



## ARLINGTON COUNTY, VIRGINIA

**County Board Agenda Item  
Meeting of December 10, 2011**

**DATE:** November 21, 2011

**SUBJECT:** SP# 72 SITE PLAN AMENDMENT for New Cingular Wireless PCS, LLC public utilities/telecommunications facility located at 4300 N. Carlin Springs Road (RPC# 20-012-360).

**Applicant:** New Cingular Wireless PCS, LLC

**By:**

Steve Kinley, Authorized Agent  
ACO Property Advisors, Inc.  
7050 Oakland Mills, Suite 130  
Columbia, MD 21046

**C. M. RECOMMENDATION:**

Adopt the attached ordinance to approve a site plan amendment to SP #72 for a public utilities/telecommunications facility at 4300 N. Carlin Springs Road, subject to all previous conditions and the proposed conditions in this report applicable only to the building located at 4300 N. Carlin Springs Road, and with no further scheduled County Board review.

**ISSUES:** This is a site plan amendment request for a new public utilities/telecommunications facility to be located on a residential building at 4300 N. Carlin Springs Road. No issues have been identified.

**SUMMARY:** New Cingular Wireless ("AT&T") is proposing to install twelve (12) new flush mounted, panel antennas and a rooftop equipment shelter at 4300 N. Carlin Springs Road. The proposed facility will function as a base transmission station for AT&T's wireless communication network. AT&T is licensed by the Federal Communications Commission (FCC) and will operate in full compliance with FCC rules and regulations. The proposed rooftop equipment shelter will be 13'-5" above the roofline of the building and will be finished to match the appearance and colors of the existing building. The shelter will also be set back from the

County Manager: *BMD/GA*

County Attorney: *CEWM* *GA*

Staff: Elizabeth Kays, CPHD, Planning Division

PLA-6065

building wall at distances ranging from 17'-6" to 85'-6." The facility will be unmanned and require only infrequent visits by maintenance personnel. The proposed antenna and equipment

shelter additions will not create an undue adverse visual impact on the surrounding area. The applicant provided staff a Maximum Permissible Exposure 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 adopt the attached ordinance to amend Site Plan #72 to allow an additional telecommunications facility, consisting of twelve (12) new antennas and a rooftop equipment shelter, on the building located at 4300 N. Carlin Springs Road, subject to all previous conditions and new conditions in this report, which shall apply only to the facility shown on drawings dated September 19, 2011.

**BACKGROUND:** There are currently antennas and related equipment on this site. The following provides information about the site:

Site: The site consists of The Carlin apartment building at 4300 N. Carlin Springs Road.

To the north: Across N. Carlin Springs Road, Townes of Ballston townhouses zoned “R-C” and “R15-30T.”

To the south: American Service Center at 640 N. Glebe Road zoned “C-2” and “RA8-18.”

To the east: Ballston Gardens apartment building at 4314 N. Carlin Springs Road (SP #72) zoned “R-C.”

To the west: Single-family home and Goodyear facility at 650 N. Glebe Road and 4218 N. Carlin Springs Road (SP #72) zoned “R-C.”

Zoning: The site is zoned “R-C” Apartment Dwelling and Commercial District

Land Use: The site is designated on the General Land Use Plan (GLUP) as “High-Medium” Residential Mixed-Use.

Neighborhood: The site is located within the Buckingham Community Civic Association and is immediately adjacent to the Bluemont Civic Association. Staff contacted both associations and no issues have been identified.

**DISCUSSION:** New Cingular Wireless (“AT&T”) is proposing to install a total of twelve (12) new flush-mounted panel antennas at 4300 N. Carlin Springs Road. There will be nine (9) antennas now and three (3) future antennas measuring 75.5” x 11.8” x 6.” The antennas will be in neutral, non-reflective materials that will match the appearance of the existing building. In addition to the antennas, the applicant is proposing to install a new 11’-5” x 20’ equipment shelter and related utility connection equipment on the rooftop of the building. The proposed rooftop equipment shelter will be installed on a raised platform and will have a total height of 13’-5” above the roofline of the building. Under special provisions, the Arlington County Zoning

Ordinance (ACZO) allows this kind of structure to be permitted no more than 16 feet above the height limit. The proposed equipment shelter will be set back from the building wall at distances ranging from 17'-6" at the shortest distance and 85'-6" at the longest distance. Furthermore, the applicant has agreed to a condition that the proposed rooftop equipment shelter 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 report that assesses the cumulative conditions for existing and proposed antennas on the site. The report demonstrates that the site will be compliant with 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 Federal Communications Commission (FCC) regulations.

*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 shelter meet these criteria. Attached are plans depicting the location and general appearance of the proposed antennas and equipment shelter.

**CONCLUSION:** The proposed site plan amendment is compliant with the County's *Telecommunications Guidelines* and with FCC regulations. The proposed antenna and equipment shelter additions will not create an undue adverse visual impact on the area. Therefore, staff recommends that the County Board adopt the attached ordinance to approve a site plan amendment to SP #72 to allow a public utilities/telecommunications facility consisting of twelve (12) new antennas and a new rooftop equipment shelter on the building located at 4300 N. Carlin Springs Road, subject to all previous conditions and new conditions in this report, which shall apply only to the facility shown on drawings dated September 19, 2011.

## Site Plan Amendment Ordinance

WHEREAS, an application for a Site Plan Amendment dated September 30, 2011, for Site Plan #72 was filed with the Office of the Zoning Administrator; and

WHEREAS, as indicated in Staff Report[s] provided to the County Board for its December 10, 2011 meeting, and through comments made at the public hearing before the County Board, the County Manager recommends that the County Board approve the Site Plan Amendment subject to all previous and new or revised conditions; and

WHEREAS, the County Board held a duly-advertised public hearing on that Site Plan Amendment on December 10, 2011, and finds, based on thorough consideration of the public testimony all materials presented to it and/or on file in the Office of the Zoning Administrator, that the improvements and/or development proposed by the Site Plan as amended:

- Substantially complies with the character of master plans, officially approved neighborhood or area development plans, and with the uses permitted and use regulations of the district as set forth in the Zoning Ordinance;
- Functionally relates to other structures permitted in the district and will not be injurious or detrimental to the property or improvements in the neighborhood; and
- Is so designed and located that the public health, safety and welfare will be promoted and protected.

NOW THEREFORE, BE IT ORDAINED that, as requested by an application dated September 30, 2011, for Site Plan #72, and as such application has been modified, revised, or amended to include the drawings, documents, conditions and other elements on file in the office of Zoning Administration (which drawings are hereafter collectively referred to as “Revised Site Plan Application”), for a Site Plan Amendment to allow an additional public utilities/telecommunication facility know as RPC# 20-012-360, at 4300 N. Carlin Springs Road, approval is granted and the parcel so described shall be used according to the Revised Site Plan Application, subject to the following conditions:

1. The applicant agrees that the telecommunications facility, consisting of twelve (12) new antennas and a related 11’-5” x 20’ equipment shelter, will be constructed as shown on plans dated September 19, 2011 and approved by the County Board on December 10, 2011. 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 and telephone of the liaison shall be provided to the Buckingham Community and Bluemont Civic Associations 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 AT&T antennas on the site shall be removed within ninety (90) days after cessation of use.
  
4. The applicant agrees that the proposed rooftop equipment shelter and related utility connection equipment shall match the exterior appearance and color of the existing building as shown on plans dated September 19, 2011 and approved by the County Board on December 10, 2011.

**PREVIOUS COUNTY BOARD ACTIONS:**

- June 2, 1968
- Approved a rezoning (Z-1921-68-2) from “RA8-18” to “CO” on 501, 507, and 511 North Thomas Street; rear of 4109 through 4151 North Henderson Road (north side); and 502 through 518 North Glebe Road (west side).
- Deferred a rezoning from “RA8-18”, “C-2” and “CM” to “RA6-15” on 4001 through 4011 5<sup>th</sup> Street North (north side); and 502 through 518 North Glebe Road (west side).
- October 1, 1968
- Deferred a rezoning (Z-1921-68-2) from “RA8-18”, “C-2” and “CM” to “RA6-15” on 4001 through 4011 5<sup>th</sup> Street North (north side); 525 North Glebe Road; 4109 through 4151 North Henderson Road (north side); 502 through 518 North Glebe Road (west side).
- December 7, 1968
- Approved a rezoning (Z-1921-68-2) from “RA8-18”, “C-2” and “CM” to “RA6-15” on 4001 through 4011 5<sup>th</sup> Street North; 525 North Glebe Road; 4109 through 4151 North Henderson Road; and 502 through 518 North Glebe Road.
- Approved a site plan (Z-1921-68-2) for 341,238 s.f. of office, 345 residential units, and 30,865 s.f. of retail.
- December 1, 1973
- Approved a site plan amendment (Z-1921-68-2) to increase the retail space to 35,960 s.f.
- November 9, 1974
- Approved a site plan amendment (Z-1921-68-2) to permit one sign for each commercial tenant on the lower level of the Hyde Park Building.
- September 11, 1976
- Approved a site plan amendment (Z-1921-68-2) to convert 2,812 s.f. of commercial space for an elderly day care.
- March 17, 1980
- Accepted withdrawal of a site plan amendment (Z-1921-68-2).
- May 16, 1981
- Deferred a site plan amendment (Z-1921-68-2).

June 20, 1981	Approved a site plan amendment (Z-1921-68-2) for a reconfiguration of the 341,238 s.f. of office space into two buildings and to permit a one-story retail building at 600 North Glebe Road.
February 23, 1985	Authorized the advertisement of a public hearing for a site plan amendment (Z-1921-68-2).
May 22, 1985	Authorized the advertisement of a public hearing for a site plan amendment (Z-1921-68-2).
June 15, 1985	Approved a site plan amendment (Z-1921-68-2) for a temporary parking lot for Ballston Common construction workers and/or Hecht Company Corporate office employees until August 1, 1986 at 600 North Glebe Road.
January 4, 1986	Approved a site plan amendment (Z-1921-68-2) for renewal of a temporary parking lot for Ballston Common construction workers and/or Hecht Company Corporate office employees until August 1, 1986.
May 2, 1987	<p>Approved a General Land Use Plan Amendment for the area on North Thomas Street between North Henderson Road and North Carlin Springs Road from “Low-Medium” Residential (16 – 36 units per acre) to “Government and Community Facilities”.</p> <p>Approved a rezoning (Z-2327-87-4) from “C-O” to “C-O-2.5” and “RA4.8” for 600 North Glebe Road.</p> <p>Approved a rezoning (Z-2328-87-4) from “C-O” to “RA8-18” and “S-D” for 600 North Glebe Road (part); and 501,507, 511, 513, 517, and 521 North Thomas Street.</p> <p>Approved a site plan amendment (Z-1921-68-2) for 355,000 s.f. of commercial and 104,000 s.f. of elderly housing.</p> <p>Approved a use permit (U-2547-87-1) for construction and operation of an elderly housing facility.</p>



- Deferred a rezoning (Z-2411-93-5) from “RA4.8” to “C-O-2.5” for 600 North Glebe Road.
- December 11, 1993      Deferred a site plan amendment (SP #72) for renovation and expansion of a nonconforming public garage and tire sales and installation facility at 650 North Glebe Road.
- January 8, 1994      Deferred a site plan amendment (SP #72) for renovation and expansion of a nonconforming public garage and tire sales and installation facility at 650 North Glebe Road.
- February 5, 1994      Deferred a site plan amendment (SP #72) for renovation and expansion of a nonconforming public garage and tire sales and installation facility at 650 North Glebe Road.
- March 5, 1994      Approved a site plan amendment (SP #72) for renovation and expansion of a nonconforming public garage and tire sales and installation facility at 650 North Glebe Road.
- March 8, 1997      Authorized advertisement of a rezoning and site plan amendment for the northwest corner of the intersection of North Glebe Road and North Quincy Street extension (American Service Center).
- May 17, 1997      Approved a rezoning (Z-2439-97-1) from “RA6-15” to “CO-2.5” for 585 North Glebe Road.
- Approved a site plan amendment (SP #72) for an interim parking lot for American Service Center at 585 North Glebe Road until May 17, 2002.
- Deferred a site plan amendment (SP #72) for the expansion of the Goodyear Tire store parking lot and to permit the relocation of a nonconforming free-standing sign at 650 North Glebe Road and 4218 North Carlin Springs Road.
- June 7, 1997      Deferred a site plan amendment (SP #72) for the expansion of the Goodyear Tire store parking lot and to permit the relocation of a nonconforming free-standing sign at 650 North Glebe Road and 4218 North Carlin Springs Road.

