



# STATE OF CONNECTICUT

## CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: [siting.council@ct.gov](mailto:siting.council@ct.gov)

[www.ct.gov/csc](http://www.ct.gov/csc)

September 21, 2012

Kenneth C. Baldwin, Esq.  
Robinson & Cole LLP  
280 Trumbull Street  
Hartford, CT 06103

RE: **EM-VER-043-120904** - Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 886 Main Street, East Hartford, Connecticut.

Dear Attorney Baldwin:

The Connecticut Siting Council (Council) hereby acknowledges your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies with the following conditions:

- Any deviation from the proposed modification as specified in this notice and supporting materials with Council shall render this acknowledgement invalid;
- Any material changes to this modification as proposed shall require the filing of a new notice with the Council;
- Not less than 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
- The validity of this action shall expire one year from the date of this letter; and
- The applicant may file a request for an extension of time beyond the one year deadline provided that such request is submitted to the Council not less than 60 days prior to the expiration;

The proposed modifications including the placement of all necessary equipment and shelters within the tower compound are to be implemented as specified here and in your notice dated August 30, 2012. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Thank you for your attention and cooperation.

Very truly yours,

Linda Roberts  
Executive Director

LR/CDM/jbw

c: The Honorable Marcia A. Leclerc, Mayor, Town of East Hartford  
Michael J. Dayton, Town Planner, Town of East Hartford  
Hartford East Associates

EM-VER-043-120904

280 Trumbull Street  
Hartford, CT 06103-3597  
Main (860) 275-8200  
Fax (860) 275-8299  
kbaldwin@rc.com  
Direct (860) 275-8345

Also admitted in Massachusetts

August 30, 2012



Linda Roberts  
Executive Director  
Connecticut Siting Council  
10 Franklin Square  
New Britain, CT 06051

Re: **Notice of Exempt Modification – Antenna Swap  
886 Main Street, East Hartford, Connecticut**

Dear Ms. Roberts:

Cellco Partnership d/b/a Verizon Wireless (“Cellco”) currently maintains twelve (12) wireless telecommunications antennas at the roof of an existing building at the above-referenced address. The building is owned by Hartford East Associates. Cellco’s 886 Main Street facility was approved by the Council in 1994 (Petition No. 324). The Council, therefore, maintains jurisdiction over this roof-top cell site.

Cellco now intends to replace all of its existing antennas with six (6) model LPA-80063-4CF cellular antennas; three (3) model BXA-171063-8CF PCS antennas; and three (3) model BXA-70063-6CF LTE antennas, all at the same location on the roof. Cellco also intends to install six (6) coax cable diplexers behind its antennas. Attached behind Tab 1 are the specifications for the replacement antennas and cable diplexers.

Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Marcia A. Leclerc, Mayor of the Town of East Hartford. A copy of this letter is also being sent to Hartford East Associates, the owner of the property on which the building is located.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).



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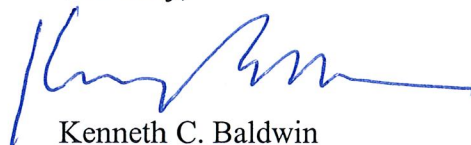
Linda Roberts  
August 30, 2012  
Page 2

1. The proposed modifications will not result in an increase in the height of the existing structure. Cellco's replacement antennas and diplexers will be installed at the same height and location on the roof-top as the existing antennas.
2. The proposed modifications will not involve any change to ground-mounted equipment and, therefore, will not require the extension of the site boundaries.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more.
4. The operation of the replacement antennas will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) adopted safety standard. A General Power Density Table for Cellco's modified facility is included behind Tab 2.

Also attached is a Structural Evaluation Letter confirming that the mounting structure and building can support Cellco's proposed modifications. (See Tab 3).

For the foregoing reasons, Cellco respectfully submits that the proposed modifications to the above-referenced telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,



Kenneth C. Baldwin

Enclosures

Copy to:

Marcia A. Leclerc, East Hartford Mayor  
Hartford East Associates  
Sandy M. Carter

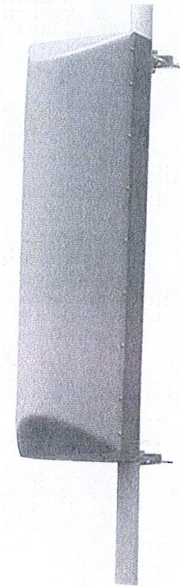


## LPA-80063-4CF-EDIN-X

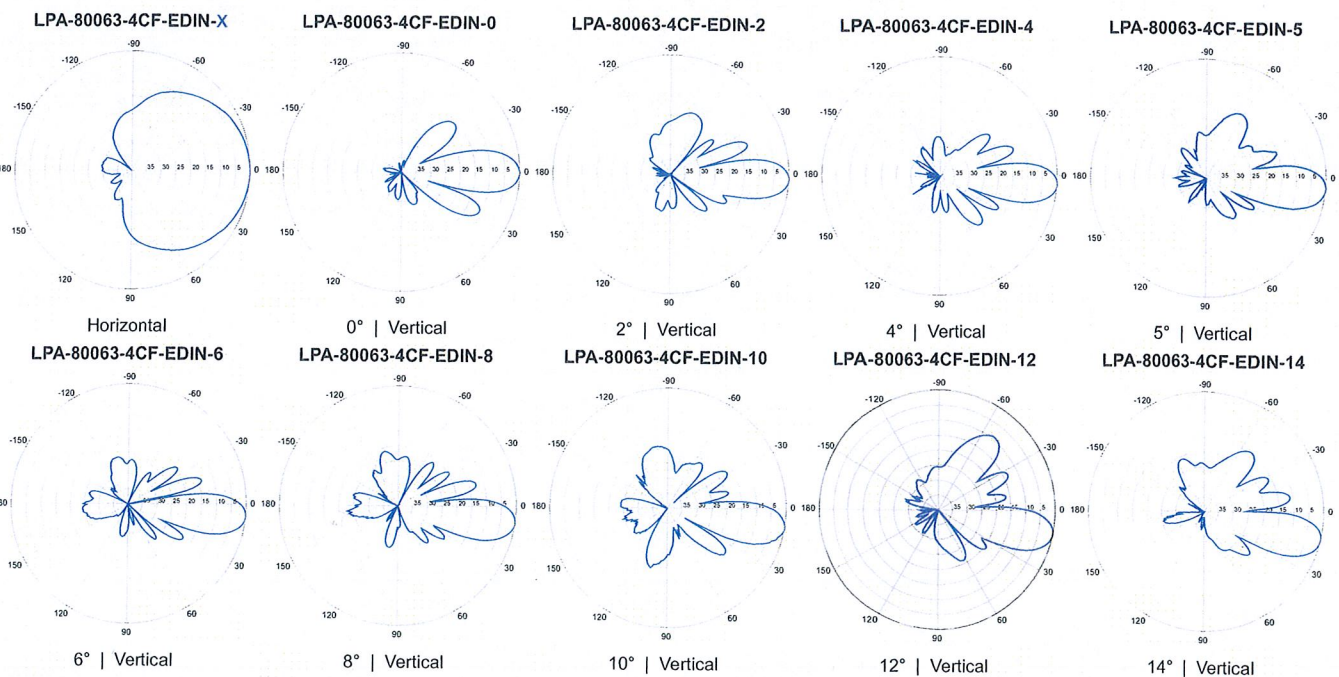
V-Pol | Log Periodic | 63° | 13.0 dBd

Replace 'X' with desired electrical downtilt.

Antenna is also available with NE connector(s). Replace "EDIN" with "NE" in the model number when ordering.



