



ARLINGTON COUNTY, VIRGINIA

**County Board Agenda Item
Meeting of September 15, 2012**

DATE: September 5, 2012

SUBJECT: U-3343-12-1 USE PERMIT to install a public utilities/telecommunications facility for Cricket Communications; located at 5539 Columbia Pike (RPC# 22-011-052).

Applicant:

Cricket Communications, Inc.
6671 Santa Barbara Road, Suite O
Elkridge, MD 21075

By:

Paul Whitley
7380 Coca Cola Drive, Suite 106
Hanover, MD 21076

C.M. RECOMMENDATION:

Approve the subject use permit, subject to the conditions of the staff report.

ISSUES: This is a use permit request for Cricket Communications to install three (3) panel antennas on the existing building penthouse and associated equipment on a rooftop platform. No issues have been identified.

SUMMARY: Cricket Communications is proposing to install three (3) new flush-mounted panel antennas and related equipment on a 4' x 12' steel rooftop platform at 5539 Columbia Pike, Windsor Towers Apartments. The proposed facility will function to provide capacity to enhance coverage for the area surrounding the property and overlapping coverage with existing sites in the area. The coverage that will be added is necessary to meet Cricket Communications' responsibility to provide wireless services under its federal licenses as well as to meet Cricket's minimum coverage objectives. Cricket Communications is licensed by the Federal Communications Commission (FCC) and will operate in full compliance with FCC rules and regulations. The proposed antenna and equipment cabinet additions, subject to the conditions of

County Manager:

BMD/GA

County Attorney:

[Signature] *[Signature]*

Staff: Marco Antonio Rivero, DCPHD, Planning Division

PLA-6261

13.

the report, will not create an undue adverse visual impact on the surrounding area. The applicant has agreed to a condition that the proposed antennas, rooftop equipment cabinet and related utility connection equipment shall match the exterior appearance and colors of the existing building (Condition #4). The applicant provided a Maximum Permissible Exposure (MPE) report for the site. The report shows that the facility will comply with FCC regulations and that appropriate signage and access barriers will be installed. Furthermore, the proposal is consistent with the [*Interim Guidelines for Telecommunications Facilities on County-Owned Property \(Telecommunications Guidelines\)*](#), which also applies to private properties and encourages the placement of antennas on existing structures. Therefore, staff recommends that the County Board approve the subject use permit, subject to the conditions of the staff report.

BACKGROUND: The Windsor Towers Apartments is a by-right, 280-unit apartment complex constructed in 1963.

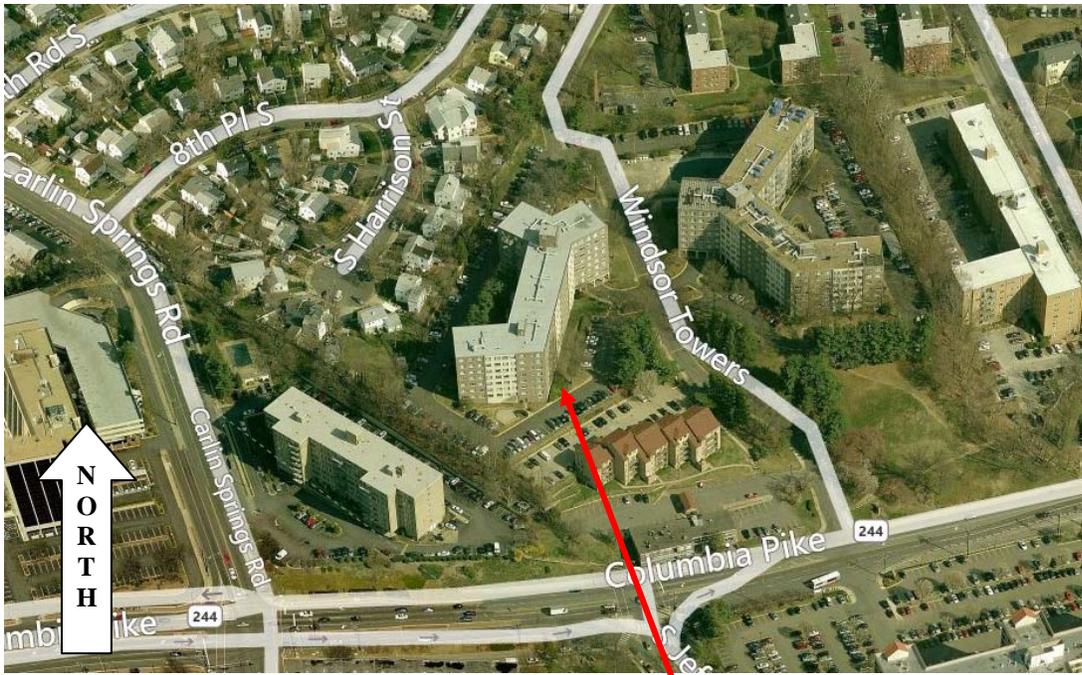
The following provides additional information about the site and location:

Site: The site is located at the Windsor Towers Apartments bound on the north by 8th Road South and single family dwellings, on the south by Columbia Pike and commercial retail, on the east by South Greenbrier Street and Harvey Hall Apartments, and on the west by South Carlin Springs Road.

Zoning: The site is zoned [“RA8-18” Apartment Dwelling Districts](#) and [“RA14-26” Apartment Dwelling Districts](#).

Land Use: The site is designated on the [General Land Use Plan \(GLUP\)](#) as “Residential Low-Medium” and falls under the area studied within the [Columbia Pike Initiative](#).

Neighborhood: The site is located within the Columbia Heights West Civic Association and is adjacent to the Columbia Forest Civic Association. The Columbia Pike Revitalization Organization (CPRO) and the presidents of both civic associations have been contacted, but no comments have been provided as of the date of this report.



Source: Bing™ Maps

Location of Proposed Cricket Communications Telecommunications Facility: 5539 Columbia Pike

DISCUSSION: Cricket Communications is proposing to install three (3) new flush-mounted panel antennas and related equipment on a 4' x 12' steel, rooftop platform at 5539 Columbia Pike, Windsor Towers Apartments. The antennas will be flush mounted on the penthouse structure and will be painted to match the appearance of the existing building. The proposed antennas will be placed at a radial center height (RAD) of 90' which will be no taller than the existing penthouse structure.

In addition to the antennas, the applicant is proposing to install related equipment which includes a 4' x 12' steel, rooftop platform and a 6.3' tall equipment cabinet (measuring from the base of the platform to top of cabinet). Under the Arlington County Zoning Ordinance ([ACZO](#)) [§31 Special Provisions](#), this kind of structure is permitted above the height limit by no more than 23 feet. The equipment platform will be setback 6.25' at the shortest distance from the building roofline on the side facing the Windsor Towers drive aisle. It will be setback at significant distances and/or not visually noticeable from the other sides of the building. Furthermore, the applicant has agreed to a condition that the proposed antennas, rooftop equipment cabinet and related utility connection equipment shall match the exterior appearance and colors of the existing building (Condition #4). Therefore, the proposed antennas will not create an adverse visual impact on the surrounding area. The facility will be unmanned and require only infrequent visits by maintenance personnel.

The use permit is not in conflict with the character or the master plans, and other plans of the County because the proposed heights for the antennas and equipment cabinet comply with the height limitations specified within the ACZO and the uses and zoning classifications identified within the GLUP. Because they are consistent with surrounding buildings, the proposed

installation of a telecommunications facility will not be injurious or detrimental to the property or improvements in the Columbia Pike corridor and will promote and protect the public health, safety, and welfare of the community.

The applicant submitted a Maximum Permissible Exposure (MPE) report that assesses the cumulative conditions for the proposed antennas on the building. The report shows that the facility will comply with FCC regulations and that appropriate signage and access barriers will be installed. Federal law prohibits localities from basing a decision on the environmental effects of radio frequency emissions if the facility complies with FCC regulations.

Furthermore, the [Interim Guidelines for Placement of Telecommunications Facilities on County-Owned Property \(Telecommunications Guidelines\)](#) was used to evaluate the application. The *Telecommunication Guidelines* offers direction in the way of design, visual impact, and compliance with FCC regulations, among other things. The *Telecommunications Guidelines* can be applied to telecommunications facilities on privately owned property as well as County-owned property. The *Telecommunications Guidelines* encourages the location of new antennas on existing structures, as opposed to constructing a new pole. The proposed antennas and equipment cabinet meet these criteria. Attached are plans depicting the location and general appearance of the proposed antennas and equipment cabinet.

CONCLUSION: The proposed use permit is compliant with the County's *Telecommunications Guidelines* and with FCC regulations, as well as with Zoning requirements. The proposed antenna and related equipment additions will not create an undue, adverse visual impact on the area. Therefore, staff recommends that the County Board approve the subject use permit, subject to the conditions set forth below.

Proposed Conditions:

1. The applicant agrees that the telecommunications facility, consisting of three (3) new antennas and related equipment, will be constructed as shown on the application package dated June 26, 2012 and approved by the County Board on September 15, 2012. The applicant agrees that any future installation of antennas or equipment cabinets shall be subject to review, and approval, by the Zoning Administrator.
2. The applicant agrees to identify a community liaison that shall be available to address any concerns regarding the facility operation. The name, telephone, and e-mail address of the liaison shall be provided to the Columbia Heights West Civic Association, the Columbia Forest Civic Association, the Columbia Pike Revitalization Organization and the Zoning Administrator.
3. The applicant agrees that any existing non-functioning antennas on the roof of the building shall be removed at the time of installation of the proposed new antennas. The applicant further agrees that, in the future, any Cricket Communications antennas on the site shall be removed within ninety (90) days after cessation of use.

4. The applicant agrees that the proposed antennas, rooftop equipment cabinet and related utility connection equipment shall match the exterior appearance and color of the existing building and that all equipment will be setback from the building roofline as shown on the application package dated June 26, 2012 and approved by the County Board on September 15, 2012. The applicant further agrees that the antennas, rooftop equipment cabinet and related utility connection equipment shall comply with all requirements in the Arlington County Zoning Ordinance and shall extend no higher than the existing penthouse on the Windsor Towers Apartment Building.

PREVIOUS COUNTY BOARD ACTIONS: There have been no previously approved County Board actions on this site.



June 20, 2012

Robert Brosnan, Director
Arlington County, Virginia
Office of Community Development
2100 Clarendon Boulevard, Suite 810
Arlington, Virginia 22201

RE: Application for a Use Permit (Cricket @ 5539 Columbia Pike)

Mr. Brosnan,

Cricket Communications Inc. is licensed by the Federal Communications Commission to provide wireless telecommunications throughout the Washington DC market area. Cricket requires an additional telecommunication site on Columbia Pike to fill a coverage gap in the general area of the proposed site.

The proposed rooftop installation will consist of 3 antennas (1 per sector) to be flushmounted to the face of the penthouse. All related equipment will be placed on a proposed 4'x12' equipment platform on the rooftop setback from the edge of the building. The proposed facility will have no detrimental affect to the use or development of the subject building or any surrounding properties in the general area.

Thank you in advance for your time and consideration with this matter. Please feel free to contact me if you have any questions or if further information is required.

Most Respectfully,

Paul Whitley
Network Building and Consulting
pwhitley@nbcllc.com
443-752-0338



PARTNERS

realizing the potential...™

June 6, 2012

County of Arlington
Zoning Administration
2100 Clarendon Blvd
Arlington, VA 22201

RE: CP II Windsor, LLC
Serrano Apartments f/k/a Windsor Apartments
5539 Columbia Pike
Arlington, VA 22206

Dear Sir:

The undersigned hereby authorizes Cricket Communications, Inc., Network Building and Consulting LLC (NBC) and agents thereof, to make any applications to the Arlington County Department of Planning and/or other governmental entity or agency for site plan approval, special permits, building permits, and variances for installing, removing, replacing, maintaining and operating a personal communications service including and without limitation, all related equipment and fixtures.

Cricket Communications, Inc. is aware that the Owner has not approved the proposed scope of work nor does Cricket Communications, Inc. have approval or a Notice to Proceed from the Owner to commence any physical work on the project or property.

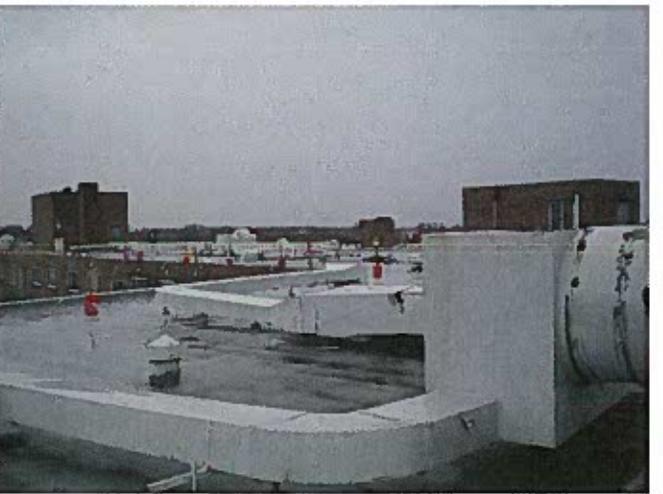
Thank you.