July 19, 1997	Deferred a site plan amendment (SP #72) for a 50,000 s.f. grocery store at 600 North Glebe Road.
August 2, 1997	Approved a site plan amendment (SP #72) for a 50,000 s.f. grocery store at 600 North Glebe Road.
August 2, 1997	Deferred a site plan amendment (SP #72) for the expansion of the Goodyear Tire store parking lot and to permit the relocation of a nonconforming free-standing sign at 650 North Glebe Road and 4218 North Carlin Springs Road.
September 6, 1997	Deferred a site plan amendment (SP #72) for the expansion of the Goodyear Tire store parking lot and to permit the relocation of a nonconforming free-standing sign at 650 North Glebe Road and 4218 North Carlin Springs Road.
November 8, 1997	Deferred a site plan amendment (SP #72) for the expansion of the Goodyear Tire store parking lot and to permit the relocation of a nonconforming free-standing sign at 650 North Glebe Road.
May 16, 1998	Deferred a site plan amendment (SP #72) for the expansion of the Goodyear Tire store parking lot and to permit construction of a new free-standing sign at 650 North Glebe Road and 4218 North Carlin Springs Road.
August 8, 1998	Approved a site plan amendment (SP #72) for a comprehensive sign plan at 600 North Glebe Road.
November 17, 1998	Approved a site plan amendment (SP #72) to permit a 6,339 s.f. addition to an existing sales office as a temporary use until November 2003.
February 20, 1999	Approved a site plan amendment (SP #72) for the renovation and expansion of a nonconforming public garage and tire sales and installation facility at 650 North Glebe Road until September 1999.
September 18, 1999	Approved a site plan amendment (SP #72) for the renovation and expansion of a nonconforming public garage and tire sales and installation facility at 650 North Glebe Road until December 1999.

December 11, 1999	Accepted the withdrawal of a site plan amendment (SP #72) for the renovation and expansion of a nonconforming public garage and tire sales and installation facility at 650 North Glebe Road.
October 19, 2002	Deferred a site plan amendment (SP #72) for an interim parking lot at 585 North Glebe Road.
November 16, 2002	Deferred a site plan amendment (SP #72) for an interim parking lot at 585 North Glebe Road.
December 2, 2002	Approved a site plan amendment (SP #72) for an interim parking lot at 585 North Glebe Road until December 2007.
November 15, 2003	Discontinued a site plan amendment (SP #72) for an addition to an existing sales office as a temporary use at 585 North Glebe Road.
May 15, 2004	Approved corrections to the minutes of the December 7, 2002 Regular Meeting for a site plan amendment (SP #72) for an interim parking lot at 585 North Glebe Road.
December 15, 2007	Approved a site plan amendment (SP #72) for renewal of an interim parking lot, without the use of the vehicle stacking mechanisms, at 585 North Glebe Road until December 2010.
September 25, 2010	Approved a site plan amendment (SP #72) for renewal of an interim parking lot at 585 North Glebe Road until December 2015.
October 15, 2011	Approved a site plan amendment (SP #72) to permit an interim parking lot at 585 North Glebe Road until December 31, 2015, with administrative reviews at one year (October 2012) and three years (October 2014).

**PROJECT INFORMATION**

SCOPE OF WORK: NEW INSTALLATION OF UNMANNED TELECOMMUNICATIONS FACILITY, CONSISTING OF INSTALLING A NEW EQUIPMENT SHELTER ON A PROPOSED STEEL PLATFORM AND ASSOCIATED ANTENNAS.

PROPERTY OWNER: CARLIN LP

OWNER ADDRESS: 911 N STUDEBAKER RD  
LONG BEACH, CA 90815

SITE ADDRESS: 4300 N CARLIN SPRING RD  
ARLINGTON, VA 22203

LATITUDE: 38° 52' 37.63" N  
LONGITUDE: 77° 06' 42.235" W

PARCEL ID: 20012360  
PARCEL AREA: 42,854 SF

JURISDICTION: ARLINGTON COUNTY

CURRENT USE: 313- APARTMENTS HI-RISE  
PROPOSED USE: 313- APARTMENTS HI-RISE/TELECOMMUNICATIONS FACILITY

CURRENT ZONING: RC



**at&t**

**BUCKINGHAM- THE CARLIN  
10014515\_1232**

**DRAWING INDEX**

**REV**

Z01	TITLE SHEET	0
Z02	SITE PLAN	0
Z03	ROOF AND EQUIPMENT LOCATION PLAN	0
Z04	NORTHEAST ELEVATION	0
Z05	SOUTHWEST ELEVATION	0
Z06	NORTHWEST AND SOUTHEAST ELEVATION	0
Z07	EQUIPMENT SHELTER AND ANTENNA DETAILS	0

**VICINITY MAP**

**DIRECTION:** FROM 7150 STANDARD DR. HANOVER, MD 21076. HEAD SOUTHWEST ON STANDARD DR TOWARD PARKWAY DR. TURN LEFT AT PARKWAY DR. TAKE THE 1ST RIGHT ONTO PARK CIR DR. TURN LEFT AT COCA COLA DR. TURN LEFT TO MERGE ONTO MD-100 W VIA RAMP TO ELLICOTT CITY. TAKE EXIT 5A-5B FOR I-95 S/BAIT/WASH PKWY TAKE EXIT 27 TO MERGE ONTO I-495 W TOWARD SILVER SPRING. TAKE EXIT 45B ON THE LEFT FOR VIRGINIA STATE HIGHWAY 267 E TOWARD I-66. MERGE ONTO VA-267 E. MERGE ONTO I-66 E. TAKE EXIT 71 FOR FAIRFAX DR TOWARD VIRGINIA 120/VIRGINIA 237/GLEBE RD. MERGE ONTO FAIRFAX DR. TURN RIGHT ONTO N GLEBE RD, TURN RIGHT ONTO N CARLIN SPRINGS RD. DESTINATION WILL BE ON THE LEFT.



**APPLICABLE BUILDING CODES AND STANDARDS**

SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

BUILDING CODE:  
[IBC 2006]

ELECTRICAL CODE:  
NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70 - 2005, NATIONAL ELECTRICAL CODE

SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:  
AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE  
AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION  
TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-F, STRUCTURAL STANDARD FOR STRUCTURAL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES

INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) B1, GUIDE FOR MEASURING EARTH RESISTIVITY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM  
IEEE 1100 (1999) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT

IEEE C62.41, RECOMMENDED PRACTICES ON SURGE VOLTAGES IN LOW VOLTAGE AC POWER CIRCUITS (FOR LOCATION CATEGORY "C3" AND "HIGH SYSTEM EXPOSURE")

TIA 607 COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS

TELCORDIA GR-1503 COAXIAL CABLE CONNECTIONS

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

ADJ ADJUSTABLE	MECH MECHANICAL	◆ SPOT ELEVATION
APPROX APPROXIMATE	MFR MANUFACTURER	⊥ CENTERLINE
CAB CABINET	UGB MAIN GROUND BAR	⊥ PLATE
CLS CEILING	MW MINIMUM	○ (No. / SHT) DETAIL NUMBER SHEET NUMBER
CONC CONCRETE	MTL METAL	— G GROUND WIRE
CONT CONTINUOUS	NIC NOT IN CONTRACT	— COAXIAL CABLE
CJ CONSTRUCTION JOINT	NTS NOT TO SCALE	○ ANTENNA
DIA DIAMETER	OC ON CENTER	○ FUTURE ANTENNA
DWG DRAWING	OPP OPPOSITE	
EQB EQUIPMENT GROUND BAR	SF SQUARE FOOT	
EA EACH	SHT SHEET	
ELEC ELECTRICAL	SM SIMILAR	
EL ELEVATION	SS STAINLESS STEEL	
EQ EQUAL	STL STEEL	
EQUIP EQUIPMENT	TOC TOP OF CONCRETE	
EXT EXTERIOR	TOM TOP OF MASONRY	
FT FINISHED FLOOR	TOS TOP OF STEEL	
GA GAGE	TYP TYPICAL	
GALV GALVANIZED	VF VERIFY IN FIELD	
GB GROUND BAR	UON UNLESS OTHERWISE NOTED	
GC GENERAL CONTRACTOR	WWF WELDED WIRE FABRIC	
GRND GROUND	W/ WITH	
LC LONG	& AND	
LLH LONG LEG HORIZONTAL	⊙ AT	
MAX MAXIMUM		

**SITE PLAN**  
SCALE: 1"=2000'-0"  
TRUE NORTH



PROJECT NUMBER:  
1136.163

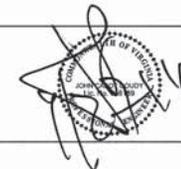
**BUCKINGHAM- THE CARLIN  
10014515\_1232**

4300 N CARLIN SPRINGS RD.  
ARLINGTON, VA 22203



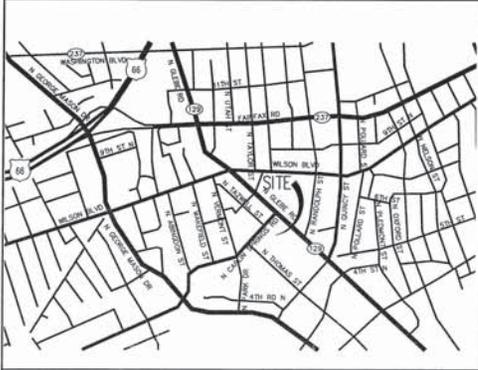
7150 STANDARD DRIVE  
HANOVER, MD 21076

1	09/19/11	REVISED SECTOR 2	A.A.	C.G.	C.G.
0	09/01/11	ZONING	W.A.	C.G.	C.G.
A	06/29/11	ZONING REVIEW	W.A.	C.G.	C.G.
NO	DATE	REVISIONS	BY	CHK	APPD
SCALE: AS SHOWN		DESIGNED: C.G.	DRAWN: W.A.		