Electrical Characteristics	
Frequency bands	806-960 MHz
Polarization	Vertical
Horizontal beamwidth	63°
Vertical beamwidth	15°
Gain	13.0 dBd (15.1 dBi)
Electrical downtilt (X)	0, 2, 4, 5, 6, 8, 10, 12, 14
Impedance	50Ω
VSWR	≤1.4:1
Upper sidelobe suppression (0°)	-15.7 dB
Front-to-back ratio (+/-30°)	-31.7 dB
Null fill	5% (-26.02 dB)
Input power	500 W
Lightning protection	Direct Ground
Connector(s)	1 Port / EDIN or NE / Female / Center (Back)
Mechanical Characteristics	
Dimensions Length x Width x Depth	1205 x 385 x 332 mm      47.4 x 15.2 x 13.1 in
Depth of antenna with z-bracket	372 mm      14.6 in
Weight without mounting brackets	9.1 kg      20 lbs
Survival wind speed	> 201 km/hr      > 125 mph
Wind area	Front: 0.46 m <sup>2</sup> Side: 0.39 m <sup>2</sup> Front: 5.0 ft <sup>2</sup> Side: 4.2 ft <sup>2</sup>
Wind load @ 161 km/hr (100 mph)	Front: 660 N    Side: 550 N      Front: 149 lbf    Side: 124 lbf
Mounting Options	
	Part Number      Fits Pipe Diameter      Weight
2-Point Mounting & Downtilt Bracket Kit (0-20°)	21699999      50-102 mm    2.0-4.0 in      5.4 kg    12 lbs
Lock-Down Brace	If the lock-down brace is used, the maximum diameter of the mounting pipe is 88.9 mm or 3.5 in.



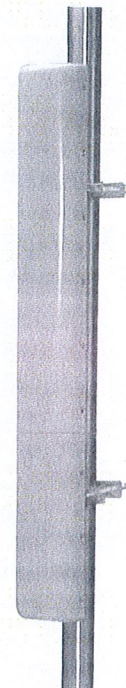
Quoted performance parameters are provided to offer typical or range values only and may vary as a result of normal manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to product may be made without notice.

## BXA-171063-8CF-EDIN-X

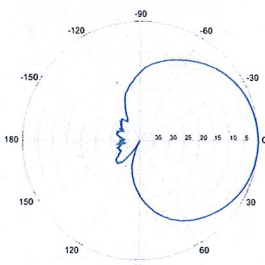
Replace "X" with desired electrical downtilt.

X-Pol | FET Panel | 63° | 17.4 dBi

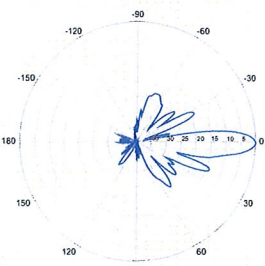
Electrical Characteristics	1710-2170 MHz			
Frequency bands	1710-1880 MHz	1850-1990 MHz	1920-2170 MHz	
Polarization	±45°	±45°	±45°	
Horizontal beamwidth	68°	65°	60°	
Vertical beamwidth	7°	7°	7°	
Gain	14.5 dBd / 16.6 dBi	14.9 dBd / 17.0 dBi	15.3 dBd / 17.4 dBi	
Electrical downtilt (X)	0, 2, 4, 8			
Impedance	50Ω			
VSWR	≤1.5:1			
First upper sidelobe	< -17 dB			
Front-to-back isolation	> 30 dB			
In-band isolation	> 28 dB			
IM3 (20W carrier)	< -150 dBc			
Input power	300 W			
Lightning protection	Direct Ground			
Connector(s)	2 Ports / EDIN / Female / Center (Back)			
Operating temperature	-40° to +60° C / -40° to +140° F			
Mechanical Characteristics				
Dimensions Length x Width x Depth	1232 x 154 x 105 mm		48.5 x 6.1 x 4.1 in	
Depth with l-brackets	133 mm		5.2 in	
Weight without mounting brackets	4.8 kg		10.5 lbs	
Survival wind speed	296 km/hr		184 mph	
Wind area	Front: 0.19 m <sup>2</sup> Side: 0.14 m <sup>2</sup>	Front: 2.0 ft <sup>2</sup> Side: 1.5 ft <sup>2</sup>		
Wind load @ 161 km/hr (100 mph)	Front: 281 N Side: 223 N	Front: 63 lbf Side: 50 lbf		
Mounting Options	Part Number	Fits Pipe Diameter		Weight
2-Point Mounting Bracket Kit	26799997	50-102 mm	2.0-4.0 in	2.3 kg 5 lbs
2-Point Mounting & Downtilt Bracket Kit	26799999	50-102 mm	2.0-4.0 in	3.6 kg 8 lbs
Concealment Configurations	For concealment configurations, order BXA-171063-8CF-EDIN-X-FP			



**BXA-171063-8CF-EDIN-X**

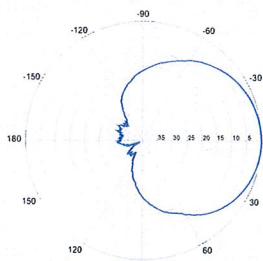


Horizontal | 1710-1880 MHz  
**BXA-171063-8CF-EDIN-0**

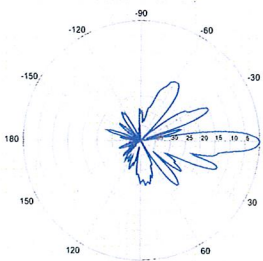


0° | Vertical | 1710-1880 MHz

**BXA-171063-8CF-EDIN-X**

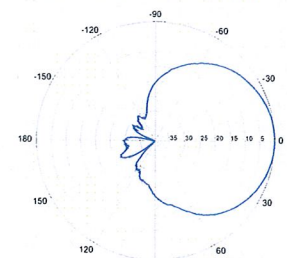


Horizontal | 1850-1990 MHz  
**BXA-171063-8CF-EDIN-0**

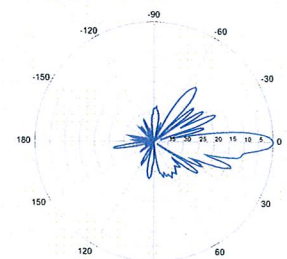


0° | Vertical | 1850-1990 MHz

**BXA-171063-8CF-EDIN-X**



Horizontal | 1920-2170 MHz  
**BXA-171063-8CF-EDIN-0**



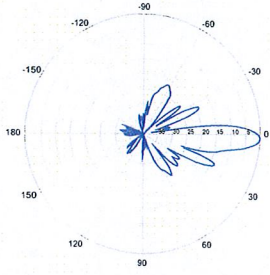
0° | Vertical | 1920-2170 MHz

Quoted performance parameters are provided to offer typical or range values only and may vary as a result of normal manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to product may be made without notice.

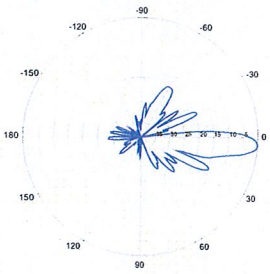
**BXA-171063-8CF-EDIN-X**

X-Pol | FET Panel | 63° | 17.4 dBi

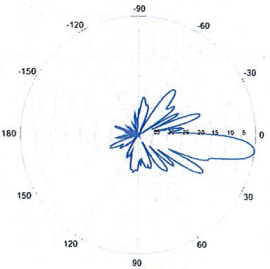
**BXA-171063-8CF-EDIN-2**



2° | Vertical | 1710-1880 MHz  
**BXA-171063-8CF-EDIN-4**

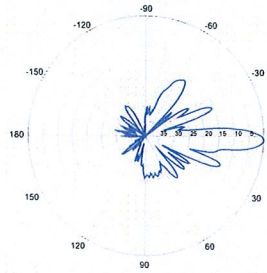


4° | Vertical | 1710-1880 MHz  
**BXA-171063-8CF-EDIN-8**

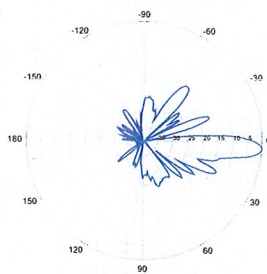


8° | Vertical | 1710-1880 MHz

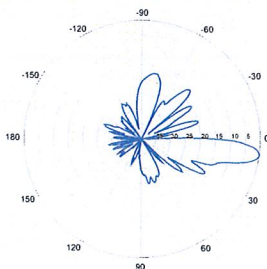
**BXA-171063-8CF-EDIN-2**



2° | Vertical | 1850-1990 MHz  
**BXA-171063-8CF-EDIN-4**

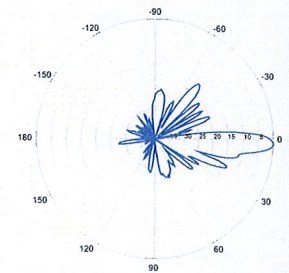


4° | Vertical | 1850-1990 MHz  
**BXA-171063-8CF-EDIN-8**

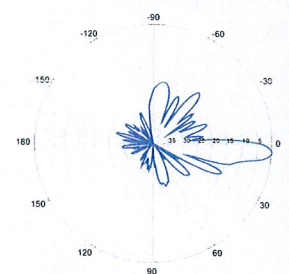


8° | Vertical | 1850-1990 MHz

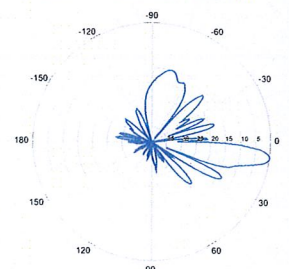
**BXA-171063-8CF-EDIN-2**



2° | Vertical | 1920-2170 MHz  
**BXA-171063-8CF-EDIN-4**



4° | Vertical | 1920-2170 MHz  
**BXA-171063-8CF-EDIN-8**



8° | Vertical | 1920-2170 MHz

Quoted performance parameters are provided to offer typical or range values only and may vary as a result of normal manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to product may be made without notice.

