 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job: 84444.000.0001 - THOMPSONVILLE, CT (USID# 455		
	Project: 68.5' Monopole / AT&T Co-Locate		
	Client: Nexlink	Drawn by: K. Mears	App'd:
	Code: TIA/EIA-222-F	Date: 06/05/12	Scale: NTS
	Path:		Dwg No. E-5

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	18.278	10.601	424.933	6.323	9.144	46.471	850.425	5.301	2.838	15.136
	21.050	12.225	651.787	7.293	10.531	61.893	1304.431	6.114	3.318	17.699
L2	20.669	13.671	669.387	6.989	10.112	66.199	1339.655	6.837	3.118	14.251
	26.244	17.797	1476.537	9.097	13.129	112.462	2955.017	8.900	4.164	19.029

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in
L1 69.000-46.250				1	1	1		
L2 46.250-0.500				1	1	1		

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number	Number Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight klf
/										

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight klf
1 1/4 (E)	C	No	Inside Pole	96.000 - 5.500	6	No Ice	0.000	0.001
						1/2" Ice	0.000	0.001
						1" Ice	0.000	0.001
						2" Ice	0.000	0.001
						4" Ice	0.000	0.001
/								
1/2" DC Fiber (P)	C	No	Inside Pole	96.000 - 5.500	3	No Ice	0.000	0.000
						1/2" Ice	0.000	0.000
						1" Ice	0.000	0.000
						2" Ice	0.000	0.000
						4" Ice	0.000	0.000
/								

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	69.000-46.250	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.107

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Offsets: Vert ft	Offsets: ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
								1" Ice	25.744	25.744	0.647
								2" Ice	27.488	27.488	0.947
								4" Ice	30.976	30.976	1.652
36" x 10' Stealth Concealment (E)	C	None				0.000	84.000	No Ice	24.000	24.000	0.380
								1/2" Ice	24.872	24.872	0.509
								1" Ice	25.744	25.744	0.647
								2" Ice	27.488	27.488	0.947
								4" Ice	30.976	30.976	1.652
36" x 10' Stealth Concealment (E)	C	None				0.000	74.000	No Ice	24.000	24.000	0.380
								1/2" Ice	24.872	24.872	0.509
								1" Ice	25.744	25.744	0.647
								2" Ice	27.488	27.488	0.947
								4" Ice	30.976	30.976	1.652
18" Flag Ball (E)	C	None				0.000	100.000	No Ice	1.420	1.420	0.020
								1/2" Ice	1.580	1.580	0.025
								1" Ice	1.740	1.740	0.030
								2" Ice	2.060	2.060	0.040
								4" Ice	2.700	2.700	0.060
/											
AM-X-CD-16-65-00T-RET w/ Mount Pipe (AT&T-P(Inside Shroud))	C	From Leg	0.000	0.000	0.000	0.000	95.000	No Ice	0.000	0.000	0.074
			0.000					1/2" Ice	0.000	0.000	0.136
			0.000					1" Ice	0.000	0.000	0.210
								2" Ice	0.000	0.000	0.385
								4" Ice	0.000	0.000	0.874
AM-X-CD-16-65-00T-RET w/ Mount Pipe (AT&T-P(Inside Shroud))	B	From Leg	0.000	0.000	0.000	0.000	95.000	No Ice	0.000	0.000	0.074
			0.000					1/2" Ice	0.000	0.000	0.136
			0.000					1" Ice	0.000	0.000	0.210
								2" Ice	0.000	0.000	0.385
								4" Ice	0.000	0.000	0.874
AM-X-CD-16-65-00T-RET w/ Mount Pipe (AT&T-P(Inside Shroud))	A	From Leg	0.000	0.000	0.000	0.000	95.000	No Ice	0.000	0.000	0.074
			0.000					1/2" Ice	0.000	0.000	0.136
			0.000					1" Ice	0.000	0.000	0.210
								2" Ice	0.000	0.000	0.385
								4" Ice	0.000	0.000	0.874
CCI DTMABP7819VG12A (AT&T-P(Inside Shroud))	C	From Leg	0.000	0.000	0.000	0.000	95.000	No Ice	0.000	0.000	0.042
			0.000					1/2" Ice	0.000	0.000	0.047
			0.000					1" Ice	0.000	0.000	0.054
								2" Ice	0.000	0.000	0.073
								4" Ice	0.000	0.000	0.138
CCI DTMABP7819VG12A (AT&T-P(Inside Shroud))	B	From Leg	0.000	0.000	0.000	0.000	95.000	No Ice	0.000	0.000	0.042
			0.000					1/2" Ice	0.000	0.000	0.047
			0.000					1" Ice	0.000	0.000	0.054
								2" Ice	0.000	0.000	0.073
								4" Ice	0.000	0.000	0.138
CCI DTMABP7819VG12A (AT&T-P(Inside Shroud))	A	From Leg	0.000	0.000	0.000	0.000	95.000	No Ice	0.000	0.000	0.042
			0.000					1/2" Ice	0.000	0.000	0.047
			0.000					1" Ice	0.000	0.000	0.054
								2" Ice	0.000	0.000	0.073
								4" Ice	0.000	0.000	0.138
/											
AM-X-CD-16-65-00T-RET w/ Mount Pipe (AT&T-P(Inside Shroud))	C	From Leg	0.000	0.000	0.000	0.000	85.000	No Ice	0.000	0.000	0.074
			0.000					1/2" Ice	0.000	0.000	0.136
			0.000					1" Ice	0.000	0.000	0.210
								2" Ice	0.000	0.000	0.385
								4" Ice	0.000	0.000	0.874
AM-X-CD-16-65-00T-RET w/ Mount Pipe	B	From Leg	0.000	0.000	0.000	0.000	85.000	No Ice	0.000	0.000	0.074
			0.000					1/2" Ice	0.000	0.000	0.136

Comb. No.	Description
9	Dead+Wind 210 deg - No Ice
10	Dead+Wind 240 deg - No Ice
11	Dead+Wind 270 deg - No Ice
12	Dead+Wind 300 deg - No Ice
13	Dead+Wind 330 deg - No Ice
14	Dead+Ice+Temp
15	Dead+Wind 0 deg+Ice+Temp
16	Dead+Wind 30 deg+Ice+Temp
17	Dead+Wind 60 deg+Ice+Temp
18	Dead+Wind 90 deg+Ice+Temp
19	Dead+Wind 120 deg+Ice+Temp
20	Dead+Wind 150 deg+Ice+Temp
21	Dead+Wind 180 deg+Ice+Temp
22	Dead+Wind 210 deg+Ice+Temp
23	Dead+Wind 240 deg+Ice+Temp
24	Dead+Wind 270 deg+Ice+Temp
25	Dead+Wind 300 deg+Ice+Temp
26	Dead+Wind 330 deg+Ice+Temp
27	Dead+Wind 0 deg - Service
28	Dead+Wind 30 deg - Service
29	Dead+Wind 60 deg - Service
30	Dead+Wind 90 deg - Service
31	Dead+Wind 120 deg - Service
32	Dead+Wind 150 deg - Service
33	Dead+Wind 180 deg - Service
34	Dead+Wind 210 deg - Service
35	Dead+Wind 240 deg - Service
36	Dead+Wind 270 deg - Service
37	Dead+Wind 300 deg - Service
38	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	69 - 46.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-5.319	0.000	0.000
			Max. Mx	5	-2.521	-136.848	0.000
			Max. My	2	-2.605	-37.036	99.872
			Max. Vy	5	4.284	-136.848	0.000
			Max. Vx	2	-3.415	-37.036	99.872
			Max. Torque	2			-0.401
L2	46.25 - 0.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-9.906	0.000	0.000
			Max. Mx	5	-5.773	-388.569	0.000
			Max. My	2	-5.775	-79.680	309.003
			Max. Vy	5	5.869	-388.569	0.000
			Max. Vx	2	-5.031	-79.680	309.003
			Max. Torque	2			-0.401

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
Dead+Wind 300 deg - Service	5.782	-1.700	-0.981	-60.380	104.581	0.000
Dead+Wind 330 deg - Service	5.782	-0.981	-1.700	-104.581	60.380	-0.000

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
1	0.000	-5.782	0.000	0.000	5.782	0.000	0.000%
2	0.836	-5.782	-5.024	-0.836	5.782	5.024	0.000%
3	3.348	-5.782	-4.351	-3.348	5.782	4.351	0.000%
4	5.186	-5.782	-2.512	-5.186	5.782	2.512	0.000%
5	5.859	-5.782	0.000	-5.859	5.782	0.000	0.000%
6	5.186	-5.782	2.512	-5.186	5.782	-2.512	0.000%
7	3.348	-5.782	4.351	-3.348	5.782	-4.351	0.000%
8	0.836	-5.782	5.024	-0.836	5.782	-5.024	0.000%
9	-1.676	-5.782	4.351	1.676	5.782	-4.351	0.000%
10	-3.515	-5.782	2.512	3.515	5.782	-2.512	0.000%
11	-4.188	-5.782	0.000	4.188	5.782	0.000	0.000%
12	-3.515	-5.782	-2.512	3.515	5.782	2.512	0.000%
13	-1.676	-5.782	-4.351	1.676	5.782	4.351	0.000%
14	0.000	-9.906	0.000	0.000	9.906	0.000	0.000%
15	0.836	-9.906	-1.211	-0.836	9.906	1.211	0.000%
16	1.441	-9.906	-1.049	-1.441	9.906	1.049	0.000%
17	1.884	-9.906	-0.606	-1.884	9.906	0.606	0.000%
18	2.047	-9.906	0.000	-2.047	9.906	0.000	0.000%
19	1.884	-9.906	0.606	-1.884	9.906	-0.606	0.000%
20	1.441	-9.906	1.049	-1.441	9.906	-1.049	0.000%
21	0.836	-9.906	1.211	-0.836	9.906	-1.211	0.000%
22	0.230	-9.906	1.049	-0.230	9.906	-1.049	0.000%
23	-0.213	-9.906	0.606	0.213	9.906	-0.606	0.000%
24	-0.375	-9.906	0.000	0.375	9.906	0.000	0.000%
25	-0.213	-9.906	-0.606	0.213	9.906	0.606	0.000%
26	0.230	-9.906	-1.049	-0.230	9.906	1.049	0.000%
27	0.000	-5.782	-1.962	0.000	5.782	1.962	0.000%
28	0.981	-5.782	-1.700	-0.981	5.782	1.700	0.000%
29	1.700	-5.782	-0.981	-1.700	5.782	0.981	0.000%
30	1.962	-5.782	0.000	-1.962	5.782	0.000	0.000%
31	1.700	-5.782	0.981	-1.700	5.782	-0.981	0.000%
32	0.981	-5.782	1.700	-0.981	5.782	-1.700	0.000%
33	0.000	-5.782	1.962	0.000	5.782	-1.962	0.000%
34	-0.981	-5.782	1.700	0.981	5.782	-1.700	0.000%
35	-1.700	-5.782	0.981	1.700	5.782	-0.981	0.000%
36	-1.962	-5.782	0.000	1.962	5.782	0.000	0.000%
37	-1.700	-5.782	-0.981	1.700	5.782	0.981	0.000%
38	-0.981	-5.782	-1.700	0.981	5.782	1.700	0.000%

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
100.000	18" Flag Ball	27	10.180	1.280	0.000	8141
95.000	AM-X-CD-16-65-00T-RET w/ Mount Pipe	27	10.180	1.280	0.000	8141
94.000	36" x 10' Stealth Concealment	27	10.180	1.280	0.000	8141
93.500	30'x20' Flag	27	10.180	1.280	0.000	8141
85.000	AM-X-CD-16-65-00T-RET w/ Mount Pipe	27	10.180	1.280	0.000	8141
84.000	36" x 10' Stealth Concealment	27	10.180	1.280	0.000	8141
74.000	36" x 10' Stealth Concealment	27	10.180	1.280	0.000	8141

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	69 - 46.25	33.782	5	4.343	0.007
L2	50 - 0.5	18.405	5	3.321	0.005

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
100.000	18" Flag Ball	5	33.782	4.343	0.007	2398
95.000	AM-X-CD-16-65-00T-RET w/ Mount Pipe	5	33.782	4.343	0.007	2398
94.000	36" x 10' Stealth Concealment	5	33.782	4.343	0.007	2398
93.500	30'x20' Flag	5	33.782	4.343	0.007	2398
85.000	AM-X-CD-16-65-00T-RET w/ Mount Pipe	5	33.782	4.343	0.007	2398
84.000	36" x 10' Stealth Concealment	5	33.782	4.343	0.007	2398
74.000	36" x 10' Stealth Concealment	5	33.782	4.343	0.007	2398

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
L1	69 - 46.25 (1)	TP20.73x18x0.188	22.750	0.000	0.0	21.600	11.958	-2.521	258.283	0.010
L2	46.25 - 0.5 (2)	TP25.845x19.905x0.219	49.500	0.000	0.0	39.000	17.797	-5.773	694.070	0.008

Moment Capacity of Drilled Concrete Shaft (Caisson) for TIA Rev F or G

Note: Shaft assumed to have ties, not spiral, transverse reinforcing

Site Data

USID#: *4555*

Site Name: *Thompsonville, CT*

Maximum Shaft Superimposed Forces		
TIA Revision:	F	
Max. Service Shaft M:	429.8	ft-kips (* Note)
Max. Service Shaft P:	6	kips
Max Axial Force Type:	Comp.	

