ARLINGTON COUNTY, VIRGINIA

County Board Agenda Item
Meeting of July 21, 2012

DATE: July 9, 2012

SUBJECT: SP #167: U-12-1 USE PERMIT associated with a site plan to install a public utilities/telecommunications facility for Cricket Communications; located at 1801 Crystal Drive (RPC# 34-020-232).

Applicant:
Cricket Communications c/o Heather Rubenstein
6671 Santa Barbara Road, Suite 0
Elkridge, Maryland 21075

C.M. RECOMMENDATION:

Approve the subject use permit associated with a site plan, subject to the proposed conditions.

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

SUMMARY: Cricket Communications is proposing to install three (3) new flush-mounted panel antennas and one (1) new equipment cabinet on a 4' x 12' steel rooftop platform at 1801 Crystal Drive, Crystal Park, Residential Building #2. The proposed facility will function to provide capacity to enhance coverage for the area surrounding the property, overlapping coverage with existing sites in the area and will also provide coverage for emergency 911 purposes. The coverage that will be added is necessary to meet Cricket Communications' responsibility to provide wireless services under its federal licenses and 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 will not create an undue adverse visual impact on the surrounding area. The applicant has agreed to a condition that the proposed 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

County Manager: BMD/GA

County Attorney:

Staff: Marco Antonio Rivero, DCPHD, Planning Division

PLA-6234

Maximum Permissible Exposure (MPE) report for the site. The report shows that the facility will comply with FCC regulations, provided appropriate signage and access barriers are 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 associated with a site plan, subject to the proposed conditions.

BACKGROUND: SP #167 was approved by the County Board in May 1980 and contains five (5) office buildings of 2,211,000 square feet of gross floor area, two (2) twin-tower residential buildings containing 724 units, and 77,917 square feet of commercial/office space. A site plan amendment was approved in May 2011 to install additional antennas to an existing telecommunications facility for Crystal Park, Office Building #2. The current zoning for this site "C-O-1.5" Commercial Office Building, Hotel, and Apartment Districts refers back to "R-20" One-Family Dwelling Districts Arlington County Zoning Ordinance (ACZO) §5.A.6.a.(8) which allows for a public utilities/telecommunications facility to be installed via a use permit associated with a site plan. Therefore, a site plan amendment is not needed for the overall project.

The following provides additional information about the site and location:

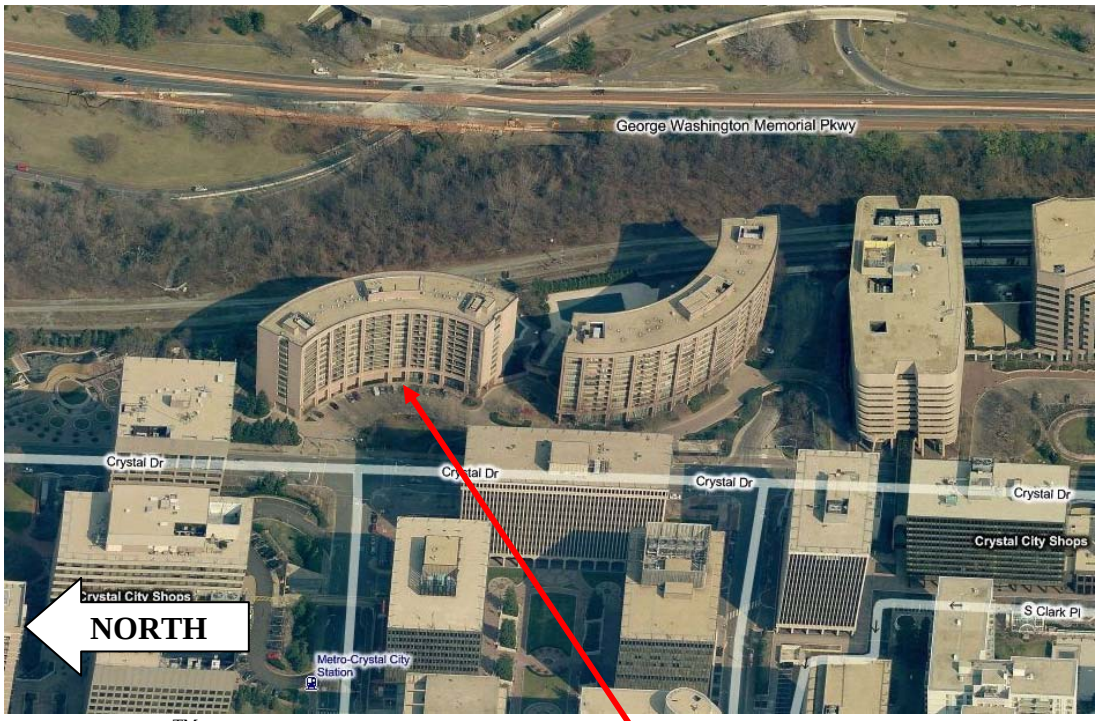
Site: The site is located at the Crystal Park, Residential Building #2 bound on the west by Crystal Drive, on the south by the Crystal Park Condominium I and Crystal Park Office Buildings, on the north by Water Park Towers North and South, and on the east by the CSX Railroad Corridor.

Zoning: The site is zoned "C-O-1.5" Commercial Office Building, Hotel, and Apartment Districts.

Land Use: The site is designated on the General Land Use Plan (GLUP) as "Office-Apartment-Hotel" Low, and is subject to the Crystal City Sector Plan.

Neighborhood: The site is not located within the boundaries of a civic association but is closest to the Aurora Highlands Civic Association; the owner of the building, Archstone Crystal Place, LLC, represents the residents of the building. The Crystal City Business Improvement District (BID) and the Crystal Park Condominium I were also contacted about this use permit request. The Aurora Highlands Civic Association does not oppose the use permit request. The Crystal City BID has not submitted comments as of the writing of this report. The Crystal Park Condominium I had questions regarding possible signal interference between the equipment proposed for the residential building and the existing cable/antenna signals for the condominium building. The applicant responded by clarifying that their lease with the property requires them to correct any interference with any other carrier on the property and must comply with FCC standards. Furthermore, proposed condition #2 of the use permit requires the applicant to name a community liaison who shall be available to address any concerns regarding the facility's operation. The name, telephone, and e-mail address of the liaison shall be provided to the Aurora Highlands Civic

Association, Crystal Park Condominium I, Crystal City Business Improvement District (BID) and the Zoning Administrator.



Source: Bing™ Maps

Location of Proposed Cricket Communications Telecommunications Facility: 1901 Crystal Dr

DISCUSSION: Cricket Communications is proposing to install three (3) new flush-mounted panel antennas and one (1) new equipment cabinet on a 4' x 12' steel, rooftop platform at 1801 Crystal Drive, Crystal Park, Residential Building #2. The antennas will be flush mounted on the penthouse structures of the building in neutral, non-reflective materials that will match the appearance of the existing building. The proposed antennas will be placed at a height no taller than the existing penthouse structures at 128.83' above ground level.

In addition to the antennas, the applicant is proposing to install a new equipment cabinet on top of a 4' x 12' steel platform and related utility connection equipment on the rooftop of the building. The proposed rooftop equipment cabinet will be installed on a raised platform and will have a total height of 8' above the roofline of the building. Under ACZO §31 Special Provisions, the Zoning Ordinance allows this kind of structure to be permitted above the height limit by no more than 23 feet. The proposed equipment cabinet will be set back from the building roofline at distances ranging from 11' at the shortest distance and 42' feet at the longest distance. Furthermore, the applicant has agreed to a condition that the proposed 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 applicant submitted a Maximum Permissible Exposure (MPE) report that assesses the cumulative conditions for the proposed antennas on the building. The report demonstrates that the site will be compliant with Federal Communications Commission (FCC) regulations provided appropriate signage and barriers are installed to prevent access to the antennas on the roof by persons other than maintenance personnel. 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* offer 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* encourage 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.

The use permit site plan amendment 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 will comply with the intent of the GLUP and the Crystal City Sector Plan. 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 Crystal City area and will promote and protect the public health, safety, and welfare of the community.

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

Conditions for Use Permit for Telecommunications Equipment, associated with Site Plan #167:

1. The applicant agrees that the telecommunications facility, consisting of three (3) new antennas and a related equipment cabinet, will be constructed as shown on the application package dated April 20, 2012 and approved by the County Board on July 21, 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 shall 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 Aurora Highlands Civic Association, the Crystal Park Condominium I, the Crystal City Business Improvement District (BID) 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 rooftop equipment cabinet and related utility connection equipment shall match the exterior appearance and color of the existing building as shown on the application package dated April 20, 2012 and approved by the County Board on July 21, 2012.

PREVIOUS COUNTY BOARD ACTIONS:

May 17, 1980	Approved a rezoning form "M-1" to "C-O-1.5" and approved a site plan for a mixed use development.
February 5, 1983	Approved a site plan amendment (SP #11, 56, 90, 135 and 167) for identification and directional signage for Crystal City and the Crystal Plaza Shops.
April 9, 1983	Deferred a site plan amendment for a comprehensive sign program.
May 21, 1983	Accepted a withdrawal of a site plan amendment to add 120 residential units.
January 7, 1984	Approved a site plan amendment to add 120 residential units, increase garage parking and revise loading dock area.
May 12, 1984	Deferred a site plan amendment to adjust boundaries to July 7, 1984.
July 7, 1984	Approved a site plan amendment to adjust the boundary of the Crystal Park project by removing 23,866 square feet of land from the south end and adding a like amount to the north end.
May 18, 1985	Deferred a site plan amendment to amend Condition #29 to increase office gross parking area to 1,600,700 square feet.
July 13, 1985	Approved a site plan amendment to increase office gross parking area to 1,584,100 square feet and increase retail commercial from 50,000 square feet to 77,917 square feet.
December 7, 1985	Approved a site plan amendment to permit subdivision into parcels with each building being on a separate parcel of land.
August 13, 1988	Deferred a site plan amendment to amend Condition #34 to permit rooftop signs on east and west elevations, 234 square feet each (2341 Crystal Drive).

September 10, 1988	Denied a site plan amendment to amend Condition #34 to permit rooftop signs on the east and west elevations, 234 square feet each (2341 Crystal Drive).
July 8, 1989	Deferred a site plan amendment (SP #11, 56, 90, 135 and 167) for a coordinated sign plan consisting of 60 new signs and retention of 13 existing signs to the August 12, 1989 County Board meeting.
August 12, 1989	Approved a site plan amendment (SP #11, 56, 90, 135 and 167) for a coordinated sign plan consisting of 60 new signs and retention of 13 existing signs including Metro Station and Buchanan House signage.
February 2, 1991	Approved a site plan amendment to amend the coordinated sign plan to permit two temporary office leasing beamers on two office buildings.
February 9, 1991	Approved a site plan amendment (SP #11, 56, 90, 135 and 167) to amend the coordinated sign plan to permit two temporary office leasing banners, at heights below 35 feet, on two office buildings until November 27, 1991, at 1225 and 2211 Jefferson Davis Highway.
March 2, 1991	Approved a site plan amendment with amended Conditions # 37 and #41 and the approved comprehensive sign plan to permit construction and operation of Virginia Railway Express commuter rail platform.
July 13, 1993	Approved a site plan amendment for conversion of approximately 2,450 square feet of retail gross floor area to office use for the parcel of real property known as 2231 Crystal Drive with the condition that the space being occupied is secondary retail uses.
November 21, 1995	Approved a site plan amendment for conversion of 1,650 square feet of gross floor area to conference facilities for the Patent and Trademark Office for the parcel of real property known as 2121 Crystal Drive with one new condition.

March 18, 1995	Approved a site plan amendment for an amendment to the Crystal City Comprehensive Sign Plan to permit a rooftop sign of 531, revised to 426, square feet on the east building elevation for the parcel of real property known as 2121 Crystal Drive with one new condition.
April 26, 2003	Approved a site plan for installation of an internally illuminated rooftop building identification sign, containing a logo and lettering, with a total sign area of 206.2 square feet on the southwest elevation of the Crystal Park V Office Building subject to one new condition.
September 18, 2004	Approved a site plan amendment for rooftop signage on the Crystal Park III building to one tenant identification sign on the southwest elevation. The total area for the rooftop sign shall be limited to no more than 200 square feet, and the sign shall be illuminated only as shown on the drawings dated February 25, 2004.
April 22, 2006	Approved a site plan amendment for a comprehensive sign plan for 2345 Crystal Drive to permit signs at the garage entrance. The size, design, location and color of the proposed garage entrance signs at 2345 Crystal Drive shall be as shown on the drawings prepared by Art Display Co. and dated October 27, 2005, except that the size of the circular portion of the sign structure shall be reduced in size and shall not exceed 33 square feet.
May 20, 2006	Deferred consideration of a site plan amendment to convert approximately 11,000 square feet of first floor office for daycare use located at 2451 Crystal Dr. to the June 10, 2006 County Board meeting.
June 10, 2006	Deferred consideration of a site plan amendment to convert approximately 11,000 square feet of first floor office for daycare use located at 2451 Crystal Dr. to the July 8, 2006 County Board meeting.
July 8, 2006	Approve the conversion of approximately 11,000 square feet of office space to child care use, subject to eleven (11) new conditions which apply solely to

	the subject child care use, and with a review in one (1) year (July 2007).
July 7, 2007	Deferred review of conversion of approximately 11,000 square feet of office space to child care use to the July 2008 County Board meeting.
July 18, 2008	Renewed the site plan amendment for office conversion to a daycare use, subject to all previously approved conditions, with an administrative review in three (3) months (October 2008), and a County Board review in three (3) years (July 2011).
March 14, 2009	Approved a site plan amendment to convert approx. 5,900 square feet of retail space to office use at 2121 Crystal Drive (Crystal Park 2).
December 12, 2009	Approved a site plan amendment for one (1) rooftop sign on the east façade of 493.2 square feet, and deferred consideration of a second sign to February 20, 2010
May 14, 2011	Adopted the attached ordinance to approve a subject site plan amendment request to install antennas and related equipment on an existing telecommunications facility, subject to the proposed conditions of the staff report.
July 9, 2011	Renewed the site plan amendment for office conversion to a daycare use, subject to all previously approved conditions, with a County Board review in five (5) years.
April 21, 2012	Adopted the attached ordinance to approve an amendment to SP #167 to permit installation of an above-ground storage tank, subject to the proposed Condition #45 of the staff report.