## BXA-70063-6CF-EDIN-X

X-Pol | FET Panel | 63° | 14.5 dBd

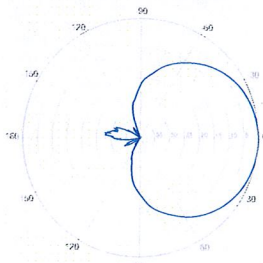
Replace 'X' with desired electrical downtilt.

Antenna is also available with NE connector(s). Replace 'EDIN' with 'NE' in the model number when ordering.

Electrical Characteristics	696-900 MHz		
Frequency bands	696-806 MHz	806-900 MHz	
Polarization	±45°		
Horizontal beamwidth	65°	63°	
Vertical beamwidth	13°	11°	
Gain	14.0 dBd (16.1 dBi)	14.5 dBd (16.6 dBi)	
Electrical downtilt (X)	0, 2, 3, 4, 5, 6, 8, 10		
Impedance	50Ω		
VSWR	≤1.35:1		
Upper sidelobe suppression (0°)	-18.3 dB	-18.2 dB	
Front-to-back ratio (+/-30°)	-33.4 dB	-36.3 dB	
Null fill	5% (-26.02 dB)		
Isolation between ports	< -25 dB		
Input power with EDIN connectors	500 W		
Input power with NE connectors	300 W		
Lightning protection	Direct Ground		
Connector(s)	2 Ports / EDIN or NE / Female / Center (Back)		
Mechanical Characteristics			
Dimensions Length x Width x Depth	1804 x 285 x 132 mm	71.0 x 11.2 x 5.2 in	
Depth with z-brackets	172 mm	6.8 in	
Weight without mounting brackets	7.9 kg	17 lbs	
Survival wind speed	> 201 km/hr	> 125 mph	
Wind area	Front: 0.51 m <sup>2</sup> Side: 0.24 m <sup>2</sup>	Front: 5.5 ft <sup>2</sup> Side: 2.6 ft <sup>2</sup>	
Wind load @ 161 km/hr (100 mph)	Front: 759 N Side: 391 N	Front: 169 lbf Side: 89 lbf	
Mounting Options	Part Number	Fits Pipe Diameter	Weight
3-Point Mounting & Downtilt Bracket Kit	36210008	40-115 mm 1.57-4.5 in	6.9 kg 15.2 lbs
Concealment Configurations	For concealment configurations, order BXA-70063-6CF-EDIN-X-FP		

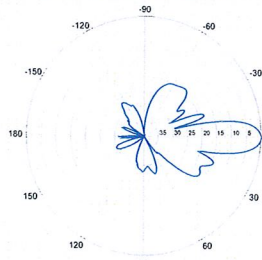


**BXA-70063-6CF-EDIN-X**



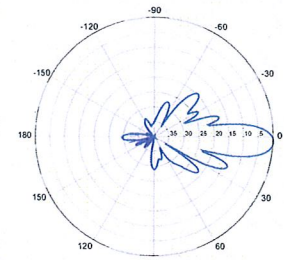
Horizontal | 750 MHz

**BXA-70063-6CF-EDIN-0**

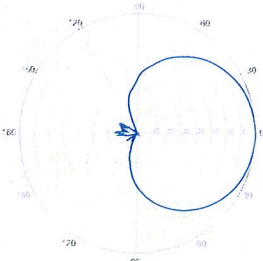


0° | Vertical | 750 MHz

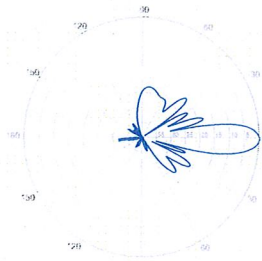
**BXA-70063-6CF-EDIN-2**



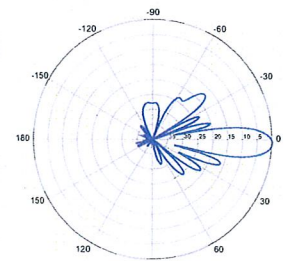
2° | Vertical | 750 MHz



Horizontal | 850 MHz



0° | Vertical | 850 MHz



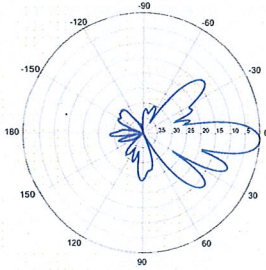
2° | Vertical | 850 MHz

Quoted performance parameters are provided to offer typical or range values only and may vary as a result of normal manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to product may be made without notice.