(*) Note: Max Shaft Superimposed Moment does not necessarily equal to the shaft top reaction moment

Enter Load Factors Below:		
For M (WL)	1.3	<--- Enter Factor
For P (DL)	1.3	<--- Enter Factor

Load Factor	Shaft Factored Loads		
1.30	Mu:	558.74	ft-kips
1.30	Pu:	7.8	kips

Pier Properties

Concrete:

Pier Diameter =	5.0	ft
Concrete Area =	2827.4	in^2

Reinforcement:

Clear Cover to **Tie**=	4.00	in
Horiz. **Tie** Bar Size=	5	
Vert. Cage Diameter =	4.11	ft
Vert. Cage Diameter =	49.34	in
Vertical Bar Size =	11	
Bar Diameter =	1.41	in
Bar Area =	1.56	in^2
Number of Bars =	12	
As Total=	18.72	in^2
A s/ Aconc, Rho:	0.0066	0.66%

Material Properties		
Concrete Comp. strength, f'c =	3000	psi
Reinforcement yield strength, Fy =	60	ksi
Reinforcing Modulus of Elasticity, E =	29000	ksi
Reinforcement yield strain =	0.00207	
Limiting compressive strain =	0.003	
ACI 318 Code		
Select Analysis ACI Code=	2002	
Seismic Properties		
Seismic Design Category =	D	
Seismic Risk =	**High**	

Solve (Run) <-- Press Upon Completing All Input

ACI 10.5 , ACI 21.10.4, and IBC 1810.

Min As for Flexural, Tension Controlled, Shafts:

(3)*(Sqrt(f'c)/Fy:	0.0027	
200 / Fy:	0.0033	
IBC 1810.1.2:	0.0050	SDC D, E, or F
Governing:	0.0050	**0.50%**

ACI 10.8 and 10.9

Min As for Columns, Comp. Controlled, Shafts:

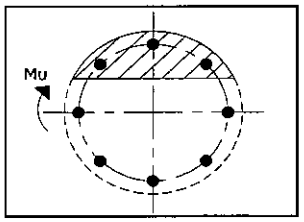
Min As:	0.0100	**1.00%**

Minimum Rho Check:

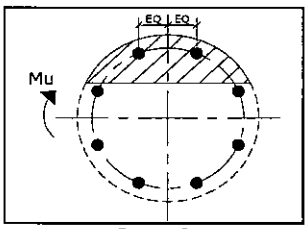
Actual Req'd Min. Rho:	0.50%	Flexural
Provided Rho:	0.66%	OK

Results:

Governing Orientation Case: **2**



Case 1



Case 2

Dist. From Edge to Neutral Axis:	**10.77**	in
Extreme Steel Strain, ϵt:	**0.0120**	
	ϵt > 0.0050, Tension Controlled	
Reduction Factor, φ:	**0.900**	

<-- Comment Box

Ref. Shaft Max Axial Capacities, ϕ Max(Pn or Tn):		
Max Pu = (φ=0.65) Pn.		
Pn per ACI 318 (10-2)	4308.42	kips
at Mu=(ϕ=0.65)Mn=	1835.19	ft-kips
Max Tu, (φ=0.9) Tn =	1010.88	kips
at Mu=ϕ=(0.90)Mn=	0.00	ft-kips

Output Note: Negative Pu=Tension

For Axial Compression, φ Pn = Pu:	7.80	kips
Drilled Shaft Moment Capacity, φMn:	**1993.02**	ft-kips
Drilled Shaft Superimposed Mu:	**558.74**	ft-kips

(Mu/φMn, Drilled Shaft Flexure CSR:	**28.03%**

Square, Stiffened / Unstiffened Base Plate, Any Rod Material - Rev. F /G

Assumptions: 1) Rod groups at corners. Total # rods divisible by 4. Maximum total # of rods = 48 (12 per Corner).
2) Rod Spacing = Straight Center-to-Center distance between any (2) adjacent rods (same corner)
3) Clear space between bottom of leveling nut and top of concrete **not** exceeding (1)*(Rod Diameter)

Site Data

Site #: *4555*
Site Name: *THOMPSONVILLE, CT*
Client #: *NEXLINK*

Anchor Rod Data		
Qty:	4	
Diam:	2.25	in
Rod Material:	A615-J	
Yield, Fy:	75	ksi
Strength, Fu:	100	ksi
Bolt Circle:	33	in

Plate Data		
W=Side:	31	in
Thick:	2.25	in
Grade:	50	ksi
Clip Distance:	6	in

Stiffener Data (Welding at both sides)		
Configuration:	Unstiffened	
Weld Type:		**
Groove Depth:		in **
Groove Angle:		degrees
Fillet H. Weld:		<-- Disregard
Fillet V. Weld:		in
Width:		in
Height:		in
Thick:		in
Notch:		in
Grade:		ksi
Weld str.:		ksi
Clear Space between Stiffeners at B.C.		in

Pole Data		
Diam:	25.845	in
Thick:	0.2188	in
Grade:	65	ksi
# of Sides:	18	"0" IF Round

Stress Increase Factor		
ASD ASIF:	1.333	

Base Reactions		
TIA Revision:	F	
Unfactored Moment, M:	389	ft-kips
Unfactored Axial, P:	6	kips
Unfactored Shear, V:	6	kips

Anchor Rod Results

TIA F --> Maximum Rod Tension	140.0 Kips
Allowable Tension:	195.0 Kips
Anchor Rod Stress Ratio:	71.8% Pass

Base Plate Results Flexural Check

Base Plate Stress:	33.7 ksi
Allowable PL Bending Stress:	50.0 ksi
Base Plate Stress Ratio:	67.4% Pass

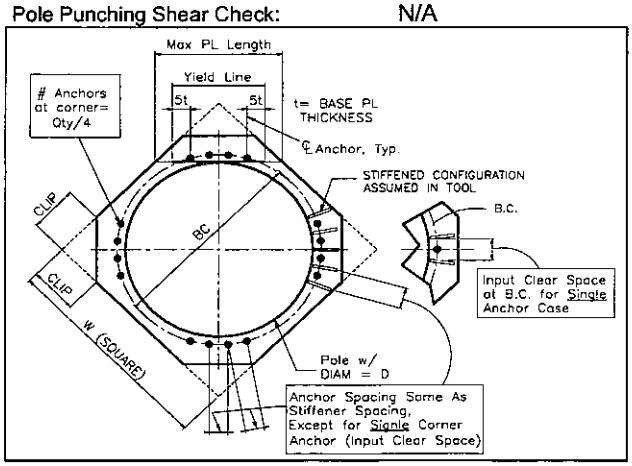
PL Ref. Data
Yield Line (in):
18.00
Max PL Length:
18.00

N/A - Unstiffened
Stiffener Results

Horizontal Weld :	N/A
Vertical Weld:	N/A
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	N/A
Plate Tension+Shear, ft/Ft+(fv/Fv)^2:	N/A
Plate Comp. (AISC Bracket):	N/A

Pole Results

Pole Punching Shear Check: N/A



** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

CAISSON Version 10.35 3:23:59 PM Tuesday, June 05, 2012
B&T Engineering

```
*****************************************************************************************
*                                                                                       *
* CAISSON - Pier Foundations Analysis and Design -  Copyright Power Line Systems, Inc. 1993-2010 *
*                                                                                       *
*****************************************************************************************
```

Project Title: 84444 - Thompsonville, CT (USID# 4555)
Project Notes: 68.5' Flag Monopole - 5' Dia, 27' Minimum Depth (26.5' Bearing)

Calculation Method: Full 8CD

******* I N P U T D A T A

Pier Properties

Diameter (ft)	Distance of Top of Pier above Ground (ft)	Concrete Strength (ksi)	Steel Yield Strength (ksi)
5.00	0.50		

Soil Properties

Layer	Type	Thickness (ft)	Depth at Top of Layer (ft)	Density (lbs/ft^3)	CU (psf)	KP	PHI (deg)
1	Clay	4.00	0.00	115.0			
2	Sand	3.00	4.00	115.0		3.000	30.00
3	Sand	3.00	7.00	116.0		2.770	28.00
4	Sand	8.00	10.00	135.0		3.690	35.00
5	Sand	6.00	18.00	72.0		3.690	35.00
6	Clay	10.00	24.00	102.6	2000.0		

Design (Factored) Loads at Top of Pier

Moment (ft-k)	Axial Load (kips)	Shear Load (kips)	Additional Safety Factor Against Soil Failure
389.0	6.0	6.00	17.50

Soil Interaction = 2.0/17.5 = **11.4%** ➔ **Pass**

Section 1 - RFDS GENERAL INFORMATION

RFDS NAME:	CT5156	DATE:	3/20/2012 11:23	RF DESIGN ENG:	Evan Thibodeau	RF PERF ENG:	TBD
ISSUE:	Preliminary	Approved? (Y/N)	Y	RF DESIGN PHONE:	(603) 320-8556	RF PERF PHONE:	TBD
REVISION:	V01	RF MANAGER:	Walter Saddig	RF DESIGN EMAIL:	et2267@att.com	RF PERF EMAIL:	TBD
INITIATIVE / PROJECT:	LTE Wave 3 Prelim					TRIDENT:	N/A
						GSM FREQUENCY:	1900
						UMTS FREQUENCY:	1900
						LTE FREQUENCY:	700
						I-PLAN JOB # 1:	NER-RCTB-11-07250
						I-PLAN JOB # 2:	
						I-PLAN JOB # 3:	
						I-PLAN JOB # 4:	

Section 2 - LOCATION INFORMATION

USID:	4555	FA LOCATION CODE:	10071277	LOCATION NAME:	THOMPSONVILLE	ORACLE PRJT # 1:	2051319948
REGION:	NORTHEAST	MARKET CLUSTER:	NEW ENGLAND	MARKET:	CT	ORACLE PRJT # 2:	
ADDRESS:	568 ENFIELD STREET	CITY:	ENFIELD	STATE:	CT	ORACLE PRJT # 3:	
ZIP CODE:	06082	COUNTY:	HARTFORD	MSA/RSA:	TBD	ORACLE PRJT # 4:	
LATITUDE (D-M-S):	42° 0' 29.01"	LONGITUDE (D-M-S):	72° 35' 37.02"	LAT (DEC. DEG.):	42.008058	SEARCH RING NAME:	N/A
DIRECTIONS, ACCESS AND EQUIPMENT LOCATION:	TBD					SEARCH RING ID:	N/A
						RTA:	TBD
						LONG (DEC. DEG.):	-72.593818
						BORDER CELL WITH CONTOUR COORD:	TBD
						AM STUDY REQ'D (Y/N):	TBD
						FREQ COORD:	TBD

Section 3 - LICENSE COVERAGE/FILING INFORMATION

CGSA - NO FILING TRIGGERED:	TBD	CGSA LOS:	TBD	PCS REDUCED - UPS ZIP:	TBD
CGSA - MINOR FILING NEEDED:	TBD	CGSA EXT AGMT NEEDED:	TBD	PCS POPS REDUCED:	TBD
CGSA - MAJOR FILING NEEDED:	TBD	CGSA SCORECARD UPDATED:	TBD		

Section 4 - TOWER/REGULATORY INFORMATION

STRUCTURE AT&T OWNED?:	TBD	GROUND ELEVATION (ft):	TBD	STRUCTURE TYPE:	FLAG POLE	MKT LOCATION 850 MHZ CALL SIGN(S):	TBD
ADDITIONAL REGULATORY?:	TBD	HEIGHT OVERALL (ft):	TBD	FCC ASR NUMBER:	TBD	MKT LOCATION 1900 MHZ CALL SIGN(S):	TBD
SUB-LEASE RIGHTS?:	TBD	STRUCTURE HEIGHT (ft):	TBD			MKT LOCATION 700 MHZ CALL SIGN(S):	TBD
LIGHTING TYPE:			TBD			MKT LOCATION AWS MH2 CALL SIGN(S):	TBD

	PSAP NAME:	PSAP ID:	E911 PHASE:	MPC SVC PROVIDER:	LMU REQUIRED:	ESRN:	DATE LIVE PH1:	DATE LIVE PH2:
ALPHA	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
BETA	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
GAMMA	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
DELTA								
EPSILON								
PSI								

Section 6 - RBS GENERAL INFORMATION

4-DIGIT SITE ID:	5156	COW OR TOY?:	NO	CELLULAR NETWORK:	GOLD	DISASTER PRIORITY:	TBD
CELL SITE TYPE:	SECTORIZED	SITE TYPE:	MACRO	OPS DISTRICT:	CT-NORTH	OPS ZONE:	NE_CT_MAFR_N_CS
BTS LOCATION ID:	TBD	ORIGINATING CO:	ATT	RF DISTRICT:	TBD	RF ZONE:	BCT05

Section 7 - RBS SPECIFIC INFORMATION

	GSM RBSs	UMTS 1ST CARRIER RBSs	UMTS 2ND CARRIER RBSs	UMTS 3RD CARRIER RBSs	UMTS 4TH CARRIER RBSs	UMTS 5TH CARRIER RBSs	UMTS 6TH CARRIER RBSs	LTE RBSs
MSC	MCT01	TBD	TBD	N/A	N/A			N/A
BSC/RNC	BCT05	MDTWCTNIRNC001	MDTWCTNIRNC001	N/A	N/A			N/A
LAC	05005	TBD	TBD	N/A	N/A			N/A
RAC	TBD	TBD	TBD	N/A	N/A			N/A
EQUIPMENT VENDOR	NOKIA	ERICSSON	ERICSSON	N/A	N/A			N/A
EQUIPMENT TYPE	TBD	RBS3206	650 Radio Kit	N/A	N/A			N/A
LOCATION	TBD	TBD	TBD	N/A	N/A			N/A
CABINET LOCATION	TBD	TBD	TBD	N/A	N/A			N/A