**TITLE SHEET**

JOB NO.	DRAWING NUMBER
25471-430	Z01



VICINITY MAP  
SCALE: 1" = 2000'-0"  
TRUE NORTH

**SITE PLAN NOTES**

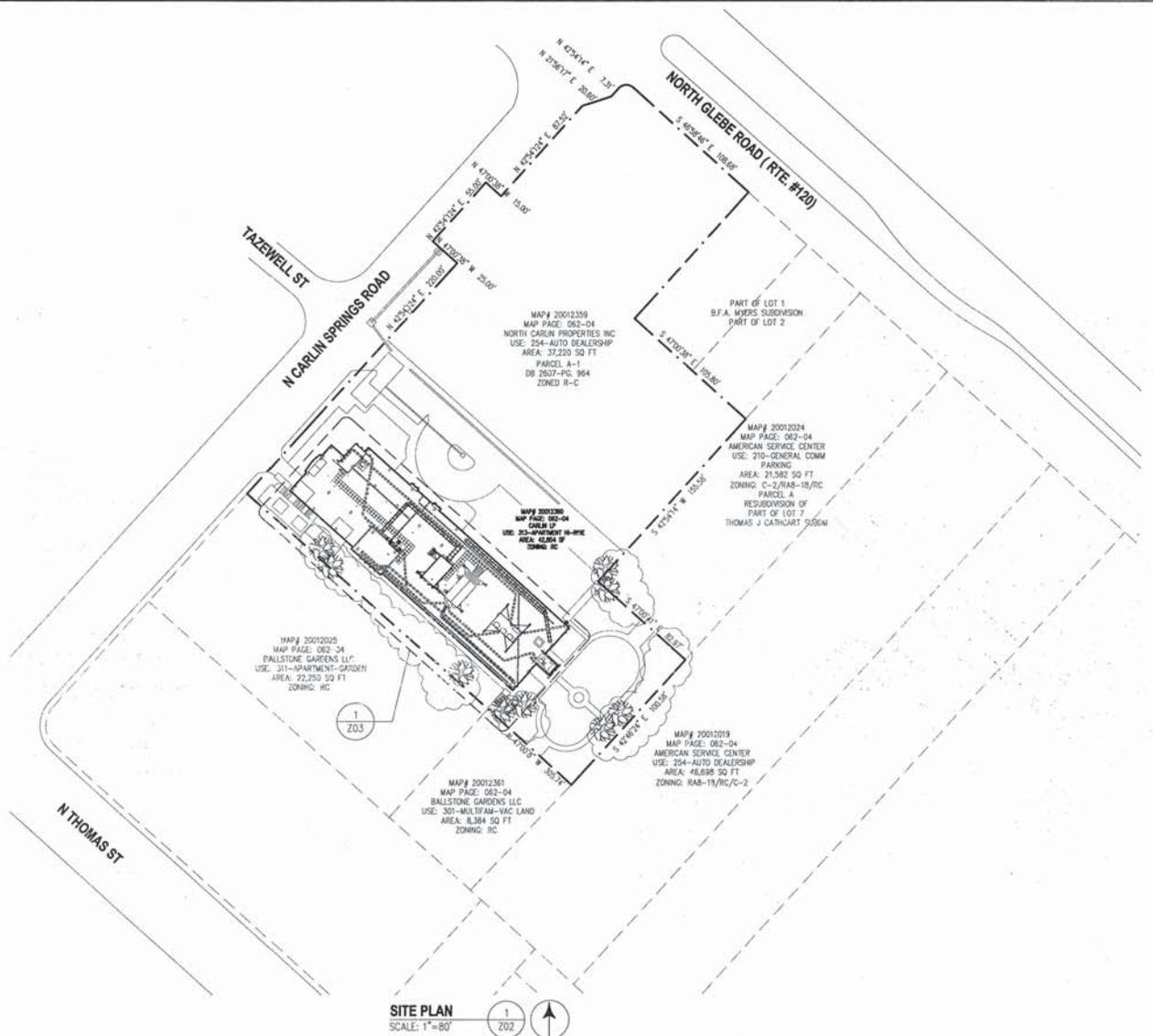
- 1.) SITE: BUCKINGHAM-THE CARLIN  
LATITUDE: 38° 52' 37.63" N  
LONGITUDE: 77° 08' 42.235" W
- 2.) THESE DRAWINGS WERE PREPARED FROM COMPILED INFORMATION TAKEN FROM FAIRFAX COUNTY ONLINE RECORDS AND DRAWINGS PREPARED BY MEMAHON ARCHITECTS.
- 3.) OWNER: CARLIN PL  
ADDRESS: 911 N STUDEBAKER RD  
LONG BEACH, CA 90815  
  
PARCEL NO # 29012360  
ZONE: RC

**ZONING NOTES**

- 1.) THERE IS NO PROPOSED LANDSCAPING.
- 2.) THERE WILL BE NO DISTURBED GROUND BY THE PROPOSED ACTIVITY.
- 3.) LOT COVERAGE, FAR AND BUILDING HEIGHT WILL NOT CHANGE BY THE PROPOSED ACTIVITY.
- 4.) ALL ANTENNAS AND MOUNTING WILL BE PAINTED SIMILAR TO THE EXISTING EQUIPMENT ON THIS ROOF.
- 5.) NUMBER OF PARKING SPACES WILL NOT CHANGE BY THE PROPOSED ACTIVITY.
- 6.) STORM WATER MANAGEMENT WILL NOT CHANGE BY THE PROPOSED ACTIVITY.

**AREA TABULATION**

TOTAL EXISTING PENTHOUSE AND MECHANICAL EQUIPMENT AREA = 1,535 SF  
INCREASED TELFCOM EQUIPMENT AREA = 353 SF  
TOTAL = 1,888 SF  
  
TOTAL ROOF AREA = 12,715 SF  
PERCENTAGE OF USED ROOF AREA = 8.5 %



SITE PLAN  
SCALE: 1"=80'  
TRUE NORTH

entrex  
communication services, inc.  
6600 Rockledge Drive, Suite 550  
BETHESDA, MD 20817  
PHONE: (202)408-0960  
FAX: (202)408-0961

PROJECT NUMBER:  
1136.163

BUCKINGHAM-THE CARLIN  
10014515 1322  
4300 N CARLIN SPRINGS RD.  
ARLINGTON, VA 22203

at&t  
7150 STANDARD DRIVE  
HANOVER, MD 21076

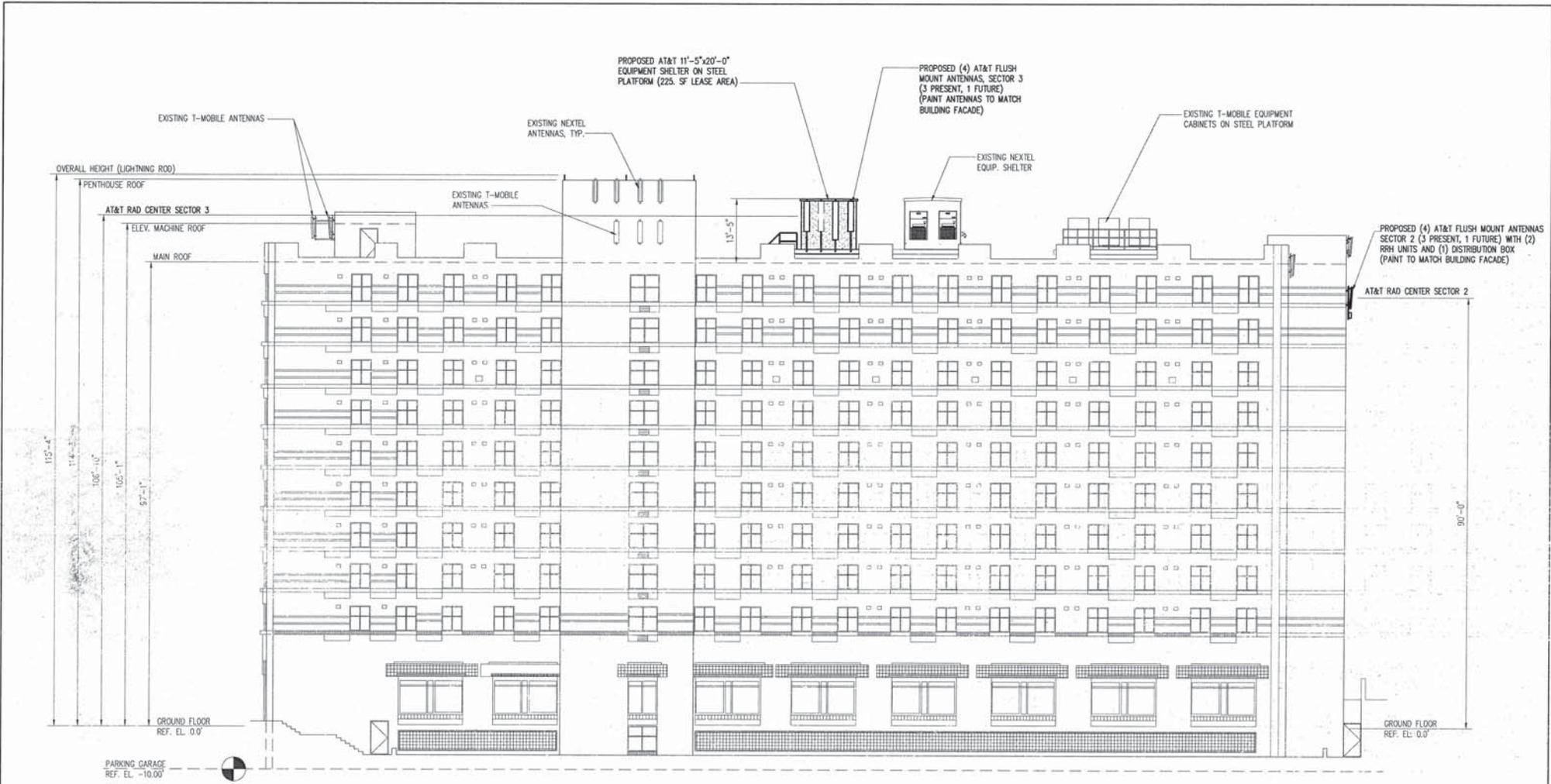
1	09/19/11	REVISED SECTOR 2	A.A.	C.G.	C.G.
0	09/01/11	ZONING	W.A.	C.G.	C.G.
A	08/29/11	ZONING REVIEW	W.A.	C.G.	C.G.
NO	DATE	REVISIONS	BY	CHK	APPR
SCALE: AS SHOWN		DESIGNED: C.G.	DRAWN: W.A.		



<b>SITE PLAN</b>	
JOB NO.	DRAWING NUMBER
25471-430	Z02







**SOUTHWEST ELEVATION**  
SCALE: 1"=20'

1  
205

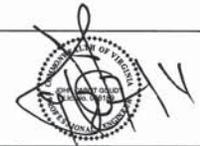
**entrex**  
communication services, inc.  
6600 Rockledge Drive, Suite 550  
BETHESDA, MD 20817  
PHONE: (202)408-0960  
FAX: (202)408-0961

PROJECT NUMBER:  
1136.163

**BUCKINGHAM- THE CARLIN**  
**10014515\_1232**  
4300 N CARLIN SPRINGS RD.  
ARLINGTON, VA 22203

**at&t**  
7150 STANDARD DRIVE  
HANOVER, MD 21076

1	09/19/11	REVISED SECTOR 2	A.A.	C.G.	C.C.
0	09/01/11	ZONING	W.A.	C.G.	C.C.
A	08/29/11	ZONING REVIEW	W.A.	C.G.	C.C.
NO.	DATE	REVISIONS	BY	CHK	APPD
SCALE: AS SHOWN		DESIGNED: C.G.	DRAWN: W.A.		