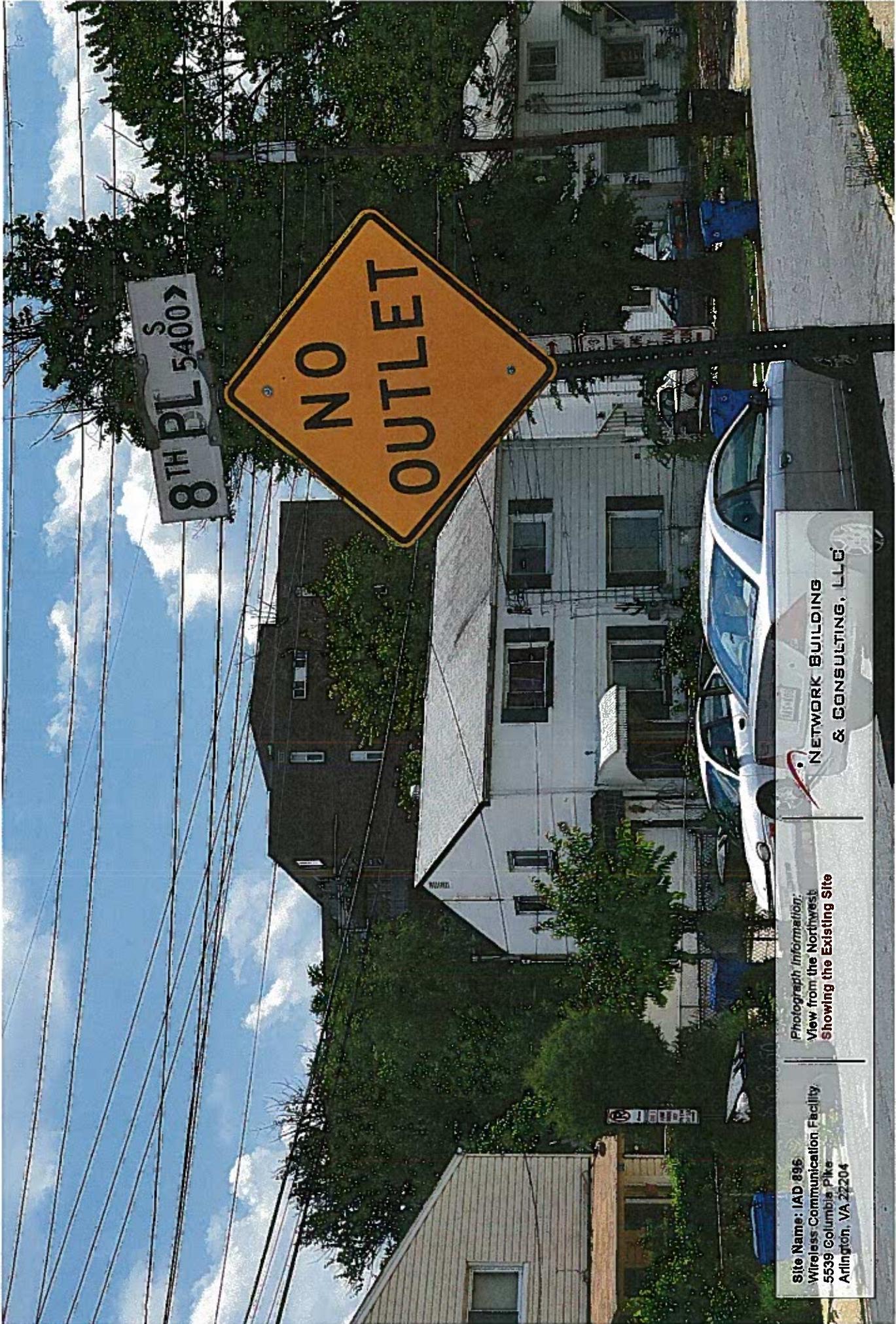
Sincerely,
CP II WINDSOR, LLC

A handwritten signature in black ink, appearing to read "Kerry Sheahan".

Kerry Sheahan, Agent

cc: Karen Harvey
Joan Cress
File





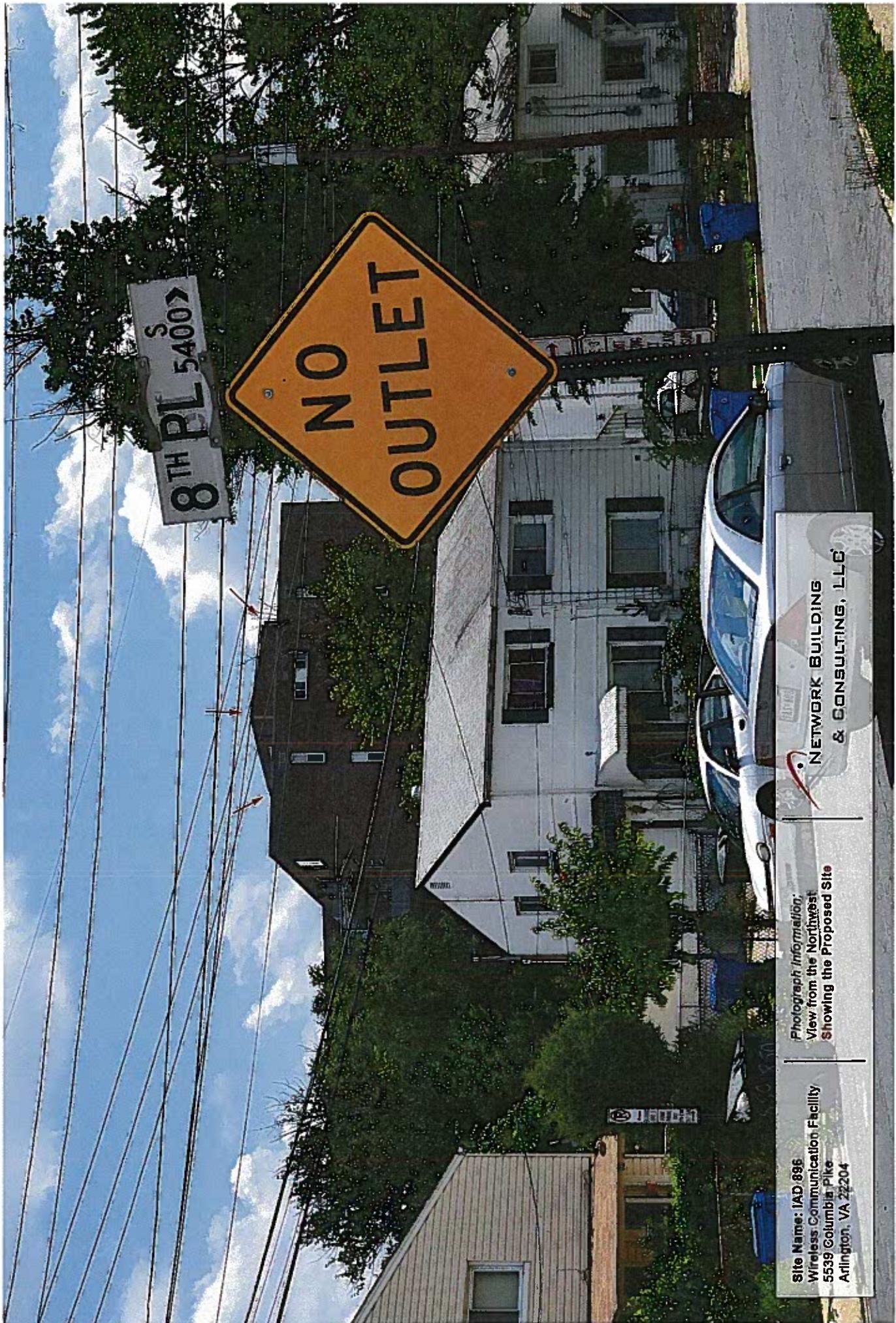
8TH PL S 5400 >

NO
OUTLET

Site Name: IAD 896
Wireless Communication Facility
5539 Columbia Pike
Arlington, VA 22204

Photograph information:
View from the Northwest
Showing the Existing Site


NETWORK BUILDING
& CONSULTING, LLC



8TH PL 5400 >

NO
OUTLET

Photograph Information:
View from the Northwest
Showing the Proposed Site

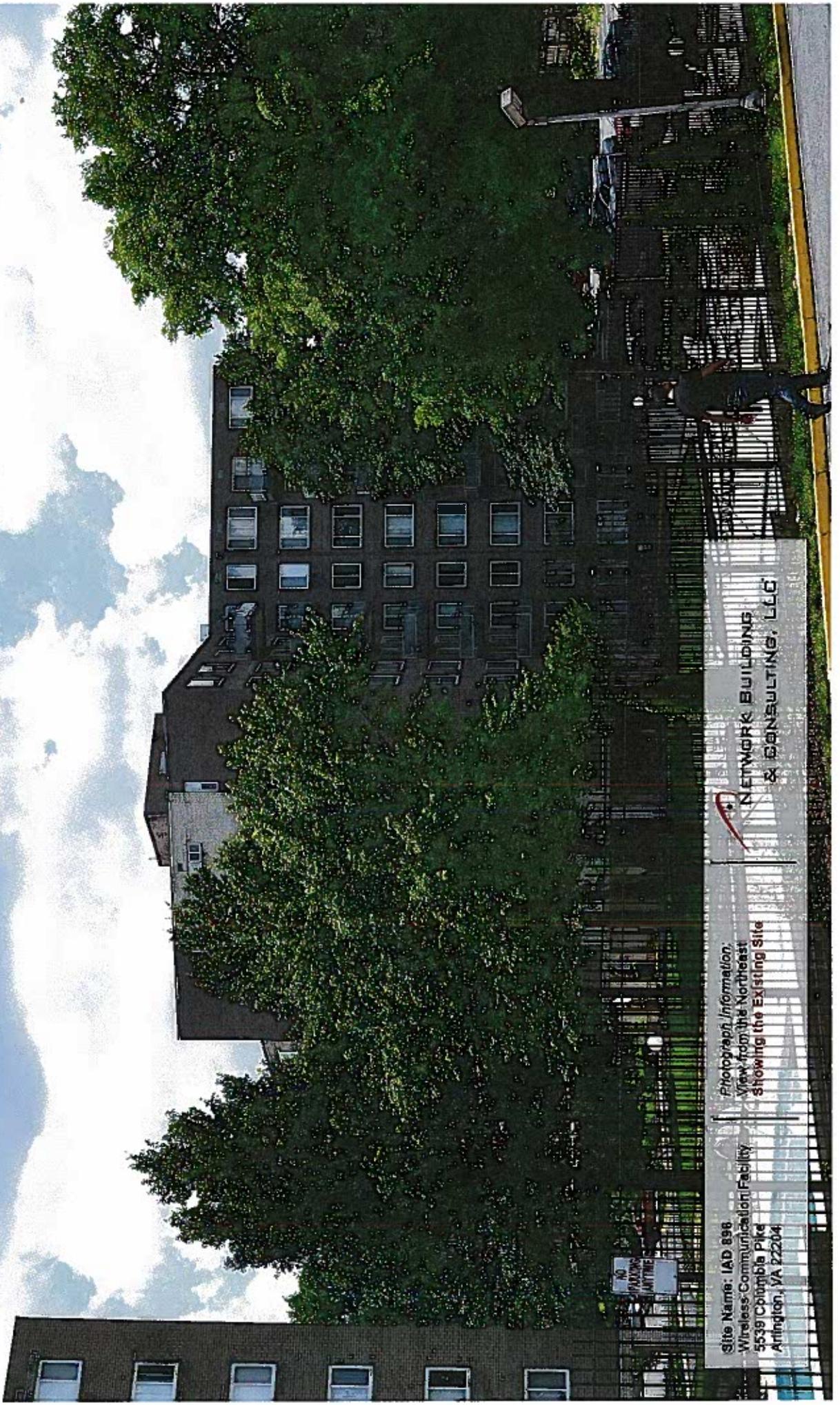
Site Name: IAD 896
Wireless Communication Facility
5539 Columbia Pike
Arlington, VA 22204


NETWORK BUILDING
& CONSULTING, LLC

Site Name: IAD 898
Wireless Communication Facility
5539 Cloudbble Pike
Arlington, VA 22204

Photograph Information:
View from the Northeast
showing the Existing Site


NETWORK BUILDING
& CONSULTING, LLC



Site Name: IAD 896
Wireless Communication Facility
5539 Columbia Pike
Arlington, VA 22204