Section 8 - RBS INDIVIDUAL INFORMATION

	GSM 850 RBS	GSM 1900 RBS	UMTS 850 RBS	UMTS 1900 RBS	UMTS 2ND 850 RBS	UMTS 2ND 1900 RBS	UMTS 3RD 850 RBS	UMTS 3RD 1900 RBS	UMTS 4TH 850 RBS	UMTS 4TH 1900 RBS	UMTS 5TH 850 RBS	UMTS 5TH 1900 RBS	UMTS 6TH 850 RBS	UMTS 6TH 1900 RBS	LTE 700 RBS	LTE AWS RBS
CELL ID/BCF	N/A	184P5156	N/A	CTU5156	CTU5156	N/A	N/A	N/A	N/A	N/A					N/A	N/A
CTS COMMON ID	N/A	184P5156	N/A	CTU5156	CTV5156	N/A	N/A	N/A	N/A	N/A					N/A	N/A

Section 9 - SOFT SECTOR ID

	GSM 850 RBS	GSM 1900 RBS	UMTS 850 RBS	UMTS 1900 RBS	UMTS 2ND 850 RBS	UMTS 2ND 1900 RBS	UMTS 3RD 850 RBS	UMTS 3RD 1900 RBS	UMTS 4TH 850 RBS	UMTS 4TH 1900 RBS	UMTS 5TH 850 RBS	UMTS 5TH 1900 RBS	UMTS 6TH 850 RBS	UMTS 6TH 1900 RBS	LTE 700 RBS	LTE AWS RBS
ALPHA (OR OMNI)	N/A	184P51561	N/A	CTU51567	CTV51561	N/A	N/A	N/A	N/A	N/A					N/A	N/A
BETA	N/A	184P51562	N/A	CTU51568	CTV51562	N/A	N/A	N/A	N/A	N/A					N/A	N/A
GAMMA	N/A	184P51563	N/A	CTU51569	CTV51563	N/A	N/A	N/A	N/A	N/A					N/A	N/A
DELTA																
EPSILON																
PSI																

Section 10 - CID/SAC

	GSM 850 RBS	GSM 1900 RBS	UMTS 850 RBS	UMTS 1900 RBS	UMTS 2ND 850 RBS	UMTS 2ND 1900 RBS	UMTS 3RD 850 RBS	UMTS 3RD 1900 RBS	UMTS 4TH 850 RBS	UMTS 4TH 1900 RBS	UMTS 5TH 850 RBS	UMTS 5TH 1900 RBS	UMTS 6TH 850 RBS	UMTS 6TH 1900 RBS	LTE 700 RBS	LTE AWS RBS
ALPHA (OR OMNI)	N/A	51561	N/A	51567	51561	N/A	N/A	N/A	N/A	N/A					N/A	N/A
BETA	N/A	51562	N/A	51568	51562	N/A	N/A	N/A	N/A	N/A					N/A	N/A
GAMMA	N/A	51563	N/A	51569	51563	N/A	N/A	N/A	N/A	N/A					N/A	N/A
DELTA																
EPSILON																
PSI																

Section 11 - CURRENT RADIO COUNTS (Existing)

	GSM 850 RBS	GSM 1900 RBS	UMTS 850 RBS	UMTS 1900 RBS	UMTS 2ND 850 RBS	UMTS 2ND 1900 RBS	UMTS 3RD 850 RBS	UMTS 3RD 1900 RBS	UMTS 4TH 850 RBS	UMTS 4TH 1900 RBS	UMTS 5TH 850 RBS	UMTS 5TH 1900 RBS	UMTS 6TH 850 RBS	UMTS 6TH 1900 RBS	LTE 700 RBS	LTE AWS RBS
ALPHA (OR OMNI)	N/A	2	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A					N/A	N/A
BETA	N/A	2	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A					N/A	N/A
GAMMA	N/A	2	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A					N/A	N/A
DELTA																
EPSILON																
PSI																

Section 12 - CURRENT BASE BAND CONFIGURATION (Existing)

	GSM 1st Cabinet	GSM 2nd Cabinet	UMTS 1st Cabinet	UMTS 2nd Cabinet	UMTS 3rd Cabinet	UMTS 4th Cabinet	LTE 1st Cabinet	LTE 2nd Cabinet
# TIs	TBD	TBD	TBD	N/A			N/A	N/A
LINK PROFILE	TBD	TBD	TBD	TBD				
RF Combining								
Fiber or Ethernet?	TBD	TBD	TBD	TBD				
Tx Board Model								
Tx Board QTY								
RAX/ECU Board Model								
RAX/ECU Board QTY								
BBU Board Model								
BBU Board QTY								
RRU - Type(Qty-Model)								
Fiber Jumper								
DC Cable								
DC/Fiber Dem. Box								

DC BLOCK (QTY/MODEL)														
TMA/LNA (TYPE/MODEL)	N/A													
CURRENT INJECTORS FOR TMA (QTY/MODEL)	N/A													
PDU FOR TMAS (QTY/MODEL) usually per site	N/A													
SURGE ARRESTOR (QTY/MODEL)	N/A													
DIPLEXER (QTY/MODEL)	N/A													
HYBRID COMBINER (QTY/MODEL)														
DUPLEXER (QTY/MODEL)														
FILTER (QTY/MODEL)														
RXAIT KIT MODULE?	RxAIT - 1900 Band	RxAIT - 1900 Band												
TRIPLEXER or NARROW BAND LLC (QTY/MODEL)	N/A / No LLC	N/A / No LLC												
SCPA/MCPA MODULE?	N/A	N/A												
Additional Component1														
Additional Component2														
Additional Component3														
MAGNETIC DECLINATION	-14 °													
HATCHPLATE POWER (Watts)														
ERP (Watts)														
Local Market Note1														
Local Market Note2														
Local Market Note3														

Section 15C - CURRENT SECTOR/CELL INFORMATION - GAMMA

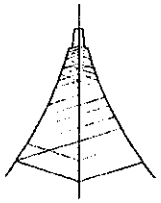
ANTENNA CONFIG (FROM BACK):	ANTENNA 1 GSM, UMTS (850 / 1900) or LTE (700 / AWS)		ANTENNA 2 GSM, UMTS (850 / 1900) or LTE (700 / AWS)		ANTENNA 3 GSM, UMTS (850 / 1900) or LTE (700 / AWS)		ANTENNA 4 GSM, UMTS (850 / 1900) or LTE (700 / AWS)		ANTENNA 5 GSM, UMTS (850 / 1900) or LTE (700 / AWS)		ANTENNA 6 GSM, UMTS (850 / 1900) or LTE (700 / AWS)		ANTENNA 7 GSM, UMTS (850 / 1900) or LTE (700 / AWS)	
TX/RX?	TxRx-TxRx	TxRx-TxRx												
TECHNOLOGY	UMTS / 1900	GSM / 1900												
RRH LOCATION (Top/Bottom/None)	N/A	N/A												
FEEDERS TYPE	1 1/4" - RFS	1 1/4" - RFS												
Feeder Length (feet)	128 '	128 '												
ANTENNA AT0.1														
ANTENNA MAKE - MODEL	N/A													
ANTENNA VENDOR														
ANTENNA SIZE (H x W x D)														
ANTENNA WEIGHT														
ANTENNA GAIN														
AZIMUTH	277 °													
RADIATION CENTER (feet)	95 '													
ANTENNA TIP HEIGHT	95 '													
ELECTRICAL TILT (700/850/1900/AWS)	TBD	TBD												
MECHANICAL DOWNTILT	TBD													
FEEDER AMOUNT	2													
Antenna RET Motor (QTY/MODEL)														
Antenna RET Splitter (QTY/MODEL)														
Antenna RET Earth (Grounding) Clamp (QTY/MODEL)														
Antenna RET Surge Arrestor (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL) usually per site														
DC BLOCK (QTY/MODEL)														
TMA/LNA (TYPE/MODEL)	N/A													
CURRENT INJECTORS FOR TMA (QTY/MODEL)	N/A													
PDU FOR TMAS (QTY/MODEL) usually per site	N/A													
SURGE ARRESTOR (QTY/MODEL)	N/A													
DIPLEXER (QTY/MODEL)	N/A													
HYBRID COMBINER (QTY/MODEL)														
DUPLEXER (QTY/MODEL)														
FILTER (QTY/MODEL)														
RXAIT KIT MODULE?	RxAIT - 1900 Band	RxAIT - 1900 Band												
TRIPLEXER or NARROW BAND LLC (QTY/MODEL)	N/A / No LLC	N/A / No LLC												
SCPA/MCPA MODULE?	N/A	N/A												
Additional Component1														
Additional Component2														
Additional Component3														
MAGNETIC DECLINATION	-14 °													
HATCHPLATE POWER (Watts)														
ERP (Watts)														
Local Market Note1														
Local Market Note2														
Local Market Note3														

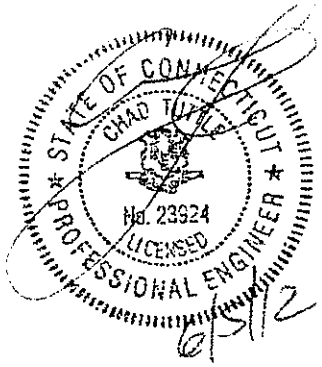
Section 15D - CURRENT SECTOR/CELL INFORMATION - DELTA

ANTENNA CONFIG (FROM BACK):	ANTENNA 1 GSM, UMTS (850 / 1900) or LTE (700 / AWS)		ANTENNA 2 GSM, UMTS (850 / 1900) or LTE (700 / AWS)		ANTENNA 3 GSM, UMTS (850 / 1900) or LTE (700 / AWS)		ANTENNA 4 GSM, UMTS (850 / 1900) or LTE (700 / AWS)		ANTENNA 5 GSM, UMTS (850 / 1900) or LTE (700 / AWS)		ANTENNA 6 GSM, UMTS (850 / 1900) or LTE (700 / AWS)		ANTENNA 7 GSM, UMTS (850 / 1900) or LTE (700 / AWS)	
TX/RX?														
TECHNOLOGY														
RRH LOCATION (Top/Bottom/None)														
FEEDERS TYPE														
Feeder Length (feet)														
ANTENNA AT0.1														
ANTENNA MAKE - MODEL														
ANTENNA VENDOR														
ANTENNA SIZE (H x W x D)														
ANTENNA WEIGHT														
ANTENNA GAIN														
AZIMUTH														
RADIATION CENTER (feet)														
ANTENNA TIP HEIGHT														
ELECTRICAL TILT (700/850/1900/AWS)														
MECHANICAL DOWNTILT														
FEEDER AMOUNT														
Antenna RET Motor (QTY/MODEL)														
Antenna RET Splitter (QTY/MODEL)														
Antenna RET Earth (Grounding) Clamp (QTY/MODEL)														
Antenna RET Surge Arrestor (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL) usually per site														
DC BLOCK (QTY/MODEL)														
TMA/LNA (TYPE/MODEL)														
CURRENT INJECTORS FOR TMA (QTY/MODEL)														
PDU FOR TMAS (QTY/MODEL) usually per site														
SURGE ARRESTOR (QTY/MODEL)														
DIPLEXER (QTY/MODEL)														
HYBRID COMBINER (QTY/MODEL)														

