



County of Fairfax, Virginia

MEMORANDUM

DATE: May 5, 2010

TO: David Marshall, Chief
Facilities Planning Branch, Planning Division, DPZ

FROM: Kevin Guinaw, Chief *K. Guinaw*
Special Projects/Applications Management Branch, Zoning Evaluation Division, DPZ

SUBJECT: Proposed T-Mobile Telecommunications Facility at 3300 Gallows Road;
Tax Map 59-2 ((1)) 1A, 1D, 1E; 2232 Feature Shown Application FS-P09-197

This is in response to a request for a determination as to whether a telecommunications facility proposed by T-Mobile Northeast at 3300 Gallows Road would be in substantial conformance with the proffers accepted by the Board of Supervisors with approval of Rezoning RZ 2008-PR-009 and the development conditions and Special Exception Amendment (SEA) Plat approved by the Board of Supervisors with SEA 80-P-078-15 (for an increase in building height, number of beds and land area, and other site modifications at a previously approved medical care facility with related uses and child care centers). As described in the 2232 application dated December 8, 2009, from Matt Chaney, nine (9) panel antennas (each 59 inches high x 11.9 inches wide x 6.3 inches deep) are proposed to be installed inside a proposed stealth penthouse on the roof of the existing parking structure located north of the water tower. In addition, three (3) equipment cabinets (63.5 inches high x 51.2 inches wide x 37 inches deep) are proposed to be installed inside the stealth penthouse. The proposed stealth penthouse, which is 15 feet high x 15 ft wide x 15 feet deep, will be constructed on top of an existing parking garage and will match the existing exterior. A copy of the 2232 telecommunications application is attached, including illustrations that depict the proposed location of the telecommunications equipment inside the stealth enclosure.

The Zoning Administration Division has determined that a telecommunications facility as described above is a permitted use pursuant to the provisions of Sect. 2-514 of the Zoning Ordinance provided that it is determined to be in substantial conformance with any rezoning and special exception. It is my determination that the proposed telecommunications facility is in substantial conformance with the above-referenced applications. It should be noted that Proffer 22.C. provides for the future placement of solar panels or other alternate energy source on the walls or roofs of the buildings, or elsewhere on the site. Please note that this proposal is subject to 2232 review requirements and the applicant's ability to proceed is dependent upon approval of the pending 2232 application by the Fairfax County Planning Commission. This determination has been made in my capacity as the duly authorized agent of the Zoning Administrator. If you have any questions regarding this memorandum, please call Carrie Lee at (703) 324-1290.

KG/CDL/O:\clee01\ActionAssignments\Antennas\3300 Gallows Rd_water tower,parking gar\3300 Gallows Rd_T-Mobile_parking garage.doc

Attachments: A/S

cc: Linda Q. Smyth, Supervisor, Providence District
Kenneth Lawrence, Planning Commissioner, Providence District
Regina C. Coyle, Director, Zoning Evaluation Division, DPZ
Diane Johnson-Quinn, Deputy Zoning Administrator, Zoning Permit Review, ZAD, DPZ
Matt Chaney, T-Mobile Northeast LLC, 12050 Baltimore Ave., Beltsville, MD 20705
File: RZ 2008-PR-009, SEA 80-P-078-15, ANT 0912 136, Imaging, Reading File



County of Fairfax, Virginia

MEMORANDUM

TO: Lorrie Kirst, Deputy Zoning Administrator, ZAD **RECEIVED** 12-14-09 **RECEIVED**
 Other: _____ Dept. of Planning & Zoning Department of Planning & Zoning

FROM: David B. Marshall, Chief **DEC 15 2009** **DEC 18 2009**
 Facilities Planning Branch, DPZ

SUBJECT: Request for Review: 2232 Application **Zoning Administration Div.** **Zoning Evaluation Division**
2009-0785

RE: Application Number: FS-P09-197 Tax Map: 59-2(1)) 1A 1D, 1E

Attached for your review and comment is a 2232 Review application:

RECEIVED FROM: T-Mobile Northeast LLC
PROPOSED USE: Telecom. facility - Stealth Penthouse / parking garage collocation
LOCATION OF USE: 3300 Gallows Road, Fairfax
ADDITIONAL COMMENTS: _____

Please send your comments to David Marshall by: 1/7/10
Staff Coordinator: Connie Minter **Phone:** 324-1263 **Email:** CONNIE.MINTER@FAIRFAXCOUNTY.GOV