**SOUTHWEST ELEVATION**

JOB NO.	DRAWING NUMBER
25471-430	205

PROPOSED (4) AT&T FLUSH MOUNT ANTENNAS, SECTOR 1 (3 PRESENT, 1 FUTURE) WITH (2) RRH UNITS AND (1) DISTRIBUTION BOX (PAINT TO MATCH BUILDING FACADE)

EXISTING NEXTEL ANTENNAS  
EXISTING T-MOBILE ANTENNAS  
EXISTING ANTENNAS

EXISTING NEXTEL EQUIP. SHELTER  
EXISTING T-MOBILE EQUIPMENT CABINETS  
EXISTING NEXTEL ANTENNAS

PROPOSED (4) AT&T FLUSH MOUNT ANTENNAS, SECTOR 2 (3 PRESENT, 1 FUTURE) WITH (2) RRH UNITS AND (1) DISTRIBUTION BOX, BELOW EXISTING NEXTEL ANTENNAS (PAINT TO MATCH BUILDING FACADE)

OVERALL HEIGHT, LIGHTNING ROD

PENTHOUSE ROOF  
AT&T RAD CENTER SECTOR 1  
AT&T RAD CENTER SECTOR 2  
MAIN ROOF

EXISTING METRICOM ANTENNAS  
EXISTING T-MOBILE ANTENNAS

96'-0"  
97'-1"  
110'-10"  
114'-3"  
115'-4"

GROUND FLOOR REF. EL. 0.0'

**SOUTHEAST ELEVATION**  
SCALE: 1" = 20'-0"

1  
206

PROPOSED AT&T 11'-5"x20'-0" EQUIPMENT SHELTER ON STEEL PLATFORM (225. SF LEASE AREA)

EXISTING NEXTEL ANTENNAS  
EXISTING T-MOBILE ANTENNAS  
EXISTING METRICOM ANTENNAS

PROPOSED (4) AT&T FLUSH MOUNT ANTENNAS, SECTOR 1 (3 PRESENT, 1 FUTURE) WITH (2) RRH UNITS AND (1) DISTRIBUTION BOX (PAINT TO MATCH BUILDING FACADE)

EXISTING NEXTEL ANTENNAS  
EXISTING T-MOBILE ANTENNAS

OVERALL HEIGHT, LIGHTNING ROD

PENTHOUSE ROOF  
AT&T RAD CENTER SECTOR 1  
MAIN ROOF

97'-1"  
110'-10"  
114'-3"  
115'-4"

GROUND FLOOR REF. EL. 0.0'

**NORTHWEST ELEVATION**  
SCALE: 1" = 20'-0"

2  
206

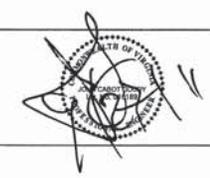


PROJECT NUMBER:  
1136.163

**BUCKINGHAM- THE CARLIN**  
**10014515\_1232**  
4300 N CARLIN SPRINGS RD.  
ARLINGTON, VA 22203

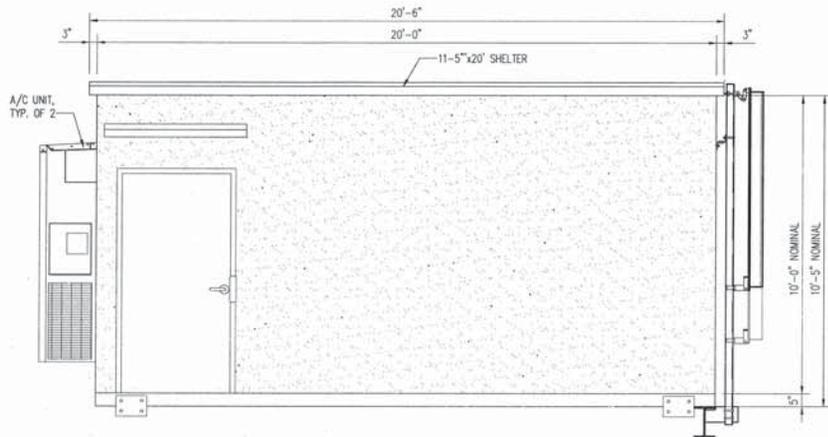


T	09/19/11	REVISED SECTOR 2	AA	C.G.	C.G.
O	09/01/11	ZONING	WA	C.G.	C.G.
A	08/29/11	ZONING REVIEW	WA	C.G.	C.G.
NO	DATE	REVISIONS	BY	CHK	APPD
SCALE: AS SHOWN		DESIGNED: C.G.	DRAWN: WA.		

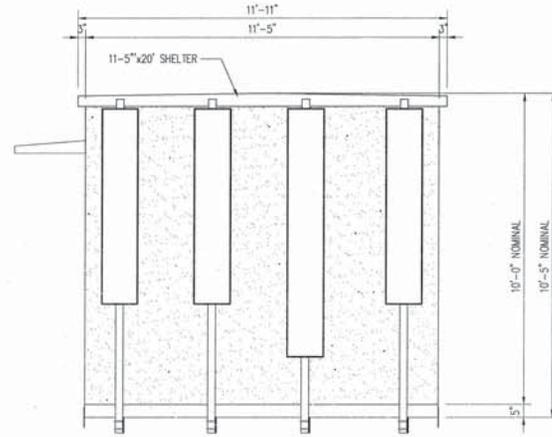


**NORTHWEST AND SOUTHEAST ELEVATION**

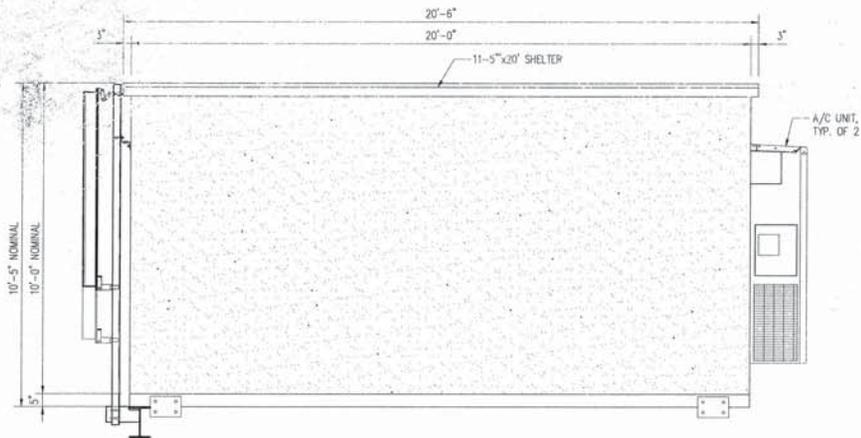
JOB NO.	DRAWING NUMBER
25471-430	206



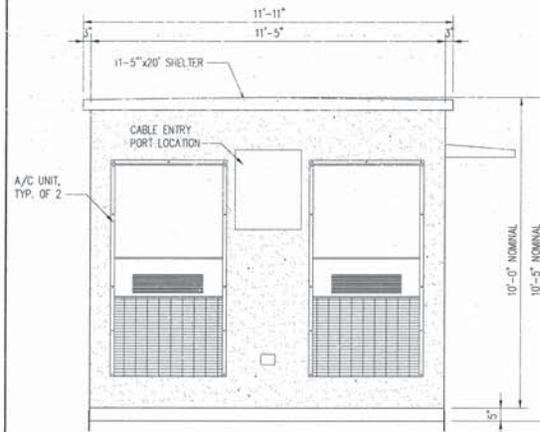
SHELTER ELEVATION 1  
SCALE: 1/4"=1'-0"



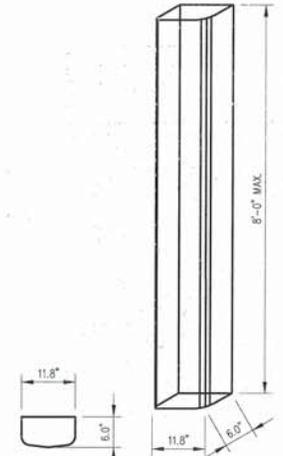
SHELTER ELEVATION 3  
SCALE: 1/4"=1'-0"



SHELTER ELEVATION 2  
SCALE: 1/4"=1'-0"



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



PLAN ISOMETRIC VIEW  
ANTENNA DETAIL 5  
SCALE: N.T.S.

**entrex**  
communication services, inc.  
6600 Rockledge Drive, Suite 550  
BETHESDA, MD 20817  
PHONE: (202)408-0960  
FAX: (202)408-0961

PROJECT NUMBER:  
1136.163

BUCKINGHAM- THE CARLIN  
10014515\_1232  
4300 N CARLIN SPRINGS RD.  
ARLINGTON, VA 22203

**at&t**  
7150 STANDARD DRIVE  
HANOVER, MD 21076

1	09/19/11	REVISED SECTOR 2	AA	C.G.	C.G.
0	09/01/11	ZONING	WA	C.G.	C.G.
A	08/29/11	ZONING REVIEW	WA	C.G.	C.G.
NO.	DATE	REVISIONS	BY	CHK	APPR
SCALE: AS SHOWN		DESIGNED: C.G.	DRAWN: WA.		



EQUIPMENT SHELTER  
AND ANTENNA DETAILS

JOB NO. 25471-430  
DRAWING NUMBER 207





**Site Name: Buckingham- The Carlin**  
Wireless Communication Facility  
4300 N Carlin Springs Rd.  
Arlington, VA 22203

*Photograph Information.*  
View from the Northeast  
**Showing the Existing Site**

 **NETWORK BUILDING  
& CONSULTING, LLC**



Site Name: Buckingham-The Carlin  
Wireless Communication Facility  
4300 N Carlin Springs Rd  
Arlington, VA 22203

Photograph Information:  
View from the Northeast  
Showing the Proposed Site

 NETWORK BUILDING  
& CONSULTING, LLC



Proposed Equipment  
Not Visible Due to  
Existing Architecture

Site Name: Buckingham- The Carlin  
Wireless Communication Facility  
4300 N Carlin Springs Rd  
Arlington, VA 22203

Photograph Information:  
View from the Northwest  
**SITE NOT VISIBLE**

 NETWORK BUILDING  
& CONSULTING, LLC



**Site Name: Buckingham- The Carlin**  
Wireless Communication Facility  
4300 N Carlin Springs Rd.  
Arlington, VA 22203

*Photograph Information:*  
View from the Southeast  
**Showing the Existing Site**



**NETWORK BUILDING  
& CONSULTING, LLC**



**Site Name:** Buckingham- The Carlin  
Wireless Communication Facility  
4300 N Carlin Springs Rd.  
Arlington, VA 22203

**Photograph Information:**  
View from the Southeast  
Showing the Proposed Site

  
**NETWORK BUILDING  
& CONSULTING, LLC**



**Site Name:** Buckingham- The Carlin  
Wireless Communication Facility  
4300 N. Carlin Springs Rd.  
Arlington, VA 22203

*Photograph Information:*  
View from the Southwest  
**Showing the Existing Site**

 **NETWORK BUILDING  
& CONSULTING, LLC**



**Site Name:** Buckingham--The Carlin  
Wireless Communication Facility  
4300 N Carlin Springs Rd  
Arlington, VA 22203

*Photograph Information:*  
View from the Southwest  
Showing the Proposed Site

 **NETWORK BUILDING  
& CONSULTING, LLC**



**Site Name: Buckingham- The Carlin**  
Wireless Communication Facility  
4300 N Carlin Springs Rd  
Arlington, VA 22203

*Photograph Information*  
Rooftop Equipment  
View from the Northwest  
**showing the Existing Site**

**NETWORK BUILDING  
& CONSULTING, LLC**



**Site Name: Buckingham- The Carlin**  
Wireless Communication Facility  
4300 N Carlin Springs Rd  
Arlington, VA 22203

*Photograph Information:*  
Rooftop Equipment  
View from the Northwest  
**Showing the Proposed Site**

  
**NETWORK BUILDING  
& CONSULTING, LLC**



**Bechtel Communications.**

**MPE Study Report  
for**

**Site Name: Buckingham – The Carlin**

**Site ID: 1232**

**Address: 4300 N. Carlin Springs Road, Arlington, VA 22203**

*Bechtel Confidential*

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NO.	DATE	REVISIONS	BY	CHK'D	APPROVALS
1	10/07/2011	Rev-0	Shahed Husain	EW	

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  - c. Exposure Limit Signs

### 1. Introduction

FCC requires all wireless antenna operators to perform an assessment of radiofrequency (RF) emissions from all the transmitting antennas at a site whenever antenna operations are added or modified, and to ensure compliance with Maximum Permissible Exposure (MPE) limit in the FCC regulations. The FCC regulations require any future antenna collocators to assess and assure continuing FCC compliance based on the effects of all proposed and existing antennas.

This analysis was completed to establish safe working distances for the Public utilizing guidelines set forth by the Federal Communications Commission (FCC) with regards to maximum human exposure limits; this has been accomplished by the use of predictive modeling software.