Additional Component3														
MAGNETIC DECLINATION														
HATCHPLATE POWER (Watts)														
ERP (Watts)														
Local Market Note1														
Local Market Note2														
Local Market Note3														
Section 16A - NEW/PROPOSED SECTOR/CELL INFORMATION - ALPHA (OR OMNI)														
ANTENNA CONFIG (FROM BACK):	ANTENNA 1 GSM, UMTS (850 / 1900) or LTE (700 / AWS)		ANTENNA 2 GSM, UMTS (850 / 1900) or LTE (700 / AWS)		ANTENNA 3 GSM, UMTS (850 / 1900) or LTE (700 / AWS)		ANTENNA 4 GSM, UMTS (850 / 1900) or LTE (700 / AWS)		ANTENNA 5 GSM, UMTS (850 / 1900) or LTE (700 / AWS)		ANTENNA 6 GSM, UMTS (850 / 1900) or LTE (700 / AWS)		ANTENNA 7 GSM, UMTS (850 / 1900) or LTE (700 / AWS)	
TX/RX?	TxRx-TxRx	TxRx-TxRx	TxRx-Rx	N/A										
TECHNOLOGY	UMTS / 1900	GSM / 1900	LTE / 700	N/A										
RRH LOCATION (Top/Bottom/None)	N/A	N/A	BOTTOM	BOTTOM										
FEEDERS TYPE	1 1/4" - RFS	1 1/4" - RFS												
Feeder Length (feet)	128'	128'												
ANTENNA AZIM.														
ANTENNA MAKE - MODEL	AM-X-CD-16-65-00T-RET		AM-X-CD-16-65-00T-RET											
ANTENNA VENDOR	KMW		KMW											
ANTENNA SIZE (H x W x D)	72.0 x 11.8 x 5.9		72.0 x 11.8 x 5.9											
ANTENNA WEIGHT	48.5		48.5											
ANTENNA GAIN														
AZIMUTH	60°		60°											
RADIATION CENTER (feet)	85'		95'											
ANTENNA TIP HEIGHT	88'		98'											
ELECTRICAL TILT (700/850/1900/AWS)	TBD	TBD	TBD	TBD										
MECHANICAL DOWNTILT	TBD		0°											
FEEDER AMOUNT	2		1 Optic Fiber & 2 DC cables											
Antenna RET Motor (QTY/MODEL)	N/A / KMW / Built-in RET Equipment		N/A / KMW / Built-in RET Equipment											
Antenna RET Splitter (QTY/MODEL)														
Antenna RET Earth (Grounding) Clamp (QTY/MODEL)														
Antenna RET Surge Arrestor (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL) usually per site														
DC BLOCK (QTY/MODEL)														
TMA/LNA (TYPE/MODEL)	1 / CCI / DTMABP7819VG12A		1 / CCI / DTMABP7819VG12A											
CURRENT INJECTORS FOR TMA (QTY/MODEL)	N/A													
PDU FOR TMAS (QTY/MODEL) usually per site	LGP 12104 (1900 AND 850 Bypass TMA													
SURGE ARRESTOR (QTY/MODEL)	N/A													
DIPLEXER (QTY/MODEL)	0 + 2 / Powerwave / LGP 21901		0 + 1 / CM1007-DBPXBC-003											
HYBRID COMBINER (QTY/MODEL)														
DUPLEXER (QTY/MODEL)														
FILTER (QTY/MODEL)														
RXAIT KIT MODULE?	RxAIT - 1900 Band	RxAIT - 1900 Band												
TRIPLEXER or NARROW BAND LLC (QTY/MODEL)	N/A / No LLC	N/A / No LLC												
SCPA/MCPA MODULE?	N/A	N/A												
Additional Component1														
Additional Component2														
Additional Component3														
MAGNETIC DECLINATION	-14°		-14°											
HATCHPLATE POWER (Watts)														
ERP (Watts)														
Local Market Note1														
Local Market Note2														
Local Market Note3														
Section 16B - NEW/PROPOSED SECTOR/CELL INFORMATION - BETA														
ANTENNA CONFIG (FROM BACK):	ANTENNA 1 GSM, UMTS (850 / 1900) or LTE (700 / AWS)		ANTENNA 2 GSM, UMTS (850 / 1900) or LTE (700 / AWS)		ANTENNA 3 GSM, UMTS (850 / 1900) or LTE (700 / AWS)		ANTENNA 4 GSM, UMTS (850 / 1900) or LTE (700 / AWS)		ANTENNA 5 GSM, UMTS (850 / 1900) or LTE (700 / AWS)		ANTENNA 6 GSM, UMTS (850 / 1900) or LTE (700 / AWS)		ANTENNA 7 GSM, UMTS (850 / 1900) or LTE (700 / AWS)	
TX/RX?	TxRx-TxRx	TxRx-TxRx	TxRx-Rx	N/A										
TECHNOLOGY	UMTS / 1900	GSM / 1900	LTE / 700	N/A										
RRH LOCATION (Top/Bottom/None)	N/A	N/A	BOTTOM	BOTTOM										
FEEDERS TYPE	1 1/4" - RFS	1 1/4" - RFS												
Feeder Length (feet)	128'	128'												
ANTENNA AZIM.														
ANTENNA MAKE - MODEL	AM-X-CD-16-65-00T-RET		AM-X-CD-16-65-00T-RET											
ANTENNA VENDOR	KMW		KMW											
ANTENNA SIZE (H x W x D)	72.0 x 11.8 x 5.9		72.0 x 11.8 x 5.9											
ANTENNA WEIGHT	48.5		48.5											
ANTENNA GAIN														
AZIMUTH	180°		180°											
RADIATION CENTER (feet)	85'		95'											
ANTENNA TIP HEIGHT	88'		98'											
ELECTRICAL TILT (700/850/1900/AWS)	TBD	TBD	TBD	TBD										
MECHANICAL DOWNTILT	TBD		0°											
FEEDER AMOUNT	2		1 Optic Fiber & 2 DC cables											
Antenna RET Motor (QTY/MODEL)	N/A / KMW / Built-in RET Equipment		N/A / KMW / Built-in RET Equipment											
Antenna RET Splitter (QTY/MODEL)														
Antenna RET Earth (Grounding) Clamp (QTY/MODEL)														
Antenna RET Surge Arrestor (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL) usually per site														
DC BLOCK (QTY/MODEL)														
TMA/LNA (TYPE/MODEL)	1 / CCI / DTMABP7819VG12A		1 / CCI / DTMABP7819VG12A											
CURRENT INJECTORS FOR TMA (QTY/MODEL)	N/A													
PDU FOR TMAS (QTY/MODEL) usually per site	LGP 12104 (1900 AND 850 Bypass TMA													
SURGE ARRESTOR (QTY/MODEL)	N/A													
DIPLEXER (QTY/MODEL)	0 + 2 / Powerwave / LGP 21901		0 + 1 / CM1007-DBPXBC-003											
HYBRID COMBINER (QTY/MODEL)														
DUPLEXER (QTY/MODEL)														
FILTER (QTY/MODEL)														
RXAIT KIT MODULE?	RxAIT - 1900 Band	RxAIT - 1900 Band												
TRIPLEXER or NARROW BAND LLC (QTY/MODEL)	N/A / No LLC	N/A / No LLC												
SCPA/MCPA MODULE?	N/A	N/A												
Additional Component1														
Additional Component2														
Additional Component3														
MAGNETIC DECLINATION	-14°		-14°											
HATCHPLATE POWER (Watts)														
ERP (Watts)														
Local Market Note1														
Local Market Note2														
Local Market Note3														

at&t





Letter of Explanation (LOE)
MUST be attached to any Structural Analysis

Site Name	Thompsonville
Site Number	4555 (CT5156)
PE of Record	Chad E. Tuttle, P.E.

STRUCTURES	Statement in COL A is Correct	Item from Col A	N/A	Alternate Value / Concept Used	Explanation	Yes	No	N/A	Comment (Required if Checked)
Structure Analyzed to F Code	X								
Note: ALL G analyses MUST be justified. A simple notation of jurisdiction requirement will suffice. F BUILT TOWERS in G Code jurisdictions MUST Have the new "5% Grace" Test Applied.G to be applied ONLY where this is exceeded. This 5% test applies to "like for like" only									
Guy Tensions Adjusted Within Code to Find Optimum tension / Minimum Reinforcement (Applies to Guyed Tower Failures Only). Note : AT&T requires a pulse chart for altered Tensions			X						
Antenna Azimuths Inputted Per AT&T Information. NOTE that new antennas should be calculated at 0 degrees to allow flexibility.	X								
All Yield Stresses > = 50 ksi (legs)			X		Monopole; Shaft = 36 ksi				
All Yield Stresses > = 36 ksi (Diagonals and Horizontals))			X		Monopole				
Structures Designated Class II (G Only)			X						
Exposure B Rating Used (Topography)			X						
K value for Slenderness ratio < 1.0			X		Monopole				
Shielding of All Appurtenances Used when Appropriate PER 2.6.9.4 (G Code Only)			X						
0.75 Reduction "Shape" Factor (Figure 2.6) for platform mounts, 0.8 for T-Boom Mounts Used (G Only)			X						
Pipes and round Members have 1.0 Drag Factors. Note if Pipe is attached to flat antenna, these must be considered separately if differing Drag factors are Used		X			In compliance with the TIA-222-F Table 3				
Are Tower Diagonals Designed as "Tension Only"			X		Monopole				

C Squared Systems, LLC
65 Dartmouth Drive, Unit A3
Auburn, NH 03032
(603) 644-2800
support@csquaredsystems.com

Calculated Radio Frequency Emissions

at&t

CT5156

(Thompsonville)

566 Enfield St, Enfield, CT 06082

June 19, 2012

Table of Contents

List of Tables

List of Figures

1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed modifications to the existing AT&T antenna arrays mounted in the stealth flagpole located at 566 Enfield St. in Enfield, CT. The coordinates of the tower are 42° 0' 29.1306" N, 42° 0' 29.1306" W.

AT&T is proposing the following modifications:

1) Replace all three existing dual-band (850/1900 MHz) panel antennas with three multi-band (700/850/1900/2100 MHz) antennas (one per sector);
2) Install three multi-band (700/850/1900/2100 MHz) antennas (one per sector) at lower centerline

2. FCC Guidelines for Evaluating RF Radiation Exposure Limits

In 1985, the FCC established rules to regulate radio frequency (RF) exposure from FCC licensed antenna facilities. In 1996, the FCC updated these rules, which were further amended in August 1997 by OET Bulletin 65 Edition 97-01. These new rules include Maximum Permissible Exposure (MPE) limits for transmitters operating between 300 kHz and 100 GHz. The FCC MPE limits are based upon those recommended by the National Council on Radiation Protection and Measurements (NCRP), developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI).

The FCC general population/uncontrolled limits set the maximum exposure to which most people may be subjected. General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

Public exposure to radio frequencies is regulated and enforced in units of milliwatts per square centimeter (mW/cm^2). The general population exposure limits for the various frequency ranges are defined in the attached "FCC Limits for Maximum Permissible Exposure (MPE)" in Attachment B of this report.

Higher exposure limits are permitted under the occupational/controlled exposure category, but only for persons who are exposed as a consequence of their employment and who have been made fully aware of the potential for exposure, and they must be able to exercise control over their exposure. General population/uncontrolled limits are five times more stringent than the levels that are acceptable for occupational, or radio frequency trained individuals. Attachment B contains excerpts from OET Bulletin 65 and defines the Maximum Exposure Limit.

Finally, it should be noted that the MPE limits adopted by the FCC for both general population/uncontrolled exposure and for occupational/controlled exposure incorporate a substantial margin of safety and have been established to be well below levels generally accepted as having the potential to cause adverse health effects.

3. RF Exposure Prediction Methods

The emission field calculation results displayed in the following figures were generated using the following formula as outlined in FCC bulletin OET 65:

$$\text{Power Density} = \left(\frac{1.6^2 \times EIRP}{4\pi \times R^2} \right) \text{x Off Beam Loss}$$

Where:

EIRP = Effective Isotropic Radiated Power

R = Radial Distance = $\sqrt{(H^2 + V^2)}$

H = Horizontal Distance from antenna in meters

V = Vertical Distance from radiation center of antenna in meters

Ground reflection factor of 1.6

Off Beam Loss is determined by the selected antenna pattern

These calculations assume that the antennas are operating at 100 percent capacity and power, and that all channels are transmitting simultaneously. Obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. The calculations assume even terrain in the area of study and do not take into account actual terrain elevations which could attenuate the signal. As a result, the predicted signal levels reported below are much higher than the actual signal levels will be from the finished modifications.

4. Calculation Results

Table 1 below outlines the power density information for the site. Because the proposed AT&T antennas are directional in nature, the majority of the RF power is focused out towards the horizon. As a result, there will be less RF power directed below the antennas relative to the horizon, and consequently lower power density levels around the base of the tower. Please refer to Attachment C for the vertical pattern of the proposed AT&T antennas. The calculated results for AT&T in Table 1 include a nominal 10 dB off-beam pattern loss to account for the lower relative gain below the antennas.

Carrier	Antenna Height (Feet)	Operating Frequency (MHz)	Number of Trans.	ERP Per Transmitter (Watts)	Power Density (mw/cm^2)	Limit	%MPE
AT&T UMTS	85	880	2	982	0.0098	0.5867	1.67%
AT&T UMTS	85	1900	2	1355	0.0135	1.0000	1.35%
AT&T LTE	95	734	1	1313	0.0052	0.4893	1.07%
AT&T GSM	85	880	1	491	0.0024	0.5867	0.42%
AT&T GSM	85	1900	4	812	0.0162	1.0000	1.62%
						Total	**6.12%**

Table 1: Carrier Information[1][2][3]

[1] The existing CSC filing for Cingular should be removed and replaced with the updated AT&T technologies and values provided in Table 1. The power density information for carriers other than AT&T was taken directly from the CSC database dated 3/29/2012. Please note that %MPE values listed are rounded to two decimal points. The total %MPE listed is a summation of each unrounded contribution. Therefore, summing each rounded value may not identically match the total value reflected in the table.

[2] In the case where antenna models are not uniform across all 3 sectors for the same frequency band, the antenna model with the highest gain was used for the calculations to present a worse-case scenario.

[3] Antenna height listed for AT&T is in reference to the B&T Engineering Solutions, Inc Structural Analysis dated June 5, 2012.

5. Conclusion

The above analysis verifies that emissions from the existing site will be below the maximum power density levels as outlined by the FCC in the OET Bulletin 65 Ed. 97-01. Even when using conservative methods, the cumulative power density from the proposed transmit antennas at the existing facility is well below the limits for the general public. The highest expected percent of Maximum Permissible Exposure at ground level is **6.12% of the FCC limit**.

As noted previously, obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. As a result, the predicted signal levels are more conservative (higher) than the actual signal levels will be from the finished modifications.

6. Statement of Certification

I certify to the best of my knowledge that the statements in this report are true and accurate. The calculations follow guidelines set forth in ANSI/IEEE Std. C95.3, ANSI/IEEE Std. C95.1 and FCC OET Bulletin 65 Edition 97-01.