****ZAD COMMENTS:**

Property is zoned C-3
 Proposed use is permitted by Zoning Ordinance and meets all zoning requirements, pursuant to Par. 1 of
 Proposed use does not meet all Zoning requirements as follows: sect. 2-514 of the Zoning Ordinance

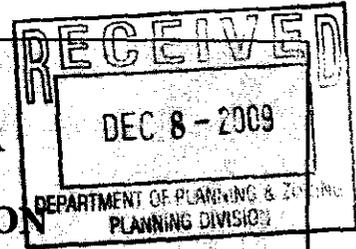
Referred to ZED for the following: must be in substantial conformance with the proffered
 ZAD comments prepared by: Bryan S. Parsons Date: _____
conditions of RZ 2008-PR-009 and SEA 80-P-078-15

****ZED COMMENTS:**

Proposed use is in substantial conformance with all development conditions and/or proffers.
 Proposed use is not in substantial accord with all development conditions and proffers.

****ZED comments prepared by:** _____ **Date:** _____





COUNTY OF FAIRFAX, VIRGINIA
APPLICATION FOR DETERMINATION
PURSUANT TO
SECTION 15.2-2232 OF THE CODE OF VIRGINIA

Application Number: FS-PO9-197
(assigned by staff)

The application contains three parts: I. Application Summary; II. Statement of Justification; and III. Telecommunication Proposal Details.

(Please Type or Print All Requested Information)

PART I: APPLICATION SUMMARY

ADDRESS OF PROPOSED USE

Street Address 3300 Gallows Road
City/Town Fairfax Zip Code 22031

APPLICANT(S)

Name of Applicant T-Mobile Northeast LLC
Street Address 12050 Baltimore Ave.
City/Town Beltsville State MD Zip Code 20705
Telephone Number: Work (240) 264-8600 Fax ()
E-mail Address matt.chaney2@t-mobile.com

Name of Applicant's Agent/Contact (if applicable) Matt Chaney
Agent's Street Address 12050 Baltimore Ave.
City/Town Beltsville State MD Zip Code 20705
Telephone: Work (240) 264-8675 Fax (240) 264-8604

PROPOSED USE

Street Address 3300 Gallows Road, Fairfax, VA 22031

Fairfax Co. Tax Map and Parcel Number(s) 0592 01 0001A, 1D, 1E

Brief Description of Proposed Use _____

Installation of nine antennas inside a proposed stealth penthouse to be attached to the roof of the parking structure at the above parcel. The three proposed equipment cabinets will be placed within the proposed stealth penthouse.

Total Area of Subject Parcel(s) 1,635,050 square feet (acres or square feet)

Portion of Site Occupied by Proposed Use 375 square feet (acres or square feet)

Fairfax County Supervisor District Providence

Planned Use of Subject Property (according to Fairfax County Comprehensive Plan)
Hospital

Zoning of Subject Property (Res w/ other Res zones)

List all applicable Proffer Conditions, Development Plans, Special Exceptions, Special Permits or Variances previously approved and related to this site

PROPERTY OWNER(S) OF RECORD

Owner Board of Supervisors Fairfax County

Street Address 12000 Government Center Parkway Suite 533

City/Town Fairfax State VA Zip Code 22035

PART II, entitled "Statement of Justification," pages 4 through 6, shall be completed by all applicants and included as part of the application. **PART III**, entitled "Telecommunication Proposal Details," pages 7 through 9, also shall be completed and included for all proposed telecommunication uses.

Name of Applicant or Agent Matt Chaney, Agent for T-Mobile Northeast LLC

Signature of Applicant or Agent *Matt Chaney*

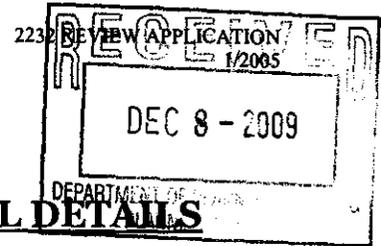
Date 11/30/09

Submit completed application to:

**Fairfax County
Department of Planning and Zoning, Planning Division
Herrity Building
12055 Government Center Parkway, Suite 730
Fairfax, Virginia 22035**

Please do not staple, bind or hole-punch this application. Please provide at least one copy of all pages, including maps and drawings, on 8.5 x 11 inch paper.

FOR STAFF USE ONLY	
Date application received: ___/___/___	
By: <u><i>[Signature]</i></u>	
Additional information requested to complete application:	
<hr/> <hr/>	
Date application accepted: ___/___/___	
By: _____	



PART III: TELECOMMUNICATION PROPOSAL DETAILS

Please complete and provide all requested information. If question is not applicable to the proposed use, please indicate with N/A.