CRICKET COMMUNICATIONS, INC.

cricket

Cricket Communications, Inc.
Description of Proposed Use
Site Plan Modification for 1801 Crystal Drive, Arlington VA 22202

This description of proposed use is submitted in support of an application by Cricket Communications ("Cricket") for a Minor Site Plan Modification pursuant to Arlington County Zoning Ordinance ("Ordinance"). Cricket's Application seeks approval to flush mount 3 panel antennas to the penthouse and place an equipment cabinet on a 4' x 12' steel platform to the rooftop of 1801 Crystal Drive, Arlington VA 22202. The property is owned by Tishman Speyer Archstone – Smith Crystal Place LLC whose mailing address is 9200 East Panorama Circle, #400, Englewood CO 80112. The property rooftop is managed by Global Tower Assets ("GTP") whose principal place of business is 750 Park of Commerce Boulevard, Boca Raton, FL 33487. The property is identified as RPC 34020232, Map: 075 Page 16, Polygon ID 34020232.

Applicant:	Cricket Communications
Site Name:	GTP – Rooftop VA-0110
Property Address:	1801 Crystal Drive, Arlington VA 22202
Map/Page:	075/16
Zoning Designation:	C-O-1.5

The proposed facility will function as a transmission station as part of Cricket's wireless telecommunications network. Cricket's network operates with a transmitting frequency between 2110 and 2120 megahertz and a receiving frequency between 1710 and 1720 megahertz. Cricket is licensed by the Federal Communications Commission and operates in full compliance with their rules and regulations.

The Facility will be unmanned and will be operational 24 hours a day, 7 days a week. Maintenance on the requested facility usually consists of a site visit approximately every 4 to 6 weeks. During construction of the facility this site will have approximately 5 to 7 contractors working during normal business hours until completion.

The RF coverage objective of this project is to provide capacity to enhance coverage for the area surrounding the property, overlapping coverage with existing sites in the area and will also provide coverage for emergency 911 purposes. The electromagnetic fields do not exceed ANSI radio frequency emission standards. The coverage that will be added is necessary to meet Cricket's duty to provide wireless services under its federal licenses as well as to meet Cricket's minimum coverage objectives.

The proposed telecommunications facility is passive and will have no impact on air or water quality, radiation exposure, light or noise pollution, traffic congestion or circulation. The

proposed facility will be consistent will all applicable Ordinance regulations and other requirements. The proposed facility is of a design which minimizes the visual impact from adjacent properties and rights-of-way to the maximum extent practicable. The proposed antennas and related equipment will all be within the size and height limitations pursuant to the Zoning Ordinance.

There will be no commercial advertising on the proposed facility and there will be no lights or signals on any antennas unless required by the County, State or Federal authorities.

The proposed facilities as described herein are consistent with and further the policies and standards of the general location, character and extent for the placement of commercial public telecommunications facilities as set forth in the Arlington County Ordinance. Cricket's proposed facility will comply with all applicable Zoning Ordinances and building codes. The proposed use will confirm to all adopted standards and conditions. Accordingly, Cricket Communications respectfully requests approval of this application for Site Plan Modification.

Lessor Site Number and Name: VA-0110 Crystal Place
Lessee Site Number and Name: IAD-1036-A

Leaseit 21541

SITE LEASE AGREEMENT

This Site Lease Agreement ("SLA"), made this 30 day of December, 2011 ("Effective Date") between **GLOBAL TOWER ASSETS, LLC**, a Delaware limited liability company, with its principal offices located at 750 Park Of Commerce Boulevard, Suite 300, Boca Raton, FL 33487 hereinafter designated ("LESSOR") and **CRICKET COMMUNICATIONS, INC**, a Delaware corporation, with its principal offices at 5887 Copley Drive, San Diego, CA 92111-7906, hereinafter designated ("LESSEE").

1. This SLA is made pursuant to that certain Master Lease Agreement between Global Tower, LLC and Cricket Communications, Inc. dated September 30, 2005, as amended, ("Agreement"). All of the terms and conditions of the Agreement are incorporated hereby by reference and made a part hereof without the necessity of repeating or attaching the Agreement. In the event of a contradiction, modification or inconsistency between the terms of the Agreement and this SLA, the terms of this SLA shall govern. Capitalized terms used in this SLA shall have the same meaning described for them in the Agreement unless otherwise indicated herein.

2. The Property owned by the LESSOR is described as follows:

The Property is located at 1801 Crystal Drive, in the City of Arlington, Arlington County, In the Commonwealth of Virginia 22202, with Latitude 38.85752777 and Longitude of -77.04922500 as more particularly described in Exhibit 1 attached hereto and incorporated herein by this reference.

3. The Premises leased by the LESSOR to the LESSEE hereunder is described as follows:

Total floor space of approximately 10'x15'x10' (150) square feet for the purpose of installing LESSEE'S equipment cabinet and rooftop space at eighty two feet (82') AGL as more particularly described in Exhibit 2 and Exhibit 4 attached hereto and incorporated herein by this reference.

4. In the event an Exhibit 2 is attached hereto describing the Premises, the LESSEE shall have the right to survey the Property and/or Premises and said survey shall then become Exhibit 2A which shall be attached hereto and made a part hereof and shall control in the event of any discrepancies between it and Exhibit 2. The cost for such work shall be borne by the LESSEE.

5. The term of this SLA shall be as set forth in Paragraph 4 of the Agreement; however the Parties agree that in no event shall the commencement date be earlier than January 1, 2013 (the "Commencement Date").

6. The rental for the initial term pursuant to this SLA shall be due at an annual rental of [redacted] to be paid in equal monthly installments of [redacted] on the first day of the month, in advance, to **Global Tower Holdings, LLC (c/o: SunTrust Bank), P.O. Box 116465, Atlanta, GA 30368-6465 Attention: (Site #: VA-0110 - Site Name: Crystal Place)** or to such other person, firm or place as the LESSOR may, from time to time, designate in writing at least thirty (30) days in advance of any rental payment date. In accordance with section 6 of the Agreement, the Rent for each subsequent year including any Extension Terms shall be increased by [redacted] percent over the annual Rent in effect for the immediately preceding year commencing on the annual anniversary thereof.

7. If the Property is subject to a prime lease, license or other such agreement affecting LESSOR's interest at the Property, a copy of such agreement is attached hereto as Exhibit 3.

8. LESSEE's Equipment Information (subject to modification in accordance to with the Agreement): The approved Collocation Application is attached as Exhibit 4.

9. Special Provisions:

a. LESSEE shall pay for all utilities to operate Communications Facility. LESSOR will allow LESSEE the right to connect to the Building's electrical system and install, at LESSEE sole cost and expense, a sub-meter to measure LESSEE's usage. In the event LESSEE is not billed directly by the local utility company, LESSEE shall pay the sum of [redacted] per month, in addition to the base rental fees payable under Paragraph 6 hereunder, as an estimated utility charge ("Estimated Utility Charge"). LESSOR will bill LESSEE for LESSEE's power consumption based on the average kilowatt hour rate paid by the LESSOR for electricity at the Building. Upon LESSOR's determination of the annual electricity usage by LESSEE for the Communications Facility, based upon the electricity bills received by LESSOR during such twelve month period, LESSOR shall compare the Estimated Utility Charges paid by LESSEE for such period to the actual electricity charge for such period as reflected on such bills. In the event the Estimated Utility Charge paid by LESSEE is less than the cost of the electric consumed by LESSEE, LESSEE shall pay the difference between the Estimated Utility Charge and the cost of the actual electric consumed within thirty (30) days of LESSEE's receipt of a notice from LESSOR setting forth the amount due. In the event the Estimated Utility Charge paid by LESSEE is more than the cost of the actual electric consumed, the overpayment shall be credited against future Estimated Utility Charges. The monthly Estimated Utility Charge for the next successive twelve (12) month period shall be adjusted to reflect the actual amount due from LESSEE for the immediately preceding twelve month period, prorated to reflect monthly usage. In the event LESSEE is required to install a separate sub-meter to measure LESSEE's electrical usage, LESSEE shall either pay any charges for a third party contractor to read any approved sub-meter (such charges not to exceed $50.00 per billing period), or LESSEE shall, at LESSEE's sole cost and expense and as part of the installation of the Communications Facility, install a meter reading device which enables the reading of such sub-meter from a remote location.

b. LESSOR and LESSEE agree and acknowledge that (i) Owner is not a party to this Site Lease Agreement and has no responsibility with respect to the telecom equipment or services under the Site Lease Agreement, (ii) Releases any claim against Owner-related persons arising from any interruption of the permitted services or LESSEE's nonperformance under the Site Lease Agreement, and (iii) acknowledges that the Site Lease Agreement terminates upon the expiration or earlier termination of this Agreement.

c. LESSOR and LESSEE further agree and acknowledge LESSEE must obtain Owner's approval before issuing any press release announcing or relating to this Site Lease Agreement, Owner, affiliates of Owner, or the Property, which approval may be withheld in Owner's sole and absolute discretion.

d. In the event that the prime lease is not executed or LESSEE's initial construction plans are not approved, either party hereto may terminate this SLA immediately upon written notice to the other party with no further liability thereafter between the parties.

(SIGNATURES ON PAGE IMMEDIATELY FOLLOWING)

IN WITNESS WHEREOF, the parties hereto have set their hands and affixed their respective seals the day and year first above written.