Photograph Information:
View from the Northeast
Showing the Proposed Site

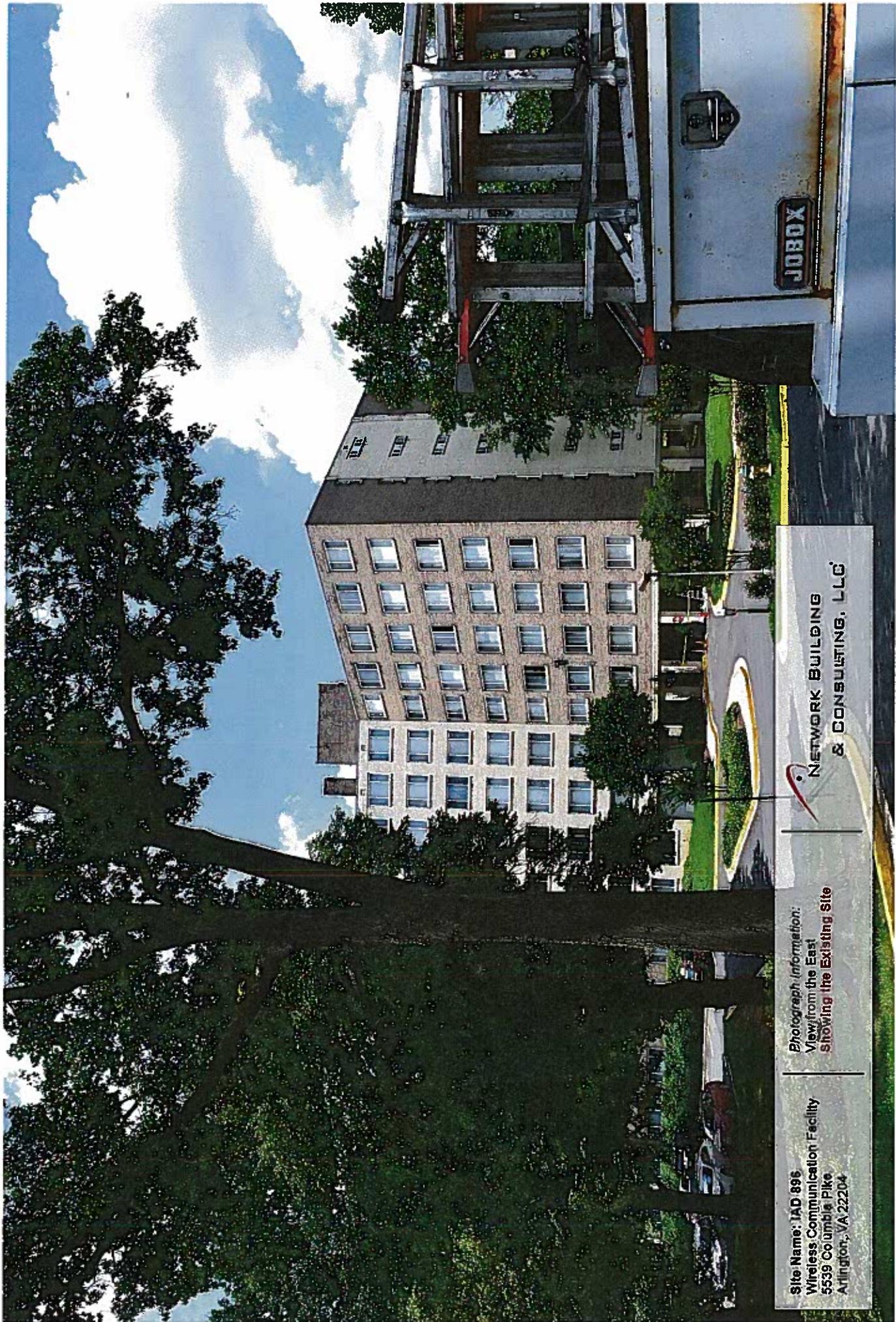
NETWORK BUILDING
& CONSULTING, LLC



Site Name: IAD 896
Wireless Communication Facility
5539 Columbia Pike
Arlington, VA 22204

Photograph Information:
View from the East
Showing the Existing Site

 NETWORK BUILDING
& CONSULTING, LLC

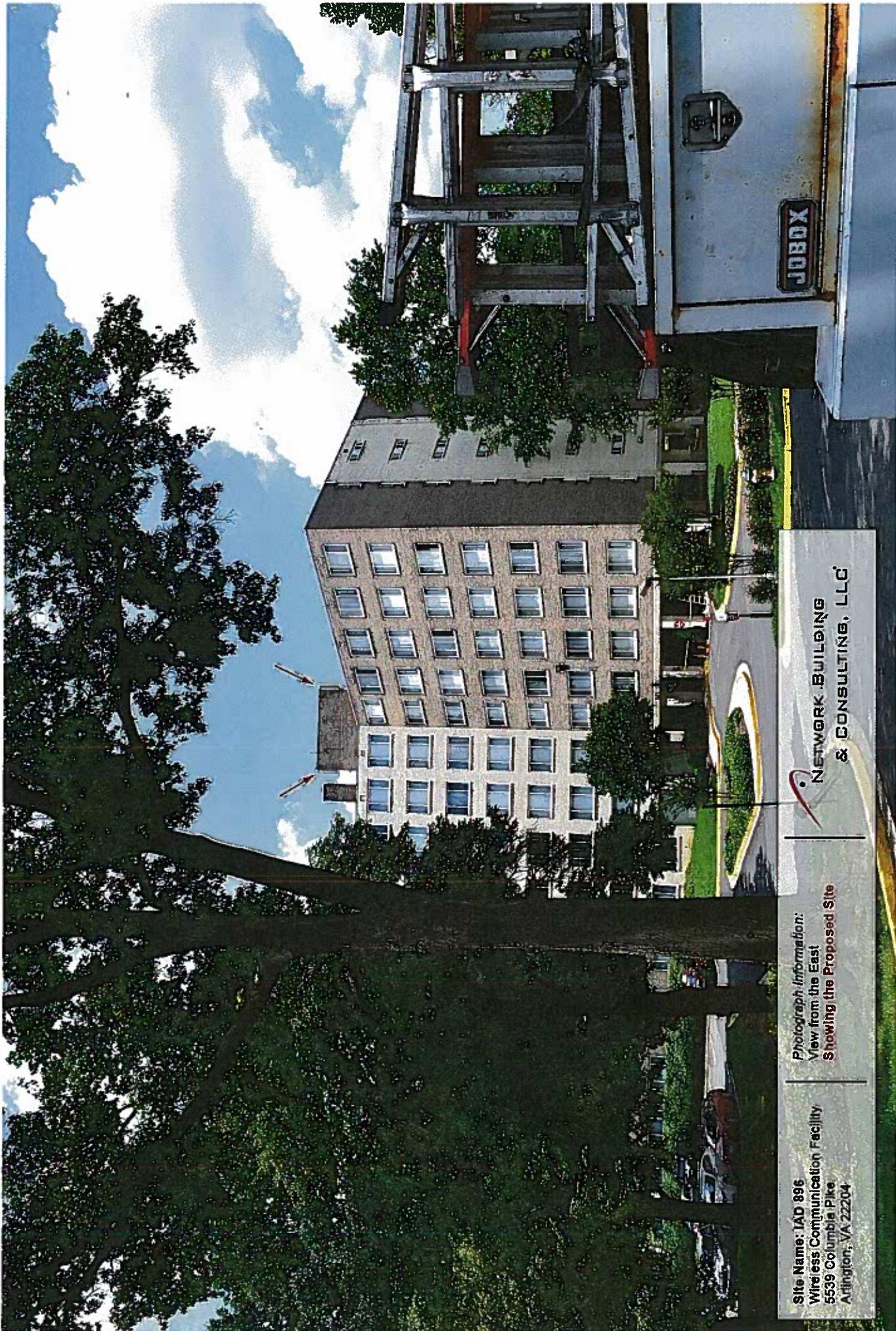


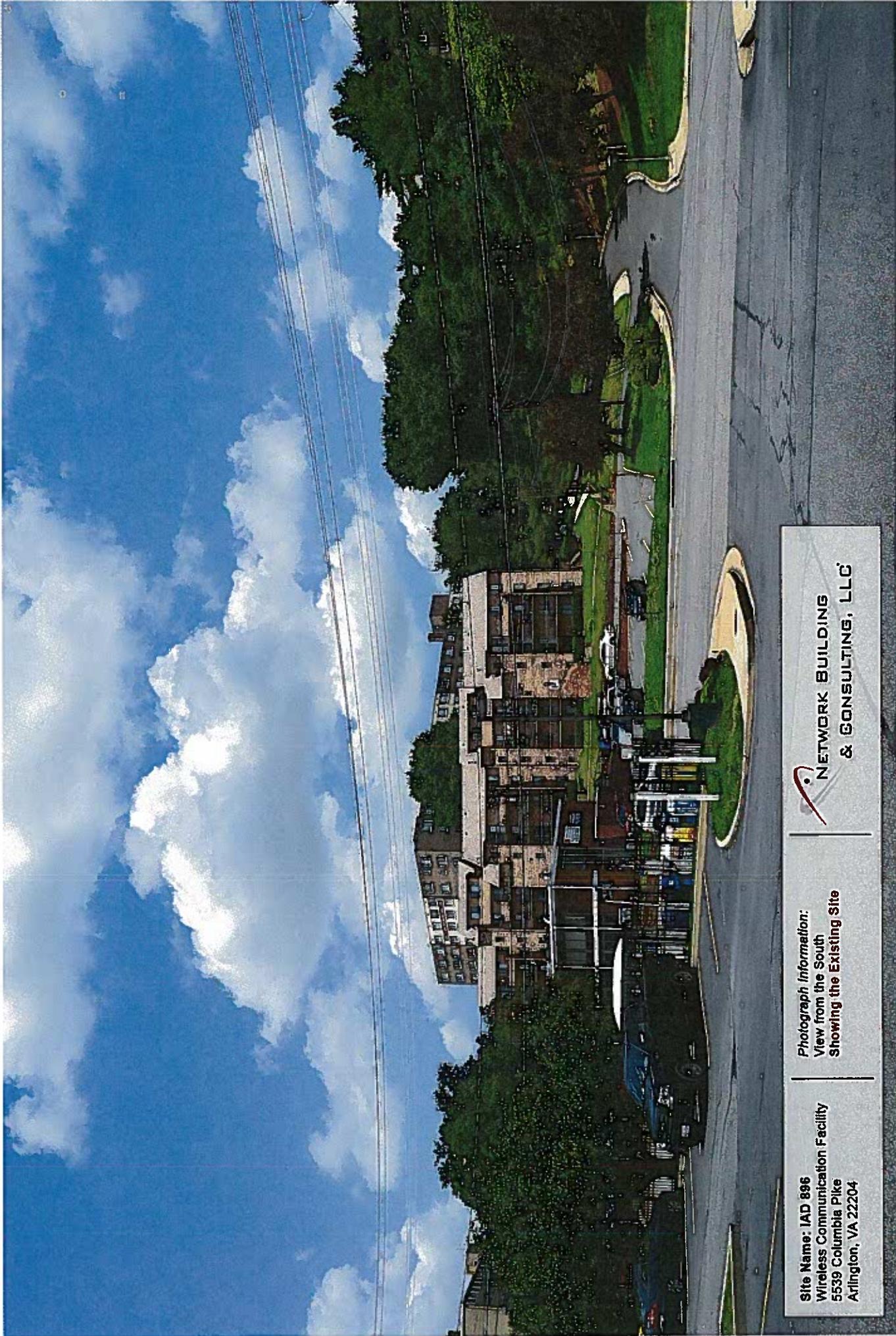
Site Name: IAD 896
Wireless Communication Facility
5539 Columbia Pike
Arlington, VA 22204

Photograph Information:
View from the East
Showing the Proposed Site

 NETWORK BUILDING
& CONSULTING, LLC

JOBBOX

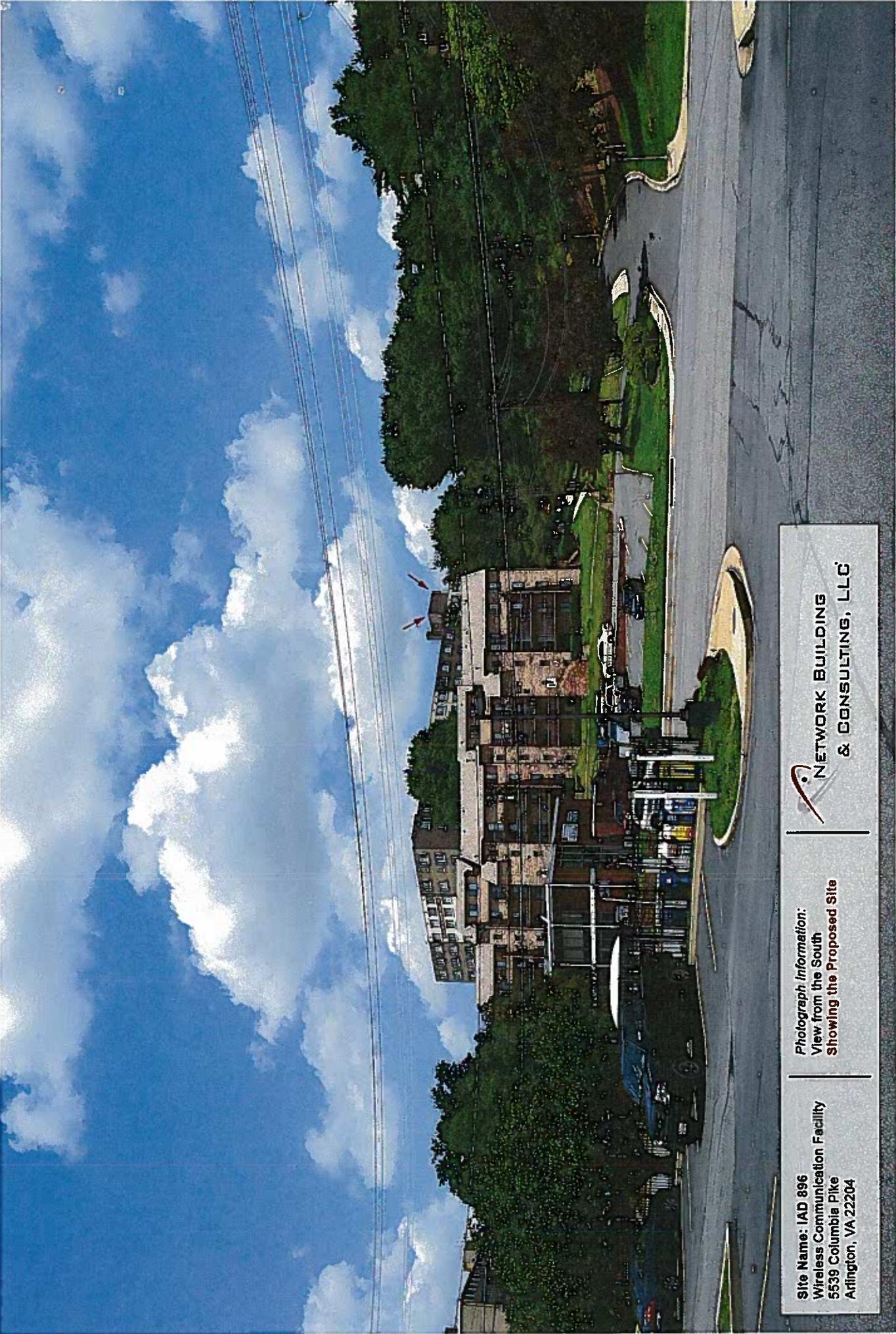




Photograph Information:
View from the South
Showing the Existing Site

Site Name: IAD 896
Wireless Communication Facility
5539 Columbia Pike
Arlington, VA 22204