PROPOSED TELECOMMUNICATION USE

Use is (check one):

- New structure (monopole, tower or camouflaged facility)
- Replacement of existing pole or tower at same location with another pole or tower
- Antenna placement on building or penthouse facade
- Antenna placement on building or penthouse rooftop
- Collocation on other existing telecommunications structure (monopole or tower)
- Collocation on other non-telecommunications structure (such as an electric transmission tower/pole, utility pole, water tower, etc.)
- Modification to telecommunications facility previously approved for same applicant:
 Prior 2232 Review application number: _____
 Date of Planning Commission approval: _____

PROJECT DETAILS

1. ANTENNA

Number and Type: 9 Andrews TMBXX-6516-R2M antennas
 Dimensions: height 59" width 11.9" depth 6.3" diameter _____
 Location / Placement: Within proposed stealth penthouse
 Wattage: 300W
 Material and Color: Grey Fiberglass
 Material and Color of the Antenna Mounting: Prefabricated Metal
 Height Above Ground: 112'

2. EQUIPMENT

Number and Type of Cabinets or Structures: 3 Ericsson RBS 2106 cabinets
 Cabinet / Structure Dimensions: height 63.5" width 51.2" depth 37"
 Height of equipment platforms, if any: 12-18" above top of building
 Material and Color: Prefabricated Metal
 Location: Within proposed stealth penthouse
 Method of Screening: Proposed stealth penthouse

3. STRUCTURE ON WHICH ANTENNAS WILL BE MOUNTED

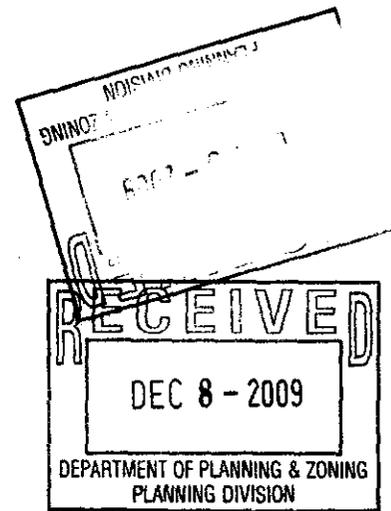
Maximum Height: 115' AGL (15' above the top of the building)
 Material: RF friendly fiberglass
 Color: Designed to match the existing building
 If structure is within a utility right-of-way, state right-of-way width:
N/A

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November 30, 2009

Mr. James P. Zook, Director
Fairfax County Office of Comprehensive Planning
12055 Government Center Parkway, Suite 730
Fairfax, Virginia 22035-5505

RE: Request for determination under Virginia Code sec. 15.2-2232
T-Mobile Northeast, LLC
Site WAC403E
Tax Map No. 0592 01 0001A



Dear Mr. Zook:

T-Mobile Northeast, LLC ("T-Mobile"), an FCC licensed E-Block digital PCS service provider, respectfully requests that the Office of Planning and Zoning/Planning Commission of Fairfax County, Virginia make a determination pursuant to sec. 15.2-2232 of the Code of Virginia that T-Mobile's proposed telecommunication facility is substantially in accord with the Fairfax County Comprehensive Land Use Plan, and find that, in accordance with Objective 44, the proposed facility qualifies under the Feature Shown Guidelines of the Plan. T-Mobile's FCC license covers the Greater Washington and Baltimore Metropolitan areas, including Fairfax County and other areas of Northern Virginia.

APPLICANT:

T-Mobile Northeast, LLC ("T-Mobile")
12050 Baltimore Avenue
Beltsville, MD 20705
Tel: 240-264-8675
Fax: 240-264-8604

SITE LOCATION:

Address: 3300 Gallows Road
Tax Map #: 0592 01 0001A
Zoning District: Res w/ other Res zones
Use: Hospital
Supervisor District: Providence



DESCRIPTION OF PROPOSED USE:

T-Mobile proposes to install an unmanned wireless telecommunications link which will consist of nine antennas mounted inside a proposed stealth penthouse on the parking garage of the Inova Fairfax Hospital located at 3300 Gallows Road in Fairfax, Virginia. The proposed penthouse will be 15' tall and, once installed, the top will be located at 115' AGL. T-Mobile's antennas will be mounted to provide an approximate antenna centerline of 112'. In addition to the antennas, T-Mobile will install three proposed ancillary equipment cabinets within the proposed penthouse. This facility is sought to fill a much-needed gap in wireless coverage in the residential neighborhoods west of Gallows Road around the hospital.