LESSOR: GLOBAL TOWER ASSETS, LLC
a Delaware limited liability company

WITNESS

WITNESS

BY:
Name: Shawn Ruben
Title: Secretary
Date: 12-30-11

LESSEE: CRICKET COMMUNICATIONS, INC.
a Delaware corporation

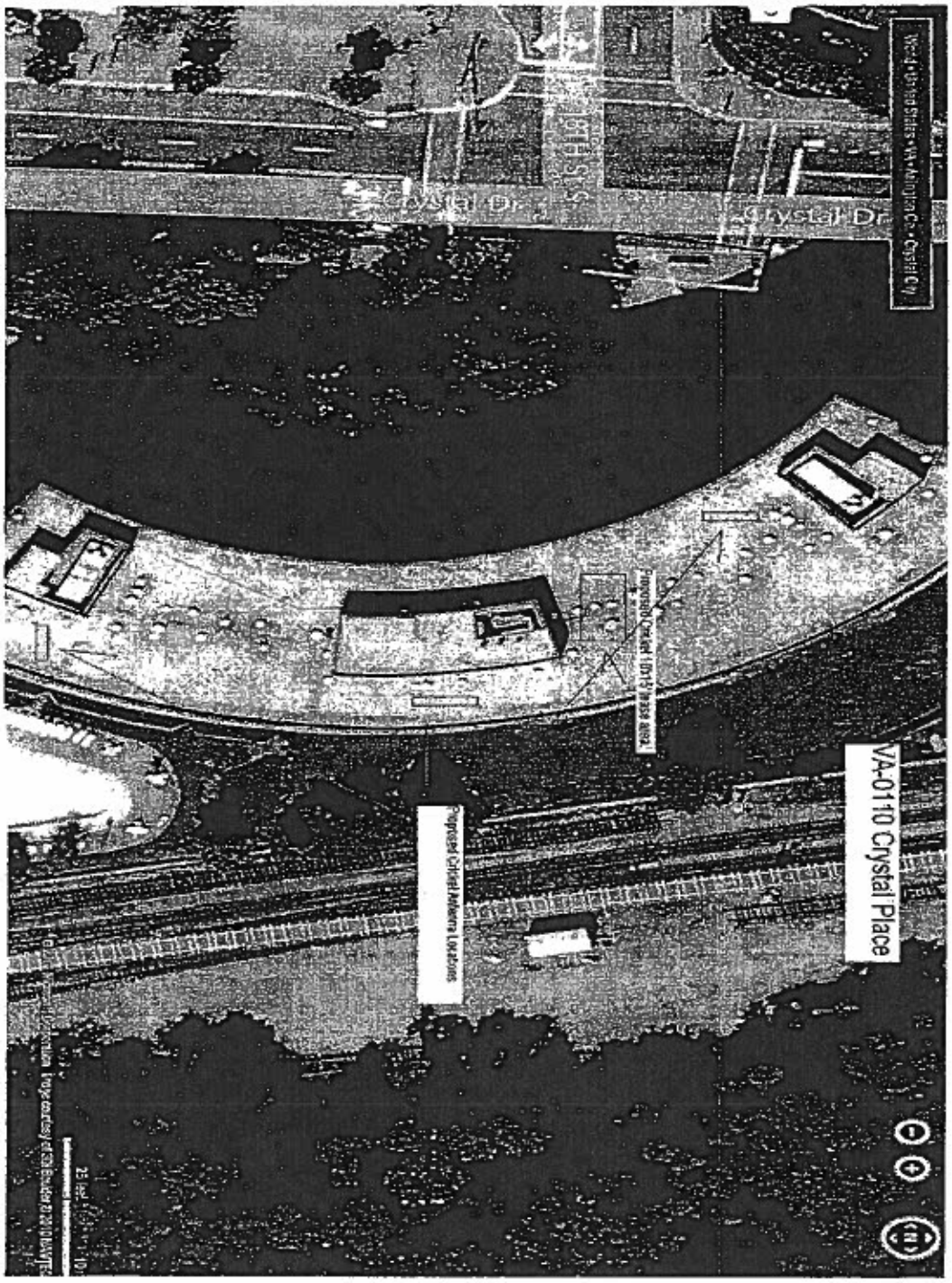
WITNESS

WITNESS

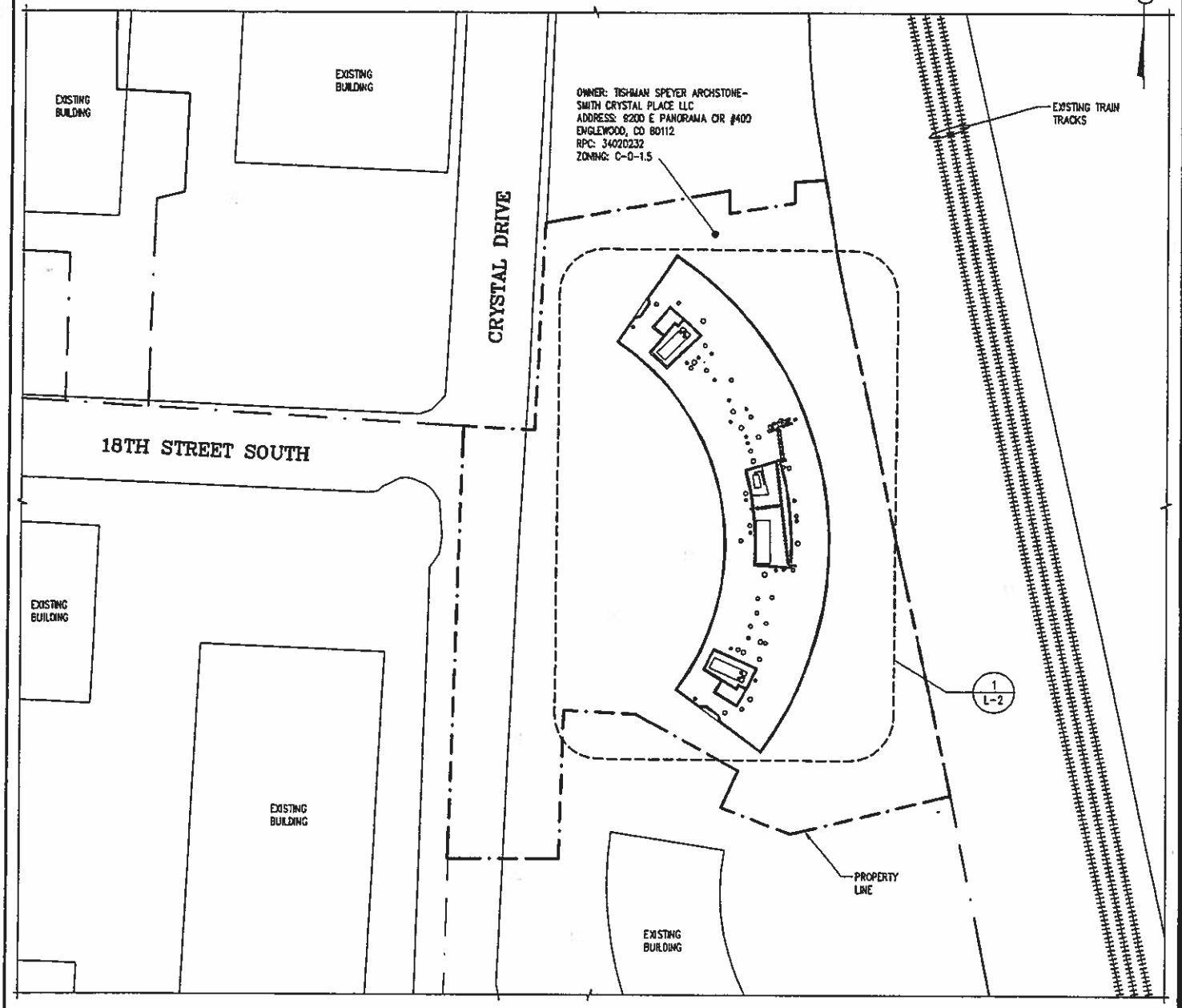
BY:
Name: Ron E. Bittner
Title: Sr. Regional Director Site Development
Super East Region
Date: 12-28-11

EXHIBIT 2
Premises
Page 1 of 1

Preliminary Plans
(Approved Site Plans will be attached after execution and prior to installation)



APPROVED
By Brian Reller at 10:04 am, Mar 08, 2012



SITE PLAN
SCALE: 1"=100'-0"

1
L-1
TRUE NORTH

APPROVED BY: _____

PREPARED BY:

entrex
communication services, inc.

6600 Rockledge Drive, Suite 550
Bethesda, MD 20817
Phone: (202) 408-0960
Fax: (202) 408-0961

SUBMITTALS

DATE	DESCRIPTION	REV.
01-25-12	LEASE EXHIBIT REVIEW	A

APPLICANT:

cricket
COMMUNICATIONS, INC.

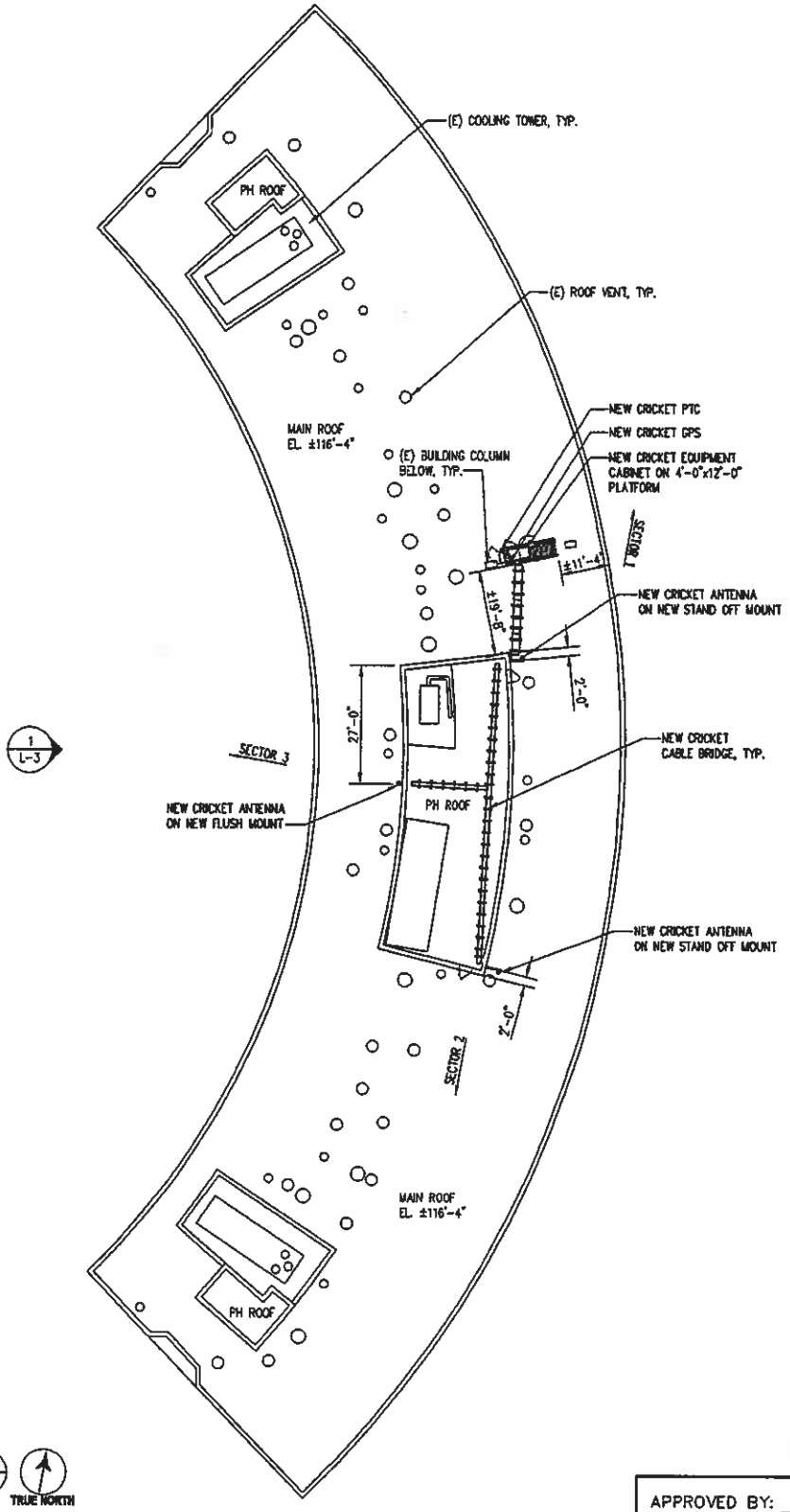
6671 SANTA BARBARA ROAD
SUITE O
ELKRIDGE, MD 21075

GTP-ROOF TOP VA-0110
IAD-1036-A
1801 CRYSTAL DRIVE
ARLINGTON, VA 22202

LATITUDE: N 38° 51' 27.097"
LONGITUDE: W 77° 02' 0.21"

TITLE: **SITE PLAN**

PROJECT NO: 1129.311 | SHEET NO: L-1
DESIGNER: R.K. | ENGINEER: M.M.



ROOF PLAN

SCALE: 1"=40'

1
L-2

TRUE NORTH

APPROVED BY: _____

PREPARED BY:

entrex
communication services, inc.

6600 Rockledge Drive, Suite 550
Bethesda, MD 20817
Phone: (202) 408-0960
Fax: (202) 408-0961

SUBMITTALS

DATE	DESCRIPTION	REV.
01-25-12	LEASE EXHIBIT REVIEW	A

APPLICANT:

cricket
COMMUNICATIONS, INC.

6671 SANTA BARBARA ROAD
SUITE O
ELKRIDGE, MD 21075

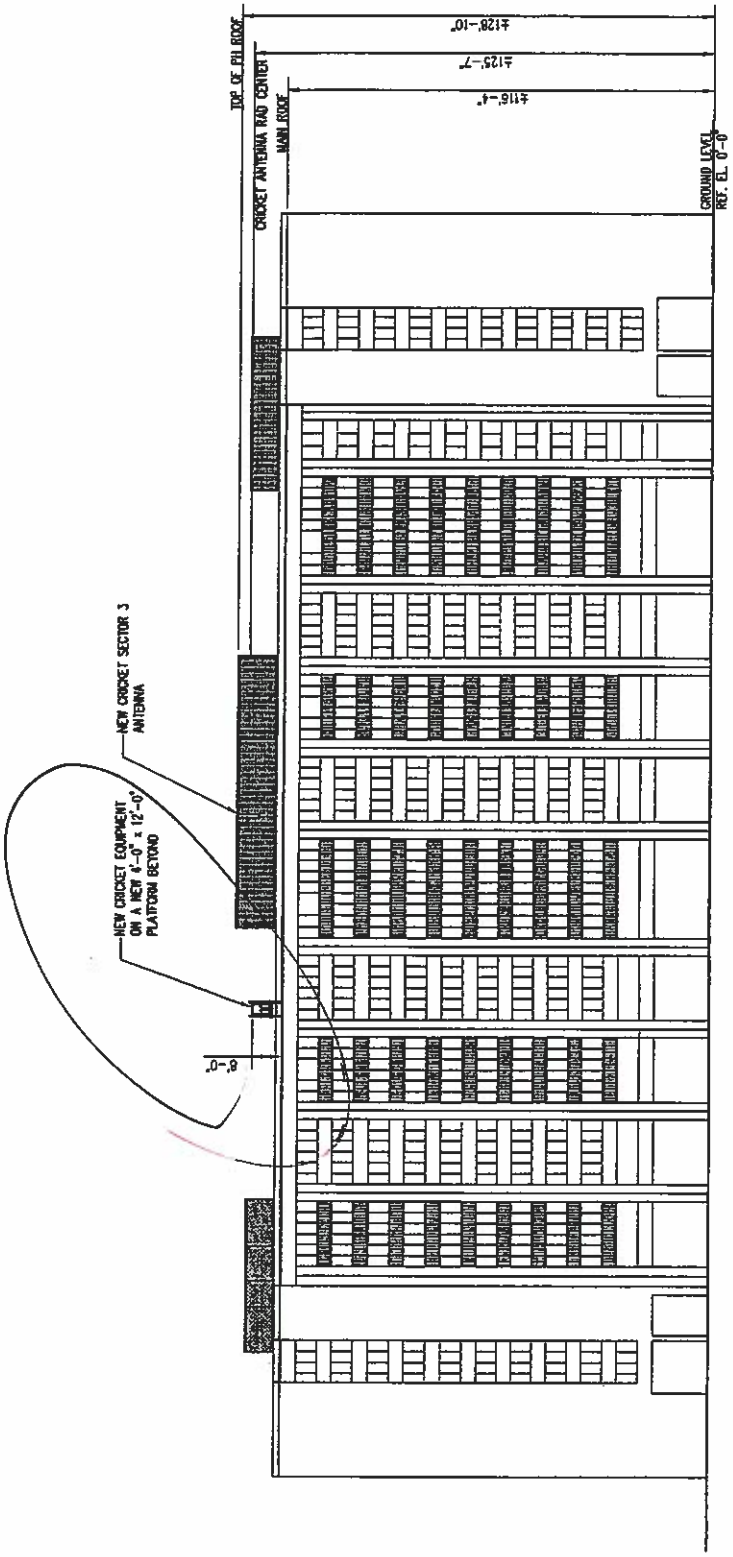
GTP-ROOF TOP VA-0110
IAD-1036-A
1801 CRYSTAL DRIVE
ARLINGTON, VA 22202

LATITUDE:
N 38° 51' 27.097"