**NETWORK BUILDING
& CONSULTING, LLC**



**Site Name: IAD 896
Wireless Communication Facility
5539 Columbia Pike
Arlington, VA 22204**

**Photograph Information:
View from the South
showing the Proposed Site**

**NETWORK BUILDING
& CONSULTING, LLC**

cricket
communications Inc.
6371 Sassa Barkers Road, Suite O
Elkridge, MD 21075
(410) 561-7000 (O)
(410) 794-4622 (F)

GALETTA
ENGINEERING CORPORATION
Consulting Engineers
1303 Rockville Road
Pittsburgh, Pa. 15229
Phone: (412) 261-3359
Fax: (412) 281-8189

DATE: 4/27/07
PROJECT NO.: 44027
DRAWN BY: BFB
CHECKED BY: BFB

SUBMITTALS

- C 02/07/03 ISSUED FOR ZONING
- B 03/07/03 ISSUED FOR 933 REVIEW
- A 02/27/07 ISSUED FOR 930 REVIEW

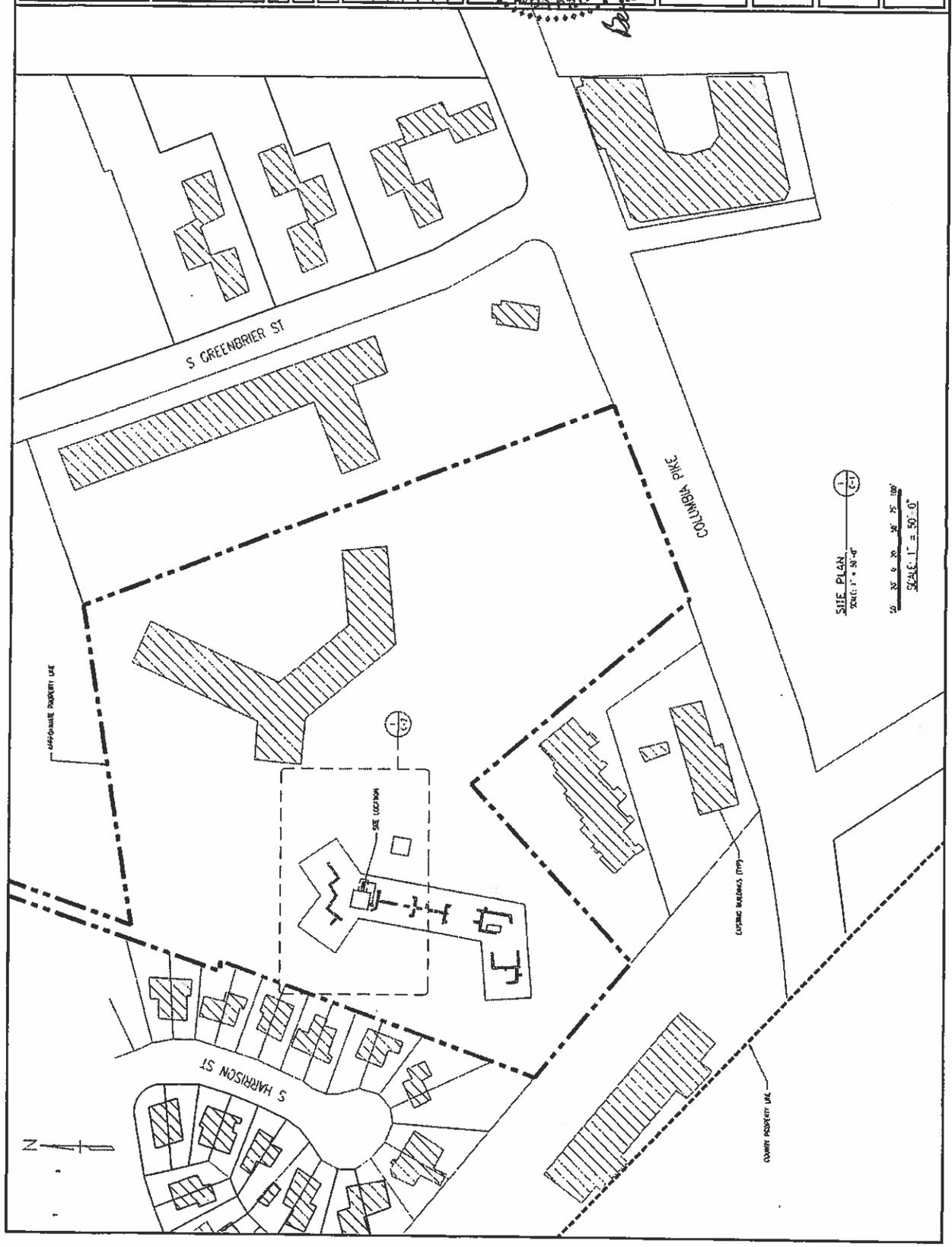
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REGISTERED PROFESSIONAL ENGINEER
BERNARD P. BOMBARDI
No. 0402041816

IAD-996-B
SERRANO APTS
5633 COLUMBIA PIKE
ARLINGTON, VA 22204

DESIGN TYPE:
ROOFTOP

SHEET TITLE:
SITE PLAN

SHEET NUMBER:
C-1



cricket
communications inc.
6871 Seven Branches Road, Suite 0
Elkridge, MD 21075
(410) 766-4200
(410) 766-4201 (F)

GALETTA
ENGINEERING CORPORATION
Consulting Engineers
1300 Penn Avenue
Pittsburgh, Pa. 15222
Phone: (412) 281-3359
Fax: (412) 281-8459

PROJECT NO: 4487
DRAWN BY: PFS
CHECKED BY: PFS

SUBMITTALS

A	1/4" DIA. WELDS FOR 1/2" DIA. CONCRETE ANCHORS WITH 1/2" TUBULARS
B	1/2" DIA. WELDS FOR 3/4" DIA. CONCRETE ANCHORS WITH 1/2" TUBULARS
C	1/2" DIA. WELDS FOR 1" DIA. CONCRETE ANCHORS WITH 1/2" TUBULARS
D	1/2" DIA. WELDS FOR 1 1/4" DIA. CONCRETE ANCHORS WITH 1/2" TUBULARS
E	1/2" DIA. WELDS FOR 1 1/2" DIA. CONCRETE ANCHORS WITH 1/2" TUBULARS
F	1/2" DIA. WELDS FOR 1 3/4" DIA. CONCRETE ANCHORS WITH 1/2" TUBULARS
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J	1/2" DIA. WELDS FOR 2 3/4" DIA. CONCRETE ANCHORS WITH 1/2" TUBULARS
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S	1/2" DIA. WELDS FOR 5" DIA. CONCRETE ANCHORS WITH 1/2" TUBULARS
T	1/2" DIA. WELDS FOR 5 1/4" DIA. CONCRETE ANCHORS WITH 1/2" TUBULARS
U	1/2" DIA. WELDS FOR 5 1/2" DIA. CONCRETE ANCHORS WITH 1/2" TUBULARS
V	1/2" DIA. WELDS FOR 5 3/4" DIA. CONCRETE ANCHORS WITH 1/2" TUBULARS
W	1/2" DIA. WELDS FOR 6" DIA. CONCRETE ANCHORS WITH 1/2" TUBULARS
X	1/2" DIA. WELDS FOR 6 1/4" DIA. CONCRETE ANCHORS WITH 1/2" TUBULARS
Y	1/2" DIA. WELDS FOR 6 1/2" DIA. CONCRETE ANCHORS WITH 1/2" TUBULARS
Z	1/2" DIA. WELDS FOR 6 3/4" DIA. CONCRETE ANCHORS WITH 1/2" TUBULARS

THE INFORMATION CONTAINED IN THIS SET OF DRAWINGS IS THE PROPERTY OF GALETTA ENGINEERING CORPORATION. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREON. IT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF GALETTA ENGINEERING CORPORATION.

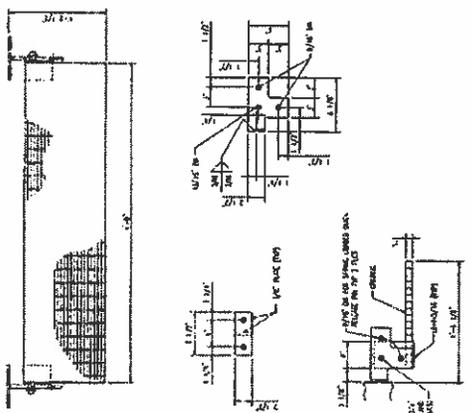
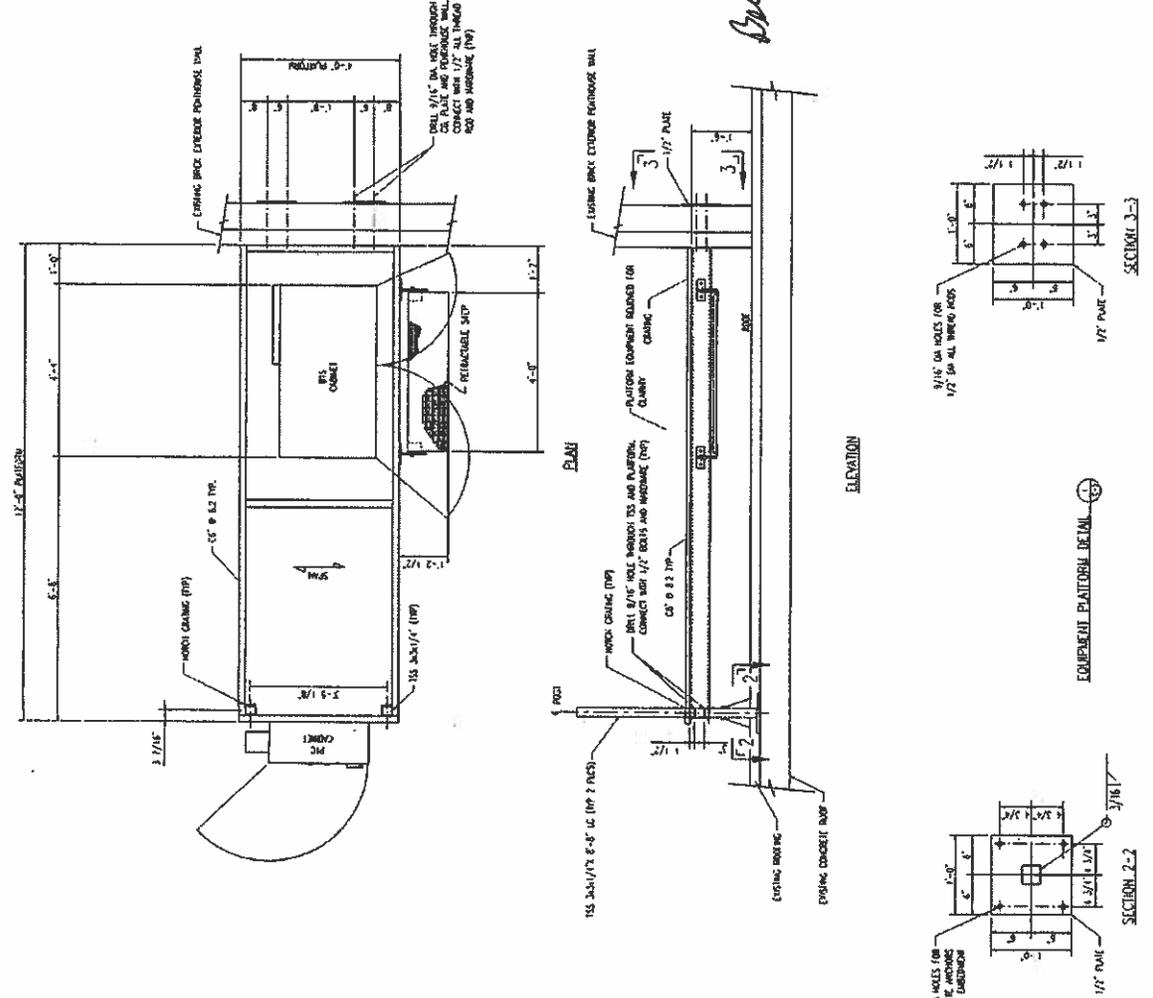
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No. 0402041816