The modeling predictions have been done using 100% transmitter duty cycle. This will predict a worst case scenario for safety reasons. The purpose of this study is to determine safe distances for the general public from the antenna arrays and to bring the site into FCC/OSHA compliance. The predictive software tool utilizes a cylindrical model that provides spatially averaged power density that is calculated in one square foot increments (pixels). The composite RF fields are displayed as a percentage of the appropriate standard. As the plot legends will show, the RED exceeds the FCC Public MPE limits.

### 2. Site Description

**The site Name:** Buckingham – The Carlin

**Construction Number:** 1232

**Address:** 4300 N. Carlin Springs Rd., Arlington, VA 22203

**Latitude:** 38° 52' 37.7" **Longitude:** -77° 06' 42.2"

**Site Type:** Rooftop

### 3. Antenna and Transmission Data

AT&T will be operating at four different frequency bands. They are 700 MHz, 850 MHz Cellular, 1900 MHz PCS, and 2100 MHz AWS bands. AT&T plans to use three different technologies, namely GSM, UMTS, and LTE at the site. The other carriers that are currently operating from this site are T-Mobile, and Sprint-Nextel.

For all wireless operators, the analysis is done with the assumptions of maximum channel capacity & maximum transmitter power as noted in the following tables below. When specific carrier related information (i.e. antenna, transmit power, frequency, azimuth etc.) was unavailable, comparable estimated information was used to simulate the worst case scenario.

The table below summarizes the relevant technical data for the site.

Wireless Provider	AT&T
Frequency	850 MHz
Antenna Manufacturer & Model	Kathrein 800 10765
Maximum Gain	15.8 dBi
RF Channels Per Sector (Max)	8 (GSM), 2 (UMTS)
Max. Trans Power / RF Channel.	40 Watts
Antenna Center Line Position Above Ground Level	Sector 1: 110'10", Sector 2: 90', and Sector 3: 106'10"
Antenna Orientation	0, 120, 240 Degrees
Wireless Provider	AT&T
Frequency	1900 MHz
Antenna Manufacturer & Model	Kathrein 800 10765
Maximum Gain	18.5 dBi
RF Channels Per Sector (Max)	8 (GSM), 2 (UMTS)
Max. Trans Power / RF Channel.	40 Watts
Antenna Center Line Position Above Ground Level	Sector 1: 110'10", Sector 2: 90', and Sector 3: 106'10"
Antenna Orientation	0, 120, 240 Degrees
Wireless Provider	AT&T
Frequency	700 MHz
Antenna Manufacturer & Model	Kathrein 800 10765
Maximum Gain	15.3 dBi
RF Channels Per Sector (Max)	1
Max. Trans Power / RF Channel.	40 Watts
Antenna Center Line Position Above Ground Level	Sector 1: 110'10", Sector 2: 90', and Sector 3: 106'10"
Antenna Orientation	0, 120, 240 Degrees

MAXIMUM PERMISSIBLE EXPOSURE REPORT

Wireless Provider	AT&T
Frequency	2100 MHz (AWS)
Antenna Manufacturer & Model	Kathrein 800 10765
Maximum Gain	18 dBi
RF Channels Per Sector (Max)	1
Max. Trans Power / RF Channel.	40 Watts
Antenna Center Line Position Above Ground Level	Sector 1: 110'10", Sector 2: 90', and Sector 3: 106'10"
Antenna Orientation	0, 120, 240 Degrees

Wireless Provider	Sprint-Nextel
Frequency	1900 & 850 MHz
Antenna Manufacturer & Model	Generic 1900 & 850 MHz 4' panel antenna
Maximum Gain	18.5 & 15.8 dBi
RF Channels Per Sector (Max)	N/A
Max. Trans Power / antenna	20 & 100 Watts
Antenna Center Line Position Above Ground Level	105'1", 102', and 112'
Antenna Orientation	64, 134, 269 Degrees

Wireless Provider	Sprint-Nextel
Frequency	23.600 GHz
Antenna Manufacturer & Model	Generic 1' & 2' MW dish antenna
Maximum Gain	35.9 and 41 dBi
RF Channels Per Sector (Max)	N/A
Max. Trans Power / antenna	0.7 Watts
Antenna Center Line Position Above Ground Level	107'1", and 108'6"
Antenna Orientation	234, 230, 74 and 204 Degrees

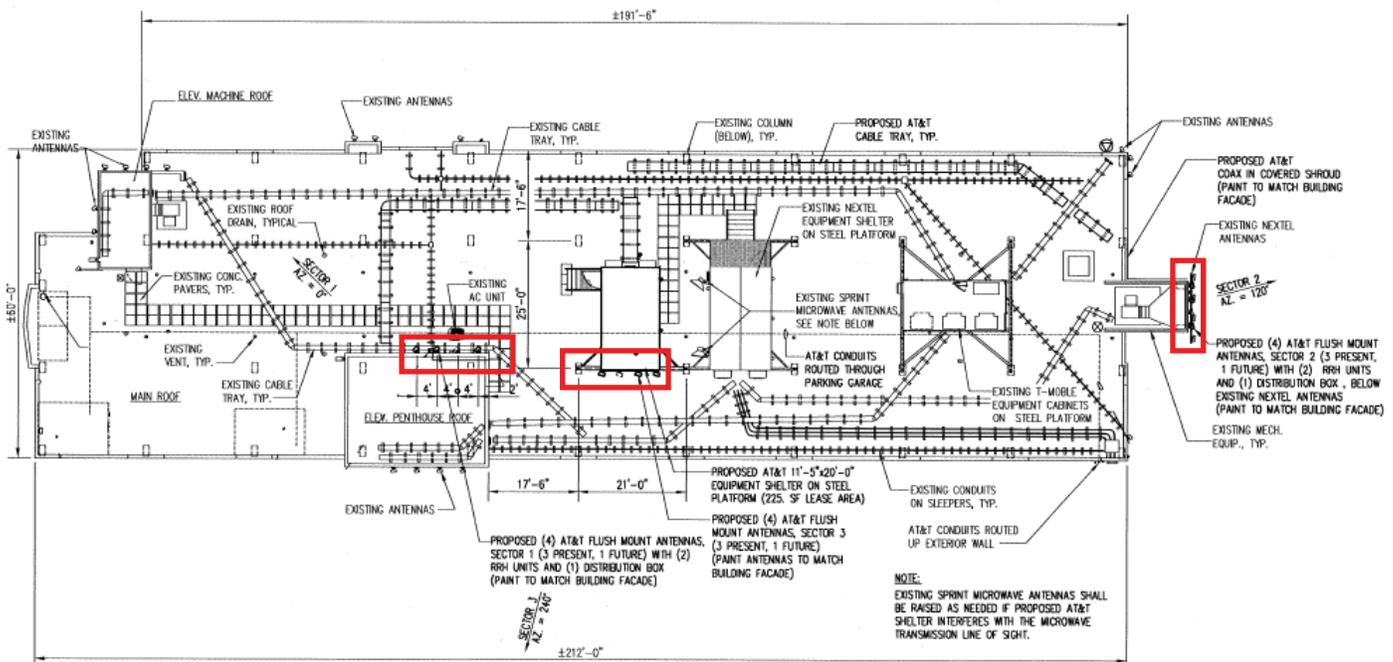
Wireless Provider	Sprint-Nextel
Frequency	2.69 GHz
Antenna Manufacturer & Model	Generic 1' & 3'6" WiMax panel antenna
Maximum Gain	16 & 17.8 dBi
RF Channels Per Sector (Max)	N/A
Max. Trans Power / antenna	20 Watts
Antenna Center Line Position Above Ground Level	105'6"
Antenna Orientation	74, 389, 230 and 214 Degrees

MAXIMUM PERMISSIBLE EXPOSURE REPORT

Wireless Provider	T-Mobile
Frequency	1900 (PCS)
Antenna Manufacturer & Model	Generic 1900 MHz 4' panel antenna
Maximum Gain	18 dBi
RF Channels Per Sector (Max)	1
Max. Trans Power / RF Channel.	40 Watts
Antenna Center Line Position Above Ground Level	105'1", 97'1", and 87'
Antenna Orientation	0, 120, 181 Degrees

The areas surrounding antennas are accessible to the general public. All panel antennas belonging to AT&T are located at the following areas: i) Sector 1 antennas are located on the elevator penthouse room's façade, ii) Sector 2 antennas are mounted on the eastern façade of the building below the existing Sprint-Nextel antennas, and iii) Sector 3 antennas are mounted on the equipment shelter's façade.

The sketches\*\* below show the building's roof plan with antenna positions on the building and its elevation.

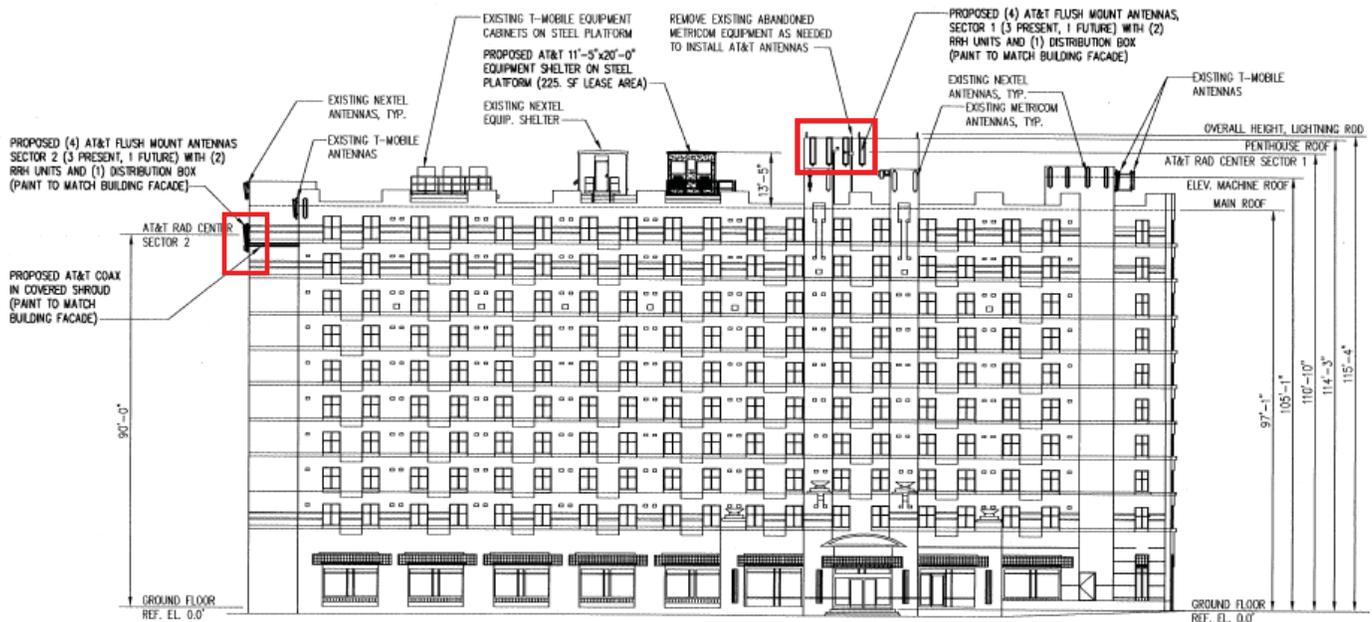


\*\*Sketches by: Entrex Communication services, Inc.



**AT&T antennas**

# MAXIMUM PERMISSIBLE EXPOSURE REPORT



\*\*Sketches by: Entrex Communication services, Inc.