**BXA-70063-6CF-EDIN-X**

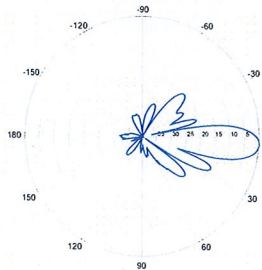
X-Pol | FET Panel | 63° | 14.5 dBd

**BXA-70063-6CF-EDIN-3**



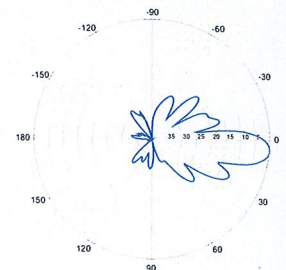
3° | Vertical | 750 MHz

**BXA-70063-6CF-EDIN-4**

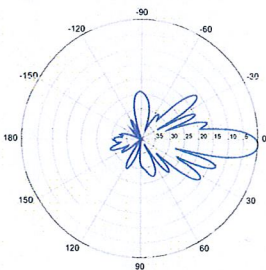


4° | Vertical | 750 MHz

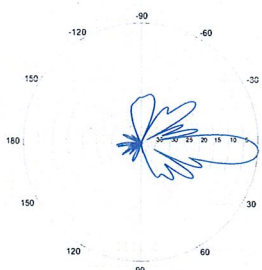
**BXA-70063-6CF-EDIN-5**



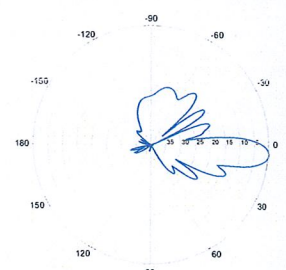
5° | Vertical | 750 MHz



3° | Vertical | 850 MHz

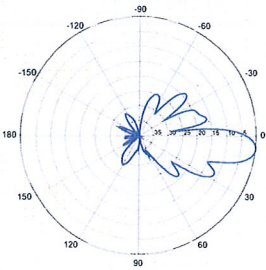


4° | Vertical | 850 MHz



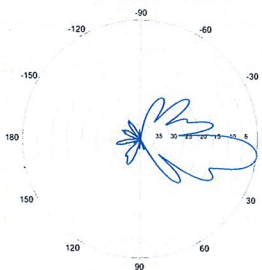
5° | Vertical | 850 MHz

**BXA-70063-6CF-EDIN-6**



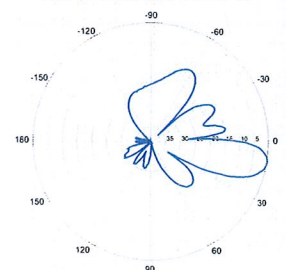
6° | Vertical | 750 MHz

**BXA-70063-6CF-EDIN-8**

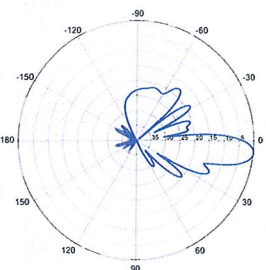


8° | Vertical | 750 MHz

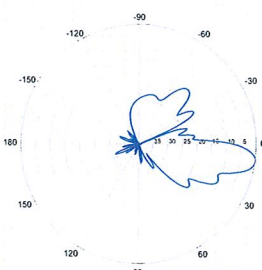
**BXA-70063-6CF-EDIN-10**



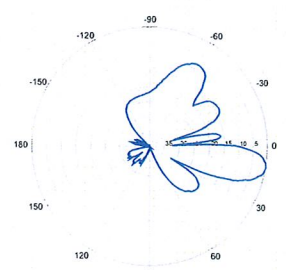
10° | Vertical | 750 MHz



6° | Vertical | 850 MHz



8° | Vertical | 850 MHz



10° | Vertical | 850 MHz

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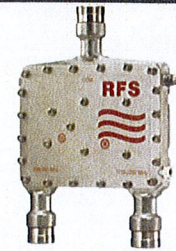




## ShareLite Wideband Diplexer – In-line 698-960 MHz/1710-2200 MHz, DC pass in high frequency path

## Product Description

The ShareLite FD9R6004 Series of diplexers are designed to enable feeder sharing between systems in the 698-960 MHz range and in the 1710-2200 MHz range. The diplexer is equipped with in-line connector placement so it can be installed in the BTS cabinet or at the tower top. This is especially valuable in crowded sites or when the feeders are not easily accessible. Due to its wideband design, the FD9R6004 Series can accommodate many combining solutions between 698-960 MHz and 1710-2200 MHz systems such as LTE 700 MHz, Cellular 800 MHz with PCS, GSM900 with GSM1800, or GSM900 with UMTS. This diplexer features a highly selective filter. It provides a high level of isolation between ports, while keeping the insertion loss on both paths at an extremely low level. The FD9R6004 diplexers are available with various DC pass options, helpful in configurations with or without the Tower Mount Amplifiers installed.



## Features/Benefits

- LTE ready design
- Extremely Low Insertion Loss
- High level of Rejection between bands – Protection against interferences
- Extremely High Power Handling Capability
- Integrated DC block/bypass versions available
- Very compact & small size design – Easy installation and reduced tower load
- In-line long-neck connectors for easy connection & waterproofing
- Exceptional reliability & environmental protection (IP 67)
- Equipped with 1 \* Breathable Vent – Prevent any humidity inside the product
- Mounting hardware for Wall and Pole mount provided (P/N SEM2-1A)
- Grounding already provided through the mounting bracket
- Kit available for easy dual mount

## Technical Specifications

Product Type	Diplexer/Cross Band Coupler
Application	LTE700, GSM900, UMTS, GSM1800, Cellular 800, PCS
Frequency Range 1, MHz	698-960
Frequency Range 2, MHz	1710-2200
Configuration	Sharelite Single diplexer, outdoor, DC pass in the 1710-2170MHz path, with mounting hardware SEM2-1A
Mounting	Wall Mounting: With 4 screws (maximum 6mm diameter); Pole Mounting: With included clamp set 40-110mm (1.57-4.33)
Return Loss All Ports Min/Typ, dB	19/23
Power Handling Continuous, Max, W	1250 at common port; 750 in low frequency path & 500 in high frequency path
Power Handling Peak, Max, W	15000 in low frequency path & 8000 in high frequency path
Impedance, Ohms	50
Insertion Loss, Path 1, dB	0.07 typ.
Insertion Loss, Path 2, dB	0.13 typ.
Rejection Between Bands Min/Typ, dB	58/64@698-960MHz; 57/70@1710-2200MHz
IMP Level at the COM Port, Typ, dBm	-112 @ 2x43
DC Pass in Low Frequency Path	No
DC Pass in High Frequency Path	Yes
Temperature Range, °C (°F)	-40 to +60 (-40 to +140)
Environmental	ETSI 300-019-2-4 Class 4.1E
Ingress Protection	IP 67
Lightning Protection	EN/IEC61000-4-5 Level 4
Connectors	In-line long-neck 7-16-Female
Weight, kg (lb)	1.2 (2.6)
Shipping Weight, kg (lb)	3.2 (7) for 2 * single units in 1 * box, 9.8 (21.6) for 6 * units = 3 * Boxes in 1 * overwrap
Dimensions, H x W x D, mm (in)	147 x 164 x 37 (5.8 x 6.5 x 1.5)
Shipping Dimensions, H x W x D, mm (in)	254 x 406 x 82 (10 x 16 x 3.2) for 2 * Single Units in 1 * box, 280 x 406 x 241 (11 x 16 x 9.5) for 6 * units = 3 * Boxes in 1 * overwrap
Volume, L	0.43
Housing	Aluminum

## Notes

All information contained in the present datasheet is subject to confirmation at time of ordering

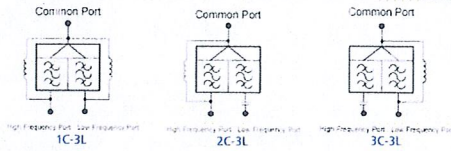


ShareLite Wideband Diplexer – In-line 698-960 MHz/1710-2200 MHz, DC pass in high frequency path

Other Documentation

FD9R6004/2C-3L Installation Instructions: Wideband\_Diplexer\_Installation\_Rev5.pdf

Selection Guide Diplexer 698-960 / 1710-2200MHz					
	Model Number	Full DC Pass	DC Pass High Band	DC Pass Low Band	Mounting Hardware Included
Single	FD9R6004/1C-3L				X
	FD9R6004/2C-3L				X
	FD9R6004/3C-3L				X
Dual	KIT-FD9R6004/1C-DL				X
	KIT-FD9R6004/2C-DL				X
	KIT-FD9R6004/3C-DL				X



The FD9R6004 Series is upgradeable to a Dual Diplexer kit by means of 2 diplexers and mounting hardware kits SEM2-1A and SEM2-3

Mounting Hardware and Ground Cable Ordering Information		
Model Number	Description	
SEM2-1A	Mounting Hardware, Pole mount ø40-110mm (Included with the Single and Dual Diplexer) Wall Screws M6 (Not included with the product)	
SEM2-3	Assembly kit for 2 pcs of FD9R6004/xC-3L (Can be ordered separately but included with the Dual Diplexer Kit)	
CA020-2	Ground Cable, 2m, includes lugs (Optional)	
CA030-2	Ground Cable, 2m, includes lugs (Optional)	
SEM6	Mounting Hardware for 6 Diplexers, Tower Base (Optional)	

All information contained in the present datasheet is subject to confirmation at time of ordering

General Power Density

Site Name: EAST HARTFORD W, CT  
 Cumulative Power Density

Operator	Operating Frequency (MHz)	Number of Trans.	ERP Per Trans. (watts)	Total ERP (watts)	Distance to Target (feet)	Calculated Power Density (mW/cm <sup>2</sup> )	Maximum Permissible Exposure* (mW/cm <sup>2</sup> )	Fraction of MPE (%)
VZW PCS	1970	11	266	2927.202	103	0.0992	1.0	9.92%
VZW Cellular	869	9	267	2405.767	103	0.0815	0.5793333333	14.08%
VZW AWS	2145	1	646	646.0454	103	0.0219	1.0	2.19%
VZW 700	698	1	871	871.3046	103	0.0295	0.4653333333	6.35%

**Total Percentage of Maximum Permissible Exposure**

32.54%

\*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz

mW/cm<sup>2</sup> = milliwatts per square centimeter

ERP = Effective Radiated Power

Absolute worst case maximum values used.