The antennas will be mounted inside the proposed stealth penthouse to provide for a centerline of 112'. The 63.5-inch by 51.2-inch by 37-inch (height by width by depth) ancillary equipment cabinets will be located within the proposed stealth penthouse. Neither the antennas nor the equipment will be visible from adjacent properties.

The facility will operate automatically and will not require personnel or hours of attendance. It will operate twenty-four (24) hours a day, three hundred and sixty-five days a year. Maintenance personnel will visit the site periodically and occasionally for repairs or modifications to the facility.

REQUIREMENT FOR PROPOSED USE:

The proposed facility is a vital component of T-Mobile's area-wide wireless telecommunications network. T-Mobile proposes to make use of an existing structure to eliminate the need for a new telecommunications tower in this search area and to minimize the visual impact of the project on surrounding property owners. This site is not only strategically superior to other sites in the area, but also makes use of an existing structure which is a stated goal of the recent amendments to the Fairfax County Comprehensive Land Use Plan and the Fairfax County Zoning Ordinance.

Telecommunications carriers must locate antenna sites according to a network design within relatively limited geographic parameters in order to provide uninterrupted coverage. When carriers cannot locate a site within these geographic parameters, network users will pass through an area where the lost signal results in interrupted or "dropped" calls. This poses a significant safety problem, both from the standpoint of lack of coverage in emergencies and because an interrupted call may mean a dangerous distraction to drivers. In addition, an incomplete system is inconsistent with T-Mobile's legal requirements to provide continuous coverage and to provide coverage to a percentage of the population within specific time parameters as required by its FCC license.

This site offers both an excellent land-use and visual solution to T-Mobile's coverage objective within the narrow placement parameters of this particular search area. T-Mobile's

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analysis of its network indicates that there are significant coverage problems in the residential neighborhoods along this section of Gallows Road. As is referenced under the Alternatives section, T-Mobile is making use of this existing structure to avoid constructing a new monopole or tower. Consequently, this facility will be the least disruptive means to provide the needed coverage in the area.

ANTICIPATED IMPACTS ON ADJOINING PROPERTIES

The proposed facility will have no impact as to traffic, noise, light pollution, air quality, water quality, or radiation on adjoining properties. As stated previously, this proposal will make use of an existing structure so that there will be little to no adverse visual impact on surrounding properties. In addition to being the best alternative to provide the needed coverage in this search area, the proposed stealth penthouse is an unobtrusive site to the surrounding residential neighborhoods.

RELATIONSHIP OF THE PROPOSAL TO THE COMPREHENSIVE PLAN

The proposed facility is consistent with and furthers the transcendent goals of the Fairfax County Comprehensive Land Use Plan ("Plan") as well as the applicable objectives.

The location, character and extent of the application should be found to be in substantial accord with the Comprehensive Plan. In terms of location, property that contains existing structures is encouraged by the plan for new site development. In addition, making use of this type of collocation is a common siting solution for wireless carriers in Fairfax County.

Regarding the character of the proposal, this property is zoned residential, thus the fact that this will be a standard collocation makes this facility consistent with the Comprehensive Plan. Moreover, the extent of the proposed facility should be found to be in substantial accord with the plan as well. The proposed facility poses no encroachment on any existing easements or services, and the height is the minimum needed to serve the facility's goals for the applicant.

The instant application is also consistent with the objectives found under the Policy Plan of the Comprehensive Plan concerning "Mobile and Land-Based Telecommunication Services."

Under the "General Guidelines" section, it states:

Objective 42: In order to provide for the multiple and land-based telecommunication network for wireless telecommunication systems licensed by the Federal Communications Commission, and in order to achieve opportunities for the collocation of related facilities and the reduction of their visual impact, locate the network's necessary support facilities which include antennas, monopoles, lattice towers and equipment building in accordance with the following policies:

Policy a. Avoid construction of new structures by locating mobile and land-based telecommunication facilities on available existing structures such as building

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rooftops, telecommunication and broadcast poles and towers, electrical utility poles and towers, and water storage facilities when the telecommunications facilities can be placed inconspicuously to blend with such existing structure.

By making use of an existing building, T-Mobile has avoided the construction of a new structure, and thus furthered this objective of the Comprehensive Plan.