IAD-896-B
SERRANO APTS
5533 COLUMBIA PIKE
ARLINGTON, VA 22204

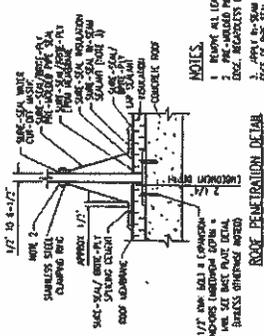
DESIGN TYPE:
ROOFTOP

SHEET TITLE:
EQUIPMENT
PLATFORM DETAILS

SHEET NUMBER:
C-5



RETRACTABLE STEP DETAILS



NOTES:
1. REPORT ALL TOU AND OTHER FLANGES.
2. ALL STRUCTURAL STEEL SHALL BE ACCORDANCE WITH THE SPECIFICATIONS FOR STRUCTURAL STEEL, DIMENSIONS OF THE AISC (LATEST EDITION).
3. ALL STRUCTURAL STEEL SHALL BE GALVANIZED WITH 153. ALL BOLTS, FASTENERS AND HARDWARE TO BE GALVANIZED.
4. ALL BOLTS TO BE 3/4\"/>

NOTE:
CONNECTION TO CAP ALL STRUCTURAL MEMBERS USING 1/4\"/>

STRUCTURAL STEEL NOTES:
1. ALL STRUCTURAL STEEL MEMBERS SHALL BE ACCORDANCE WITH THE SPECIFICATIONS FOR STRUCTURAL STEEL, DIMENSIONS OF THE AISC (LATEST EDITION).
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4. ALL BOLTS TO BE 3/4\"/>

NOTE:
CONNECTION TO CAP ALL STRUCTURAL MEMBERS USING 1/4\"/>

cricket
communications Inc.
6571 Stone Bottom Road, Suite 0
Ethridge, MD 21025
(410) 267-7800 (O)
(410) 794-9223 (F)

GALETTA
ENGINEERING CORPORATION
Consulting Engineers
1300 Park Avenue
Philadelphia, Pa. 19122
Phone: (412) 261-1252
Fax: (412) 261-8489

DATE: 01/07
DRAWN BY: BPS
CHECKED BY: BMS

SUBMITTALS

A	04/27/10	ISSUED FOR 530 REVIEW
B	05/10/10	ISSUED FOR 533 REVIEW
C	06/24/10	ISSUED FOR 530X REVIEW

THE INFORMATION CONTAINED IN THIS SET OF DOCUMENTS IS PREPARED BY THE ENGINEER AND IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREIN. IT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF THE ENGINEER.

FERDINAND P. BOMBARDI
No. 0402041816
VIRGINIA PROFESSIONAL ENGINEER
No. 55116
Professional Seal

IAD-896-B
SERRANO APTS
5511 COLLETTA DR E
ARLINGTON, VA 22204

DESIGN TYPE:
ROOFTOP

SHEET TITLE:
DETAILS

SHEET NUMBER:
C-6

STRUCTURAL NOTES:

1. ALL REINFORCING BARS SHALL BE EPOXY COATED UNLESS OTHERWISE NOTED.
2. ALL REINFORCING BARS SHALL BE EPOXY COATED UNLESS OTHERWISE NOTED.
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10. ALL REINFORCING BARS SHALL BE EPOXY COATED UNLESS OTHERWISE NOTED.

PAINTING NOTES:

CONCRETE DETAIL PAINTING:

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ROOF COAX BRIDGE DETAIL

ROOF CABLE DETAIL

ROOF CABLE DETAIL

ROOF CABLE DETAIL

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ROOF COAX BRIDGE DETAIL

ROOF CABLE DETAIL

ROOF CABLE DETAIL

ROOF CABLE DETAIL

cricket
communications inc.
4711 Stone Bottom Road, Suite D
Bowie, MD 21032
Tel: (410) 341-4000
Fax: (410) 341-4020 (P)

GALETTA
ENGINEERING CORPORATION
Consulting Engineers
1200 Park Avenue
Pittsburgh, Pa. 15222
Phone: (412) 281-3357
Fax: (412) 281-8455

DATE: 10/27/93
DRAWN BY: EFS
CHECKED BY: BFB

SUBMITTALS

- C 10/27/93 ISSUED FOR ZONING
- B 10/27/93 ISSUED FOR GAS REVIEW
- A 10/27/93 ISSUED FOR SAS REVIEW

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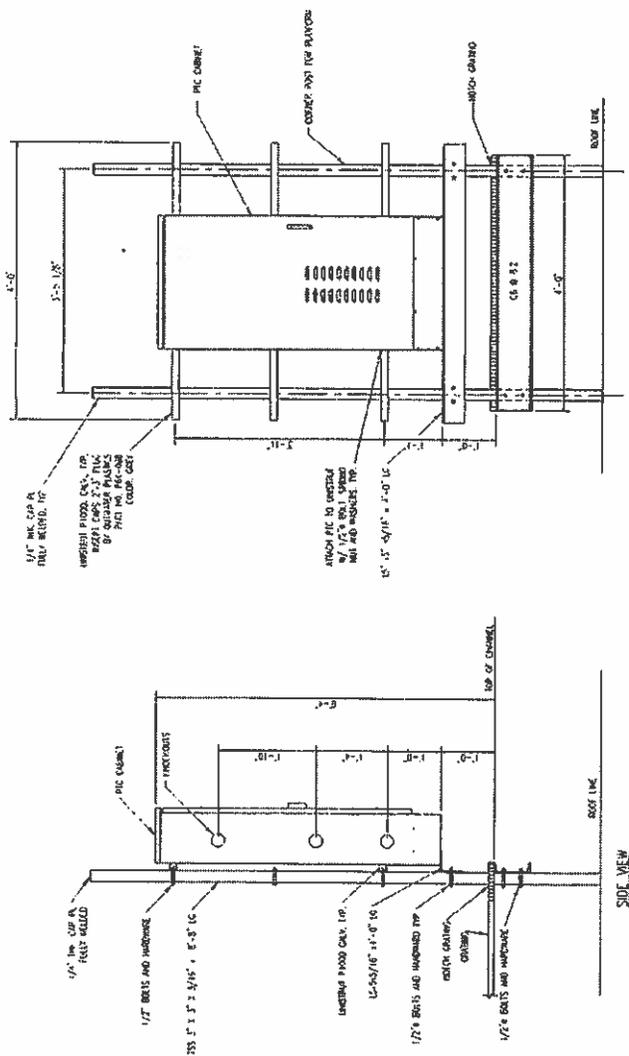
DESIGNED BY: P. BOMBARDI
No. 0405041816
David Bombardi

IAD-896-B
SERRANO APTS
5518 COLUMBIA PIKE
ARLINGTON, VA 22204

DESIGN TYPE:
ROOFTOP

SHEET TITLE:
PTC DETAILS

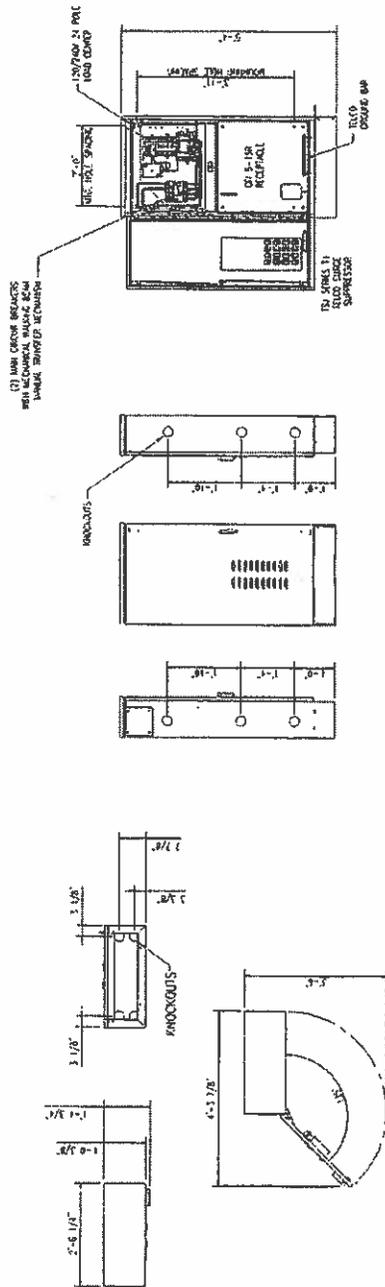
SHEET NUMBER:
C-7



POWER TELCO CABINET MOUNTING DETAIL

1
2-3

EROM ELEVATOR



POWER TELCO CABINET DETAILS

1
2-3

cricket
communications Inc.
4711 Stone Harbor Road, Suite 0
Baltimore, MD 21075
(410) 597-7800 (O)
(410) 794-6623 (F)

GALETA
ENGINEERING CORPORATION
Consulting Engineers
1300 Rockville Pike, Suite 11272
P.O. Box 11272
Phone: (410) 261-5357
Fax: (410) 281-8489

DATE: 11/07/15
DRAWN BY: BPS
CHECKED BY: BMS

SUBMITTALS

C 06/17/15 ISSUED FOR ZONING
B 05/17/15 ISSUED FOR 333 REVIEW
A 04/27/15 ISSUED FOR 330 REVIEW

THIS PLAN IS UNLESS OTHERWISE SPECIFIED IN THE NOTES TO BE CONSIDERED AS A PROFESSIONAL ENGINEERING DESIGN. THE CLIENT SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CLIENT SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CLIENT SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.

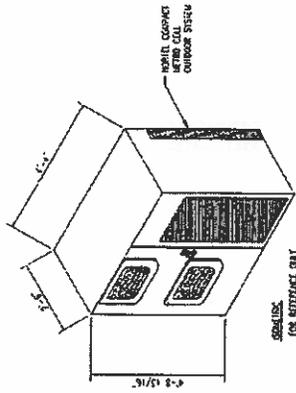
PROFESSIONAL ENGINEER
HOWARD P. BOVERA
No. 0402041816

IAD-896-B
SERRANO APTS
1515 COLUMBIA PKWY
ARLINGTON, VA 22204

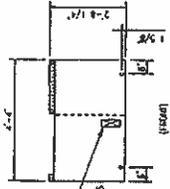
DESIGN TYPE:
ROOFTOP

SHEET TITLE:
CABINET PLANS AND ELEVATIONS

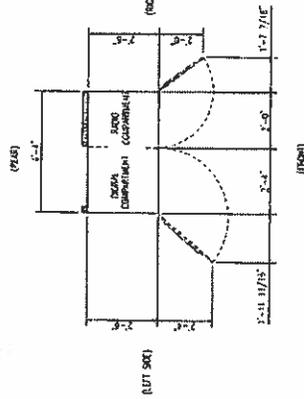
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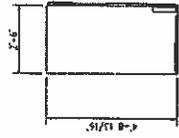
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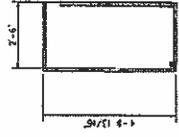
BASE PLAN



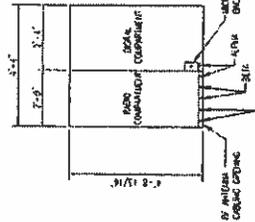
TOP PLAN



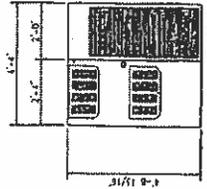
SIDE ELEVATION



RIGHT SIDE ELEVATION



REAR ELEVATION



FRONT ELEVATION

OUTDOOR COMPACT METRO CELL OUTDOOR SYSTEM

PROFESSIONAL ENGINEER
HOWARD P. BOVERA
No. 0402041816

ELECTRICAL SPECIFICATIONS:

THE ELECTRICAL CONTRACTOR FOR CONNECTION FOR THIS PROJECT SHALL INCLUDE PROVISIONS OF ALL NECESSARY ELECTRICAL CODES AND REGULATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITIES.

1. DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE ELECTRICAL CODES AND REGULATIONS.
2. ALL ELECTRICAL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE ELECTRICAL CODES AND REGULATIONS.
3. ALL ELECTRICAL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE ELECTRICAL CODES AND REGULATIONS.

GENERAL REQUIREMENTS:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITIES.

1. REGULATORY REQUIREMENTS
2. MATERIALS
3. CONSTRUCTION
4. SAFETY
5. QUALITY CONTROL

ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE LOCAL AUTHORITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITIES.

1. ALL MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE ELECTRICAL CODES AND REGULATIONS.
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GROUNDING:

ALL ELECTRICAL SYSTEMS SHALL BE GROUNDED IN ACCORDANCE WITH THE ELECTRICAL CODES AND REGULATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITIES.