August 17, 2012

Mr. Jim Smith  
Verizon Wireless  
99 East River Drive  
East Hartford, CT 06108

Re: *Structural Evaluation Letter ~ Antenna Upgrade*  
*Verizon Wireless Site Ref ~ East Hartford West*  
*866 Main Street*  
*East Hartford, CT 06108*

CEN TEK Project No. 12001.CO73

Dear Mr. Smith,

Centek Engineering, Inc. has reviewed the proposed Verizon Wireless antenna upgrade at the above referenced site. The purpose of the review is to determine the structural adequacy of the existing 98-ft +/- tall host building to support the proposed modified antenna configuration. The existing installation consists of one (1) antenna sector mounted on a steel frame to the roof of the building penthouse (alpha sector), one (1) antenna sector mounted to the façade of the penthouse (beta sector) and one (1) antenna sector mounted to the façade of the building (gamma sector). The review considered the effects of wind load, dead load, ice load and seismic forces in accordance with the 2005 Connecticut State Building Code as amended by the 2009 CT State Supplement. Replacement of the existing alpha sector antenna frame is required for the proposed upgrade. Refer to zoning exhibit drawings ZE-1 thru ZE-5 dated 08/17/12 for mounting configuration and details.

The existing, proposed and future Verizon Wireless loads considered in this analysis consist of the following:

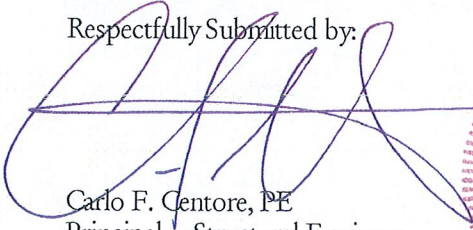
- Verizon (Existing to Remove):  
Antennas: Two (2) Andrew 948F65T2ZE-M and two (2) Andrew DB844H65E-XY panel antennas mounted on a steel frame attached to the roof of the penthouse with a RAD center elevation of 116-ft +/- AGL (alpha sector), two (2) Andrew 948F65T2ZE-M and two (2) Andrew DB844H65E-XY panel antennas mounted to the façade of the penthouse with a RAD center elevation of 116-ft +/- AGL (beta sector) and two (2) Andrew 948F65T2ZE-M and two (2) Andrew DB844H65E-XY panel antennas mounted to the façade of the building with a RAD center elevation of 103-ft +/- AGL (gamma sector).
- Verizon (Existing to Remain):  
Coax: Twelve (12) 1-5/8-in dia. coaxial cables routed within an existing coax cable tray.
- Verizon (Proposed):  
Antennas: One (1) Antel BXA-70063-6CF panel antenna, two (2) Antel LPA-80063-4CF panel antennas, one (1) Antel BXA-171063-8CF panel antenna and two (2) RFS FD9R6004/2C-3L diplexers mounted on a steel frame to the roof of the penthouse with a RAD center elevation of 116-ft +/- AGL (alpha sector), one (1) Antel BXA-70063-6CF panel antenna, two (2) Antel LPA-80063-4CF panel antennas, one (1) Antel BXA-171063-8CF panel antenna and two (2) RFS FD9R6004/2C-3L diplexers mounted to the façade of the penthouse with a RAD center elevation of 116-ft +/- AGL (beta sector) and one (1) Antel BXA-70063-6CF panel antenna, two (2) Antel LPA-80063-4CF panel antennas, one (1) Antel BXA-171063-8CF panel antenna and two (2) RFS FD9R6004/2C-3L diplexers mounted to the façade of the building with a RAD center elevation of 103-ft +/- AGL (gamma sector).

**CENTEK** engineering, INC.  
Structural Certification Letter  
Verizon Wireless ~ East Hartford West  
866 Main Street  
East Hartford, CT 06108

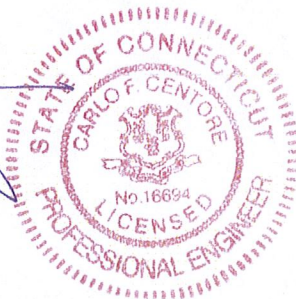
The proposed antenna installation meets the requirements of the 2005 Connecticut State Building Code considering the basic wind speed (3-second gust) of 95 mph as required in Appendix K of the Connecticut supplement per Table 1609.3.1. Our findings are based on the assumption that the hosting structure, all structural members and appurtenances were properly designed, detailed, fabricated, installed and have been properly maintained since erection.

In conclusion, the proposed Verizon antenna upgrade will not negatively impact the structural integrity of the existing antenna support structure or host building. If there are any questions regarding this matter, please feel free to call.

Respectfully Submitted by:



Carlo F. Centore, PE  
Principal ~ Structural Engineer

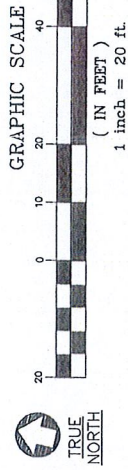
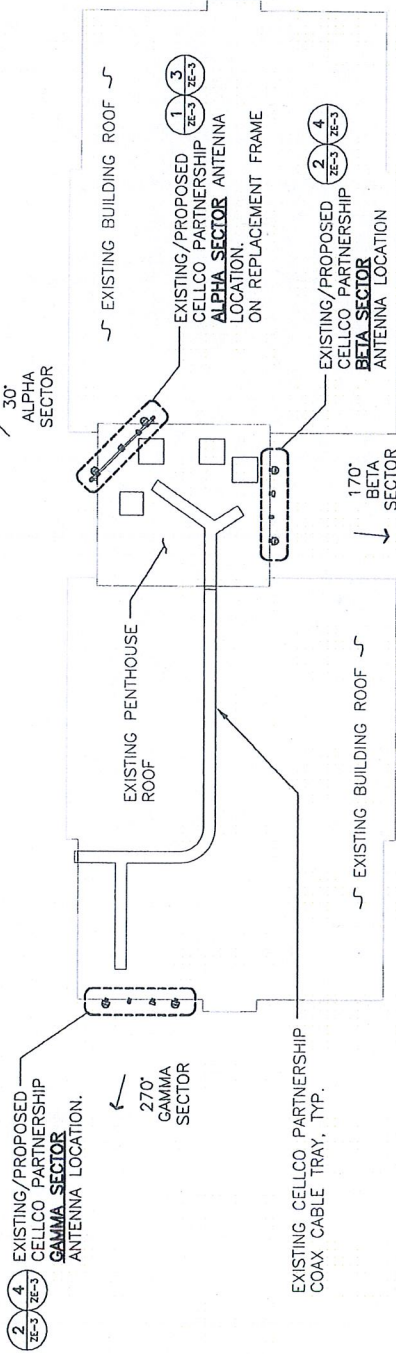


NOTES:

1. THE PROPOSED CELCO PARTNERSHIP ANTENNA UPGRADE TO CONSIST OF THE REPLACEMENT OF (12) OF THE EXISTING (12) PANEL ANTENNAS.
2. THE PROPOSED CELCO PARTNERSHIP ANTENNAS TO BE MOUNTED WITH RAD CENTER ELEVATIONS TO MATCH THE EXISTING.
3. THE PROPOSED CELCO PARTNERSHIP ANTENNAS TO BE MOUNTED WITH AZIMUTHS TO MATCH THE EXISTING, WHERE APPLICABLE.
4. REPLACEMENT OF THE EXISTING ALPHA SECTOR ANTENNA FRAME IS REQUIRED. REFER TO ZE-4 FOR DETAILS.
5. PAINT PANEL ANTENNAS AND ANTENNA MOUNTS TO MATCH EXISTING.

ZONING EXHIBIT

THIS PLAN IS DIAGRAMMATIC IN NATURE AND IS INTENDED FOR VISUAL REPRESENTATION OF THE PROPOSED ANTENNA UPGRADE.



1 ROOF PLAN - PROPOSED  
SCALE: 1" = 20'-0"

DESIGNED BY: T.E.	DATE: 8/17/12	REVISED FOR CONSTRUCTION
DRAWN BY: CFC	DATE: 8/17/12	REVISED FOR CONSTRUCTION

CELCO Partnership d/b/a Verizon Wireless  
 660 MAIN STREET  
 EAST HARTFORD CT 06103  
 EAST HARTFORD WEST  
 PROJECT NUMBER: 12001.0001.0073  
 DATE: 8/16/12  
 SCALE: AS SHOWN  
 JOB NO.: 12001.0001.0073

CENTEX engineering  
 62 North Main Street  
 Hartford, CT 06103  
 www.Centex.com

SHEET NO. **ZE-1**  
 Sheet No. 1 of 1

**ZONING EXHIBIT**

THIS PLAN IS DIAGRAMMATIC IN NATURE AND IS INTENDED FOR VISUAL REPRESENTATION OF THE PROPOSED ANTENNA UPGRADE.