Policy h. *Design, site and/or landscape mobile and land-based telecommunication facilities to minimize impacts on the character of the property and surrounding areas. Demonstrate the appropriateness of the design through facility schematics and plans which detail the type, location, height, and material of the proposed structures and their relationship to other structures on the property and surrounding areas.*

By mounting antennas inside a proposed stealth penthouse, T-Mobile has significantly minimized the impact of a new telecommunications facility in this area.

Policy k. *Locate telecommunication facilities to ensure the protection of historically significant landscapes. The views of and vistas from architecturally and/or historically significant structures should not be impaired or diminished by the placement of telecommunication facilities.*

T-Mobile will submit that before any construction occurs on the proposal in question, a full engineering study will be completed demonstrating compliance with all NEPA regulations, including sec. 106 which deals directly with impact on historic structures.

Policy l. *Site proposed facilities to avoid areas of environmental sensitivity.*

(See description of compliance with Policy k.)

Furthermore, T-Mobile requests that the proposed facility be found to be a feature shown of the Comprehensive Plan by demonstrating compliance with Objective 44 of the Comprehensive Plan, which states:

Objective 44: *With Planning Commission approval, consider mobile and land-based telecommunication facilities to be located on existing or replacement structures a "feature shown" of the Comprehensive Plan to be processed without a public hearing when placed in conformance with the following policies:*

Policy a. *Locate telecommunication facilities on existing buildings and structures at the following properties:*

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- ***Residential properties zoned for and developed with multiple family dwellings 35 feet or greater in height;***

By making use this existing building, T-Mobile has avoided the construction of a new structure, and thus furthered this objective of the Comprehensive Plan.

Policy c. *In determining that proposed telecommunication facilities are a feature shown of the Comprehensive Plan, ensure that the following general factors are met:*

- ***The proposed installation has no material adverse impact on the visual quality or character of the general area in which it is to be placed including any surrounding residential properties;***

As the antennas will be located within a proposed stealth penthouse, the visual impact to the surrounding area will not be materially changed.

- ***The proposed installation is located and designed to blend with the structure on which it is placed such as flush-mounting antennas or screening the antennas and equipment as appropriate to the site;***

The proposed stealth penthouse will be designed to match the existing building. In addition, the equipment cabinets will be located within the proposed penthouse. These factors will allow this installation to blend with the structure.

- ***The proposed installation, when in a grouping of other similar structures, is consistent with the pattern of those surrounding structures;***

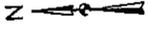
This telecommunications facility is of a standard size and shape, and is thus consistent with similar structures. In addition, the proposed stealth penthouse will be designed to match the existing building as closely as possible.

- ***Related equipment cabinets or shelters located on the ground or on a rooftop should be appropriately screened or placed to obscure their visibility from surrounding properties;***

The related equipment cabinets will be located within the proposed stealth penthouse, thus eliminating their visibility from surrounding properties.



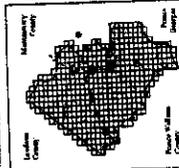
City of Raleigh, North Carolina



Scale: 1" = 100 Feet
This map is a reproduction of the original map. It is not to be used for legal purposes. The City of Raleigh is not responsible for any errors or omissions on this map. The City of Raleigh is not responsible for any damages or losses resulting from the use of this map.