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ABBREVIATIONS:

AC - ALTERNATING CURRENT
 DC - DIRECT CURRENT
 EMT - ELECTRICAL METAL TUBING
 GFCI - GROUND FAULT CIRCUIT INTERRUPTER
 LVD - LOW VOLTAGE DISCONNECT
 NEC - NATIONAL ELECTRICAL CODE
 OCPD - OVERCURRENT PROTECTIVE DEVICE
 P - PANEL
 RAC - RATED AIR CONDITIONING
 S/W - SWITCH
 S/S - STAINLESS STEEL
 UIC - UNDERGROUND INSTALLATION

ITEM NO.	DESCRIPTION	QTY	UNIT	MARK	DATE
1	CONCRETE	1	CU YD		
2	STEEL	1	TON		
3	BRICK	1	1000		
4	CEMENT	1	TON		
5	AGGREGATE	1	CU YD		
6	PAINT	1	TON		
7	GLASS	1	1000		
8	ROOFING	1	1000		
9	MECHANICAL	1	1000		
10	ELECTRICAL	1	1000		
11	PLUMBING	1	1000		
12	MECHANICAL	1	1000		
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96	MECHANICAL	1	1000		
97	ELECTRICAL	1	1000		
98	PLUMBING	1	1000		
99	MECHANICAL	1	1000		
100	ELECTRICAL	1	1000		

PANELBOARD "LP-1"

cricket
 communications inc.
 6971 State Routes Road, Suite D
 Bethesda, MD 20817
 (410) 351-7800 (0)
 (410) 764-9923 (7)

GALETTA
 ENGINEERING CORPORATION
 Consulting Engineers
 1300 Park Ave. #1222
 Phone: (412) 261-1357
 Fax: (412) 261-8420

DATE: 01/07/10
 DRAWN BY: BPS
 CHECKED BY: BPS
 SUBMITTALS

REVISIONS:
 1. (01/07/10) ISSUED FOR B33 REVIEW
 2. (01/07/10) ISSUED FOR B33 REVIEW
 3. (01/07/10) ISSUED FOR B33 REVIEW
 4. (01/07/10) ISSUED FOR B33 REVIEW

NOVINO PROTECTIVE ENGINEERING
 BERNARD P. BOMBARDIER
 0402001816

IAD-896-B
 SERRANO APTS
 8530 COLLEEN PALE
 ARLINGTON, VA 22204

REVISION TYPE:
 ROOFTOP

SHEET TITLE:
 ELECTRICAL SPECS &
 PANEL SCHEDULE

SHEET NUMBER:
 ES-1

**Cricket Communications
Site ID - IAD-896-B
Site Name - Serrano Apartments
Site Compliance Report**

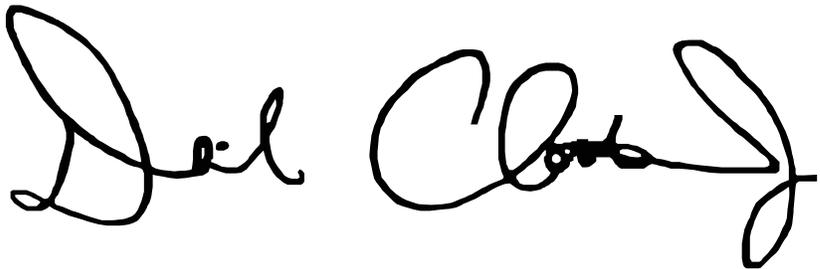
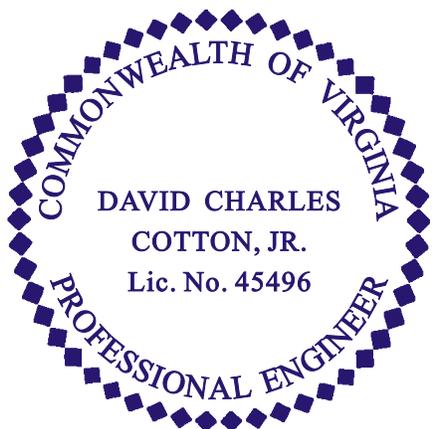
**5539 Columbia Pike
Arlington, VA 22204**

Latitude: N38-51-16.50
Longitude: W77-7-14.60
Structure Type: Rooftop

Report generated date: August 3, 2012
Report by: Tony DeMattia
Customer Contact: CJ Yang

**Cricket Communications Will Be Compliant
based on FCC Rules and Regulations.**

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**David Charles Cotton, Jr.
Professional Engineer
Commonwealth of Virginia, 0402045496
Date: 2012-August-03**

Cricket Communications Serrano Apartments - IAD-896-B Radio Frequency (RF) Site Compliance Report



5539 Columbia Pike, Arlington, VA 22204



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1 Executive Summary

Cricket Communications has contracted with Sitesafe, Inc. (Sitesafe), an independent Radio Frequency (RF) regulatory and engineering consulting firm, to determine whether the proposed communications site, IAD-896-B- Serrano Apartments, located at 5539 Columbia Pike, Arlington, VA, is in compliance with Federal Communication Commission (FCC) Rules and Regulations for RF emissions.

This report contains a detailed summary of the RF environment at the site including:

- diagram of the site;
- inventory of the make / model of all antennas
- theoretical MPE based on modeling.

This report addresses exposure to radio frequency electromagnetic fields in accordance with the FCC Rules and Regulations for all individuals, classified in two groups, "Occupational or Controlled" and "General Public or Uncontrolled." This **site will be compliant** with the FCC rules and regulations, as described in OET Bulletin 65.

This document and the conclusions herein are based on the information provided by Cricket Communications.

If you have any questions regarding RF safety and regulatory compliance, please do not hesitate to contact Sitesafe's Customer Support Department at (703) 276-1100.

2 Regulatory Basis

2.1 FCC Rules and Regulations

In 1996, the Federal Communication Commission (FCC) adopted regulations for the evaluating of the effects of RF emissions in 47 CFR § 1.1307 and 1.1310. The guideline from the FCC Office of Engineering and Technology is Bulletin 65 ("OET Bulletin 65"), *Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields*, Edition 97-01, published August 1997. Since 1996 the FCC periodically reviews these rules and regulations as per their congressional mandate.

FCC regulations define two separate tiers of exposure limits: Occupational or "Controlled environment" and General Public or "Uncontrolled environment". The General Public limits are generally five times more conservative or restrictive than the Occupational limit. These limits apply to *accessible* areas where workers or the general public may be exposed to Radio Frequency (RF) electromagnetic fields.

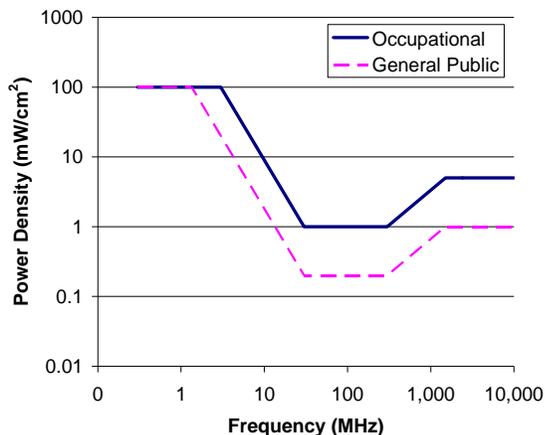
Occupational or Controlled limits apply in situations in which persons are exposed as a consequence of their employment and where those persons exposed have been made fully aware of the potential for exposure and can exercise control over their exposure.

An area is considered a Controlled environment when access is limited to these aware personnel. Typical criteria are restricted access (i.e. locked or alarmed doors, barriers, etc.) to the areas where antennas are located coupled with proper RF warning signage. A site with Controlled environments is evaluated with Occupational limits.

All other areas are considered Uncontrolled environments. If a site has no access controls or no RF warning signage it is evaluated with General Public limits.

The theoretical modeling of the RF electromagnetic fields has been performed in accordance with OET Bulletin 65. The Maximum Permissible Exposure (MPE) limits utilized in this analysis are outlined in the following diagram:

FCC Limits for Maximum Permissible Exposure (MPE)
Plane-wave Equivalent Power Density



Limits for Occupational/Controlled Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (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

Limits for General Population/Uncontrolled Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (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

2.2 OSHA Statement

The General Duty clause of the OSHA Act (Section 5) outlines the occupational safety and health responsibilities of the employer and employee. The General Duty clause in Section 5 states:

- (a) Each employer –
 - (1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;
 - (2) shall comply with occupational safety and health standards promulgated under this Act.
- (b) Each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct.

OSHA has defined Radiofrequency and Microwave Radiation safety standards for workers who may enter hazardous RF areas. Regulation Standards 29 CFR § 1910.147 identify a generic Lock Out Tag Out procedure aimed to control the unexpected energization or start up of machines when maintenance or service is being performed.



3 Site Compliance

3.1 Site Compliance Statement

Upon evaluation of the cumulative RF emission levels from all operators at this site, Sitesafe has determined that:

This **site will be compliant** with the FCC rules and regulations, as described in OET Bulletin 65.

Cricket Communications is predicted to contribute **less than 5%** of the maximum permissible exposure (MPE) based on theoretical modeling using parameters supplied by the client; therefore, Cricket Communications has no responsibility for bringing the site into compliance with FCC guidelines. See Appendix C. A detailed explanation of the 5% rule can be found in the Definition section of Appendix B.

The compliance determination is based on General Public MPE levels based on theoretical modeling, RF signage placement recommendations, proposed antenna inventory and the level of restricted access to the antennas at the site. Any deviation from the Cricket Communications' proposed deployment plan could result in the site being rendered non-compliant.

3.2 Actions for Site Compliance

Based on common industry practice and our understanding of FCC and OSHA requirements, this section provides a statement of recommendations for site compliance. RF alert signage recommendations have been proposed based on theoretical analysis of MPE levels. Barriers can consist of locked doors, fencing, railing, rope, chain, paint striping or tape, combined with RF alert signage.

This site will be compliant with the FCC rules and regulations.

4 Safety Plan and Procedures

The following items are general safety recommendations that should be administered on a site by site basis as needed by the carrier.

General Maintenance Work: Any maintenance personnel required to work immediately in front of antennas and / or in areas indicated as above 100% of the Occupational MPE limits should coordinate with the wireless operators to disable transmitters during their work activities.

Training and Qualification Verification: All personnel accessing areas indicated as exceeding the General Population MPE limits should have a basic understanding of EME awareness and RF Safety procedures when working around transmitting antennas. Awareness training increases a workers understanding to potential RF exposure scenarios. Awareness can be achieved in a number of ways (e.g. videos, formal classroom lecture or internet based courses).

Physical Access Control: Access restrictions to transmitting antennas locations is the primary element in a site safety plan. Examples of access restrictions are as follows:

- Locked door or gate
- Alarmed door
- Locked ladder access
- Restrictive Barrier at antenna (e.g. Chain link with posted RF Sign)

RF Signage: Everyone should obey all posted signs at all times. RF signs play an important role in properly warning a worker prior to entering into a potential RF Exposure area.

Assume all antennas are active: Due to the nature of telecommunications transmissions, an antenna transmits intermittently. Always assume an antenna is transmitting. Never stop in front of an antenna. If you have to pass by an antenna, move through as quickly and safely as possible thereby reducing any exposure to a minimum.

Maintain a 3 foot clearance from all antennas: There is a direct correlation between the strength of an EME field and the distance from the transmitting antenna. The further away from an antenna, the lower the corresponding EME field is.

Site RF Emissions Diagram: Section 5 of this report contains an RF Diagram that outlines various theoretical Maximum Permissible Exposure (MPE) areas at the site. The modeling is a worst case scenario assuming a duty cycle of 100% for each transmitting antenna at full power. This analysis is based on one of two access control criteria: General Public criteria means the access to the site is uncontrolled and anyone can gain access. Occupational criteria means the access is restricted and only properly trained individuals can gain access to the antenna locations.

5 Analysis

5.1 RF Emissions Diagram

The RF diagram(s) below display theoretical spatially averaged percentage of the Maximum Permissible Exposure for all systems at the site unless otherwise noted. These diagrams use modeling as proscribed in OET Bulletin 65 and assumptions detailed in Appendix B.

The key at the bottom of each diagram indicates if percentages displayed are referenced to FCC Occupational or General Public Maximum Permissible Exposure (MPE) limits. Color coding on the diagram is as follows:

- Areas indicated as Gray are below 5% of the MPE limits.
- Green represents areas predicted to be between 5% and 20% of the MPE limits.
- Yellow represents areas predicted to be between 20% and 100% of the MPE limits.
- Red areas indicated predicted levels greater than 100% of the MPE limits.

General Population diagrams are specified when an area is accessible to the public; i.e. personnel that do not meet Occupational or RF Safety trained criteria, could gain access.

If trained occupational personnel require access to areas that are delineated as Red or above 100% of the limit, Sitesafe recommends that they utilize the proper personal protection equipment (RF monitors), coordinate with the carriers to reduce or shutdown power, or make real-time power density measurements with the appropriate power density meter to determine real-time MPE levels. This will allow the personnel to ensure that their work area is within exposure limits.

The key at the bottom also indicates the level or height of the modeling with respect to the main level. The origin is typically referenced to the main rooftop level, or ground level for a structure without access to the antenna level. For example:

Average from 0 feet above to 6 feet above origin

and

Average from 20 feet above to 26 feet above origin

The first indicates modeling at the main rooftop (or ground) level averaged over 6 feet. The second indicates modeling at a higher level (possibly a penthouse level) of 20 feet averaged over 6 feet.