LONGITUDE:
W 77° 02' 0.21"

TITLE:
ROOF PLAN

PROJECT NO: 1129.311	SHEET NO: L-2
DESIGNER: O.M.	ENGINEER: C.S.



WEST BUILDING ELEVATION
SCALE: 1" = 50'-0"

APPROVED BY: _____

PREPARED BY:

entrex
communication services, inc.

6600 Rockledge Drive, Suite 550
Bethesda, MD 20817
Phone: (202) 408-0960
Fax: (202) 408-0961

SUBMITTALS

DATE	DESCRIPTION	REV.
01-25-12	LEASE EXHIBIT REVIEW	A

APPLICANT:

cricket
COMMUNICATIONS, INC.

5671 SANTA BARBARA ROAD
SUITE D
ELKRIDGE, MD 21075

GTP-ROOF TOP VA-0110
IAD-1036-A
1801 CRYSTAL DRIVE
ARLINGTON, VA 22202

LATITUDE: N 38° 51' 27.097"
LONGITUDE: W 77° 02' 0.21"

TITLE: **BUILDING ELEVATION**

PROJECT NO: 1129.311 | SHEET NO: L-3
DESIGNER: O.M. | ENGINEER: C.S.

cricket
COMMUNICATIONS, INC.

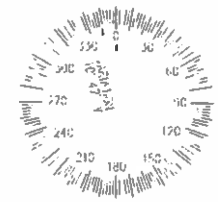
SEARCH RING NAME

GTP-ROOFTOP VA-0110

SITE NUMBER

IAD-1036-A

PROJECT TYPE



MAGNETIC DECLINATION

(3) NEW ANTENNAS AT CL 124'-6" ON EXISTING PENTHOUSE AND NEW EQUIPMENT ON STEEL PLATFORM

SHEET	DESCRIPTION
T-1	TITLE SHEET
Z-1	SITE PLAN
Z-2	ROOF PLAN AND EQUIPMENT LOCATION PLAN
Z-3	WEST BUILDING ELEVATION
Z-4	CABINET, PLATFORM AND ANTENNA DETAILS

SHEET INDEX

PROJECT INFORMATION
ENTREX COMMUNICATION SERVICES, INC.
[illegible], SUITE [illegible]
BETHESDA, MD 20817
PHONE: (202) 408-0960
FAX: (202) [illegible]-0961
CONTACT: MARC MARZULLO
EMAIL: [illegible]@ENTREX.COM

APPLICANT
CRICKET COMMUNICATIONS, INC.
6671 SANTA BARBARA ROAD
SUITE C
ELKRIDGE, MD 21075
PHONE: (410) 567-7800
FAX: (410) 796-[illegible]

SITE ACQUISITION MANAGER
EMILY [illegible]
PHONE: (301) 254-[illegible]

LEAD CONSTRUCTION MANAGER:
[illegible]
PHONE: (410) 567-7827

ZONING MANAGER:
[illegible]
PHONE: (410) 712-7092 [illegible]

CONSULTANT TEAM

SITE NAME
GTP-ROOFTOP VA-0110

SITE NUMBER
IAD-1036-A

SITE ADDRESS
1801 CRYSTAL DRIVE
ARLINGTON, VA 22202

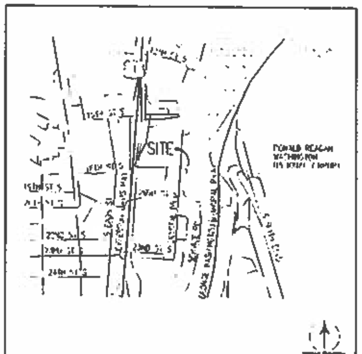
JURISDICTION:
ARLINGTON CITY

PROPERTY INFORMATION
PROPERTY [illegible]
[illegible]
LATITUDE: N 38° 51' [illegible]
LONGITUDE: [illegible]
GROUND ELEVATION: [illegible]
MAGNETIC DECLINATION: [illegible]

ZONING: [illegible]

PROPERTY OWNER: [illegible]
SMITH CRYSTAL PLACE LLC
[illegible] E PANORAMA CIR [illegible]
[illegible], CO [illegible]

PROJECT SUMMARY



VICINITY MAP (NOT TO SCALE)

THE FOLLOWING PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE CONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND MAY IMPOSE CHANGES OR MODIFICATIONS.

CRICKET RF: DATE:

CRICKET ZONING: DATE:

CRICKET SA: DATE:

CRICKET PM: DATE:

[illegible]: DATE:

CRICKET [illegible]: DATE:

PROPERTY OWNER: DATE:

APPROVALS

ELECTRIC:
DOMINION VIRGINIA POWER
(866) [illegible]

TELEPHONE:
VERIZON [illegible]
(800) 837-4966

CONTRACTOR TO CALL MISS UTILITY OF VIRGINIA ON (431) [illegible] PRIOR TO EXCAVATING FOR UNDERGROUND UTILITY LOCATIONS. LOCATION SURROUNDING EXCAVATED AREA MUST BE PRIVATELY LOCATED FOR NON-PUBLIC UTILITIES.

UTILITIES

- HANDICAP ACCESS REQUIREMENTS ARE NOT REQUIRED.
- THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION.
- THE FACILITY HAS NO PLUMBING OR REFRIGERANTS.
- THE FACILITY SHALL MEET OR EXCEED ALL FAA AND FCC REGULATORY REQUIREMENTS.
- THE FACILITY MEETS THE REQUIREMENTS OF THE 2009 INTERNATIONAL BUILDING CODE.

COMPLIANCE NOTES

FROM IAD AIRPORT:

[illegible] ONTO VA-267 E. MERGE ONTO [illegible]. TAKE EXIT 75 TO MERGE ONTO VA-110 S TOWARD I-395/US-1/PENTAGON CITY/CRYSTAL CITY/REAGAN NATIONAL AIRPORT/ALEXANDRIA. CONTINUE ONTO US-1 S. TURN LEFT ONTO 20TH ST S. TURN LEFT ONTO CRYSTAL DR. DESTINATION WILL BE ON THE RIGHT.

DRIVING DIRECTIONS

1. INSTALL 3 PANEL ANTENNAS ON EXISTING BUILDING PENTHOUSE.
2. INSTALL EQUIPMENT CABINET ON A NEW 4 x 12' STEEL PLATFORM ON EXISTING BUILDING ROOF.
3. RUN COAXIAL AND GROUNDING CABLES.
4. PROVIDE POWER AND TELEPHONE SERVICE FROM EXISTING DEMARCATION POINTS.

PROJECT DESCRIPTION

cricket
COMMUNICATIONS, INC.
6671 SANTA BARBARA ROAD
SUITE C
ELKRIDGE, MD 21075

entrex
communication services, inc.
6600 Rockledge Drive, Suite 550
Bethesda, MD 20817
Phone: (202) 408-0960
Fax: (202) 408-0961

REVISIONS

DRAWN BY: GM
CHECKED BY: CS
APPROVED BY:

NO	DATE	DESCRIPTION
	[illegible]	ZONING REVIEW

PROJECT NO.
1129.311

SEARCH RING NAME:
GTP-ROOFTOP VA-0110

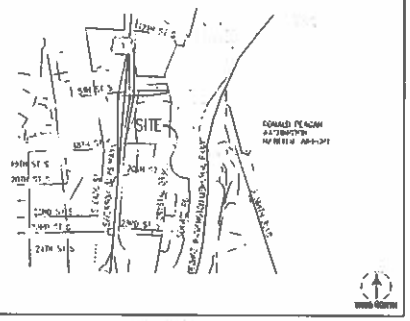
SITE NUMBER:
IAD-1036-A

SITE ADDRESS:
1801 CRYSTAL DRIVE
ARLINGTON, VA 22202

DESIGN TYPE:
ROOFTOP

DRAWING TITLE:
TITLE SHEET

DRAWING NO.
T-1



VICINITY MAP

SITE PLAN NOTES

1) SITE NAME: GTP-ROOFTOP VA-0110
SITE NUMBER: IAD-1036-A

2) THIS IS NOT A BOUNDARY SURVEY AND IS NOT TO BE USED FOR THE TRANSFER OF PROPERTY.

3) FOR PARENT PARCEL INFORMATION,
OWNER: 1225 SOUTH CRYSTAL LAND, LLC
PREMISES ADDRESS: 1501 CRYSTAL DRIVE
ARLINGTON, VA 22202

LINE TYPES

BOUNDARY LINE - PARENT PARCEL

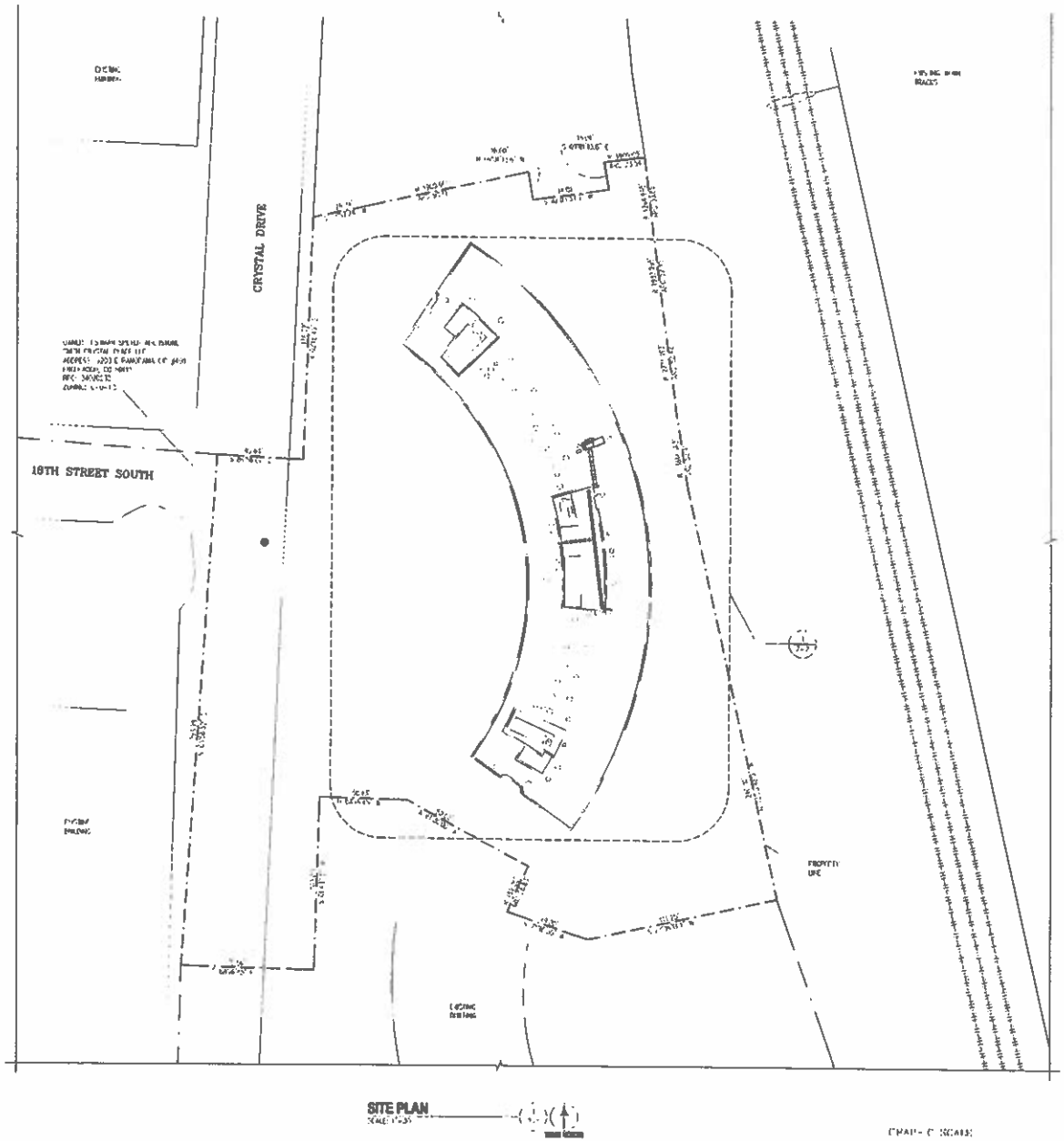
TIE LINE FOR DIMENSIONS

RIGHT OF WAY (TYPICAL)