GENERAL NOTES

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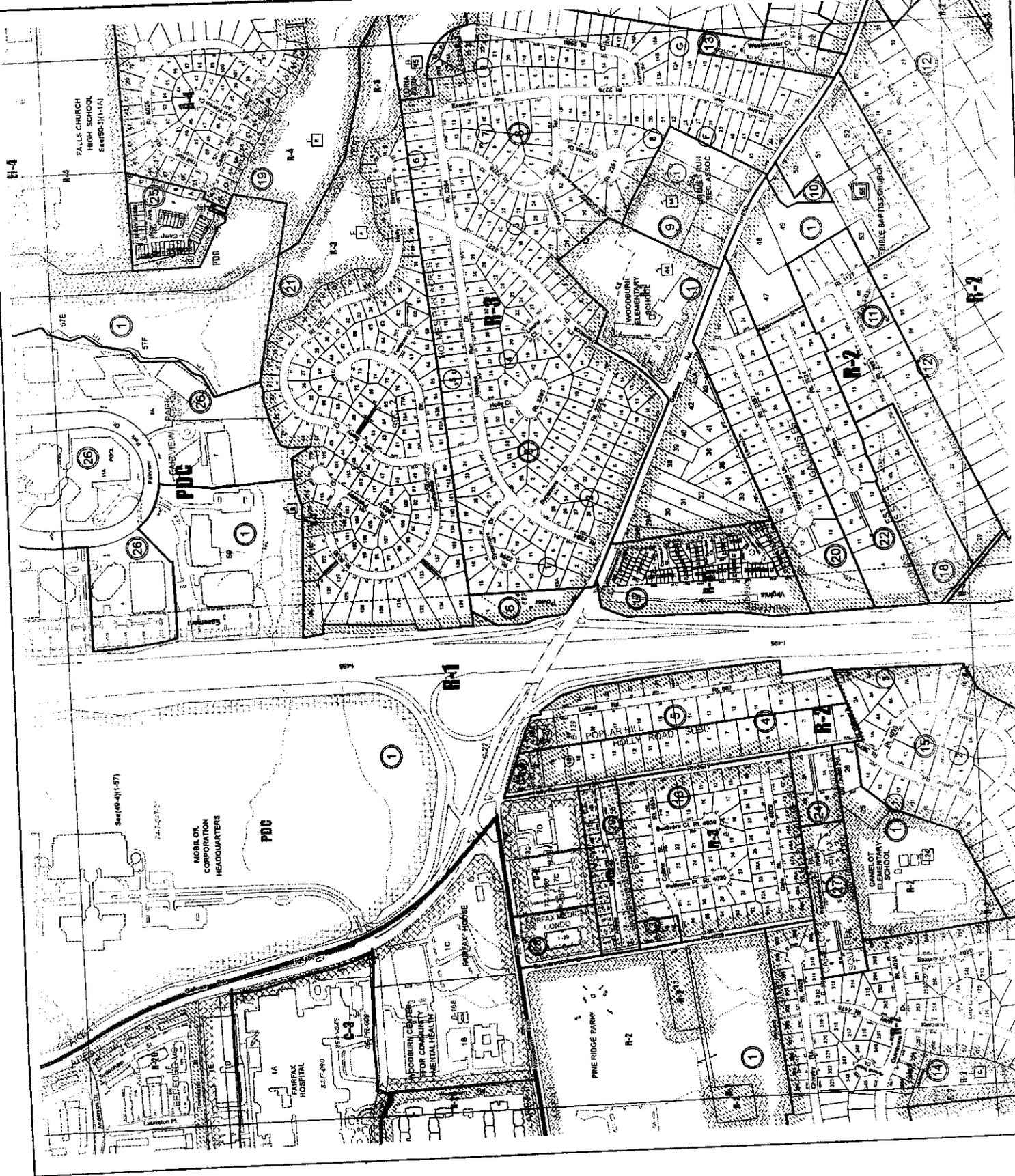
ADMINISTRATIVE INDEX

49-3	49-4	50-3
59-1	60-1	
59-3	59-4	60-3

PROPERTY MAP ZONING
59-2

Revised to: 10 - 13 - 2009

Project: [illegible]
City of Raleigh, North Carolina
1000 South Salisbury Street, Raleigh, NC 27601
Phone: (919) 997-2200
Fax: (919) 997-2201
E-mail: [illegible]







TMBXX-6516-R2M

±45° Dual Band Quad Antenna

Decibel®

Base Station Antennas

- Patented cross dipole and feed system
- Rugged, reliable design with excellent PIM suppression
- Includes factory installed AISG RET actuator
- Fully compatible with Andrew Teletilt® remote control antenna system