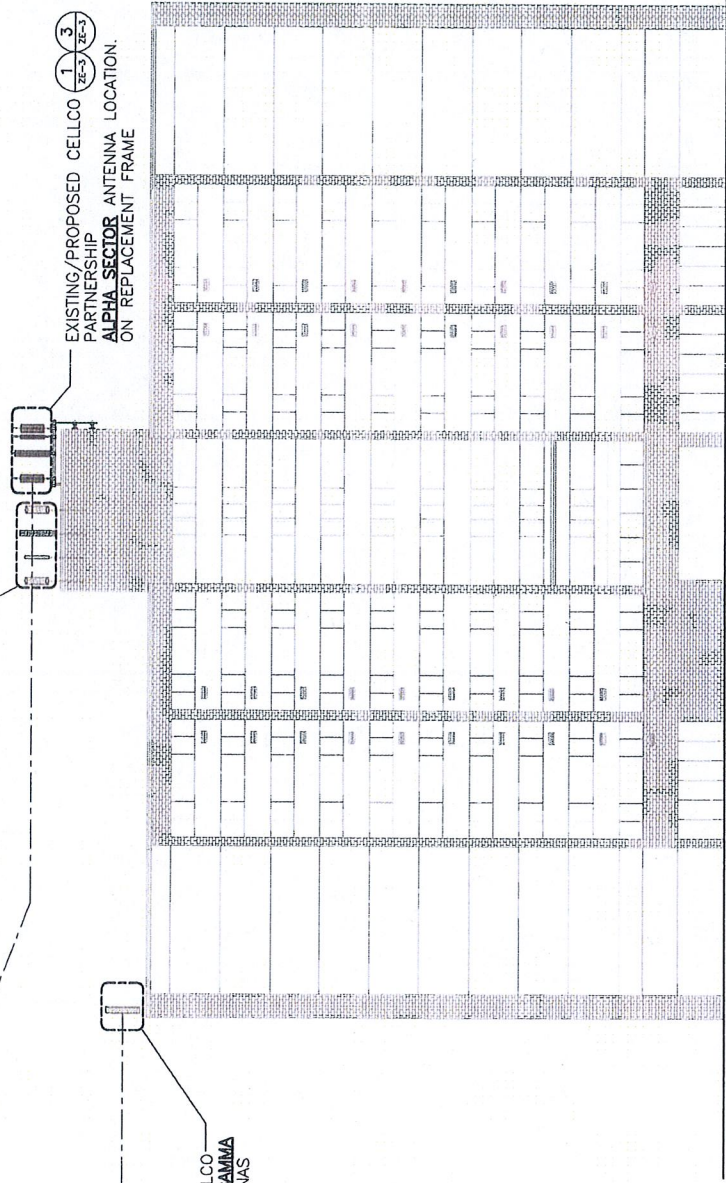
☉ OF EXISTING/PROPOSED CELCO PARTNERSHIP ALPHA/BETA SECTOR ANTENNAS  
EL. 116' ± A.G.L.

☉ OF EXISTING/PROPOSED CELCO PARTNERSHIP GAMMA SECTOR ANTENNAS  
EL. 103' ± A.G.L.

2 4  
ZE-3 ZE-3  
PROPOSED CELCO PARTNERSHIP BETA SECTOR ANTENNAS

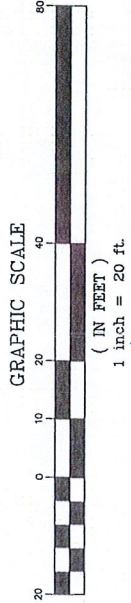
2 4  
ZE-3 ZE-3  
PROPOSED CELCO PARTNERSHIP GAMMA SECTOR ANTENNAS

1 3  
ZE-3 ZE-3  
EXISTING/PROPOSED CELCO PARTNERSHIP ALPHA SECTOR ANTENNA LOCATION ON REPLACEMENT FRAME



1  
ZE-2

**SOUTH ELEVATION - PROPOSED**  
SCALE: 1" = 20'-0"



DESIGNED BY: T.A.	DATE: 8/17/12	PROJECT NO.: 12001.0073
DRAWN BY: CFC	SCALE: AS SHOWN	
CHECKED BY:		
PROJECT DESCRIPTION: CELLCO PARTNERSHIP ALPHA/BETA/BETA SECTOR FOR CONSTRUCTION		

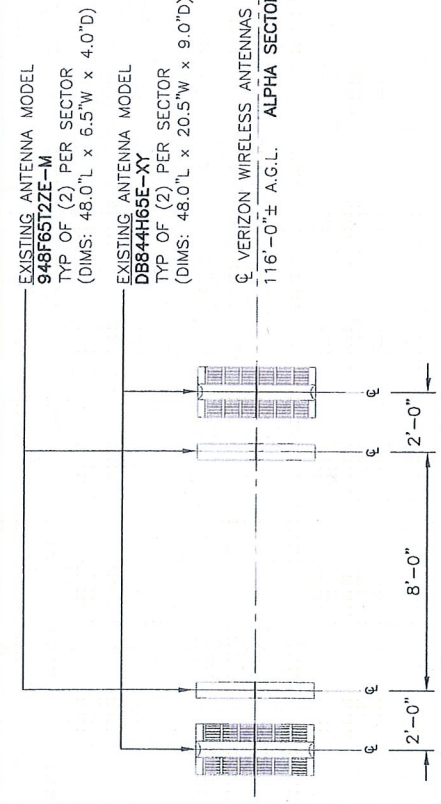
001 694000  
 02 North Street  
 Bristol, CT 06033  
 www.Centerline.com  
 Centerline Engineering

EAST HARTFORD WEST  
 EAST HARTFORD CT 06103

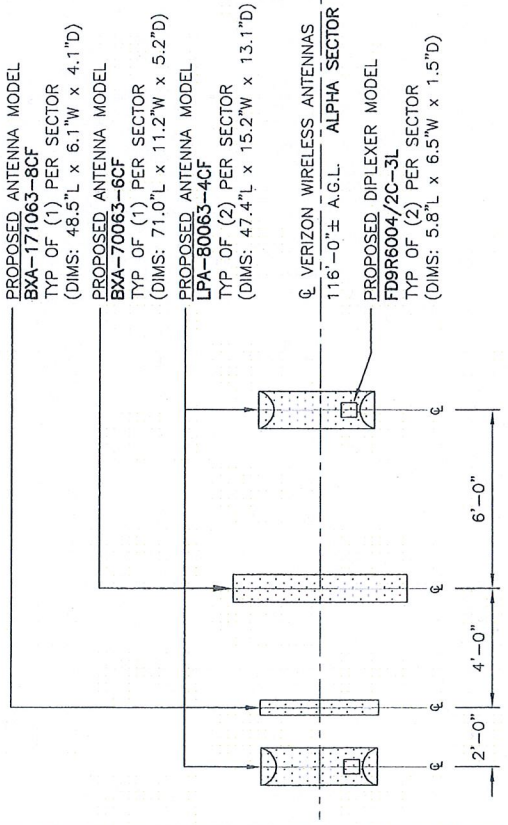
Cellco Partnership d/b/a Verizon Wireless  
 PROJECTS ANTENNA UPGRADE  
 EAST HARTFORD WEST