Daniel L. Goulet
C Squared Systems, LLC

June 19, 2012
Date

Attachment A: References

OET Bulletin 65 - Edition 97-01 - August 1997 Federal Communications Commission Office of Engineering & Technology

ANSI C95.1-1982, American National Standard Safety Levels With Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 300 kHz to 100 GHz. IEEE-SA Standards Board

IEEE Std C95.3-1991 (Reaff 1997), IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave. IEEE-SA Standards Board

Attachment B: FCC Limits for Maximum Permissible Exposure (MPE)

(A) Limits for Occupational/Controlled Exposure[4]

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	($900/f^2$)*	6
30-300	61.4	0.163	1.0	6
300-1500	-	-	f/300	6
1500-100,000	-	-	5	6

(B) Limits for General Population/Uncontrolled Exposure[5]

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	($180/f^2$)*	30
30-300	27.5	0.073	0.2	30
300-1500	-	-	f/1500	30
1500-100,000	-	-	1.0	30

f = frequency in MHz * Plane-wave equivalent power density

Table 2: FCC Limits for Maximum Permissible Exposure (MPE)

[4] Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure

[5] General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure

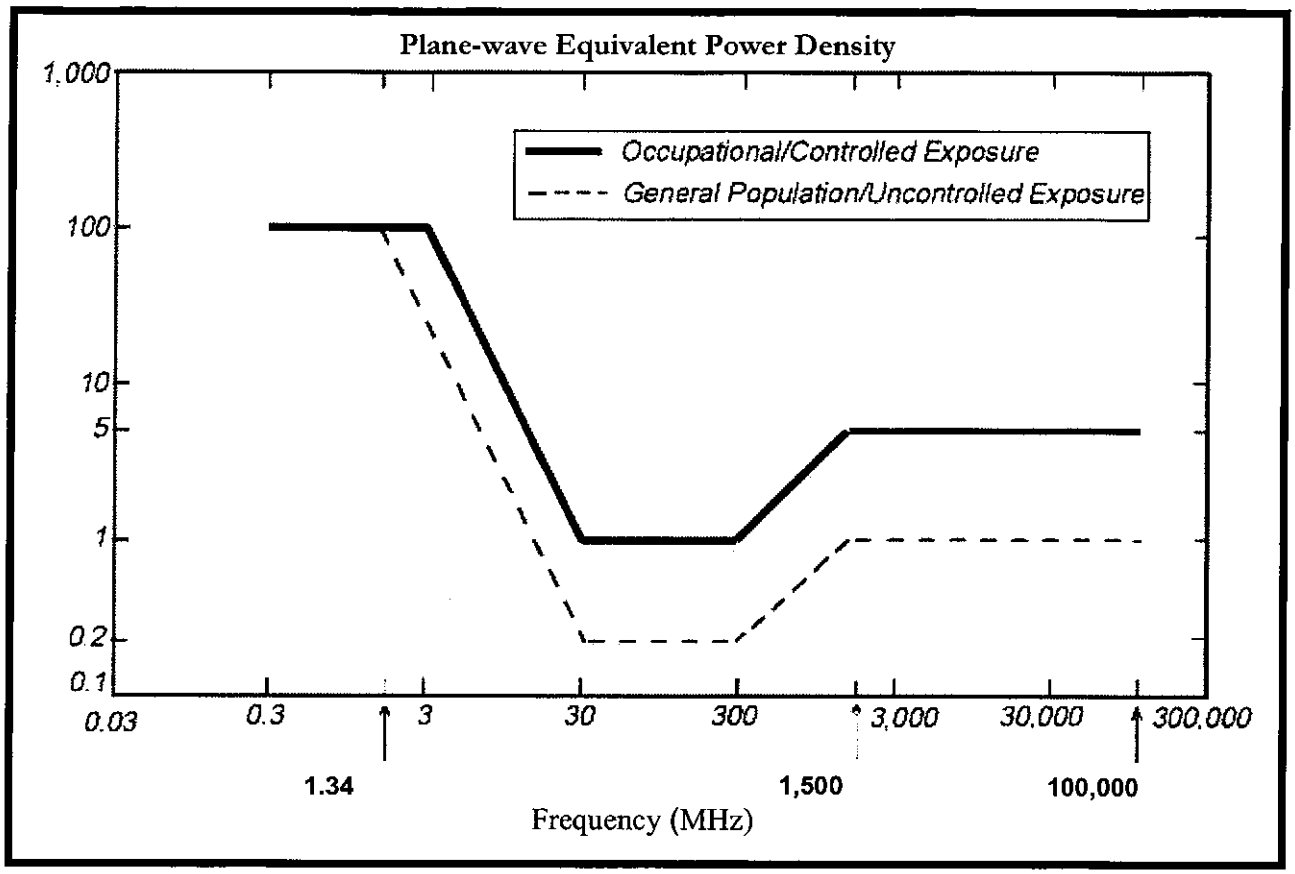
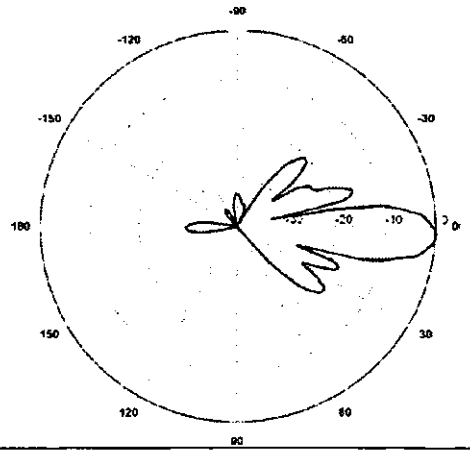


Figure 1: Graph of FCC Limits for Maximum Permissible Exposure (MPE)

Attachment C: AT&T Antenna Data Sheets and Electrical Patterns

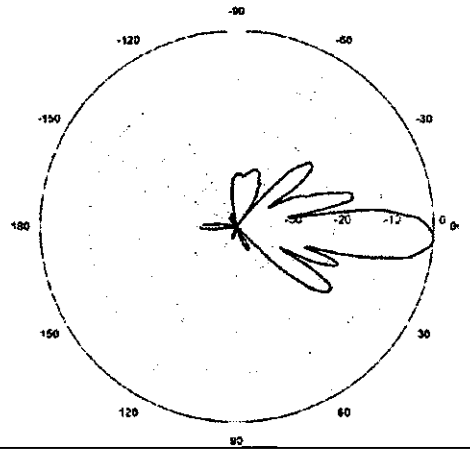
700 MHz

Manufacturer:	KMW Communications
Model #:	AM-X-CD-16-65-00T
Frequency Band:	698-806 MHz
Gain:	13.4 dBd
Vertical Beamwidth:	12.3°
Horizontal Beamwidth:	65°
Polarization:	Dual Slant ± 45°
Size L x W x D:	72.0" x 11.8" x 5.9"



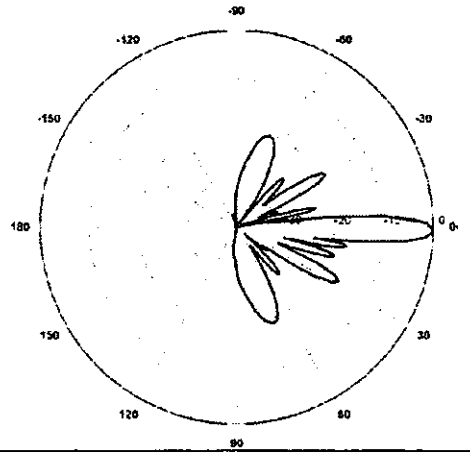
850 MHz

Manufacturer:	KMW Communications
Model #:	AM-X-CD-16-65-00T
Frequency Band:	824-894 MHz
Gain:	13.9 dBd
Vertical Beamwidth:	11.5°
Horizontal Beamwidth:	63°
Polarization:	Dual Slant ± 45°
Size L x W x D:	72.0" x 11.8" x 5.9"



1900 MHz

Manufacturer:	KMW Communications
Model #:	AM-X-CD-16-65-00T
Frequency Band:	1850-1990 MHz
Gain:	15.3 dBd
Vertical Beamwidth:	6°
Horizontal Beamwidth:	67°
Polarization:	Dual Slant ± 45°
Size L x W x D:	72.0" x 11.8" x 5.9"



PROJECT INFORMATION

SCOPE OF WORK:	TELECOMMUNICATIONS FACILITY UPGRADE (LTE): 1. INSTALL (3) NEW LTE ANTENNAS, (6) RRH'S, (1) SURGE ARRESTOR, (1) FIBER LINE, (2) DC POWER LINES & (1) GPS ANTENNA 2. INSTALL (1) LTE 6601 CABINET
SITE ADDRESS:	556 ENFIELD STREET ENFIELD, CT 06082
LATITUDE:	42.008058 N 42° 0' 29.0" N
LONGITUDE:	72.593617 W 72° 35' 37.0" W
JURISDICTION:	TOWN OF ENFIELD, CT
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY

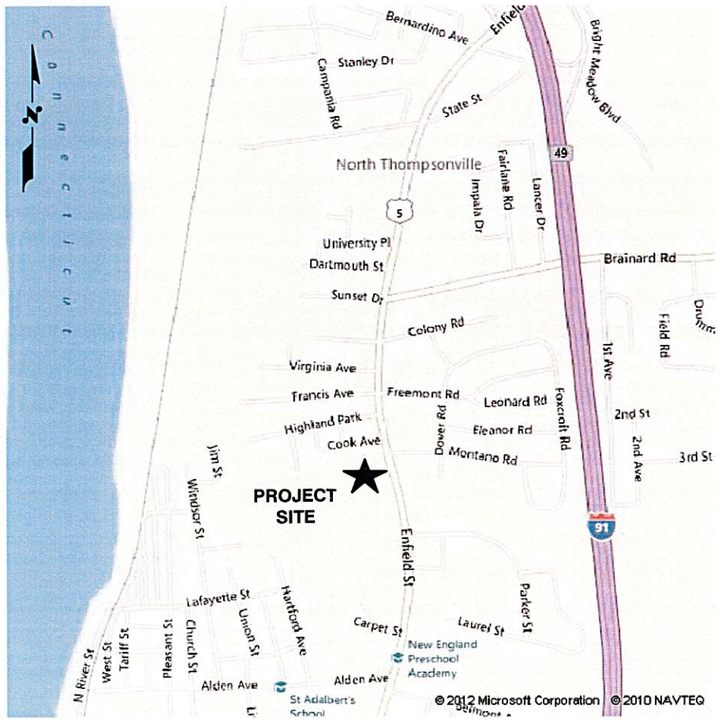
at&t

SITE NUMBER: CT5156
SITE NAME: THOMPSONVILLE

DRAWING INDEX

VICINITY MAP

DIRECTIONS TO SITE:
HEAD NORTHEAST ON ENTERPRISE DR TOWARD CAPITAL BLVD 0.3 MI. TURN LEFT ONTO CAPITAL BLVD 0.3 MI. TURN LEFT ONTO WEST ST 0.2 MI. TURN LEFT TO MERGE ONTO I-91 N TOWARD HARTFORD 26.7 MI. TAKE EXIT 47W TO MERGE ONTO CT-190 W/HAZARD AVE TOWARD SUFFIELD CONTINUE TO FOLLOW CT-190 W 0.5 MI. TAKE THE US-5 RAMP TO ENFIELD 0.1 MI. TURN RIGHT ONTO US-5 N/ENFIELD ST. DESTINATION WILL BE ON THE LEFT.



GENERAL NOTES

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

CALL

BEFORE YOU DIG

CALL TOLL FREE 800-922-4455

UNDERGROUND SERVICE ALERT

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 2-101
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

NEXLINK GLOBAL SERVICES
a UniTek GLOBAL SERVICES company
800 MARSHALL PHELPS ROAD UNIT#: 2A
WINDSOR, CT 06095

SITE NUMBER: CT5156
SITE NAME: THOMPSONVILLE
556 ENFIELD STREET
ENFIELD, CT 06082
HARTFORD COUNTY

at&t
500 ENTERPRISE DRIVE
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP
2	07/06/12	CONSTRUCTION REVISED	RM	DC	DPH
1	04/17/12	ISSUED FOR CONSTRUCTION	SF	DC	DPH
0	04/12/12	ISSUED FOR REVIEW	SF	DC	DPH

SCALE: AS SHOWN | DESIGNED BY: DC | DRAWN BY: RM

STATE OF CONNECTICUT
DEREK J. CHRASKA
No. 26551
LICENSED PROFESSIONAL ENGINEER

AT&T

TITLE SHEET
(LTE)

JOB NUMBER	DRAWING NUMBER	REV
5156.01	T-1	2

GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.

2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.

3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.

4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.

5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS 2 AWG STRANDED COPPER FOR OUTDOOR BTS.

6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.

7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.

8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.

9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.

10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.

11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWS COPPER

ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR – NEXLINK
SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
OWNER – AT&T MOBILITY

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.

3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.

5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.

7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.

9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.

10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.

11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.

15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.

16. CONSTRUCTION SHALL COMPLY WITH UMTS SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T MOBILITY SITES."

17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.