**AT&T antennas**

## 4. ANALYSIS

The analysis methodology used for this report complies with the guidelines established by the Federal Communications Commission's (FCC) OET Bulletin 65. A copy of the bulletin can be downloaded from the FCC's website at:

<http://www.fcc.gov/oet/info/documents/bulletins/#65>

All analyses and graphics contained in this report were done with RoofView®<sup>1</sup> software. RoofView® uses a 'Near Field' and 'Far Field' approaches to calculate the RF Energy and determines the percentages of electromagnetic exposure as defined by the aforementioned bulletin. RoofView® is AT&T's approved roof top prediction software. For more information refer to the software's website:

<http://www.radhaz.com/store.php/products/roofview>

The RoofView software was selected to for an MPE study of this site. Such the choice was made since the antenna height is in a range of usual antenna heights in rooftop installation and because it provides actual map of power density levels. For this site, analysis was completed separately for western and eastern parts of the roof since the entire roof is too big to fit into a single RoofView antenna map.

<sup>1</sup> RoofView® is a trademark of Richard Tell Associates, Inc.

## 5. RESULTS

The predicted software plot of the Maximum Permissible Exposure (MPE) is given in the figure below. This site has been analyzed using the FCC PUBLIC STANDARD and FCC OCCUPATIONAL STANDARD. A representation of the building and surrounding area is shown.

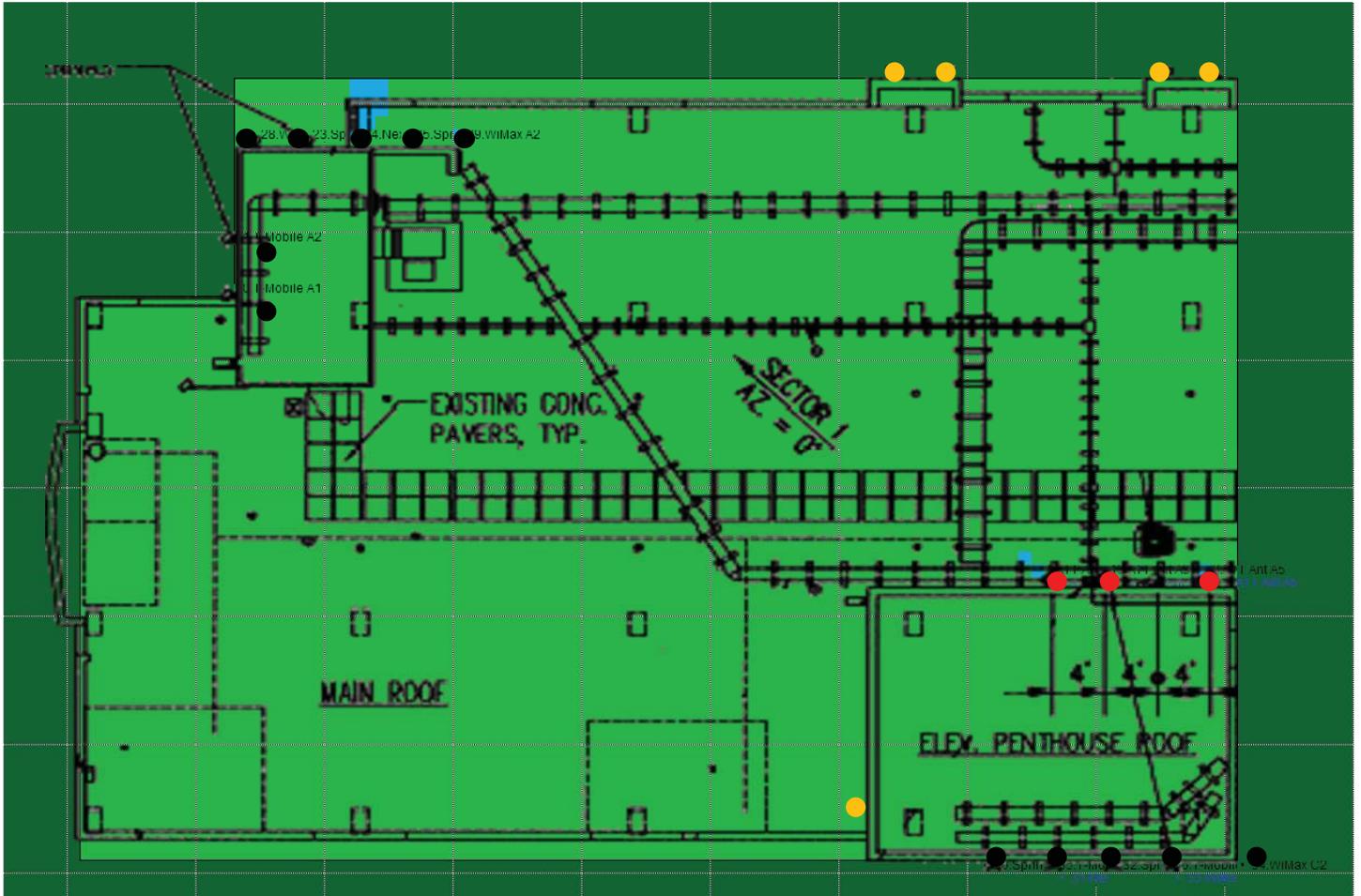
NOTE: The plot grids are 10 feet increments. Individual pixels are 1 foot square.

**FCC PUBLIC MPE Limits:** See attachment B.

Note: Threshold definitions (see attachment C for signs)

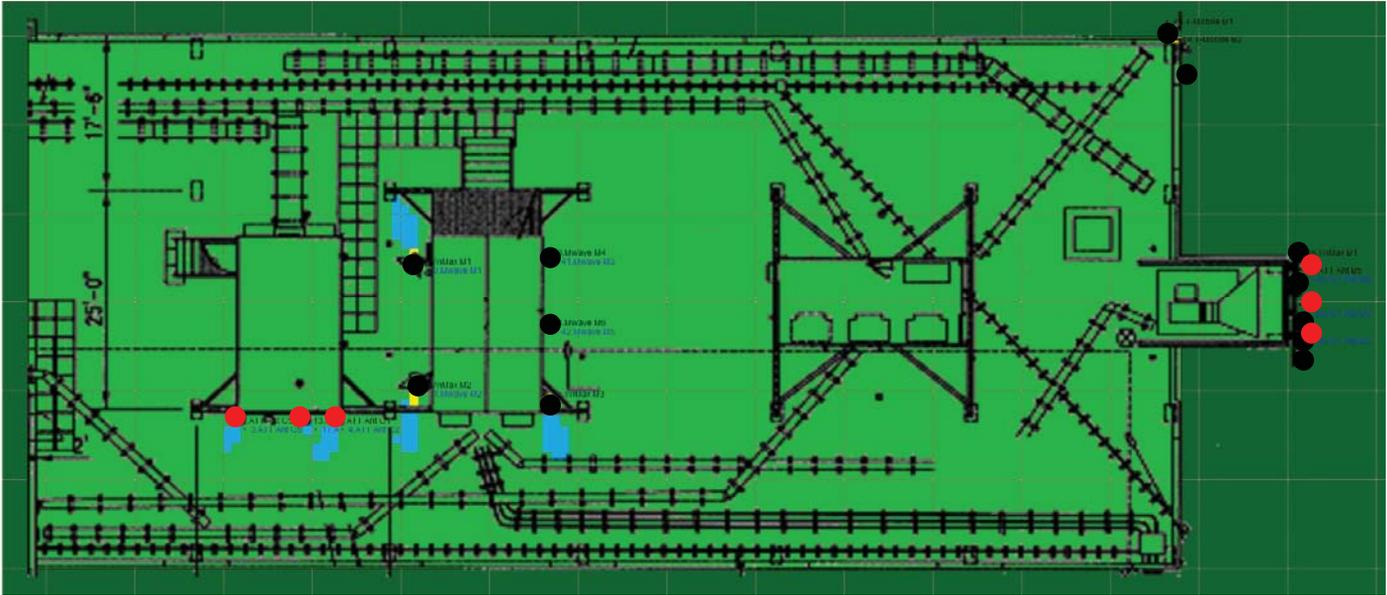
<b>GREEN</b>	$\leq 100\%$ of FCC Public Standards
<b>BLUE</b>	$>100\%$ to $\leq 500\%$ of FCC Public Standards
<b>YELLOW</b>	$>500\%$ to $\leq 5000\%$ of FCC Public Standards
<b>RED</b>	$>5000\%$ of FCC Public Standards

**MPE Analysis of the roof top (Western Section)**



- Denotes AT&T antennas
- Denotes Other Carrier antennas
- Denotes Non-functional antennas

**MPE Analysis of the roof top (Eastern Section)**



- Denotes AT&T antennas
- Denotes Other Carrier antennas

**MPE Results for the roof top (Western Section)**

Statistical Summary		
%MPE	SQ. FT	%SQ. FT.
	5286	98.55 % of total ROOF Area
0-100	5270	99.70 % of Selected Area
101 - 500	16	0.30 % of Selected Area
501 - 5000	0	0.00 % of Selected Area
> 5000	0	0.00 % of Selected Area
<p>Roof Area 5364 sq. ft.                      Max %MPE 469.6 %                      Min %MPE 0.2 %                      Using Near/Far Spatial Avg Model                      With FCC 1997 Public Standard</p>		

**MPE Results for the roof top (Eastern Section)**

Statistical Summary		
%MPE	SQ. FT	%SQ. FT.
	7920	100.00 % of total ROOF Area
0-100	7851	99.13 % of Selected Area
101 - 500	61	0.77 % of Selected Area
501 - 5000	8	0.10 % of Selected Area
> 5000	0	0.00 % of Selected Area
<p>Roof Area 7920 sq. ft.                      Max %MPE 1113.1 %                      Min %MPE 0.1 %                      Using Near/Far Spatial Avg Model                      With FCC 1997 Public Standard</p>		

Note, in order to fit into the roof view program, the total roof area for the subject site was divided into two sections. The above charts show a summary of the exposure in the areas where the AT&T antennas are mounted, in one square foot increments. It is seen that the worst case exposure is almost 469.6% and

## MAXIMUM PERMISSIBLE EXPOSURE REPORT

1113.1% of the allowable limit for public exposure for the western and the eastern sections of the roof respectively.

There are walking areas around and in-front of AT&T antennas. As it is seen from Roof View propagation simulation tool, proposed AT & T antennas are contributing >100% to <=500% of FCC Public Standards of FCC Public Limit (i.e. Blue color) on the roof. Therefore, at&t is obligated to place signage and/or barriers to discourage people from walking/working in an exposed area.

The proposed site must be brought into compliance with FCC RF Safety requirements using Signage and/or barriers. The signage and/or barriers will alert/prevent persons who go to the roof that there are active antennas emitting RF emission in excess of the FCC safety standard.