ELECTRICAL

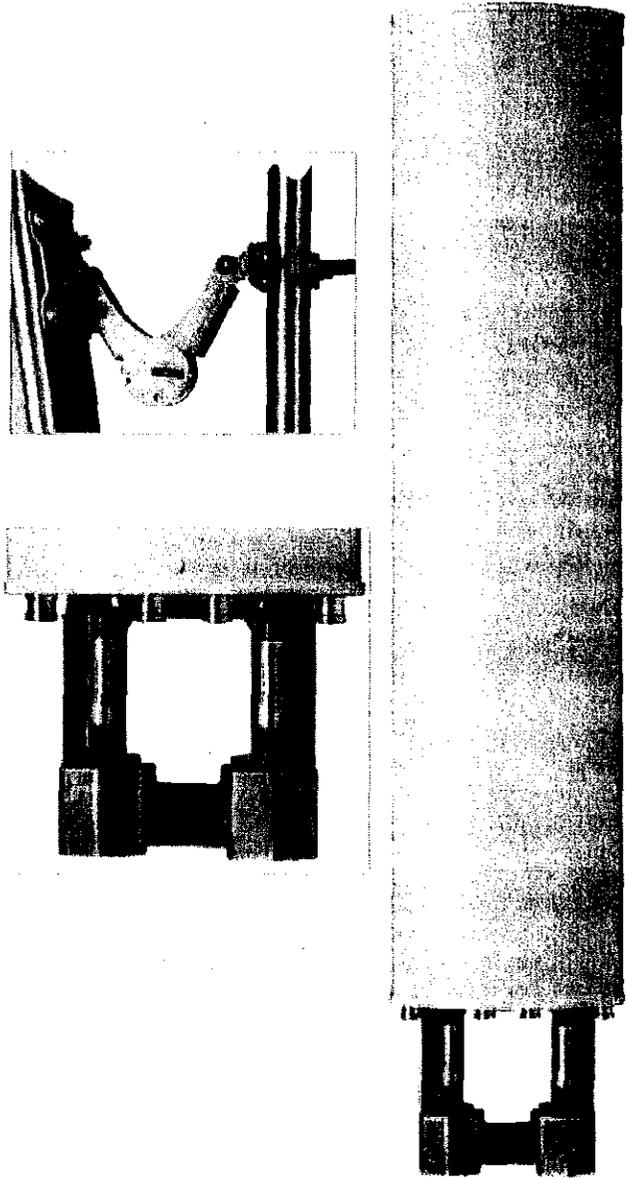
Frequency Range (MHz):	1710–2155
Characteristic Impedance (Ohms):	50
Azimuth BW (Deg):	64.5 ± 8
Elevation BW (Deg):	7.2 ± 1.2
Gain (dBi) :	17.5 ± 8
Polarization:	±45°
Front-to-Back Ratio (dB)	2° 4° 6° 8° 10°
Copol, 180° ± 30°:	>24 >24 >24 >24 >24
Total Power, 180° ± 30°:	>24 >23 >22 >23 >23
Upper Sidelobe (dB)	2° 4° 6° 8° 10°
Main Beam to +20°:	>18 >17 >15 >14 >11
VSWR / Return Loss (dB):	1.35:1 / 16.5
Port-to-Port Isolation (dB):	>30
Electrical Tilt Range (Deg):	2–10
Electrical Downtilt Accuracy (Deg):	± 0.9
Cross-pol (dBc)	2° 4° 6° 8° 10°
3 dB Beamwidth:	>13 >13 >12 >12 >12
Intermodulation Products (dBc)	
3rd Order, 2 x 20 Watts:	155
Max. Input Power (Watts):	250
Lightning Protection:	DC Ground

PERFORMANCE TRACKING

Gain Variation (dB) (between UL and DL frequency pair):	1.3
Electrical Tilt Accuracy (Deg) (between UL and DL frequency pair within 0.5°):	<0.55
Azimuth HPBW (Deg) (between UL and DL frequency pair):	11.5

MECHANICAL

Net Weight (kg / lbs):	15.7 / 34.6
Dimensions–LxWxD:	1499 x 302 x 160 mm
(with actuator)	59 x 11.9 x 6.3 inch
Max. Wind Area (m ² / ft ²):	0.27 / 2.9
Max. Wind Load (N / lbf):	729.4 / 164
Max. Wind Speed (km/h / mph):	241 / 150
Hardware Material:	Hot Dip Galvanized
Connector Type:	7-16 DIN, Female (4)
Color:	Off White
Standard Mounting Hardware:	TM600899A-2



Andrew Corporation
 2601 Telecom Parkway
 Richardson, Texas U.S.A. 755082-3521
 Tel: 214.631.0310

Fax: 214.688.0089
 Toll Free Tel: 1.800.676.5342
 Fax: 1.800.229.4706
 www.andrew.com

11/27/2006
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dbtech@andrew.com