19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

20. APPLICABLE BUILDING CODES:
SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.
BUILDING CODE: 2003 IBC WITH 2005 CT SUPPLEMENT & 2009 CT AMENDMENTS
ELECTRICAL CODE: REFER TO ELECTRICAL DRAWINGS
LIGHTENING CODE: REFER TO ELECTRICAL DRAWINGS

SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION;

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-F, STRUCTURAL STANDARDS FOR STEEL

ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES; REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	G.C.	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
AWG	AMERICAN WIRE GAUGE	MGB	MASTER GROUND BUS		
BCW	BARE COPPER WIRE	MIN	MINIMUM	TBD	TO BE DETERMINED
BTS	BASE TRANSCEIVER STATION	PROPOSED	NEW	TBR	TO BE REMOVED
EXISTING	EXISTING	N.T.S.	NOT TO SCALE	TBRR	TO BE REMOVED AND REPLACED
EG	EQUIPMENT GROUND	REF	REFERENCE	TYP	TYPICAL
EGR	EQUIPMENT GROUND RING	REQ	REQUIRED		

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 2-101
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

NEXLINK GLOBAL SERVICES
a UniTek GLOBAL SERVICES company
800 MARSHALL PHELPS ROAD UNIT#: 2A
WINDSOR, CT 06095

SITE NUMBER: CT5156
SITE NAME: THOMPSONVILLE
556 ENFIELD STREET
ENFIELD, CT 06082
HARTFORD COUNTY

at&t
500 ENTERPRISE DRIVE
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP
2	07/06/12	CONSTRUCTION REVISED	RM	DC	DH
1	04/17/12	ISSUED FOR CONSTRUCTION	SF	DC	DH
0	04/12/12	ISSUED FOR REVIEW	SF	DC	DH

SCALE: AS SHOWN | DESIGNED BY: DC | DRAWN BY: RM

STATE OF CONNECTICUT
CHRISTOPHER J. CREASEY
No. 28557
LICENSED PROFESSIONAL ENGINEER

AT&T

GENERAL NOTES (LTE)

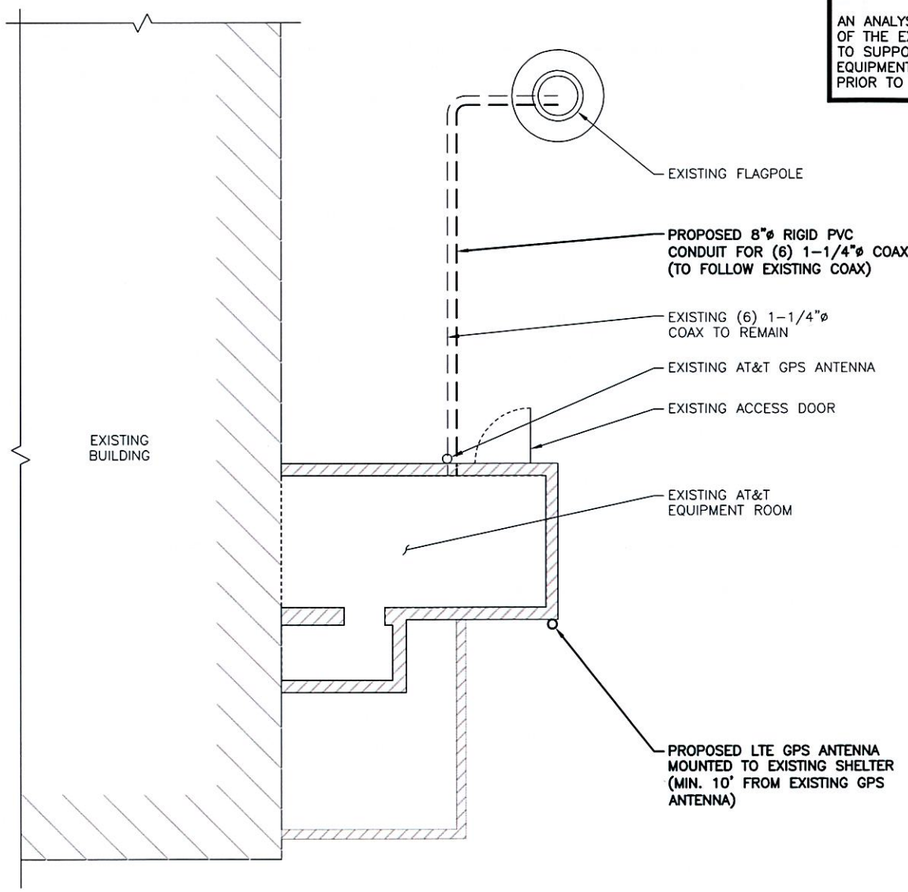
JOB NUMBER	DRAWING NUMBER	REV
5156.01	GN-1	2

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

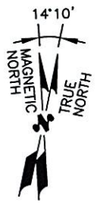
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

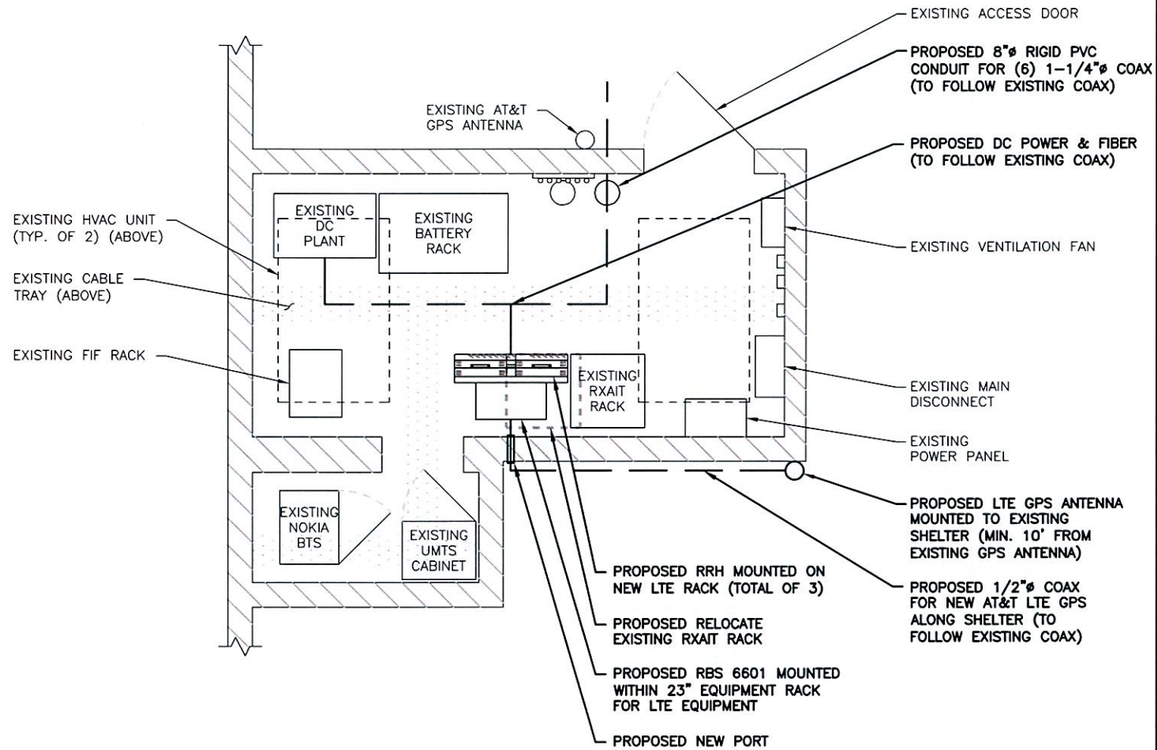


COMPOUND PLAN

SCALE: 1/4"=1'-0"

0 2'-0" 4'-0" 8'-0" 12'-0"





EQUIPMENT PLAN

SCALE: 1/2"=1'-0"

0 1'-0" 2'-0" 4'-0" 6'-0"

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 2-101
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

NEXLINK GLOBAL SERVICES
a UniTek GLOBAL SERVICES company
800 MARSHALL PHELPS ROAD UNIT#: 2A
WINDSOR, CT 06095

SITE NUMBER: CT5156
SITE NAME: THOMPSONVILLE
556 ENFIELD STREET
ENFIELD, CT 06082
HARTFORD COUNTY

at&t
500 ENTERPRISE DRIVE
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
2	07/06/12	CONSTRUCTION REVISED	RM	DC	HPH
1	04/17/12	ISSUED FOR CONSTRUCTION	SF	DC	HPH
0	04/12/12	ISSUED FOR REVIEW	SF	DC	HPH

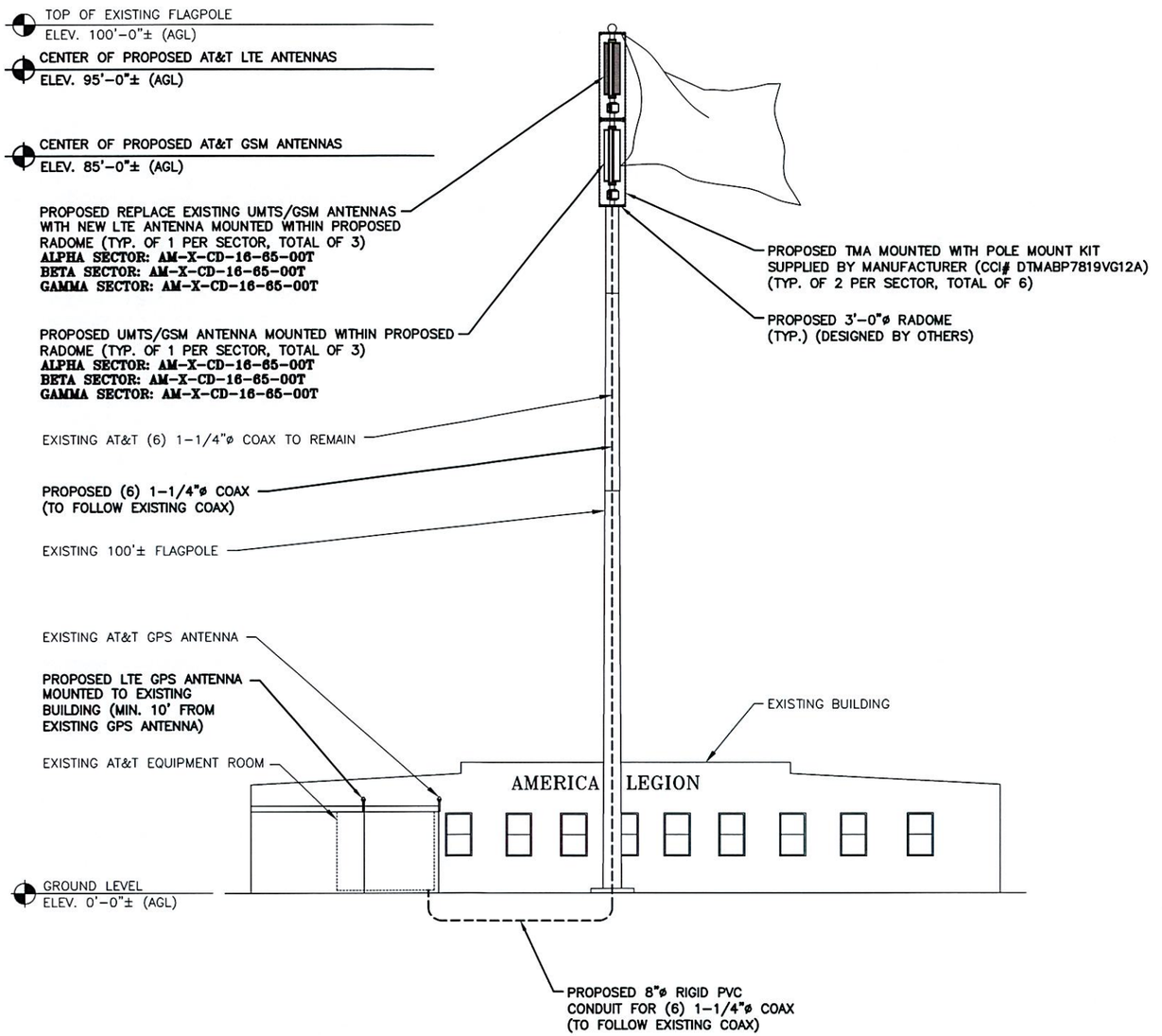
SCALE: AS SHOWN | DESIGNED BY: DC | DRAWN BY: RM

STATE OF CONNECTICUT
DEREK J. CREASER
No. 26351
LICENSED PROFESSIONAL ENGINEER

AT&T

COMPOUND & EQUIPMENT PLAN (LTE)

JOB NUMBER	DRAWING NUMBER	REV
56.01	A-1	2



EAST ELEVATION

SCALE: 1/8"=1'-0"

0 4'-0" 8'-0" 16'-0" 24'-0"

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 2-101
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

NEXLINK GLOBAL SERVICES
a UniTek GLOBAL SERVICES company
800 MARSHALL PHELPS ROAD UNIT#: 2A
WINDSOR, CT 06095

SITE NUMBER: CT5156
SITE NAME: THOMPSONVILLE
556 ENFIELD STREET
ENFIELD, CT 06082
HARTFORD COUNTY

at&t
500 ENTERPRISE DRIVE
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
2	07/06/12	CONSTRUCTION REVISED	RM	DC	DEH
1	04/17/12	ISSUED FOR CONSTRUCTION	SF	DC	DEH
0	04/12/12	ISSUED FOR REVIEW	SF	DC	DEH