INTERIOR LOT LINES

FENCE LINE - CHAIN

TREE OR VEGETATION LINE



cricket COMMUNICATIONS, INC.
8671 SANTA BARBARA ROAD
SUITE O
ELKRIDGE, MD 21075

entrex communications services, inc.
6400 Rockledge Drive, Suite 550
Bethesda, MD 20817
Phone: (202) 408-0880
Fax: (202) 408-0881

REVISIONS

DESIGNED BY	DM
CHECKED BY	CS
APPROVED BY	

NO	DATE	DESCRIPTION
	01-23-12	ZONING REVIEW

PROJECT NO:
1129.311

SEARCH RING NAME
GTP-ROOFTOP VA-0110

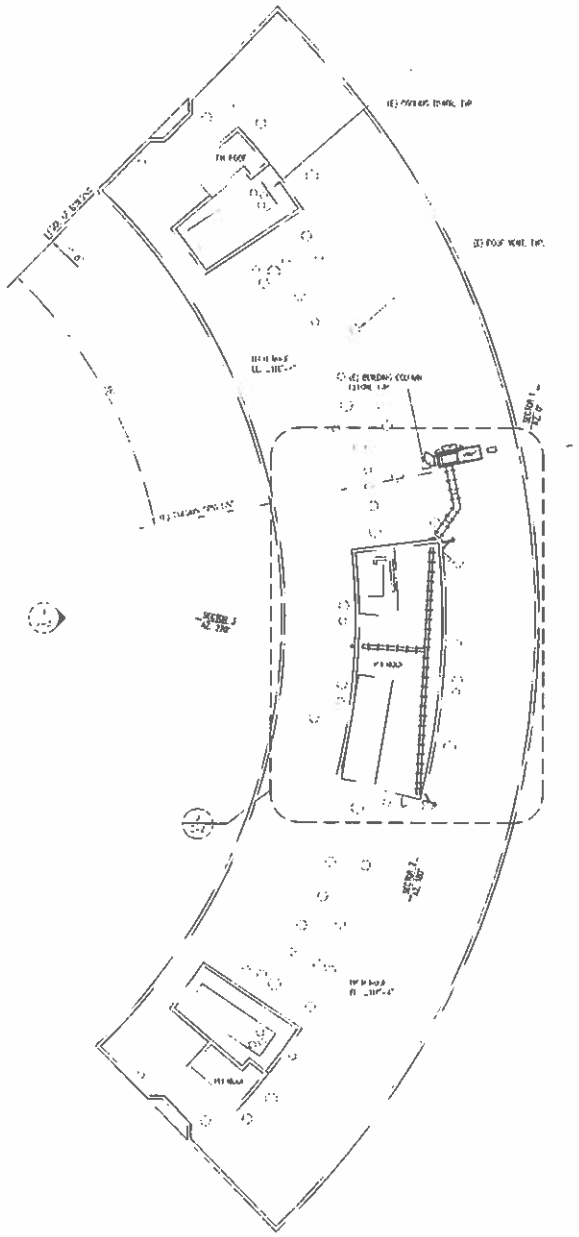
SITE NUMBER
IAD-1036-A

SITE ADDRESS
1501 CRYSTAL DRIVE
ARLINGTON, VA 22202

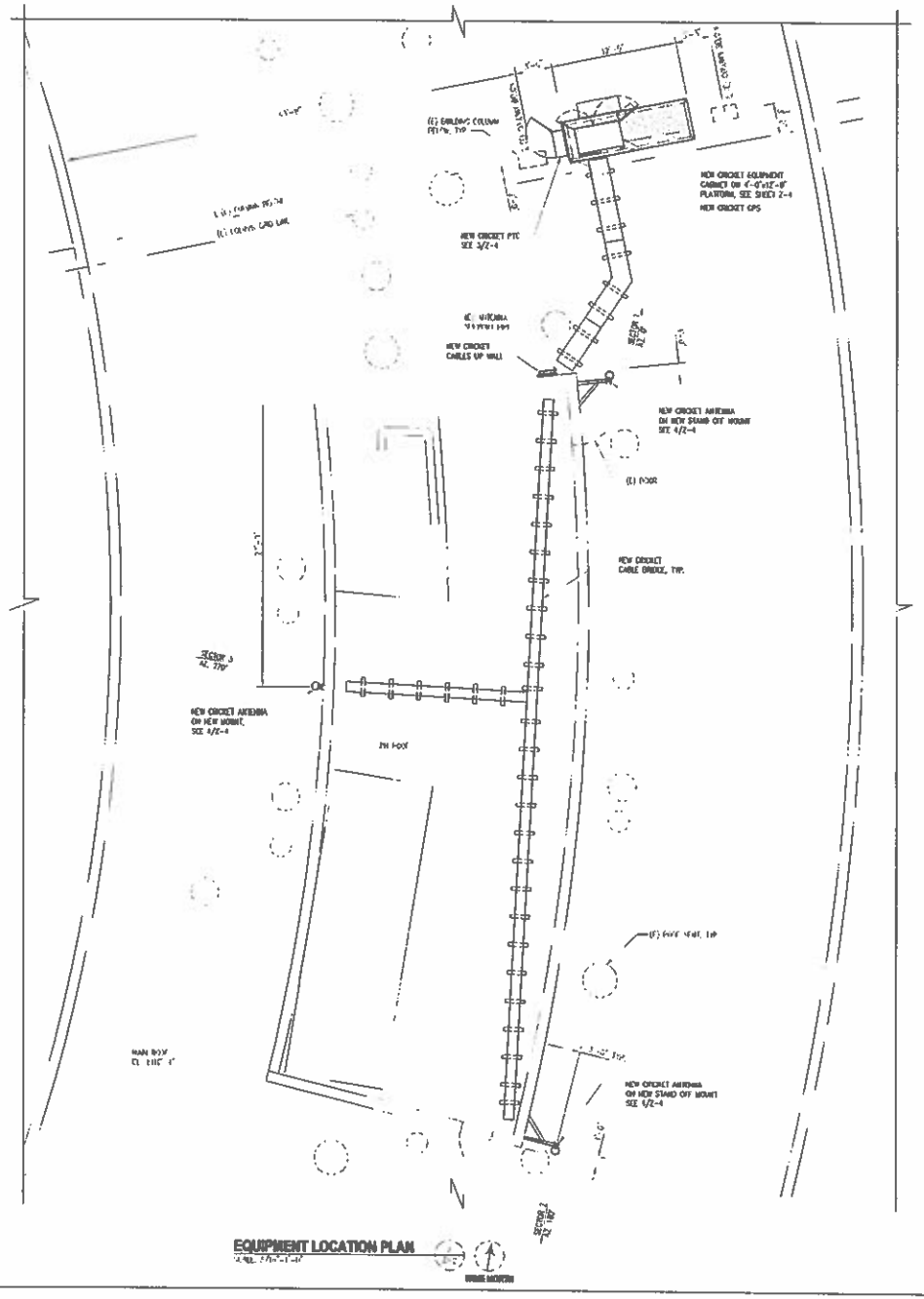
DESIGN TYPE:
ROOFTOP

DRAWING TITLE
SITE PLAN

DRAWING NO
Z-1



ROOF PLAN



EQUIPMENT LOCATION PLAN

cricket COMMUNICATIONS, INC.

6471 SANTA BARBARA ROAD
SUITE O
ELKRIDGE, MD 21075

entrex communication services, inc.

8500 Rockledge Drive, Suite 550
Bethesda, MD 20817
Phone: (202) 408-0880
Fax: (202) 408-0881

REVISIONS

DESIGNED BY	CM
CHECKED BY	CS
APPROVED BY	

NO	DATE	DESCRIPTION
	01-20-12	PLANNING REVIEW

PROJECT NO.
1129.311

SEARCH RING NAME
GTP-ROOFTOP VA-0110

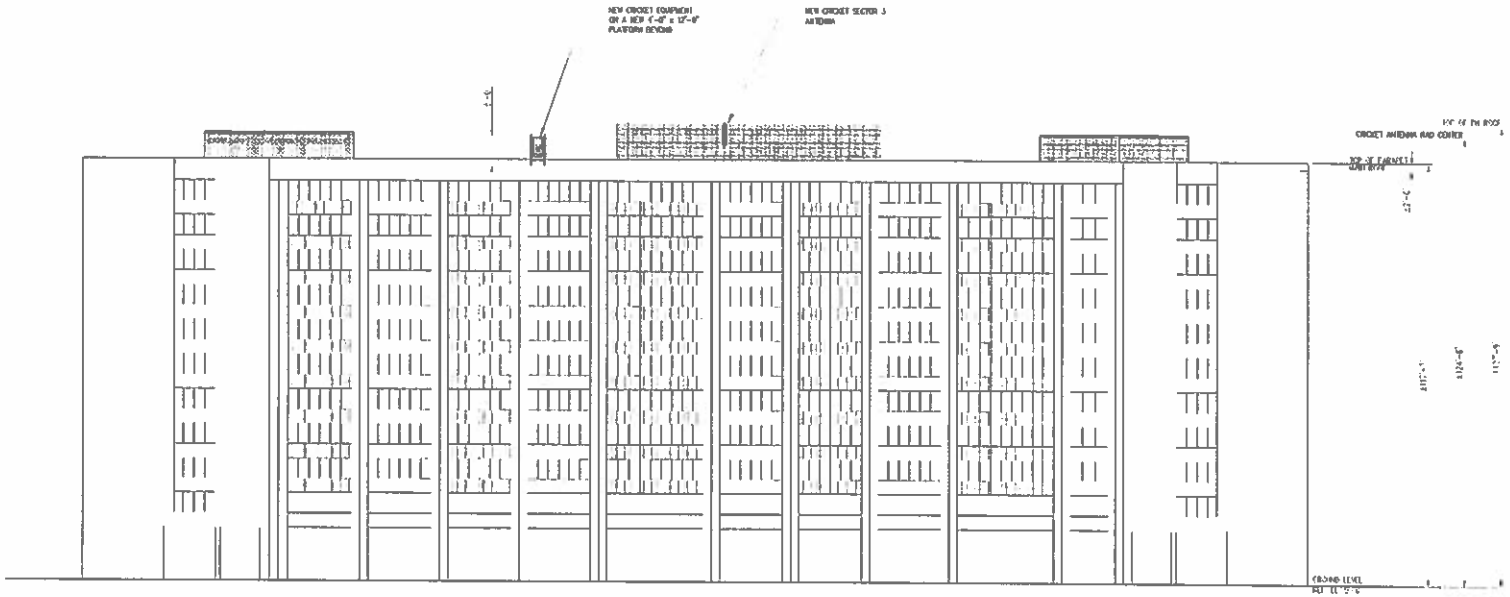
SITE NUMBER
IAD-1036-A

SITE ADDRESS
1901 CRYSTAL DRIVE
ARLINGTON, VA 22202

DESIGN TYPE
ROOFTOP

DRAWING TITLE
ROOF PLAN AND EQUIPMENT LOCATION PLAN

DRAWING NO
Z-2



WEST BUILDING ELEVATION

SCALE 1/8" = 1'-0"

cricket
COMMUNICATIONS, INC.

9671 SANTA BARBARA ROAD
SUITE O
ELKRIDGE, MD 21075

entrex
communication services, inc.