Abbreviations used in the RF Emissions Diagrams

PH=##'	Penthouse at ## feet above main roof
--------	--------------------------------------

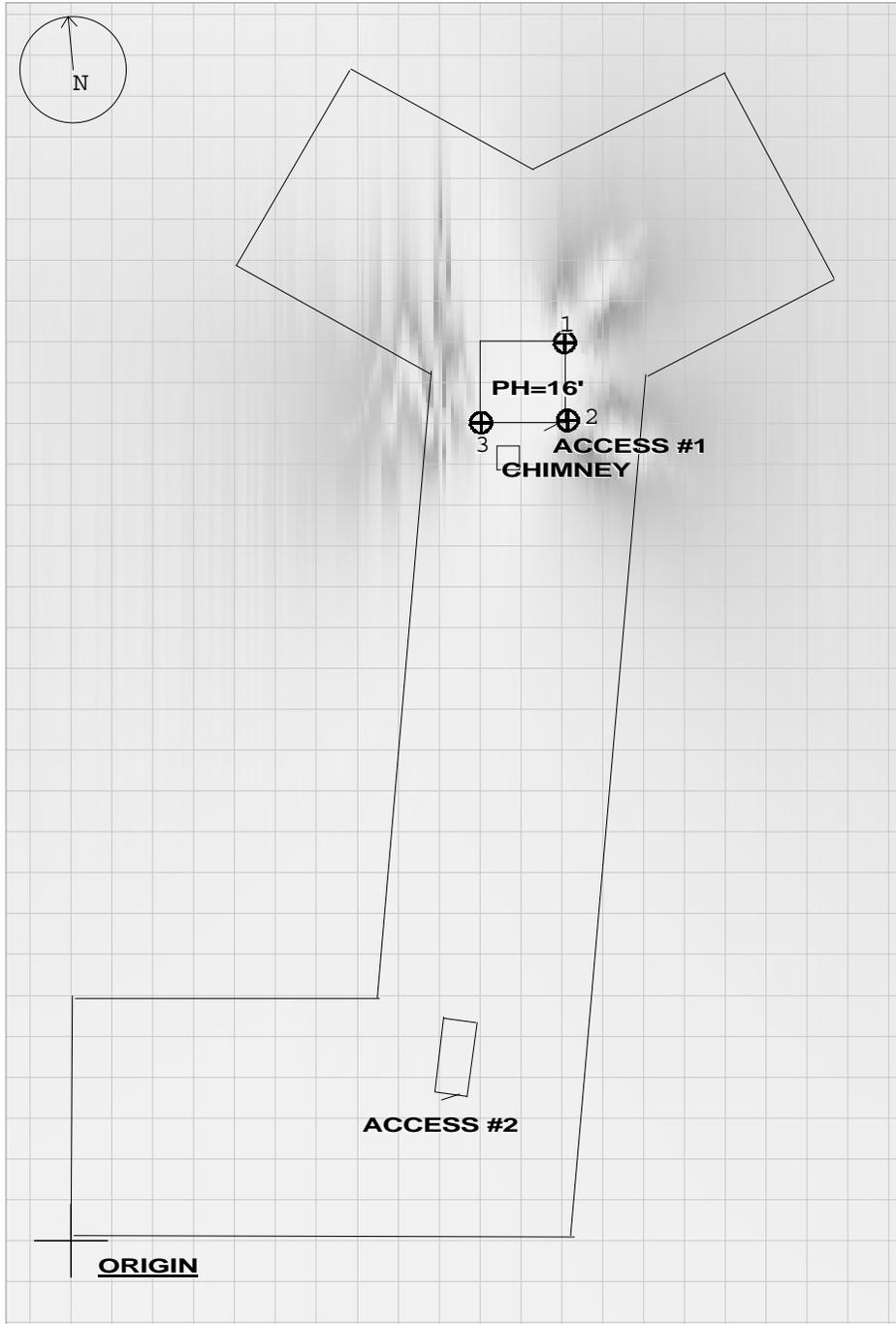
Additional Information in the RF Emissions Diagrams Key



The RF Emission Diagram provides indications of RF signage, barriers and locked doors. The table below lists the abbreviations used to indicate locked doors, signs and barriers:

Table 1: RF Signage and Barrier Key					
RF Signage			Barriers		
Type	Existing Location	Recommended Location	Type	Existing Location	Recommended Location
Notice	<u>NE</u>	<u>NR</u>	Locked Door	<u>LE</u>	<u>LR</u>
Caution	<u>CE</u>	<u>CR</u>	Fencing	<u>RE</u>	<u>RR</u>
Warning	<u>WE</u>	<u>WR</u>	Rope Chain		
Info Sign	<u>IE</u>		Paint Stripes		

RF Emissions Diagram for: Serrano Apartments Main Level

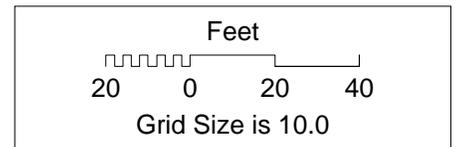


% of FCC Public Exposure Limit
Average from 0 feet above to 6 feet above origin

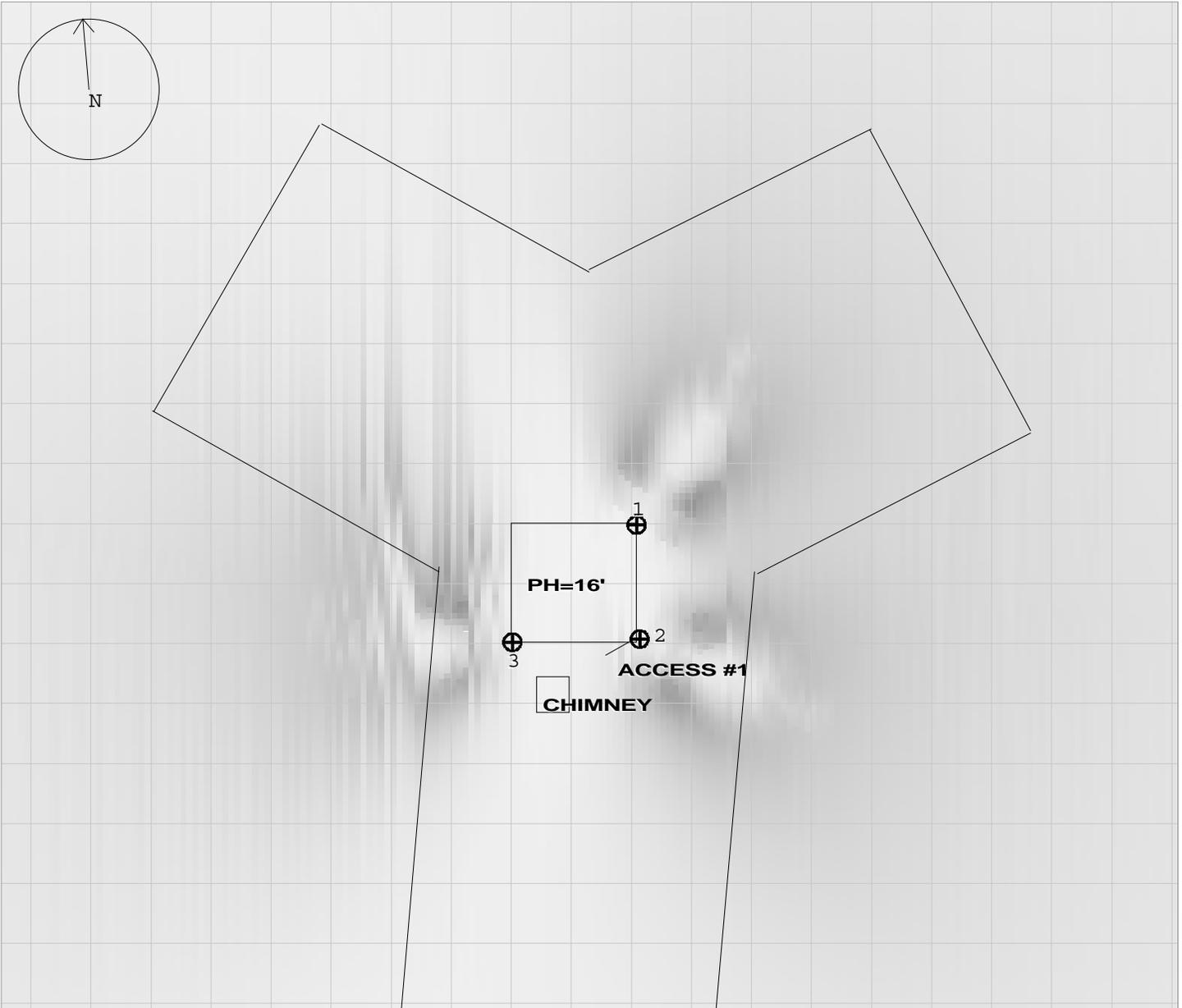
- $100 \leq X$
- $20 \leq X < 100$
- $5 \leq X < 20$
- $X \leq 5$

sitesafe
www.sitesafe.com
Sitesafe ID# 88976
Site Name: Serrano Apartments

Sitesafe Inc. assumes no responsibility for modeling results not verified by Sitesafe personnel.
Contact Sitesafe Inc. for modeling assistance (703) 276-1100.
SitesafeTC Version 2.01.00
5/6/2012



RF Emissions Diagram for: Serrano Apartments Main Level Detail View

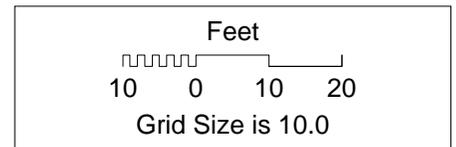


% of FCC Public Exposure Limit
Average from 0 feet above to 6 feet above origin

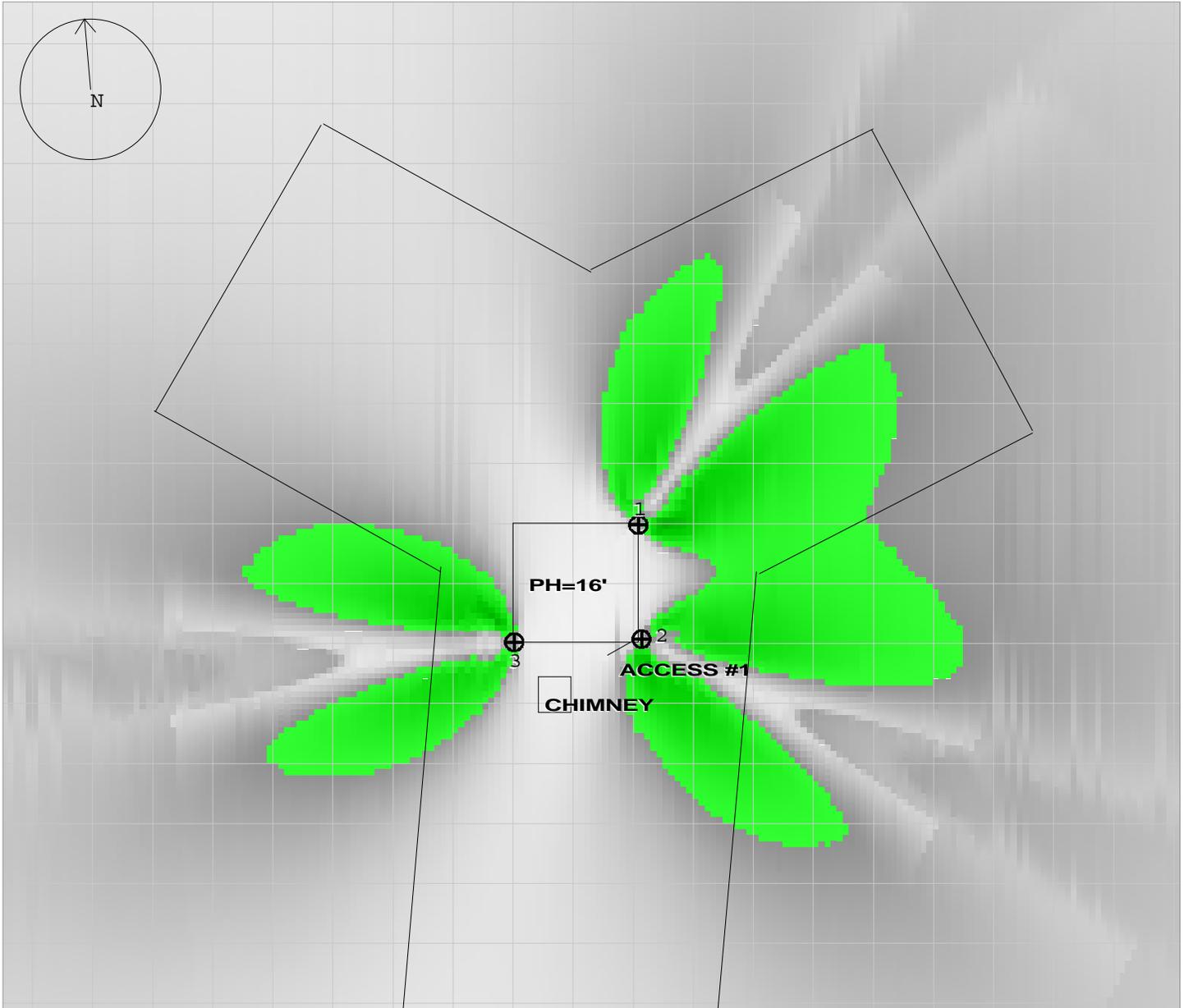
- $100 \leq X$
- $20 \leq X < 100$
- $5 \leq X < 20$
- $X \leq 5$


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 5/6/2012



RF Emissions Diagram for: Serrano Apartments Penthouse Level 16'

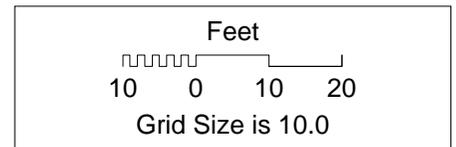


% of FCC Public Exposure Limit
Average from 16 feet above to 22 feet above origin

- $100 \leq X$
- $20 \leq X < 100$
- $5 \leq X < 20$
- $X \leq 5$

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 5/6/2012



6 Antenna Inventory

There was no RF Advisory signage posted at any site access point. The Antenna Inventory shows all transmitting antennas at the site. This inventory was provided by the customer, and was utilized by Sitesafe to perform theoretical modeling of RF emissions. The inventory coincides with the site diagrams in this report, identifying each antenna's location at IAD-879-B - Serrano Apartments. The antenna information collected includes the following information:

- Licensee or wireless operator name
- Frequency or frequency band
- Transmitter power – Effective Radiated Power (“ERP”), or Equivalent Isotropic Radiated Power (“EIRP”) in Watts
- Antenna manufacturer make, model, and gain

For other carriers at this site, the use of “Generic” as an antenna model, or “Unknown” for an operator means the information with regard to carrier, their FCC license and/or antenna information was not available nor could it be secured while on site. Equipment, antenna models and nominal transmit power were used for modeling, based on past experience with radio service providers.