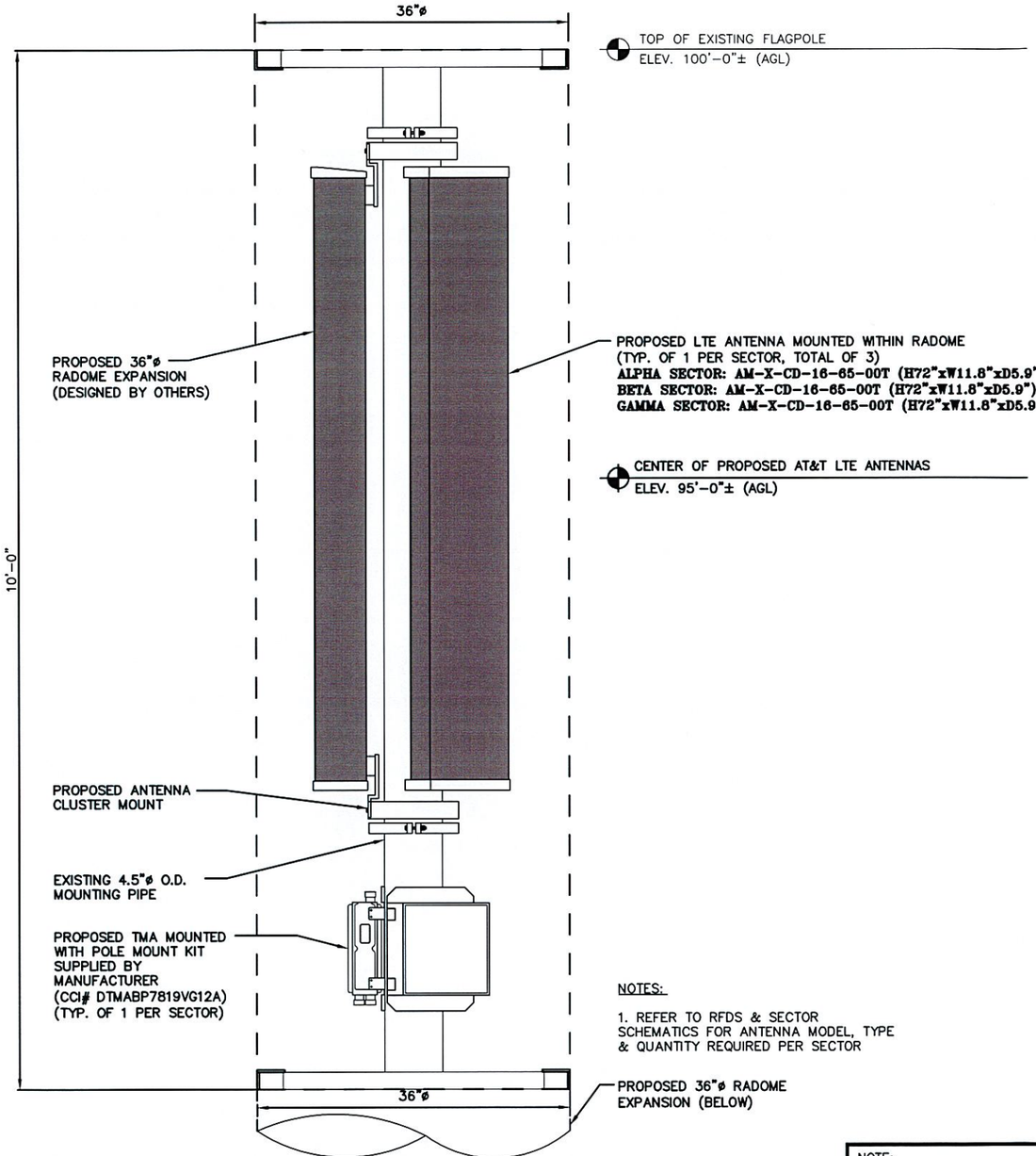
SCALE: AS SHOWN | DESIGNED BY: DC | DRAWN BY: RM

STATE OF CONNECTICUT
DEREK J. CREASEY
No. 28551
LICENSED PROFESSIONAL ENGINEER

AT&T

ELEVATION (LTE)

JOB NUMBER	DRAWING NUMBER	REV
156.01	A-2	2



NOTES:

1. REFER TO RFDS & SECTOR SCHEMATICS FOR ANTENNA MODEL, TYPE & QUANTITY REQUIRED PER SECTOR

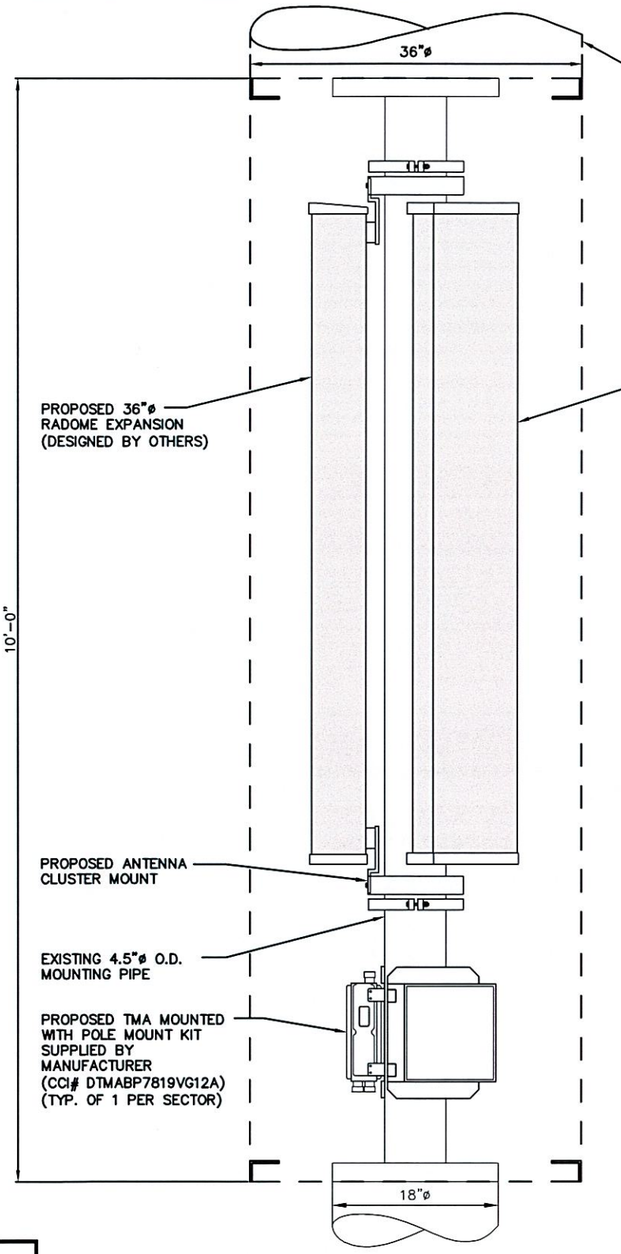
PROPOSED LTE ANTENNA MOUNTING DETAIL

SCALE: 1-1/2" = 1'-0"

0 4" 8" 1'-4" 2'-0"

NOTE:

ABSOLUTE MINIMUM DIAMETER OF FLAGPOLE TO BE NO LESS THAN 36" ON 4.5" O.D. MOUNTING PIPE.



NOTES:

1. REFER TO RFDS & SECTOR SCHEMATICS FOR ANTENNA MODEL, TYPE & QUANTITY REQUIRED PER SECTOR

PROPOSED UMTS/GSM ANTENNA MOUNTING DETAIL

SCALE: 1-1/2" = 1'-0"

0 4" 8"

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 2-101
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

NEXLINK GLOBAL SERVICES
a UniTek GLOBAL SERVICES company
800 MARSHALL PHELPS ROAD UNIT#: 2A
WINDSOR, CT 06095

SITE NUMBER: CT5156
SITE NAME: THOMPSONVILLE
556 ENFIELD STREET
ENFIELD, CT 06082
HARTFORD COUNTY

at&t
500 ENTERPRISE DRIVE
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
2	07/06/12	CONSTRUCTION REVISED	RM	DC	DPH
1	04/17/12	ISSUED FOR CONSTRUCTION	SF	DC	DPH
0	04/12/12	ISSUED FOR REVIEW	SF	DC	DPH

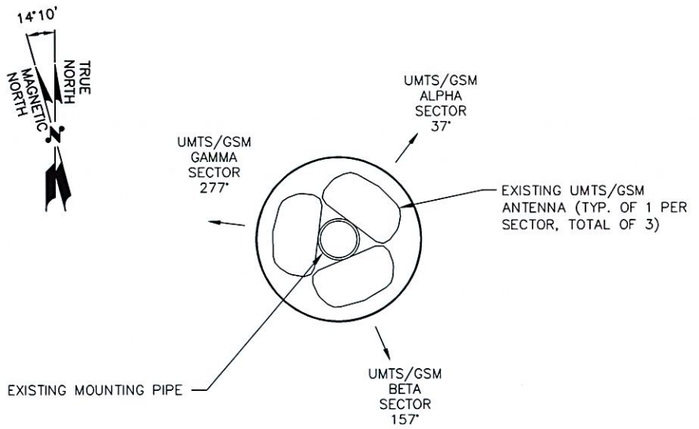
SCALE: AS SHOWN | DESIGNED BY: DC | DRAWN BY: RM

STATE OF CONNECTION
DEREK J. CREASER
No. 28551
LICENSED PROFESSIONAL ENGINEER

AT&T

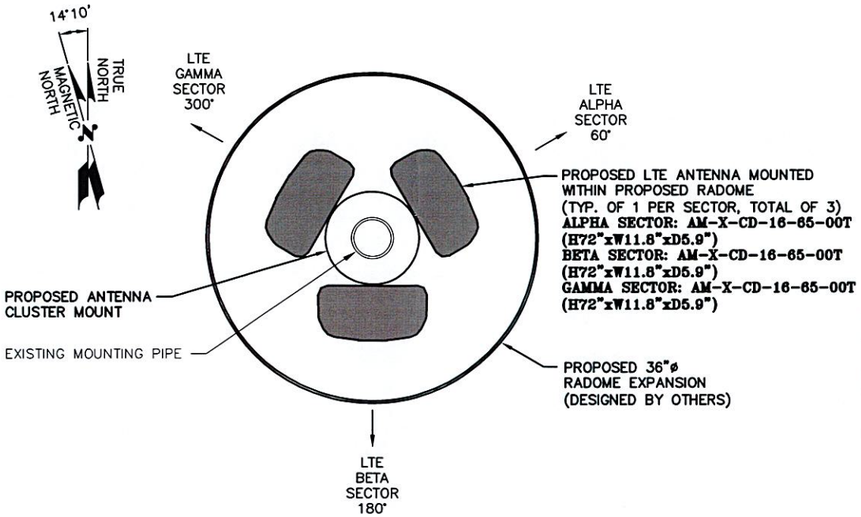
ANTENNA MOUNTING DETAIL (LTE)

JOB NUMBER	DRAWING NUMBER	REV
136.01	A-3	2



EXISTING ANTENNA PLAN VIEW @ 95' A.G.L.

SCALE: N.T.S.



PROPOSED LTE ANTENNA PLAN VIEW @ 95' A.G.L.

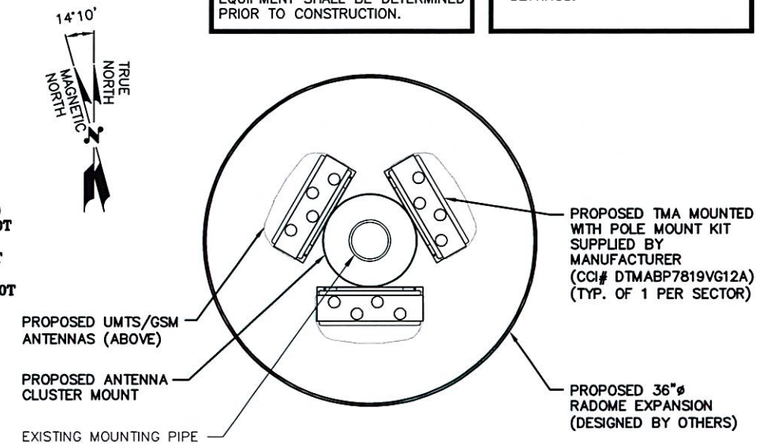
SCALE: N.T.S.

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

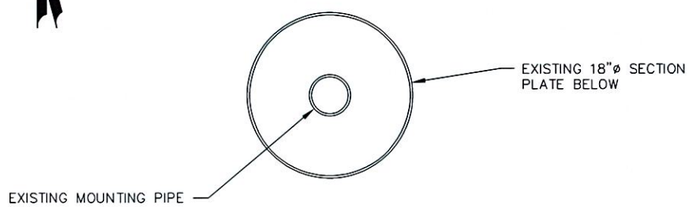
NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.



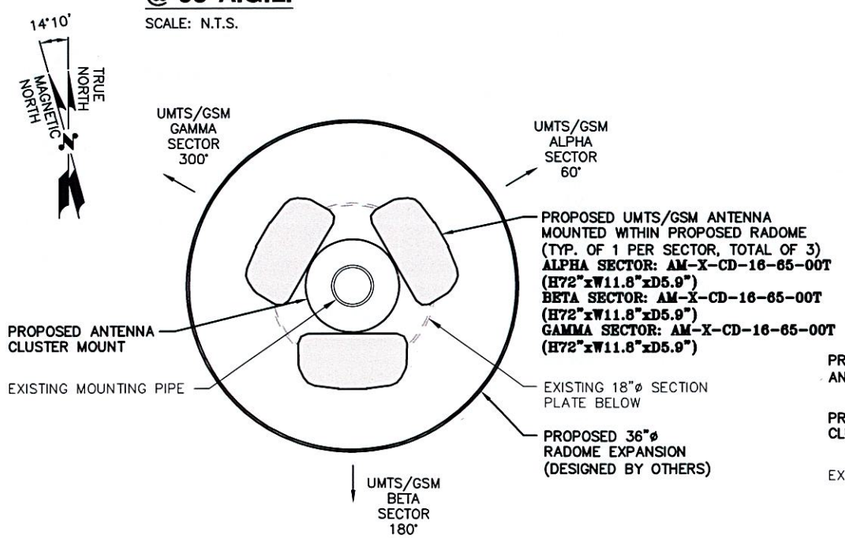
PROPOSED LTE TMA PLAN VIEW @ 95' A.G.L.

SCALE: N.T.S.