9400 Rockledge Drive, Suite 650
Bethesda, MD 20817
Phone: (202) 408-0880
Fax: (202) 408-0881

REVISIONS

DESIGNED BY	DM
CHECKED BY	CS
APPROVED BY	

NO	DATE	DESCRIPTION
	03-30-12	ZONING REVIEW

PROJECT NO.
1129.311

SEARCH RING NAME
GTP-ROOFTOP VA-0116

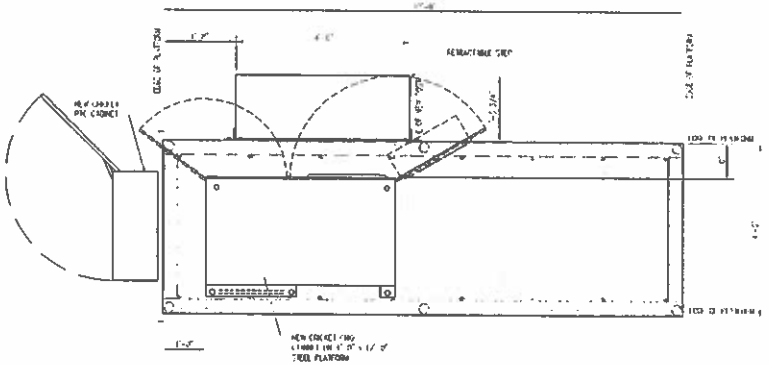
SITE NUMBER:
IAD-1036-A

SITE ADDRESS
1881 CRYSTAL DRIVE
ARLINGTON, VA 22202

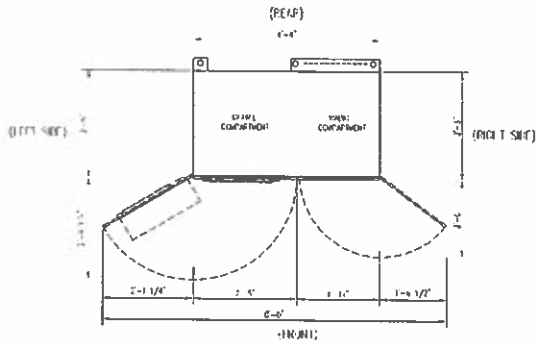
DESIGN TYPE:
ROOFTOP

DRAWING TITLE
WEST BUILDING ELEVATION

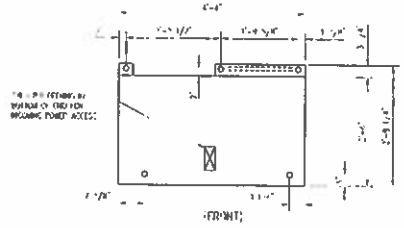
DRAWING NO
Z-3



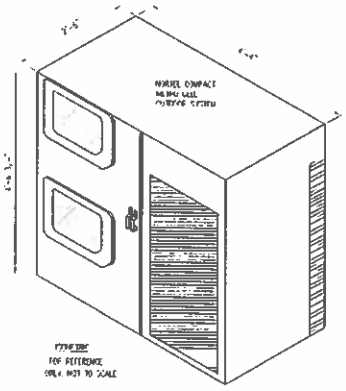
EQUIPMENT LAYOUT PLAN



TOP PLAN

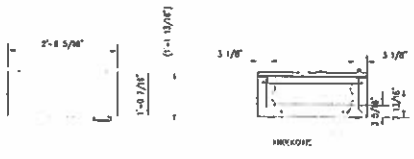


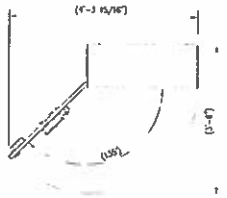
BASE PLAN

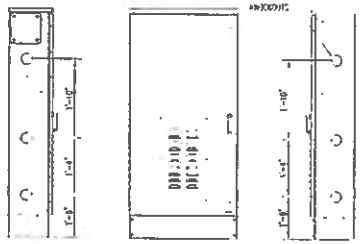


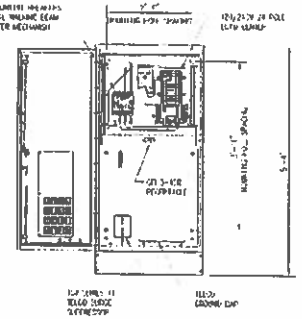
ISOMETRIC VIEW

OUTDOOR COMPACT METRO CELL OUTDOOR SYSTEM

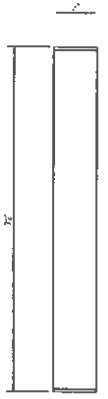




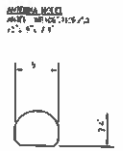




POWER TELCO CABINET DETAILS



FRONT VIEW



TOP VIEW

ANTENNA DETAILS

cricket COMMUNICATIONS, INC.

6471 SANTA BARBARA ROAD
SUITE D
ELKRIDGE, MD 21075

entrex communication services, inc.

6600 Rockledge Drive, Suite 550
Bethesda, MD 20817
Phone: (202) 466-6660
Fax: (202) 466-6661

REVISIONS

DESIGNED BY	DM
CHECKED BY	CS
APPROVED BY	

NO	DATE	DESCRIPTION
	01-29-13	PLANNING REVIEW

PROJECT NO.
1129.311

SEARCH RING NAME
GTP-ROOFTOP VA-0110

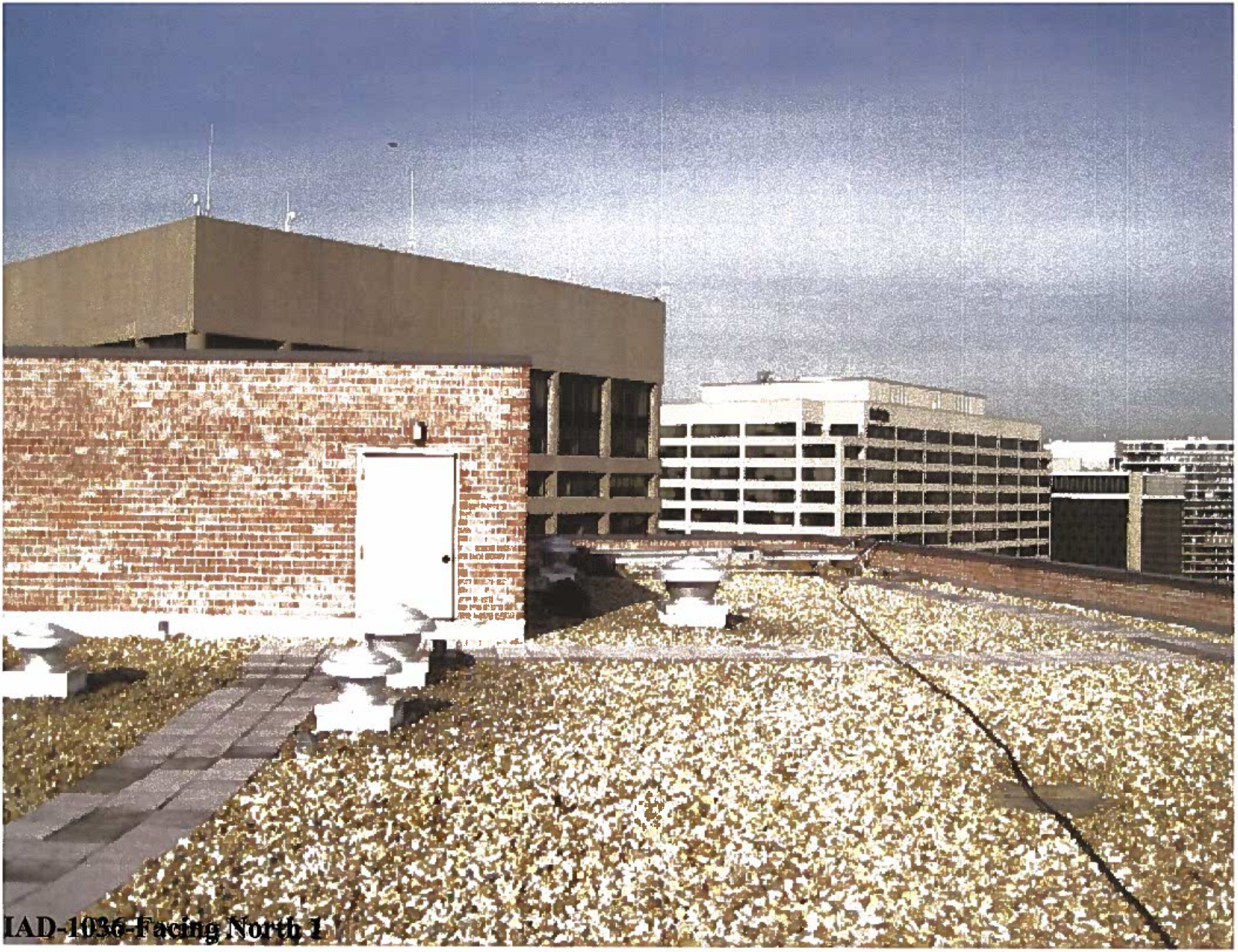
SITE NUMBER
IAD-1036-A

SITE ADDRESS
1891 CRYSTAL DRIVE
ARLINGTON, VA 22202

DESIGN TYPE
ROOFTOP

DRAWING TITLE
CABINET, PLATFORM AND ANTENNA DETAILS

DRAWING NO.
Z-4



IAD-1036-Facing North 1

IAD-1036 West View Front Bldg.

IAD-1036 Penhouse South East Corner

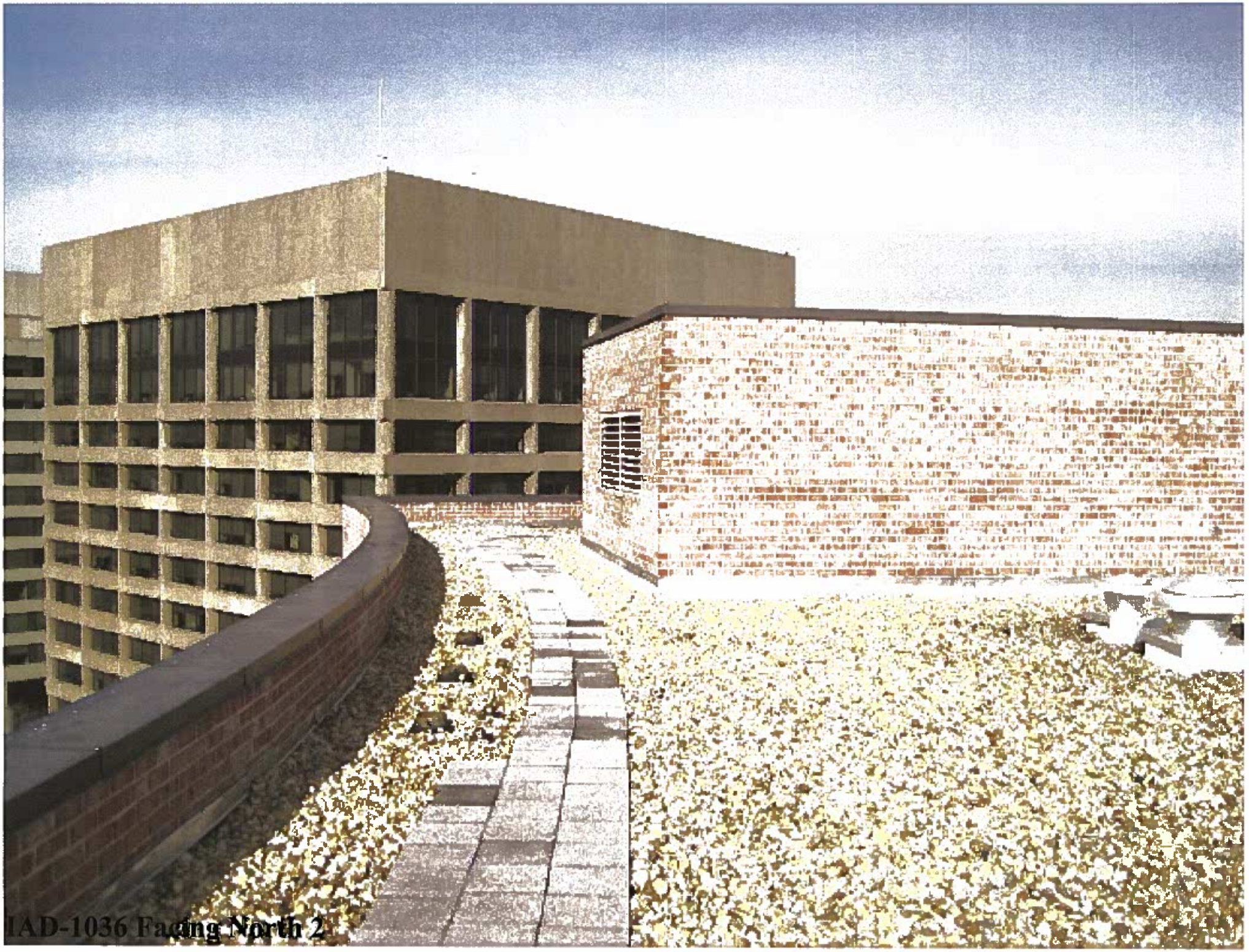
IAD-1036 Penthouse North West View

IAD-1036 Facing West 2

LAD-1036 Facing West 1

IAD-1036 Facing South 2 (2)