### 6. CONCLUSION

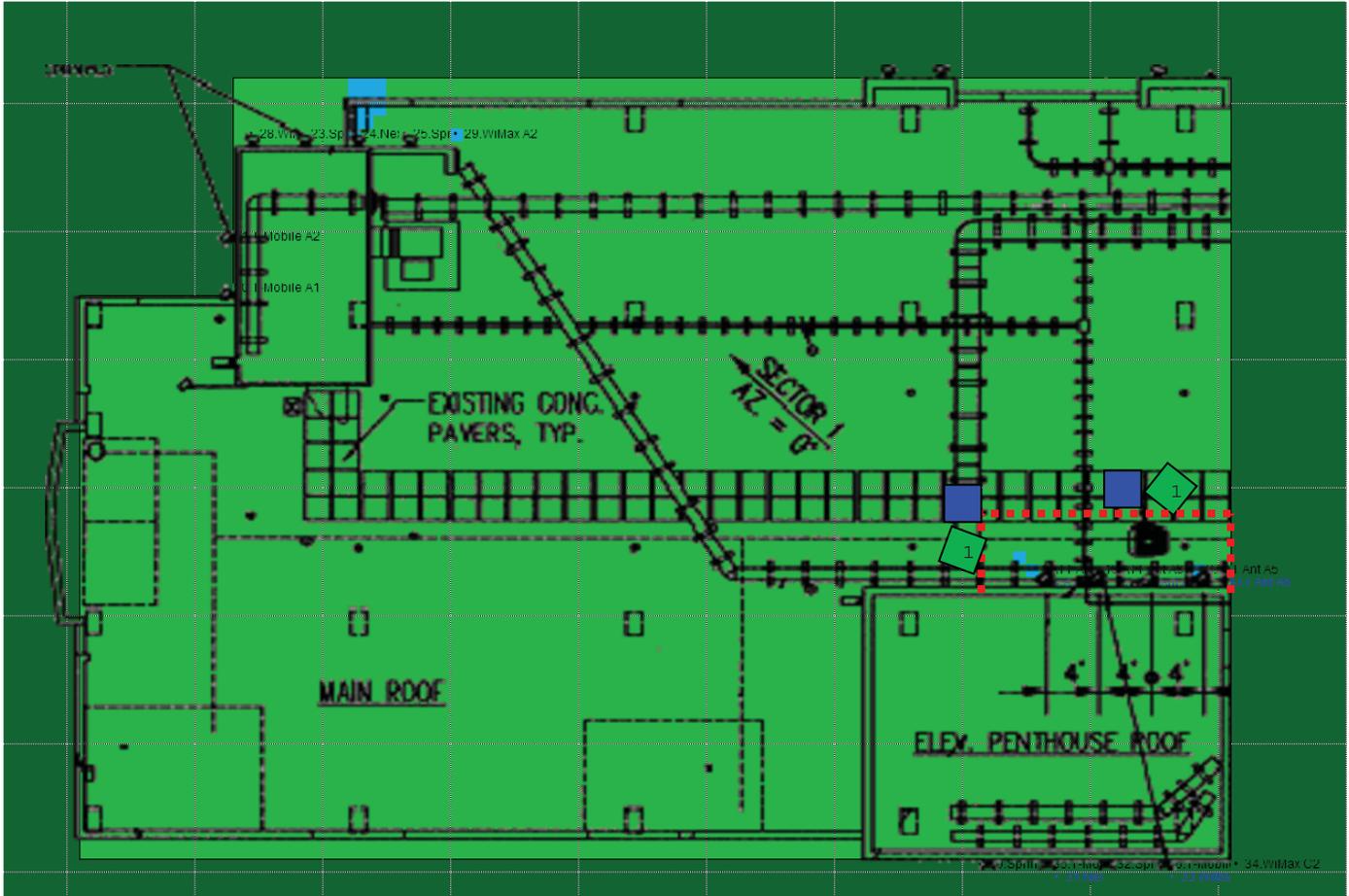
The results show that people on a roof can be exposed to RF emission levels in excess of the FCC PUBLIC STANDARD from AT&T antennas. These results assume that the equipment uses the maximum transmitter capacity with 100% duty cycle and therefore are the worst case scenarios.

The requirements for the site are listed below:

- **The areas in-front of the AT&T antennas are accessible. Installation of barrier is required around the periphery of each area where the General Population/Uncontrolled MPE limits are exceeded. Barriers are required surrounding each of sector one and sector three antennas. The barrier locations are identified in the figure below in page 12 and 13.**
- **Blue Notice Signs are to be installed on the barrier that surrounds each of the two sectors identified above. The signage will alert a person on the rooftop about the active antennas. The locations of the Blue Notice Signs are identified in the figure below in page 12 and 13.**
- **Green Information 1 signs should be installed adjacent to all of the above mentioned RF alert signs. The locations for the Green Information 1 signs are identified in the figure below in page 12 and 13.**
- **Relocation of the HVAC condensing unit below the sector 1 (0 Degree) antenna is required. Other equipments that are adjacent to the sector 1 (0 Degree) antennas are also required to be relocated.**

# MAXIMUM PERMISSIBLE EXPOSURE REPORT

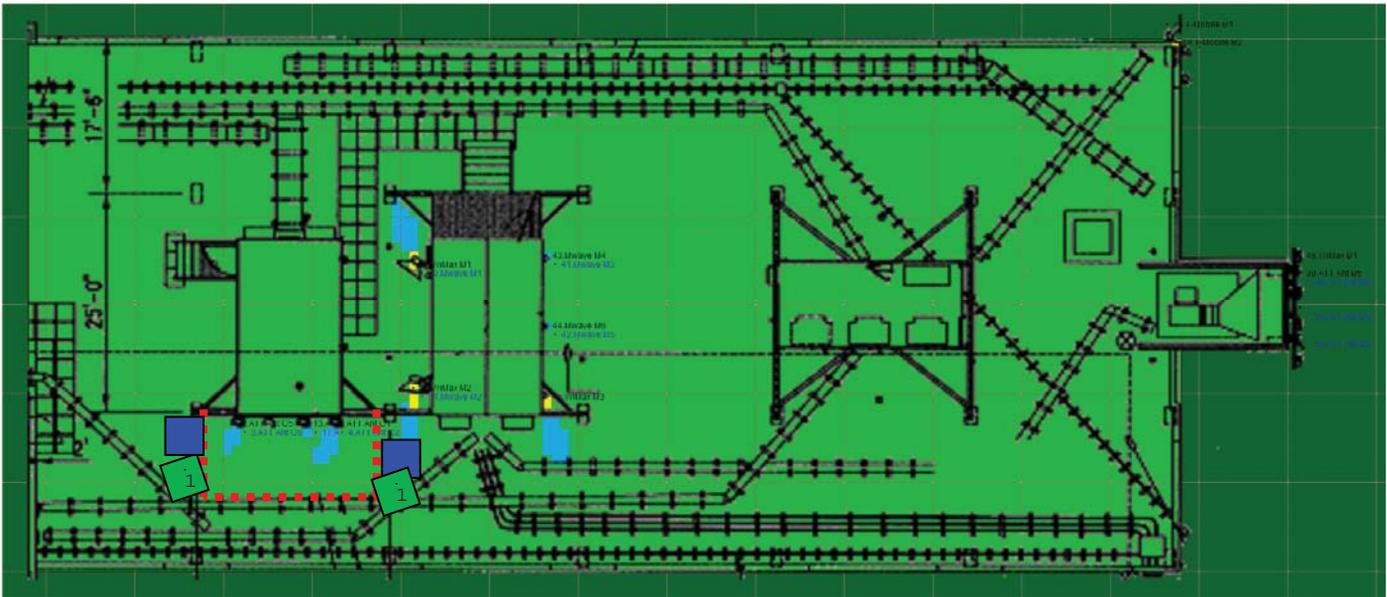
See the relative placement location for signage/barriers as indicated in the figure below.



Western part of the roof ~ Sector 1

-  Denotes Blue Notice Sign
-  Denotes Yellow Caution Sign
-  Denotes Red Warning Sign
-  Denotes Barriers
-  Denotes Green Information Sign 1

MAXIMUM PERMISSIBLE EXPOSURE REPORT



Eastern part of the roof ~ Sectors 3

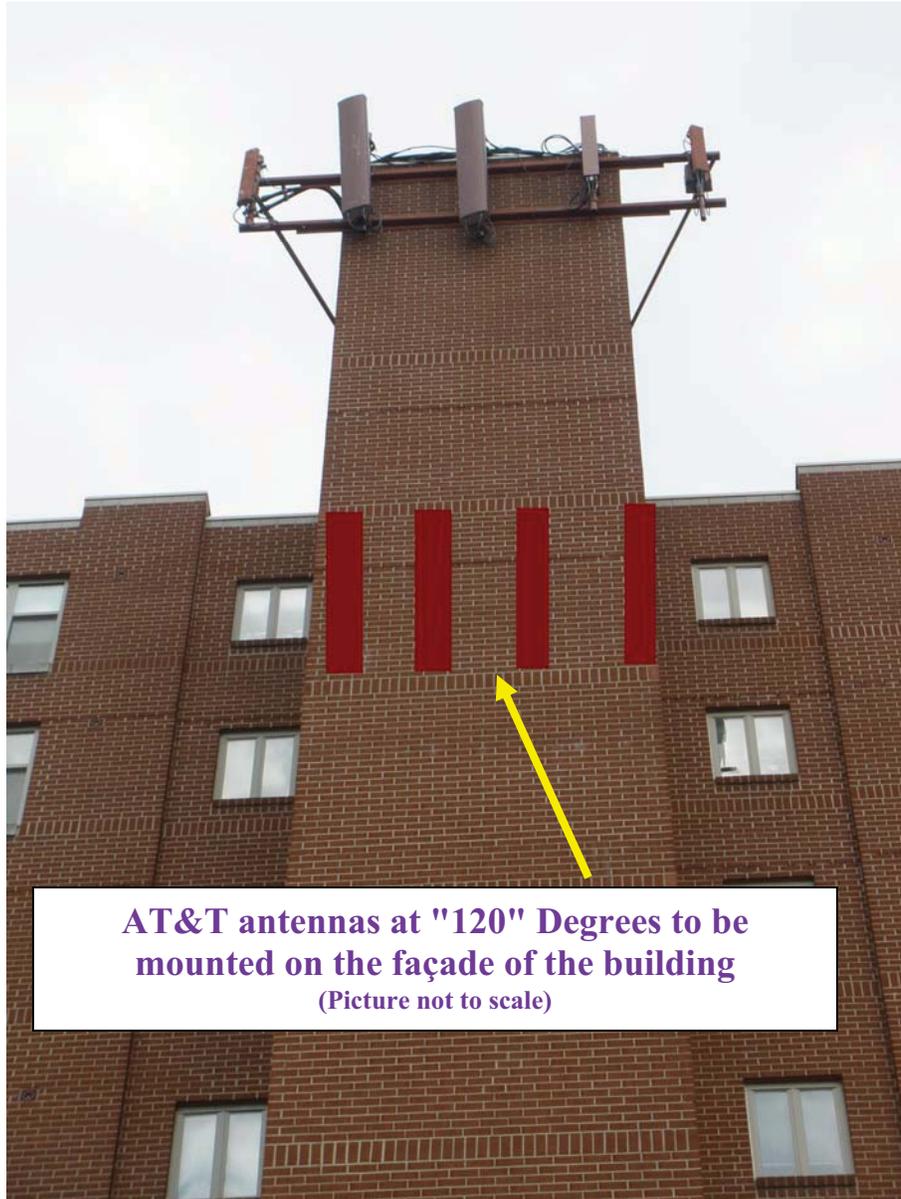
-  Denotes Blue Notice Sign
-  Denotes Yellow Caution Sign
-  Denotes Red Warning Sign
-  Denotes Barriers
-  Denotes Green Information Sign 1

7. ATTACHMENTS

ATTACHMENT A  
Site Photograph

**AT&T antennas at "0" Degree to be flush mounted on the Elevator Penthouse façade  
(Picture not to scale)**







## ATTACHMENT B

### Introduction to Compliance & Federal Requirements

#### 1. Introduction to RF Exposure Compliance

This document presents the RF safety compliance policy of Cingular Wireless.

The policy's foundation is the body of Federal Communications Commission ("FCC"), Occupational Safety and Health Administration ("OSHA") and other federal and industrial best practices and standards (e.g., Institute of Electrical and Electronics Engineers ("IEEE")/American National Standards Institute ("ANSI"), and National Council on Radiation Protection and Measurement ("NCRP")) for human exposure that are accepted as the bases for radiofrequency ("RF") safety programs that provide the greatest protection against possible harmful effects of radiofrequency emissions ("RFE").

Overall, it hoped that this edition's format and content will render it more appealing and of improved assistance to its users. Suggestions for further improvements are welcome.