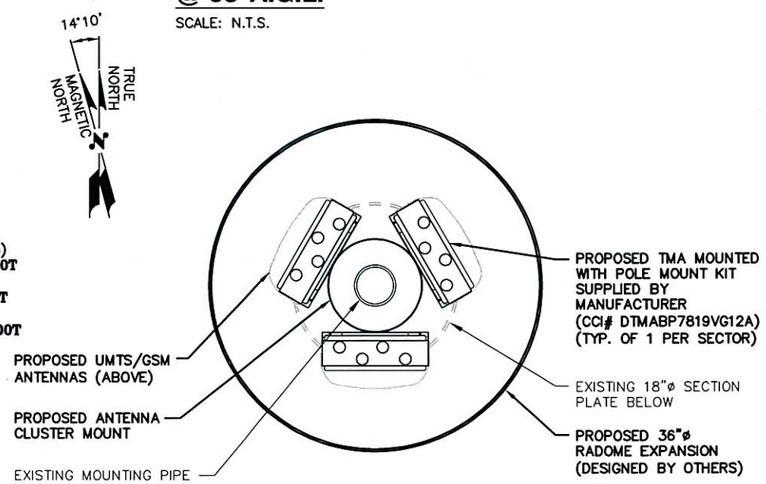
EXISTING ANTENNA PLAN VIEW @ 85' A.G.L.

SCALE: N.T.S.



PROPOSED UMTS/GSM ANTENNA PLAN VIEW @ 85' A.G.L.

SCALE: N.T.S.



PROPOSED UMTS/GSM TMA PLAN VIEW @ 85' A.G.L.

SCALE: N.T.S.

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 2-101
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

NEXLINK GLOBAL SERVICES
a UniTek GLOBAL SERVICES company
800 MARSHALL PHELPS ROAD UNIT#: 2A
WINDSOR, CT 06095

SITE NUMBER: CT5156
SITE NAME: THOMPSONVILLE
556 ENFIELD STREET
ENFIELD, CT 06082
HARTFORD COUNTY

at&t
500 ENTERPRISE DRIVE
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP
2	07/06/12	CONSTRUCTION REVISED	RM	DC	DPH
1	04/17/12	ISSUED FOR CONSTRUCTION	SF	DC	DPH
0	04/12/12	ISSUED FOR REVIEW	SF	DC	DPH

SCALE: AS SHOWN | DESIGNED BY: DC | DRAWN BY: RM

STATE OF CONNECTICUT
DEREK J. CREASER
No. 26551
LICENSED PROFESSIONAL ENGINEER

AT&T

ANTENNA PLAN (LTE)

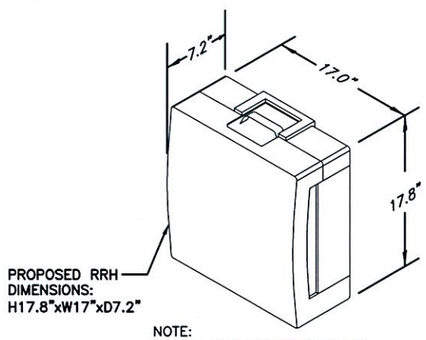
JOB NUMBER	DRAWING NUMBER	REV
36156.01	A-4	2

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

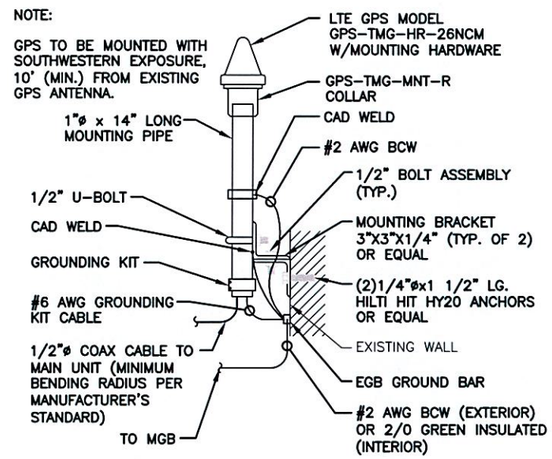
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.



NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

RRH DETAIL

SCALE: N.T.S.



GPS MOUNTING DETAIL

SCALE: N.T.S.

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 2-101
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

NEXLINK GLOBAL SERVICES
a UniTek GLOBAL SERVICES company
800 MARSHALL PHELPS ROAD UNIT#: 2A
WINDSOR, CT 06095

SITE NUMBER: CT5156
SITE NAME: THOMPSONVILLE
556 ENFIELD STREET
ENFIELD, CT 06082
HARTFORD COUNTY

at&t
500 ENTERPRISE DRIVE
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
2	07/06/12	CONSTRUCTION REVISED	RM	DC	DPH
1	04/17/12	ISSUED FOR CONSTRUCTION	SF	DC	DPH
0	04/12/12	ISSUED FOR REVIEW	SF	DC	DPH

SCALE: AS SHOWN | DESIGNED BY: DC | DRAWN BY: RM

STATE OF CONNECTICUT
DEREK J. CHESSER
No. 28551
LICENSED PROFESSIONAL ENGINEER

AT&T

DETAILS (LTE)

JOB NUMBER	DRAWING NUMBER	REV
5156.01	A-5	2

EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

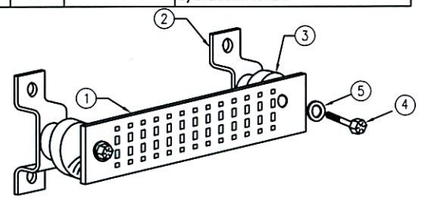
SECTION "P" – SURGE PRODUCERS

CABLE ENTRY PORTS (HATCH PLATES) (#2)
GENERATOR FRAMEWORK (IF AVAILABLE) (#2)
TELCO GROUND BAR
COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2)
+24V POWER SUPPLY RETURN BAR (#2)
–48V POWER SUPPLY RETURN BAR (#2)
RECTIFIER FRAMES.

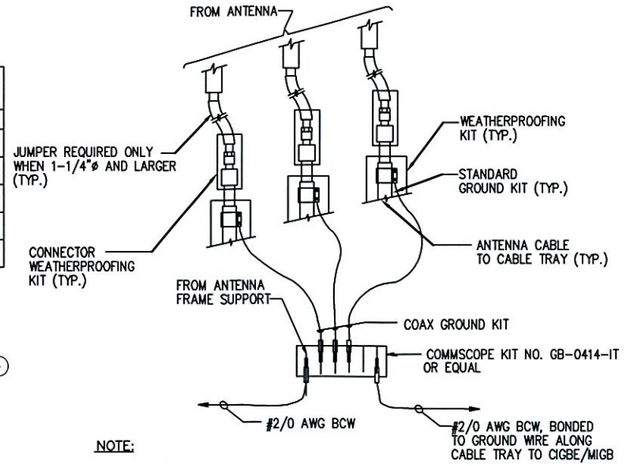
SECTION "A" – SURGE ABSORBERS

INTERIOR GROUND RING (#2)
EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2)
METALLIC COLD WATER PIPE (IF AVAILABLE) (#2)
BUILDING STEEL (IF AVAILABLE) (#2)

WIRELESS SOLUTIONS INC.			
NO.	REQ.	PART NO.	DESCRIPTION
1	1	HLGB-0420-IS	SOLID GND. BAR (20"x4"x1/4")
2	2	———	WALL MTG. BRKT.
3	2	———	INSULATORS
4	4	———	5/8"–11x1" H.H.C.S.
5	4	———	5/8 LOCKWASHER



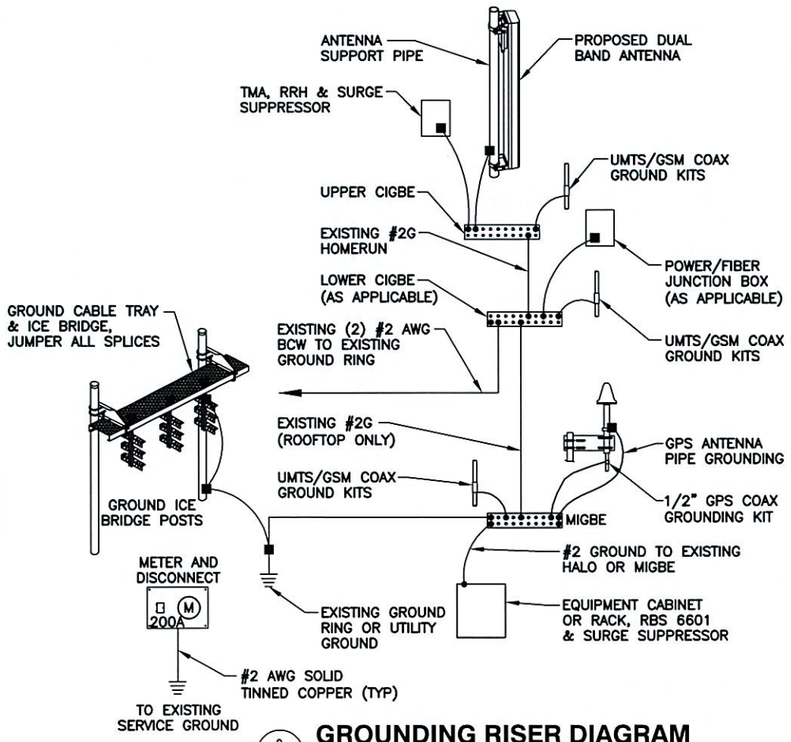
1 — **GROUND BAR - DETAIL**
N.T.S.



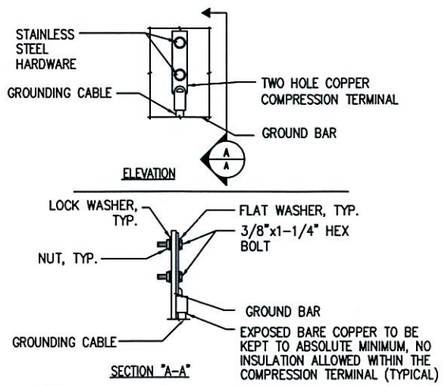
NOTE:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE.

3 — **GROUND WIRE TO GROUND BAR CONNECTION DETAIL**
N.T.S.

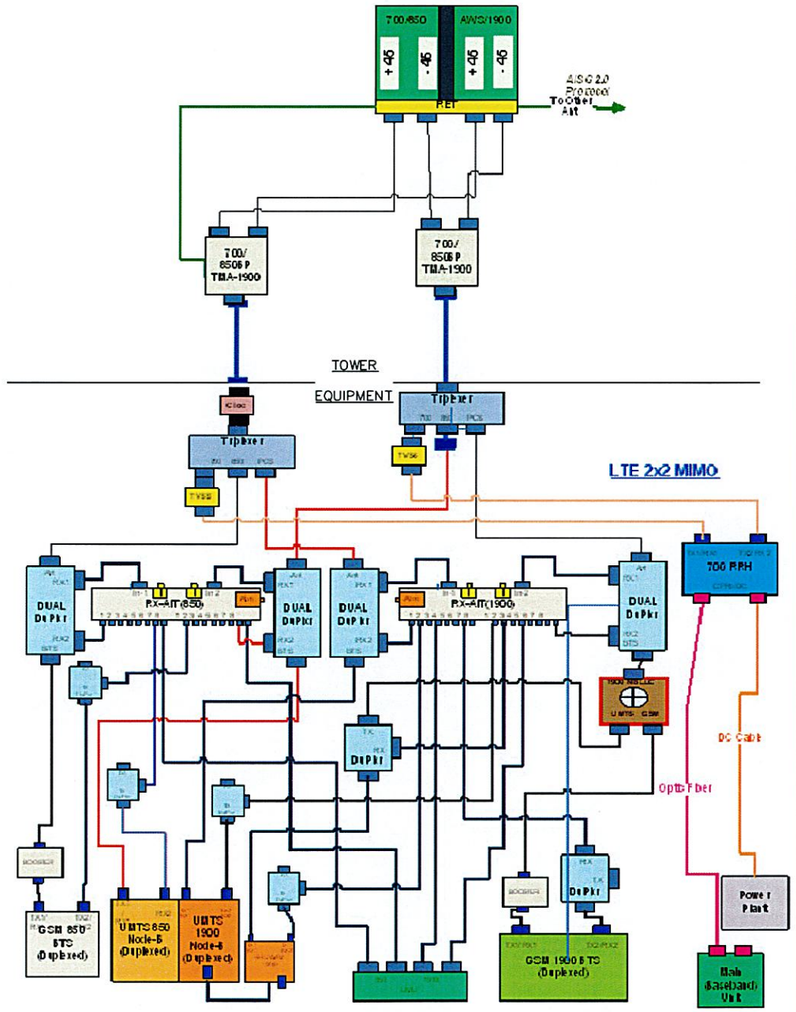


2 — **GROUNDING RISER DIAGRAM**
N.T.S.



NOTE:
1. "DOUBLING UP" OR "STACKING " OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
3. CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB, AND MGB.

4 — **TYPICAL GROUND BAR CONNECTION DETAIL**
N.T.S.



NOTES:

1. CONTRACTOR TO CONFIRM ALL PARTS.
2. INSTALL ALL EQUIPMENT TO MANUFACTURER'S RECOMMENDATIONS.

5 — **PLUMBING DIAGRAM**
N.T.S.

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 2-101
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

NEXLINK GLOBAL SERVICES
a UniTek GLOBAL SERVICES company
800 MARSHALL PHELPS ROAD UNIT#: 2A
WINDSOR, CT 06095

SITE NUMBER: CT5156
SITE NAME: THOMPSONVILLE
556 ENFIELD STREET
ENFIELD, CT 06082
HARTFORD COUNTY

at&t
500 ENTERPRISE DRIVE
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
2	07/06/12	CONSTRUCTION REVISED	RM	DC	DRH
1	04/17/12	ISSUED FOR CONSTRUCTION	SF	DC	DRH
0	04/12/12	ISSUED FOR REVIEW	SF	DC	DRH

SCALE: AS SHOWN | DESIGNED BY: DC | DRAWN BY: RM

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED PROFESSIONAL ENGINEER

AT&T

PLUMBING DIAGRAM & GROUNDING DETAILS (LTE)

JOB NUMBER	DRAWING NUMBER	REV
57560.01	G-1	2