BUILDING ELEVATION

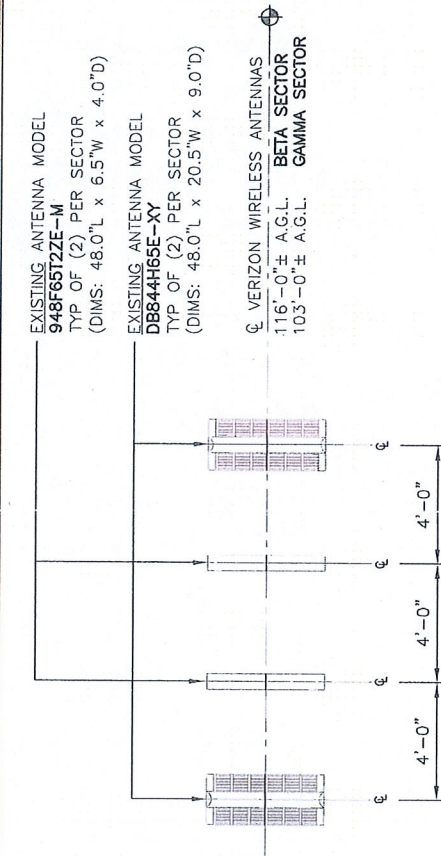
SHEET NO. **ZE-2**  
 Sheet No. 2 of 5



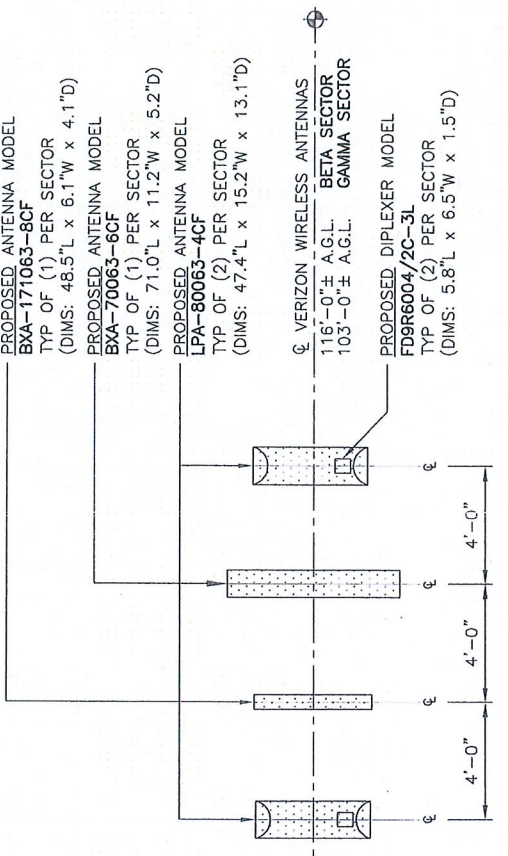
**1 MOUNTING CONFIGURATION - EXISTING**  
(ALPHA SECTOR)  
SCALE: 1/4" = 1'  
ZE-3



**3 MOUNTING CONFIGURATION - PROPOSED**  
(ALPHA SECTOR)  
SCALE: 1/4" = 1'  
ZE-3



**2 MOUNTING CONFIGURATION - EXISTING**  
(BETA / GAMMA SECTORS)  
SCALE: 1/4" = 1'  
ZE-3



**4 MOUNTING CONFIGURATION - PROPOSED**  
(BETA / GAMMA SECTORS)  
SCALE: 1/4" = 1'  
ZE-3

DESIGNED BY:	T.L.
DRAWN BY:	T.L.
CHECK BY:	CFC
DATE:	8/16/12
SCALE:	AS SHOWN
PROJECT NO.:	12001.0023
SHEET NO.:	3 OF 5



www.cetw.com  
8221 8500  
602 Northford Road  
Northford, CT 06456  
Certified by  
CENTA Engineering

Colco Partnership dba Verizon Wireless  
Process Area Lead  
EAST HARTFORD WEST  
866 MAIN STREET  
EAST HARTFORD CT 06103

ANTENNA CONFIGURATIONS  
**ZE-3**  
SHEET NO. 3 OF 5



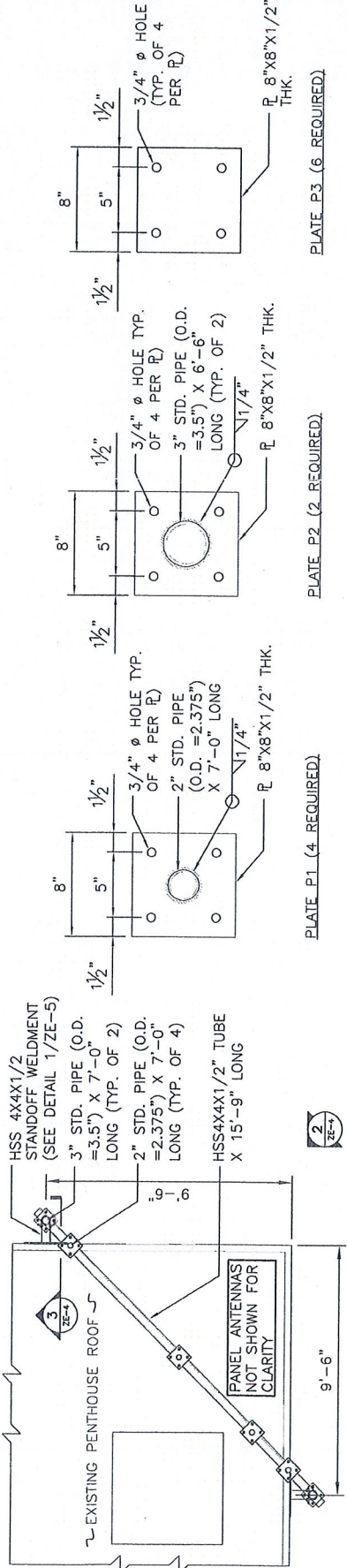
DESIGNED BY:	TAL
DRAWN BY:	TAL
CHECKED BY:	CFC
DATE:	8/17/12
PROJECT:	RFI FOR CONSTRUCTION
REVISION:	



GMA  
 Mechanical Engineering  
 10000 Wilshire Blvd  
 Suite 1000  
 Beverly Hills, CA 90210  
 www.gmaeng.com

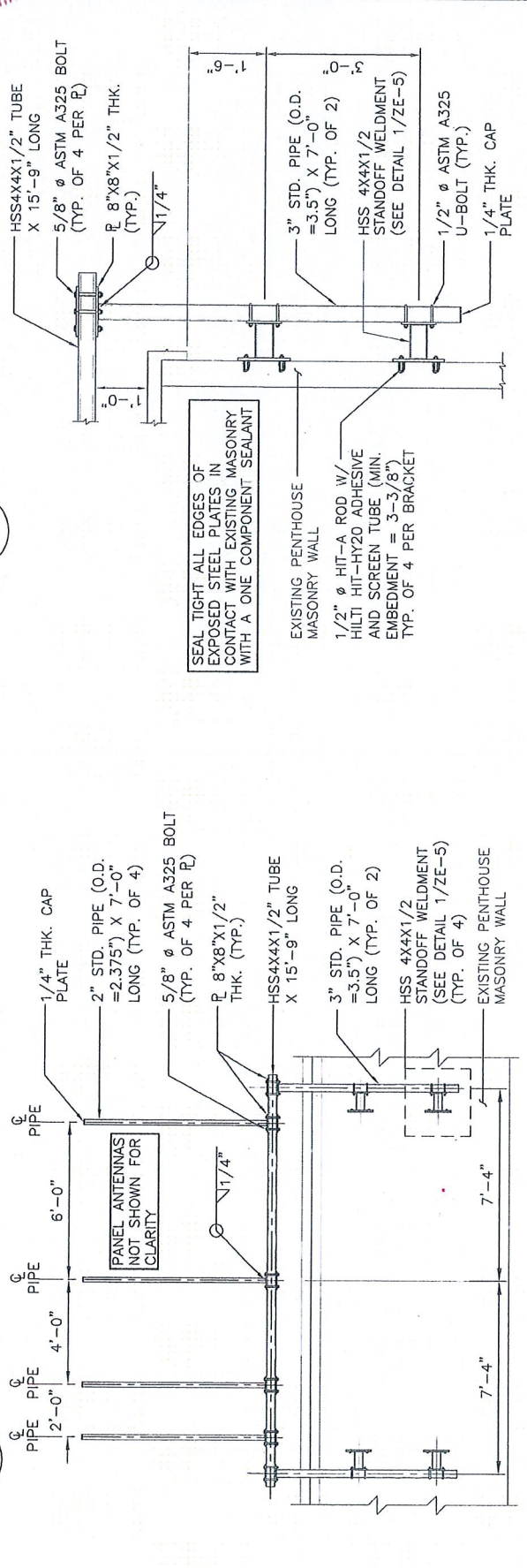
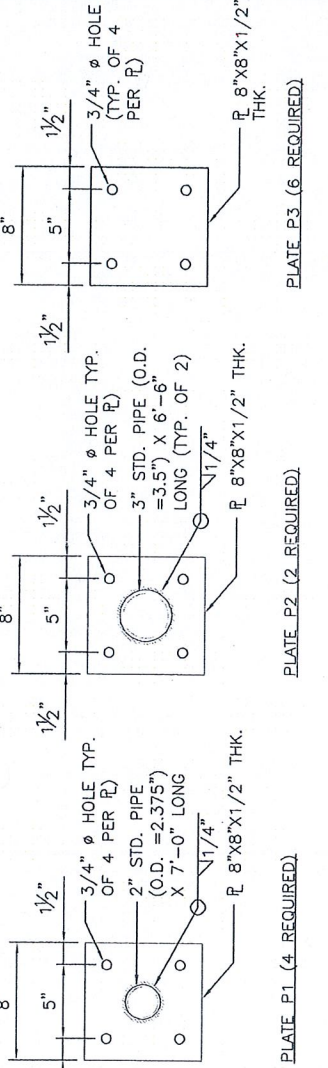
Project: Verizon Wireless  
 1000 Main Street  
 East Hartford, CT 06108  
 DATE: 8/16/12  
 SCALE: AS SHOWN  
 JOB NO.: 100010023