#### 2. Federal Requirements for RF Safety Compliance

The National Environmental Policy Act of 1969 required federal agencies to examine the effects of RFE on humans. The FCC's first RF exposure guidelines appeared in 1985 and were based on the 1982 IEEE/ANSI standards. In 1996, the FCC adopted the newer ANSI/IEEE C95.1-1992 standard. The FCC's Second Memorandum Opinion and Order (25 August 1997) effected the inclusion into the standards components of the 1996 NCRP standards that made them more stringent, though not in the frequency bands of cellular or public PCS interest.

Federal regulations impose upon wireless operators the requirement that all licensed transmitters comply with the FCC's RF exposure guidelines. The goal of this action is protection from RF exposures that exceed the levels that the FCC considers permissible from a health standpoint.

#### A) FCC Exposure Environments

The FCC defines two sets of exposure environments based on the awareness of persons who are being exposed. RF safety compliance centers on management of these two environments.

##### 1. Occupational/Controlled Exposure

For FCC purposes, Occupational/Controlled exposure limits apply when persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. These exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above General Population/Uncontrolled limits (see definition below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate action.

##### 2. General Population/Uncontrolled Exposure

For FCC purposes, General Population/Uncontrolled exposure limits apply when the general public is exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure.

## MAXIMUM PERMISSIBLE EXPOSURE REPORT

Therefore, members of the general public always fall under this category when exposure is not employment-related.

### B) FCC Maximum Permissible Exposure Levels

The FCC's maximum permissible exposure ("MPE") levels for the two exposure environments are given in Table 1 and Table 2. Figure 1 is a graph of both MPEs as functions of frequency.

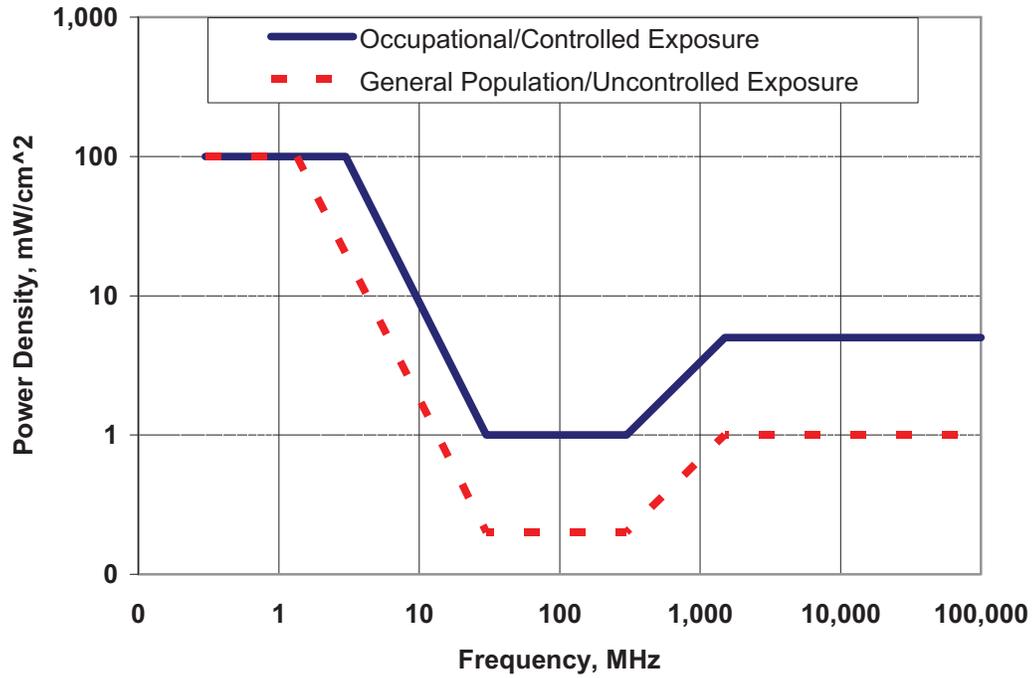
**Table 1: MPE Limits for General Population/Uncontrolled Exposure**

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Averaging Time for  E  <sup>2</sup> ,  H  <sup>2</sup> , or S (Minutes)
0.3 – 1.34	614	1.63	(100)*	30
1.34 -30	824/f	2.19/f	(180/f <sup>2</sup> )*	30
30 – 300	27.5	0.073	0.2	30
300 – 1500	--	--	f/1500	30
1500– 100,000	--	--	1.0	30
f = frequency in MHz      * = Plane wave equivalent power density				

**Table 2: MPE Limits for Occupational/Controlled Exposure**

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Averaging Time for  E  <sup>2</sup> ,  H  <sup>2</sup> , or S (Minutes)
0.3 – 3.0	614	1.63	(100)*	6
3.0 – 30	1842/f	4.89/f	(900/f <sup>2</sup> )*	6
30 – 300	61.4	0.163	1.0	6
300 – 1500	--	--	f/300	6
1500– 100,000	--	--	5.0	6
f = frequency in MHz      * = Plane wave equivalent power density				

# MAXIMUM PERMISSIBLE EXPOSURE REPORT

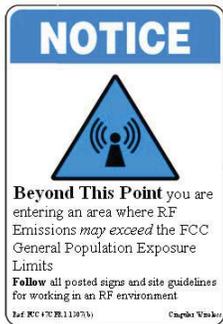


**Figure 1: Graph of Maximum Permissible Exposures. Occupational/Controlled and General Population/Uncontrolled MPEs are functions of frequency.**

The current FCC standards are accepted by federal agencies that are responsible for protection of public health and the environment. The Telecommunications Act of 1996 establishes the FCC's rules as a federal standard that preempts state and local regulation of RF exposure.

MAXIMUM PERMISSIBLE EXPOSURE REPORT

ATTACHMENT C: Exposure Limit Signs



**NOTICE** signs alert persons that they are attempting to access an area in which RF exposure levels could potentially exceed the General Population - Uncontrolled MPE.

The signs must be posted in a visible area at each entrance to the site and at localized areas (in conjunction with any required barriers) when the RFE survey indicates that exposure levels in any area of the rooftop are equal to or exceed the General Population/Uncontrolled MPE.



**CAUTION** signs alert persons that they are attempting to enter an area in which RF exposure may exceed the Occupational/Controlled MPE.

The signs must be posted in a visible area at each entrance to the site and at localized areas (in conjunction with any required barriers) when the RFE survey indicates that exposure levels in any area of the roof top are equal to or exceed the Occupational - Controlled MPE.



**WARNING** signs alert persons that they are attempting to enter an area in which the RF exposure may exceed the Occupational/Controlled MPE by a factor of 10 or greater.

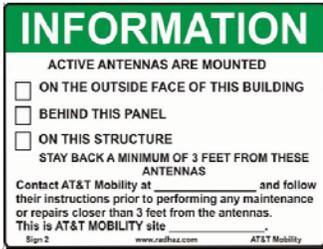
The signs must be posted in a visible area at each entrance to the site and at localized areas (in conjunction with any required barriers) where this level of exposure might occur.



**INFORMATION sign 1**

- An Information Sign 1 should be positioned adjacent to each alerting sign. However, if no Mobility alerting signs are used at the site, an Information sign 1 should be posted at all entrances to a site. This sign includes a Spanish translation.

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## INFORMATION sign 2

- Active antennas behind a radio transparent panel. A non-metallic version with an adhesive backing should be affixed to the face of the radio-transparent panel concealing the antennas.
- Antennas mounted on the outside face of a building. A metallic or non-metallic version should be mounted on the parapet inside wall directly above the antenna.
- Antennas that are stand-alone (e.g., lamp posts, stadiums) in areas where there is little potential for exceeding the General Population/Uncontrolled MPE except, perhaps, very close to the antenna. In this case, the Sign would be mounted close to the antenna in order to alert maintenance workers.



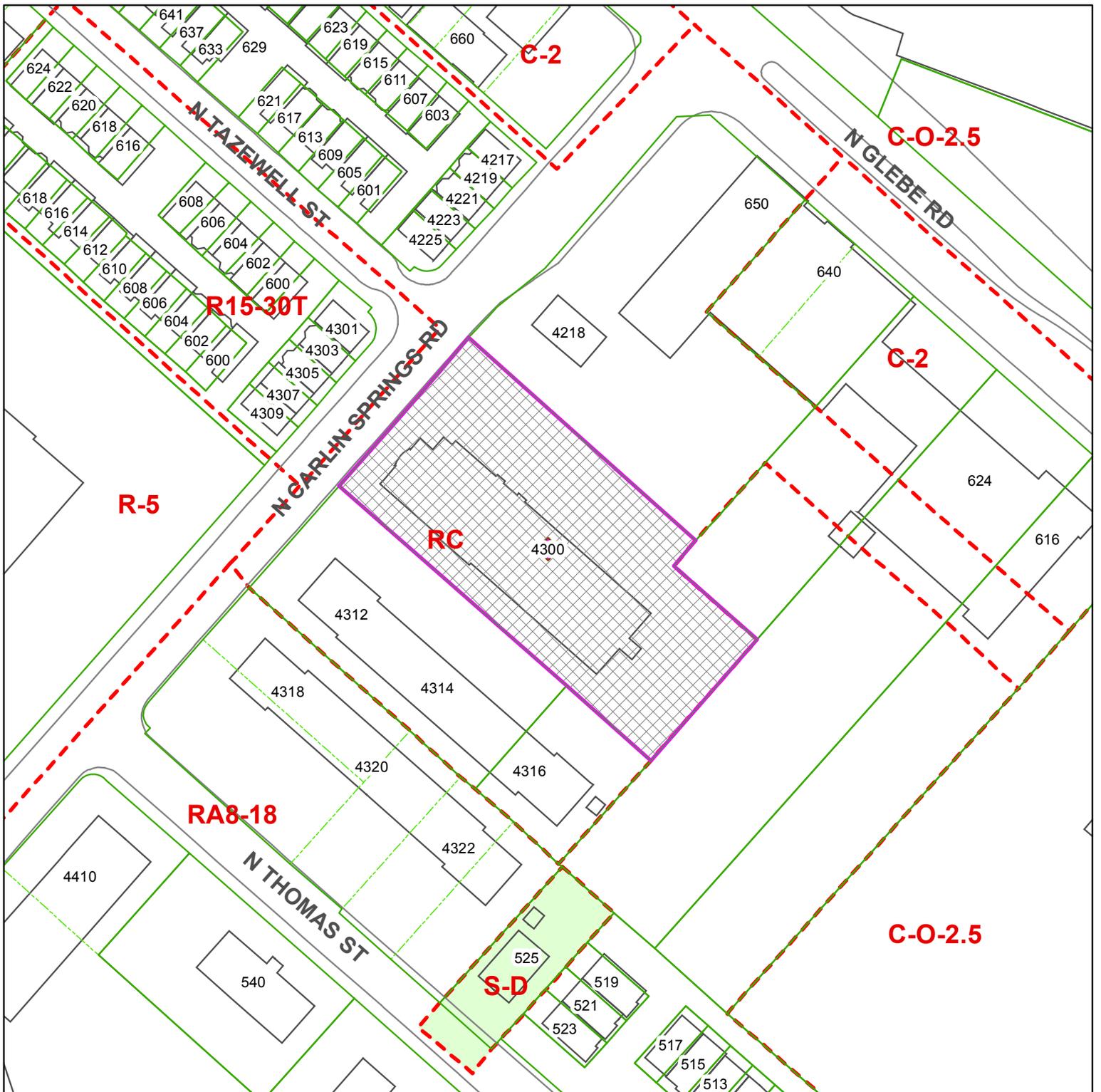
## INFORMATION sign 3

This sign can be posted on the back side of panel antennas and on the mounting platforms of omnidirectional (pole) antennas to identify the antenna as belonging to at&t Mobility.

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## INFORMATION sign 4

This sign is designed for mounting on the sides of panel antennas where it will be visible to maintenance workers, such as window washers, and instruct them to remain at least 3 feet from the antennas.



**SP# 72**

**4300 North Carlin Springs Road**

**RPC# 20-012-360**



 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.