LAD-1036 Facing South 1



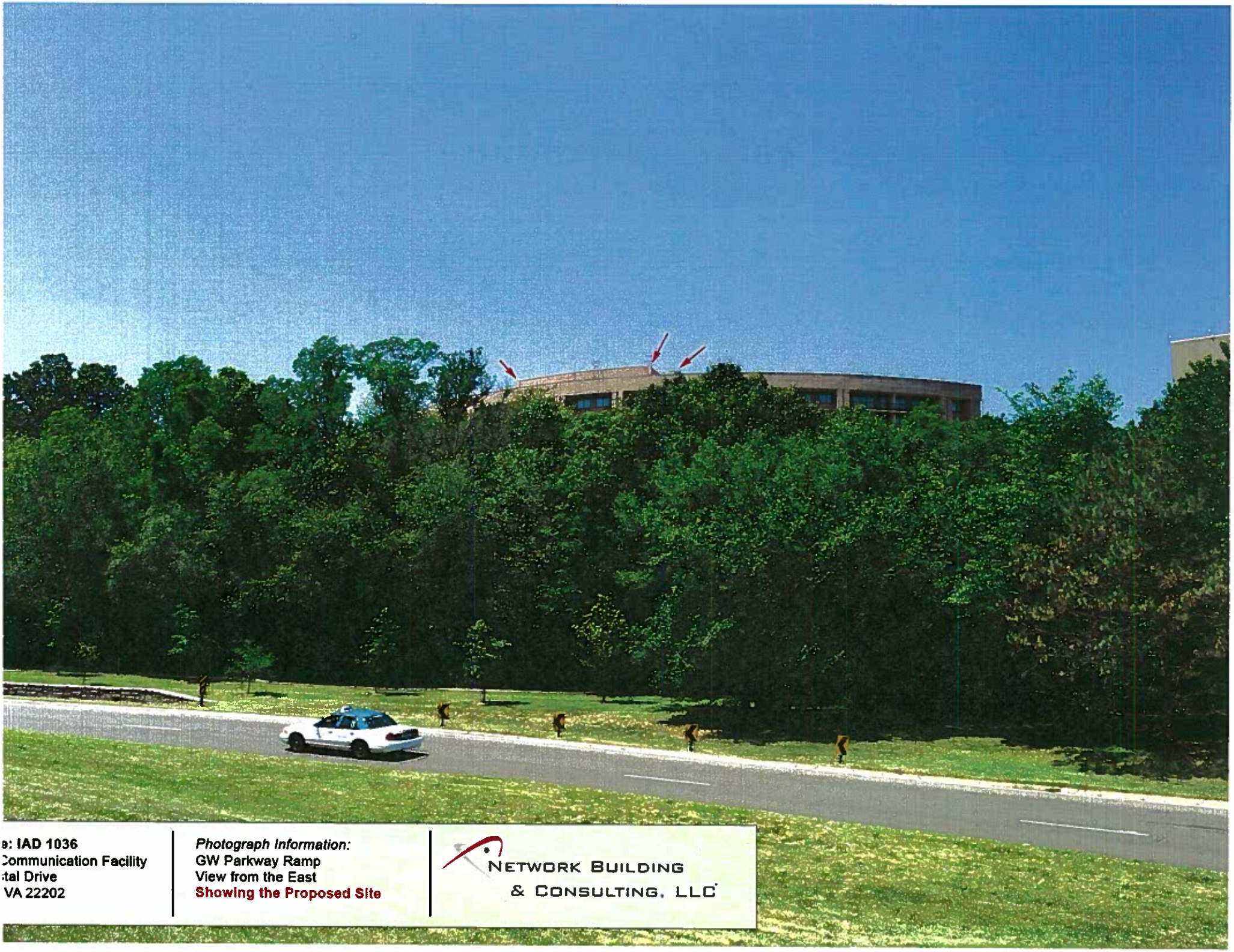
IAD-1036 Facing North 2

VAD-1036 Parking Lot

e: IAD 1036
Communication Facility
tal Drive
VA 22202

Photograph Information:
18th Street
View from the West
Showing the Proposed Site

NETWORK BUILDING
& CONSULTING, LLC



e: IAD 1036
Communication Facility
tal Drive
VA 22202

Photograph Information:
GW Parkway Ramp
View from the East
Showing the Proposed Site

NETWORK BUILDING
& CONSULTING, LLC

Heather Rubinstein

From: AHCA President <ahcapresident@gmail.com>
Sent: Monday, April 16, 2012 2:27 PM
To: Dmrobinson1@arlingtonva.us
Cc: heather@mpi-industries.com
Subject: ZONING APPLICATION: Site ID: IAD-1036/ Address: 1801 Crystal Drive, Arlington

Mr. Robinson,

I have been in touch with Heather Rubenstein with MPI Industries, a contractor with Cricket Communications regarding their application referenced above

I am the president of the Aurora Highlands Civic Association (AHCA), the closest, potentially affected Civic Association.

I understand that Cricket Communications proposed installation of a wireless communications facility on the rooftop of 1801 Crystal Drive that generally meets the following description:

- 3 panel antennas at a center line of 124'6" and
- an equipment cabinet on a 4' x 12' steel platform.

Ms. Rubenstein stated that the proposed installation is of a design which minimizes visual impact as the antennas are to be mounted to the existing penthouse.

As long as the submitted application generally meets the description that I have been provided and quoted above, the Aurora Highlands Civic Association does not oppose the project and associated zoning and site plan actions.

If you require further from me, please do not hesitate to contact me any time at this email or by phone at (703) 867-8976.

Very Best,

Jim Oliver, President
AHCA

sitesafe
rf compliance experts

200 North Glebe Road, Suite 1000, Arlington, VA 22203-3728
703.276.1100 • 703.276.1169 fax
info@sitesafe.com • www.sitesafe.com

Cricket Communications
Site ID - IAD-1036-A
Site Name – GTP Roof Top VA-0110
Site Compliance Report

1801 Crystal Drive
Arlington, VA 22202
Arlington County

Latitude: N38-51-26.79
Longitude: W77-2-54.77
Structure Type: Rooftop

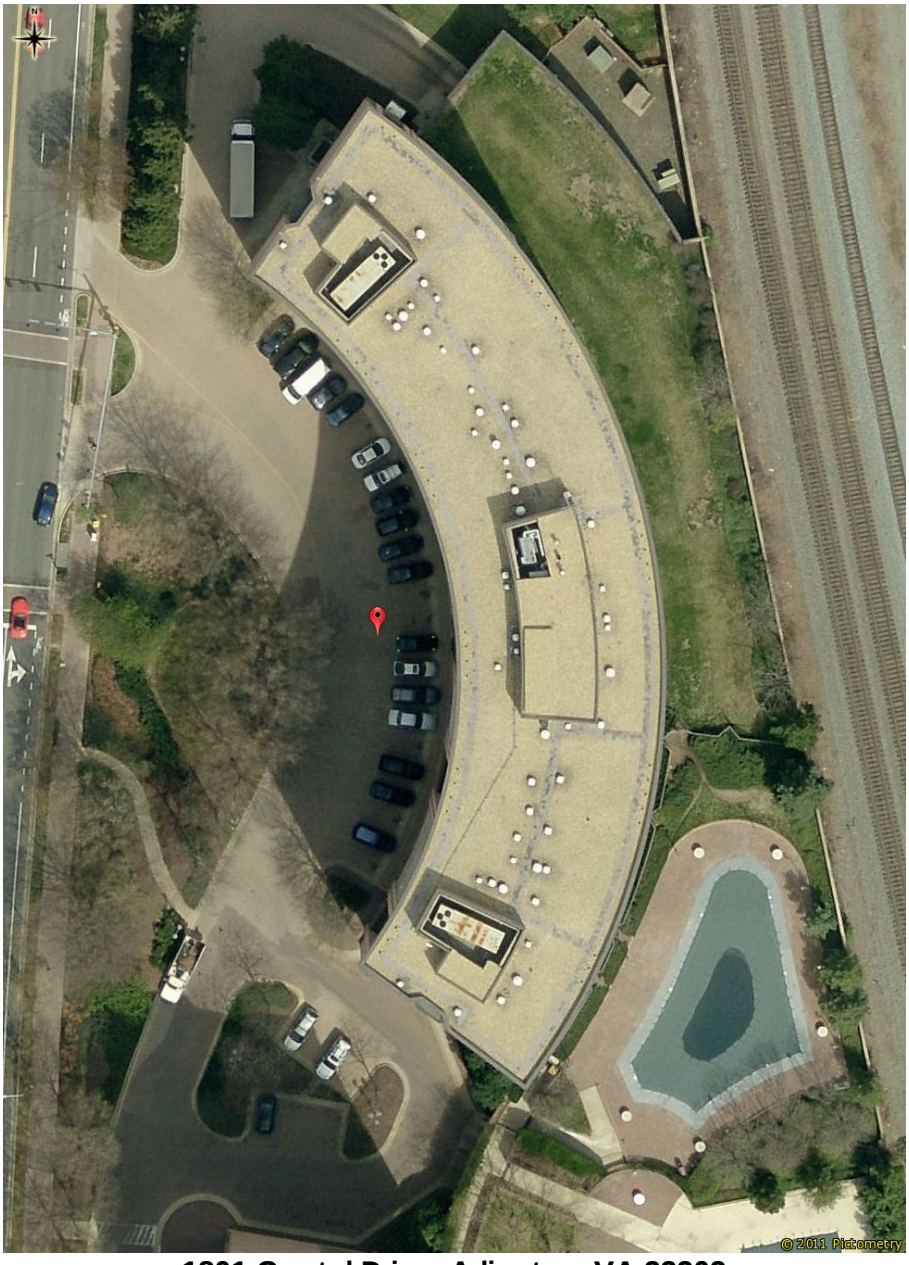
Report generated date: May 8, 2012
Report by: Tony DeMattia
Customer Contact: CJ Yang

Cricket Communications will be Compliant based on FCC Rules and Regulations.

COMMONWEALTH OF VIRGINIA
DAVID CHARLES COTTON, JR.
Lic. No. 45496
PROFESSIONAL ENGINEER

David Charles Cotton, Jr.
Professional Engineer
Commonwealth of Virginia, 0402045496
Date: 2012-May-09

Cricket Communications
GTP Roof Top VA-0110 IAD-1036-A
Radio Frequency (RF) Site Compliance Report



1801 Crystal Drive, Arlington, VA 22202

200 N. Glebe Road • Suite 1000 • Arlington, VA 22203-3728
703.276.1100 • info@sitesafe.com

Table of Contents

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-1036-A - GTP Roof Top VA-0110, located at 1801 Crystal Drive, 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.

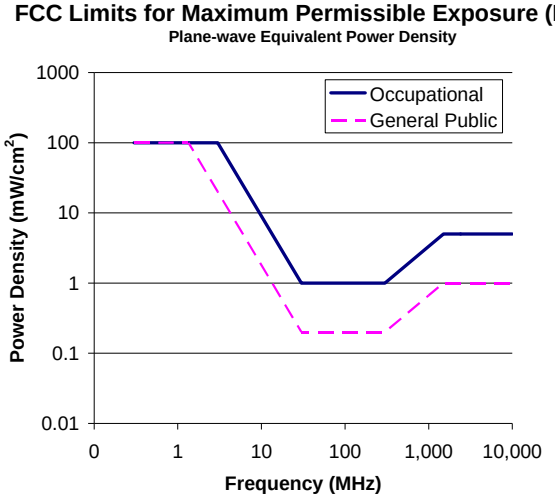
FCC regulations define two separate tiers of exposure limits: Occupational or "Controlled environment" and General Public or "Uncontrolled environment". The General Public limits are generally five times more conservative or restrictive than the Occupational limit. These limits apply to *accessible* 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:



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 **greater than 5%** of the maximum permissible exposure (MPE) based on theoretical modeling using parameters supplied by the client. 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's 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. However, because Cricket Communications is predicted to contribute greater than 5% of the maximum permissible exposure (MPE), *should the site be subsequently deemed non-compliant for any reason*, any wireless operator(s) who contribute greater than 5% of the maximum permissible energy would be jointly liable for bringing the site into compliance.