MOUNTING  
 DETAILS  
 SHEET NO. **ZE-4**  
 Sheet No. 4 of 5



**1 ANTENNA MOUNT PLAN**  
 SCALE: 1/4" = 1'  
 ZE-4

**4 PLATE DETAILS**  
 SCALE: 1-1/2" = 1'  
 ZE-4



**2 ANTENNA MOUNT ELEVATION**  
 SCALE: 1/4" = 1'  
 ZE-4

**3 ANTENNA MOUNT SECTION**  
 SCALE: 1/2" = 1'  
 ZE-4

SEAL TIGHT ALL EDGES OF EXPOSED STEEL PLATES IN CONTACT WITH EXISTING MASONRY WITH A ONE COMPONENT SEALANT  
 EXISTING PENTHOUSE MASONRY WALL  
 1/2" Ø HIT-A ROD W/ HILTI HIT-HY20 ADHESIVE AND SCREEN TUBE (MIN. EMBEDMENT = 3-3/8") TYP. OF 4 PER BRACKET  
 3" STD. PIPE (O.D. = 3.5") X 7'-0" LONG (TYP. OF 2)  
 HSS 4x4x1/2 STANDOFF WELDMENT (SEE DETAIL 1/ZE-5)  
 1/2" Ø ASTM A325 U-BOLT (TYP.)  
 1/4" THK. CAP PLATE

**DESIGN BASIS:**

GOVERNING CODE: 2005 CONNECTICUT STATE BUILDING CODE (CSBC) AS MODIFIED BY THE 2009 CT STATE SUPPLEMENT.

**1. DESIGN CRITERIA**

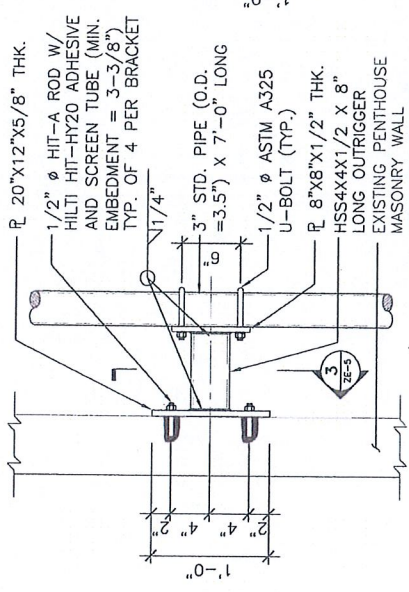
WIND LOAD: (ANTENNA MOUNT)

2005 CONNECTICUT STATE BUILDING CODE:

- BASIC WIND SPEED (V) = 77.5 MPH (FASTEST MILE) EQUIVALENT TO 95 MPH (3-SECOND GUST) AS PER APPENDIX K OF THE CONNECTICUT SUPPLEMENT.

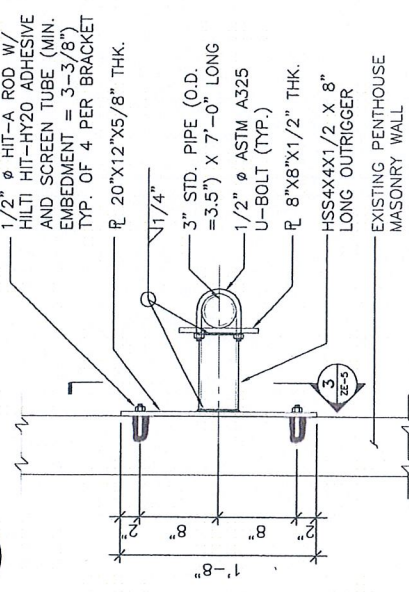
**STRUCTURAL STEEL**

- ALL STRUCTURAL STEEL IS DESIGNED BY ALLOWABLE STRESS DESIGN (ASD)
  - STRUCTURAL STEEL (ANGLES)---ASTM A36 (FY = 36 KSI)
  - PIPE---ASTM A53 (FY = 35 KSI)
  - STRUCTURAL HSS TUBE (RECTANGULAR SHAPES)---ASTM A500 GRADE B, (FY = 46 KSI)
  - CONNECTION BOLTS---ASTM A325-N
  - U-BOLTS---ASTM A36
  - WELDING ELECTRODE---ASTM E 70XX
- ALL STEEL MATERIAL (EXPOSED TO WEATHER) SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT DIPPED GALVANIZED) COATINGS" ON IRONS AND STEEL PRODUCTS.
- ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC COATING (HOT-DIP) ON IRON AND STEEL HARDWARE".



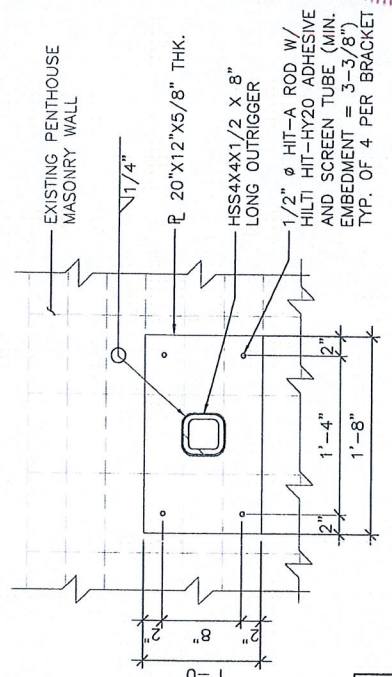
SEAL TIGHT ALL EDGES OF EXPOSED STEEL PLATES IN CONTACT WITH EXISTING MASONRY WITH A ONE COMPONENT SEALANT

**1 FRAME CONNECTION ELEVATION**  
SCALE: 1" = 1'



SEAL TIGHT ALL EDGES OF EXPOSED STEEL PLATES IN CONTACT WITH EXISTING MASONRY WITH A ONE COMPONENT SEALANT

**2 FRAME CONNECTION PLAN**  
SCALE: 1" = 1'



**3 FRAME CONNECTION DETAIL**  
SCALE: 1" = 1'

DESIGNED BY:	TAL
DRAWN BY:	TAL
CHECKED BY:	CFC
DATE:	8/17/12
PROJECT:	ISSUED FOR CONSTRUCTION
REVISION:	
NO.	DESCRIPTION



**GENEX**  
Professional Engineer  
600 Main Street  
East Hartford, CT 06103  
www.Genex.com

**EAST HARTFORD WEST**  
600 MAIN STREET  
EAST HARTFORD, CT 06103  
Process Action Wireless  
Cellco Partnership d/b/a Verizon Wireless

DATE:	8/16/12
SCALE:	AS SHOWN
SHEET NO.:	12001.0073

**ZE-5**  
Sheet No. 5 of 5