The following antenna inventory, on this and the following page, were provided by the customer and were utilized to create the site model diagrams:

Table 3: Antenna Inventory												
Ant #	Operated By	TX Freq (MHz)	ERP (Watts)	Antenna Gain (dBd)	Az (Deg)	Antenna Model	Ant Type	Len (ft)	Horizontal Half Power Beamwidth (Deg)	Location		
										X	Y	Z
1	Cricket Communications	2110	1000	16.56	40	Antel WBX065A19R250 (Proposed)	Panel	6	65	121'	220'	13'
2	Cricket Communications	2110	1000	16.56	120	Antel WBX065A19R250 (Proposed)	Panel	6	65	121'	201'	13'
3	Cricket Communications	2110	1000	16.56	270	Antel WBX065A19R250 (Proposed)	Panel	6	65	100'	200'	13'

NOTE: X, Y and Z indicate relative position of the antenna to the origin location on the site, displayed in the model results diagram. Specifically, the Z reference indicates antenna height above the main site level unless otherwise indicated. ERP values provided by the client and used in the modeling may be greater than are currently deployed. For other carriers at this site the use of "Generic" as an antenna model or "Unknown" for a wireless operator means the information with regard to carrier, their FCC license and/or antenna information was not available nor could it be secured while on site. Equipment, antenna models and nominal transmit power were used for modeling, based on past experience with radio service providers.



7 Engineer Certification

The professional engineer whose seal appears on the cover of this document hereby certifies and affirms that:

I am registered as a Professional Engineer in the jurisdiction indicated in the professional engineering stamp on the cover of this document; and

That I am an employee of Sitesafe, Inc., in Arlington, Virginia, at which place the staff and I provide RF compliance services to clients in the wireless communications industry; and

That I am thoroughly familiar with the Rules and Regulations of the Federal Communications Commission (FCC) as well as the regulations of the Occupational Safety and Health Administration (OSHA), both in general and specifically as they apply to the FCC Guidelines for Human Exposure to Radio-frequency Radiation; and

That I have thoroughly reviewed this Site Compliance Report and believe it to be true and accurate to the best of my knowledge as assembled by and attested to by Tony DeMattia.

August 3, 2012



Appendix A – Statement of Limiting Conditions

Sitesafe will not be responsible for matters of a legal nature that affect the site or property.

Due to the complexity of some wireless sites, Sitesafe performed this analysis and created this report utilizing best industry practices and due diligence. Sitesafe cannot be held accountable or responsible for anomalies or discrepancies due to actual site conditions (i.e., mislabeling of antennas or equipment, inaccessible cable runs, inaccessible antennas or equipment, etc.) or information or data supplied by Cricket Communications, the site manager, or their affiliates, subcontractors or assigns.

Sitesafe has provided computer generated model(s) in this Site Compliance Report to show approximate dimensions of the site, and the model is included to assist the reader of the compliance report to visualize the site area, and to provide supporting documentation for Sitesafe's recommendations.

Sitesafe may note in the Site Compliance Report any adverse physical conditions, such as needed repairs, observed during the survey of the subject property or that Sitesafe became aware of during the normal research involved in performing this survey. Sitesafe will not be responsible for any such conditions that do exist or for any engineering or testing that might be required to discover whether such conditions exist. Because Sitesafe is not an expert in the field of mechanical engineering or building maintenance, the Site Compliance Report must not be considered a structural or physical engineering report.

Sitesafe obtained information used in this Site Compliance Report from sources that Sitesafe considers reliable and believes them to be true and correct. Sitesafe does not assume any responsibility for the accuracy of such items that were furnished by other parties. When conflicts in information occur between data provided by a second party and physical data collected by Sitesafe, the physical data will be used.



Appendix B – Assumptions and Definitions

General Model Assumptions

In this site compliance report, it is assumed that all antennas are operating at **full power at all times**. Software modeling was performed for all transmitting antennas located on the site. Sitesafe has further assumed a 100% duty cycle and maximum radiated power.

The site has been modeled with these assumptions to show the maximum RF energy density. Sitesafe believes this to be a *worst-case* analysis, based on best available data. Areas modeled to predict emissions greater than 100% of the applicable MPE level may not actually occur, but are shown as a *worst-case* prediction that could be realized real time. Sitesafe believes these areas to be safe for entry by occupationally trained personnel utilizing appropriate personal protective equipment (in most cases, a personal monitor).

Thus, at any time, if power density measurements were made, we believe the real-time measurements would indicate levels below those depicted in the RF emission diagram(s) in this report. By modeling in this way, Sitesafe has conservatively shown exclusion areas – areas that should not be entered without the use of a personal monitor, carriers reducing power, or performing real-time measurements to indicate real-time exposure levels.

Use of Generic Antennas

For the purposes of this report, the use of “Generic” as an antenna model, or “Unknown” for an operator means the information about a carrier, their FCC license and/or antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use our industry specific knowledge of equipment, antenna models, and transmit power to model the site. If more specific information can be obtained for the unknown measurement criteria, Sitesafe recommends remodeling of the site utilizing the more complete and accurate data. Information about similar facilities is used when the service is identified and associated with a particular antenna. If no information is available regarding the transmitting service associated with an unidentified antenna, using the antenna manufacturer’s published data regarding the antenna’s physical characteristics makes more conservative assumptions.

Where the frequency is unknown, Sitesafe uses the closest frequency in the antenna’s range that corresponds to the highest Maximum Permissible Exposure (MPE), resulting in a conservative analysis.

Definitions

5% Rule – The rules adopted by the FCC specify that, in general, at multiple transmitter sites actions necessary to bring the area into compliance with the guidelines are the shared responsibility of all licensees whose transmitters produce field strengths or power density levels at the area in question in excess of 5% of the exposure limits. In other words, any wireless operator that contributes 5% or greater of the MPE limit in an area that is identified to be greater than 100% of the MPE limit is responsible taking corrective actions to bring the site into compliance.

Compliance – The determination of whether a site is safe or not with regards to Human Exposure to Radio Frequency Radiation from transmitting antennas.

Decibel (dB) – A unit for measuring power or strength of a signal.

Duty Cycle – The percent of pulse duration to the pulse period of a periodic pulse train. Also, may be a measure of the temporal transmission characteristic of an intermittently transmitting RF source such as a paging antenna by dividing average transmission duration by the average period for transmission. A duty cycle of 100% corresponds to continuous operation.

Effective (or Equivalent) Isotropic Radiated Power (EIRP) – The product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna.

Effective Radiated Power (ERP) – In a given direction, the relative gain of a transmitting antenna with respect to the maximum directivity of a half wave dipole multiplied by the net power accepted by the antenna from the connecting transmitter.

Gain (of an antenna) – The ratio of the maximum intensity in a given direction to the maximum radiation in the same direction from an isotropic radiator. Gain is a measure of the relative efficiency of a directional antennas as compared to an omni directional antenna.

General Population/Uncontrolled Environment – Defined by the FCC, as an area where RFR exposure may occur to persons who are **unaware** of the potential for exposure and who have no control of their exposure. General Population is also referenced as General Public.

Generic Antenna – For the purposes of this report, the use of “Generic” as an antenna model means the antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use our industry specific knowledge of antenna models to select a worst case scenario antenna to model the site.

Isotropic Antenna – An antenna that is completely non-directional. In other words, an antenna that radiates energy equally in all directions.



Maximum Measurement – This measurement represents the single largest measurement recorded when performing a spatial average measurement.

Maximum Permissible Exposure (MPE) – The rms and peak electric and magnetic field strength, their squares, or the plane-wave equivalent power densities associated with these fields to which a person may be exposed without harmful effect and with acceptable safety factor.

Occupational/Controlled Environment – Defined by the FCC, as an area where Radio Frequency Radiation (RFR) exposure may occur to persons who are **aware** of the potential for exposure as a condition of employment or specific activity and can exercise control over their exposure.

OET Bulletin 65 – Technical guideline developed by the FCC's Office of Engineering and Technology to determine the impact of Radio Frequency radiation on Humans. The guideline was published in August 1997.

OSHA (Occupational Safety and Health Administration) – Under the Occupational Safety and Health Act of 1970, employers are responsible for providing a safe and healthy workplace for their employees. OSHA's role is to promote the safety and health of America's working men and women by setting and enforcing standards; providing training, outreach and education; establishing partnerships; and encouraging continual process improvement in workplace safety and health. For more information, visit www.osha.gov.

Radio Frequency Radiation – Electromagnetic waves that are propagated from antennas through space.

Spatial Average Measurement – A technique used to average a minimum of ten (10) measurements taken in a ten (10) second interval from zero (0) to six (6) feet. This measurement is intended to model the average energy an average sized human body will absorb while present in an electromagnetic field of energy.

Transmitter Power Output (TPO) – The radio frequency output power of a transmitter's final radio frequency stage as measured at the output terminal while connected to a load.

Appendix C – Rules & Regulations

Explanation of Applicable Rules and Regulations

The FCC has set forth guidelines in OET Bulletin 65 for human exposure to radio frequency electromagnetic fields. Specific regulations regarding this topic are listed in Part 1, Subpart I, of Title 47 in the Code of Federal Regulations. Currently, there are two different levels of MPE - General Public MPE and Occupational MPE. An individual classified as Occupational can be defined as an individual who has received appropriate RF training and meets the conditions outlined below. General Public is defined as anyone who does not meet the conditions of being Occupational. FCC and OSHA Rules and Regulations define compliance in terms of total exposure to total RF energy, regardless of location of or proximity to the sources of energy.

It is the responsibility of all licensees to ensure these guidelines are maintained at all times. It is the ongoing responsibility of all licensees composing the site to maintain ongoing compliance with FCC rules and regulations. Individual licensees that contribute less than 5% MPE to any total area out of compliance are not responsible for corrective actions.

OSHA has adopted and enforces the FCC's exposure guidelines. A building owner or site manager can use this report as part of an overall RF Health and Safety Policy. It is important for building owners/site managers to identify areas in excess of the General Population MPE and ensure that only persons qualified as Occupational are granted access to those areas.

Occupational Environment Explained

The FCC definition of Occupational exposure limits apply to persons who:

- are exposed to RF energy as a consequence of their employment;
- have been made aware of the possibility of exposure; and
- can exercise control over their exposure.

OSHA guidelines go further to state that persons must complete RF Safety Awareness training and must be trained in the use of appropriate personal protective equipment.

In order to consider this site an Occupational Environment, the site must be controlled to prevent access by any individuals classified as the General Public. Compliance is also maintained when any non-occupational individuals (the General Public) are prevented from accessing areas indicated as Red or Yellow in the attached RF Emissions diagram. In addition, a person must be aware of the RF environment into which they are entering. This can be accomplished by an RF Safety Awareness class, and by appropriate written documentation such as this Site Compliance Report.

All Cricket Communications employees who require access to this site must complete RF Safety Awareness training and must be trained in the use of appropriate personal protective equipment.



- Yellow represents areas predicted to be between 20% and 100% of the General Public MPE limits. This level is safe for a worker to be in at any time.
- Red areas indicated predicted levels greater than 100% of the General Public MPE limits. This level is not safe for the General Public to be in.

7. For an Occupational environment the four color levels identified in this analysis can be interpreted in the following manner:

- Areas indicated as Gray are at 5% of the Occupational MPE limits or below. This level is safe for a worker to be in at any time.
- Green represents areas predicted to be between 5% and 20% of the Occupational MPE limits. This level is safe for a worker to be in at any time.
- Yellow represents areas predicted to be between 20% and 100% of the Occupational MPE limits. Only individuals that have been properly trained in RF Health and Safety should be allowed to work in this area. This is not an area that is suitable for the General Public to be in.
- Red areas indicated predicted levels greater than 100% of the Occupational MPE limits. This level is not safe for the Occupational worker to be in for prolonged periods of time. Special procedures must be adhered to such as lock out tag out procedures to minimize the workers exposure to EME.

8. Use of a Personal Protective Monitor: When working around antennas, Sitesafe strong recommends the use of a Personal Protective Monitor (PPM). Wearing a PPM will properly forewarn the individual prior to entering an RF exposure area.

Keep a copy of this report available for all persons who must access the site. They should read this report and be aware of the potential hazards with regards to RF and MPE limits.

Additional Information

Additional RF information is available by visiting both www.Sitesafe.com and www.fcc.gov/oet/rfsafety. OSHA has additional information available at: <http://www.osha-slc.gov/SLTC/radiofrequencyradiation>.