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

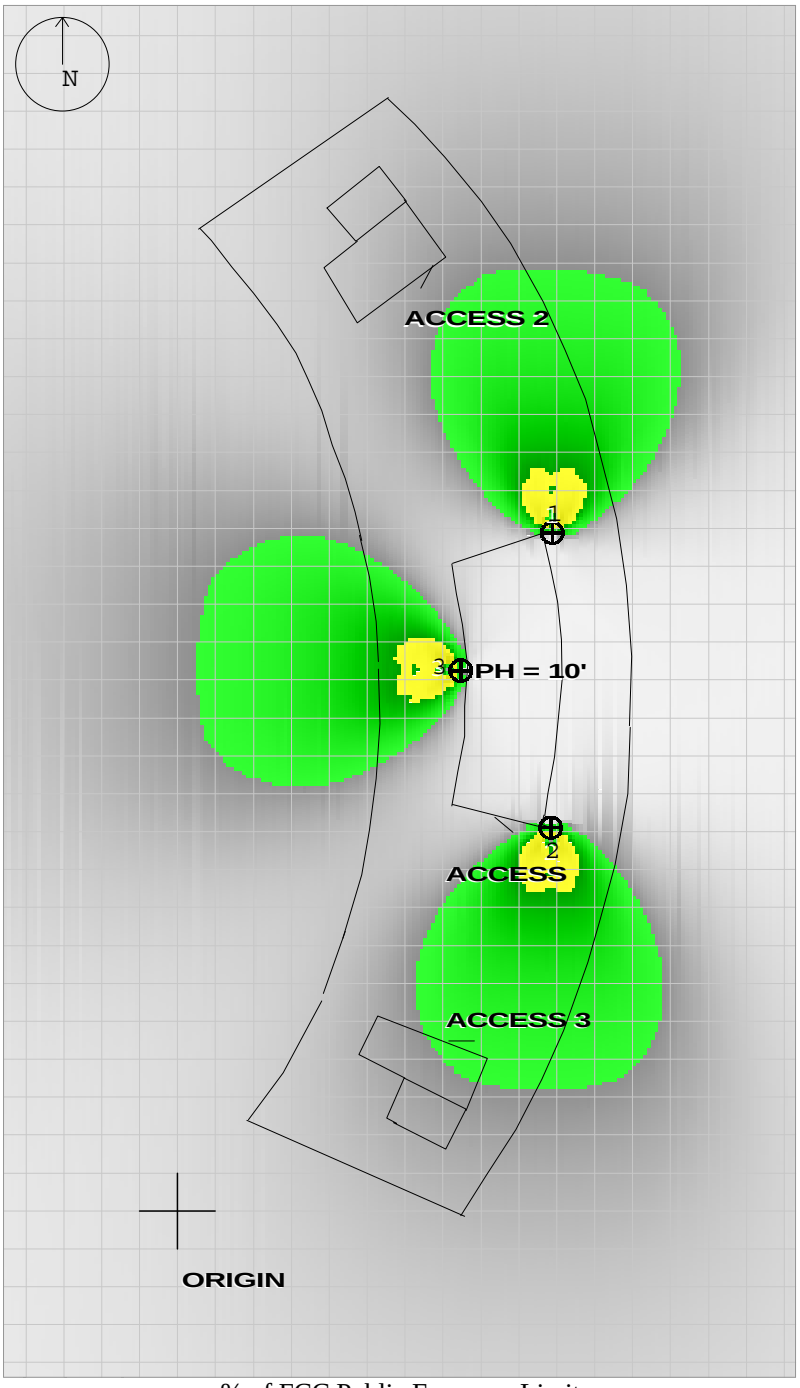
PH=##'	Penthouse at ## feet above main roof

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	**NE**	**NR**	Locked Door	**LE**	**LR**
Caution	**CE**	**CR**	Fencing	**RE**	**RR**
Warning	**WE**	**WR**	Rope Chain		
Info Sign	**IE**		Paint Stripes		

RF Emissions Diagram for: GTP Roof Top VA-0110
Main Level



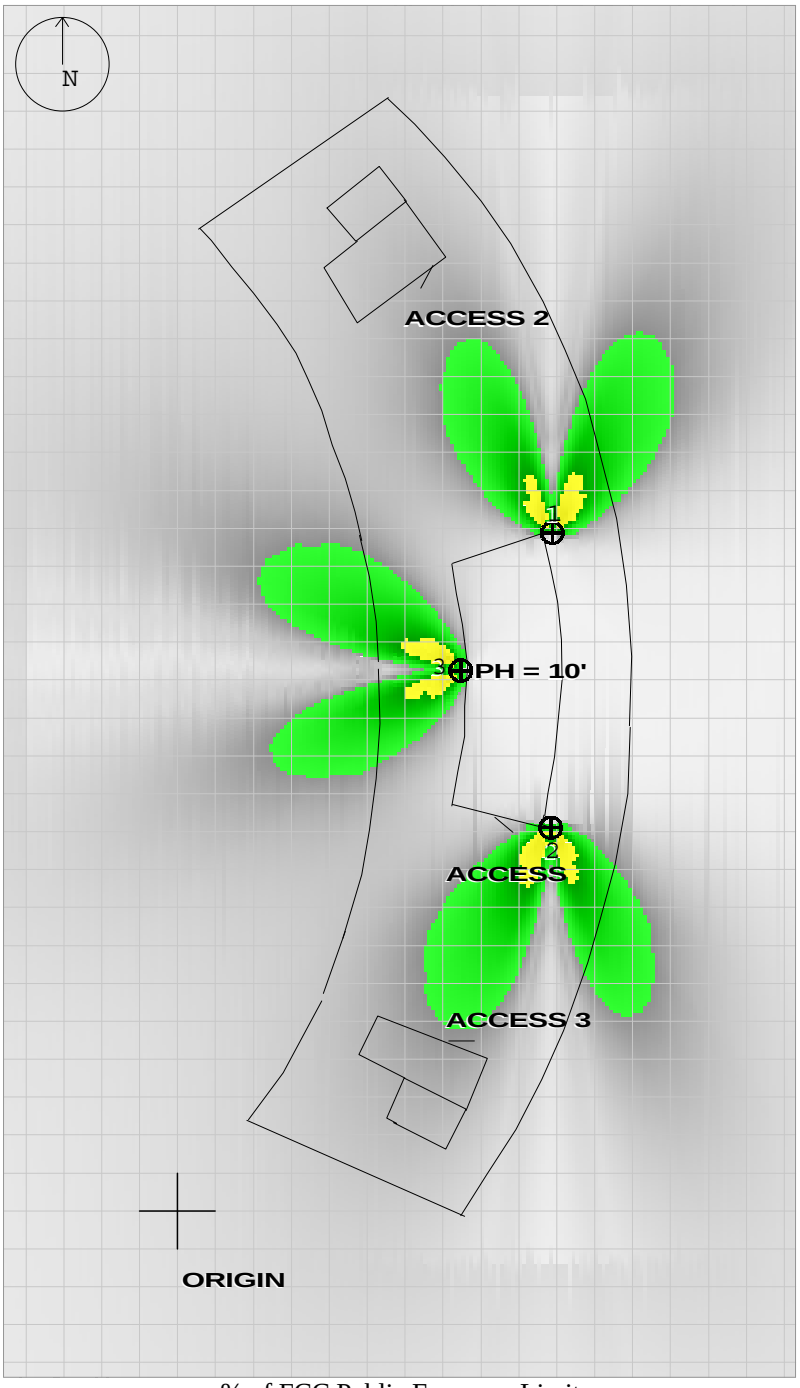
% of FCC Public Exposure Limit
Average from 0 feet above to 6 feet above origin

	100 <= X
	20 <= X < 100
	5 <= X < 20
	X <= 5

sitesafe
www.sitesafe.com
Sitesafe ID# 82288
Site Name: GTP Roof Top VA-0110

Feet
30 0 30 60
Grid Size is 10.0

RF Emissions Diagram for: GTP Roof Top VA-0110
Penthouse Level 10'



% of FCC Public Exposure Limit
Average from 10 feet above to 16 feet above origin

	100 <= X
	20 <= X < 100
	5 <= X < 20
	X <= 5

sitesafe
www.sitesafe.com
Sitesafe ID# 82288
Site Name: GTP Roof Top VA-0110

Feet
30 0 30 60
Grid Size is 10.0

6 Site Audit

6.1 Antenna Inventory

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-1036-A - GTP Roof Top VA-0110. 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 and representative photographs, on this and the following page, were obtained or verified during the site visit 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	0	Antel WBX065A19R250 **(Proposed)**	Panel	4	65	99'	179'	8'
2	Cricket Communications	2110	1000	16.56	180	Antel WBX065A19R250 **(Proposed)**	Panel	4	65	98'	101'	8'
3	Cricket Communications	2110	1000	16.56	270	Antel WBX065A19R250 **(Proposed)**	Panel	4	65	75'	142'	8'

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 survey measurements of the site environment of the site identified as IAD-1036-A - GTP Roof Top VA-0110 have been performed in order to determine where there might be electromagnetic energy that is in excess of both the Controlled Environment and Uncontrolled Environment levels; 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.

May 8, 2012

Appendix A – Statement of Limiting Conditions

Sitesafe field personnel visited the site and collected data with regard to the RF environment. Sitesafe will not be responsible for matters of a legal nature that affect the site or property. The property was visited under the premise that it is under responsible ownership and management and our client has the legal right to conduct business at this facility.

Due to the complexity of some wireless sites, Sitesafe performed this visit 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.

Appendix D – General Safety Recommendations

The following are *general recommendations* appropriate for any site with accessible areas in excess of 100% General Public MPE. These recommendations are not specific to this site. These are safety recommendations appropriate for typical site management, building management, and other tenant operations.

1. All individuals needing access to the main site (or the area indicated to be in excess of General Public MPE) should wear a personal RF Exposure monitor, successfully complete proper RF Safety Awareness training, and have and be trained in the use of appropriate personal protective equipment.

2. All individuals needing access to the main site should be instructed to read and obey all posted placards and signs.

3. The site should be routinely inspected and this or similar report updated with the addition of any antennas or upon any changes to the RF environment including:

- adding new antennas that may have been located on the site
- removing of any existing antennas
- changes in the radiating power or number of RF emitters

4. Post the appropriate **NOTICE**, **CAUTION,** or **WARNING** sign at the main site access point(s) and other locations as required. Note: Please refer to RF Exposure Diagrams in Appendix B, to inform <u>everyone</u> who has access to this site that beyond posted signs there may be levels in excess of the limits prescribed by the FCC. The signs below are examples of signs meeting FCC guidelines.

5. Ensure that the site door remains locked (or appropriately controlled) to deny access to the general public if deemed as policy by the building/site owner.

6. For a General Public 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 General Public 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 General Public 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 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:

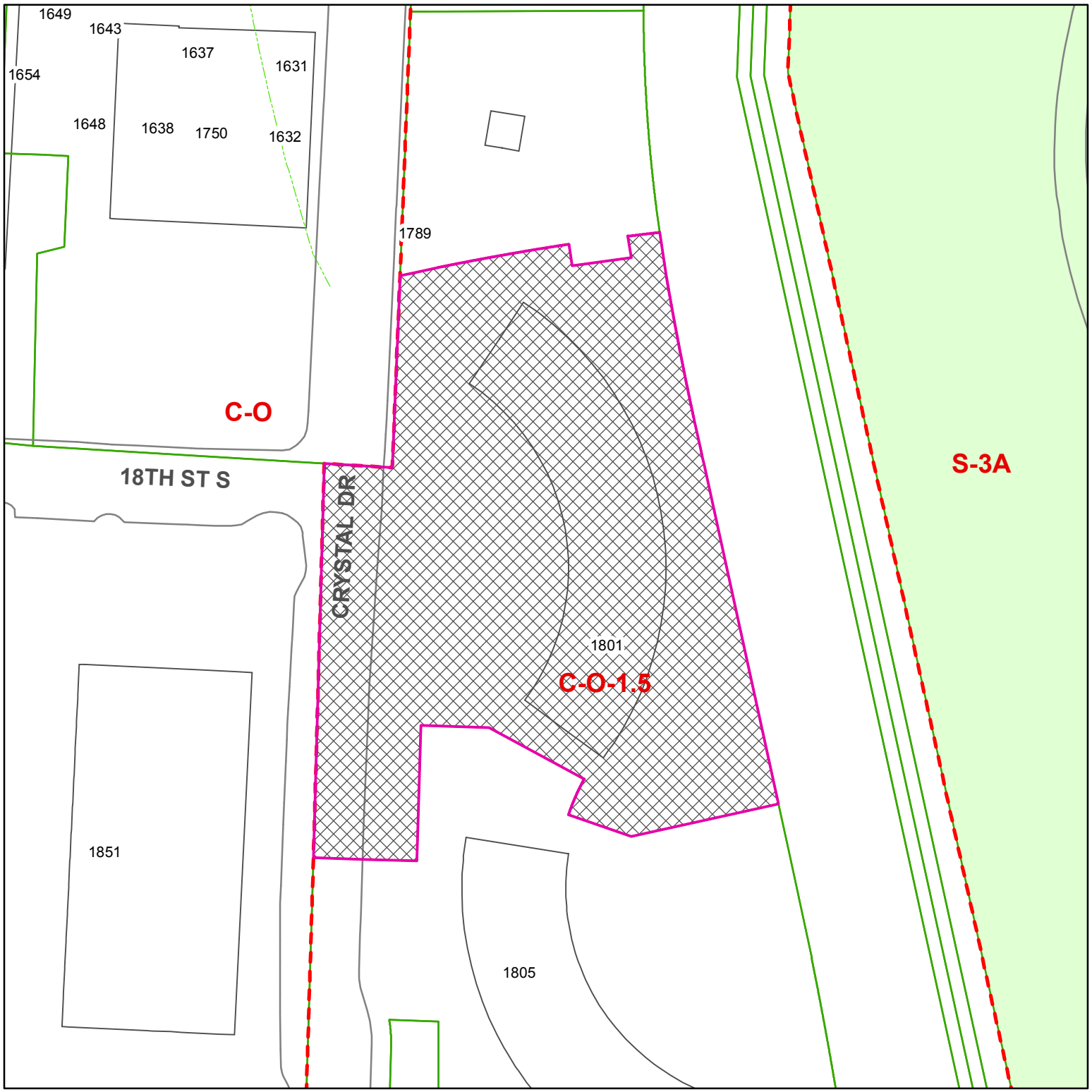
- Areas indicated as Gray are at 5% of the Occupational MPE limits or below. This level is safe for a worker to be in at any time.
- Green represents areas predicted to be between 5% and 20% of the Occupational MPE limits. This level is safe for a worker to be in at any time.
- Yellow represents areas 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.



SP-167-U-12-1

1801 Crystal Dr.

RPC # 34-020-232

Case Location(s)

Scale: 1:1,200

Note: These maps are for property location assistance only.
They may not represent the latest survey and other information.

Department of Community Planning, Housing and Development **Planning Division**