TMBXX-6516-R2M

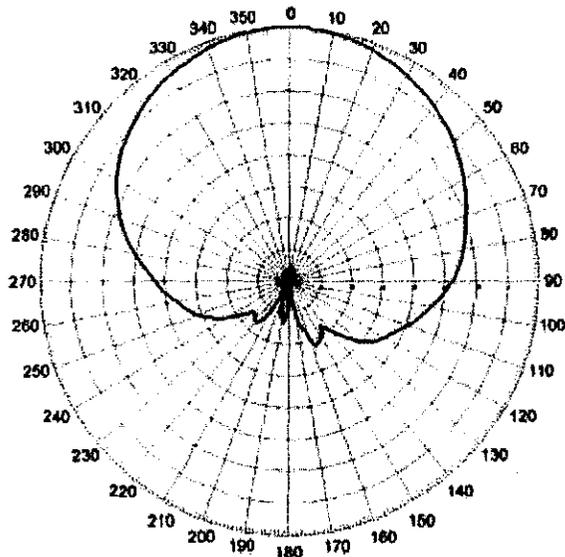
±45° Dual Band Quad Antenna

Decibel®

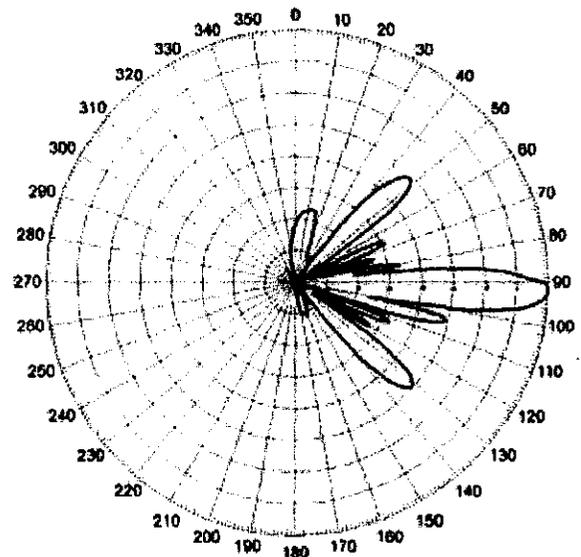
Base Station Antennas

AZIMUTH PATTERN

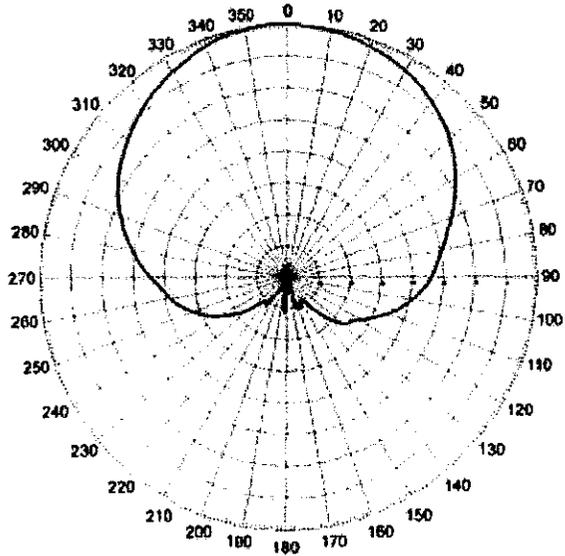
ELEVATION PATTERN



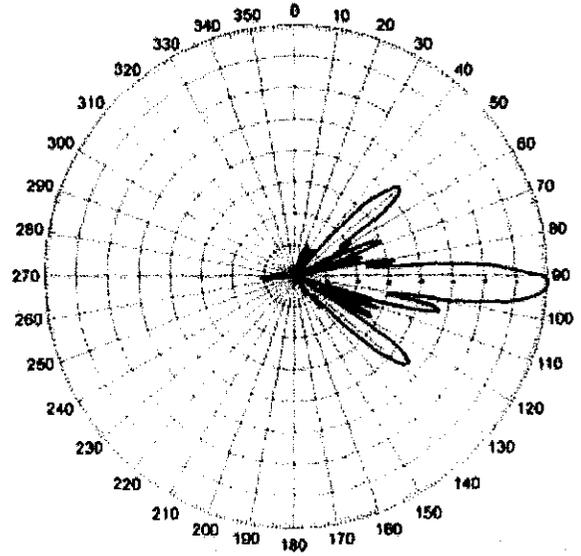
1732 MHz, Tilt: 2°



1732 MHz, Tilt: 2°



1880 MHz, Tilt: 2°



1880 MHz, Tilt: 2°

Note: Scale 5 dB per division.

Andrew Corporation
2601 Telecom Parkway
Richardson, Texas U.S.A. 75082-3521
Tel: 214.631.0310

Fax: 214.688.0089
Toll Free Tel: 1.800.676.5342
Fax: 1.800.229.4706
www.andrew.com

11/27/2006
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dblech@andrew.com

Information correct at date of issue but may be subject to change without notice.



TMBXX-6516-R2M

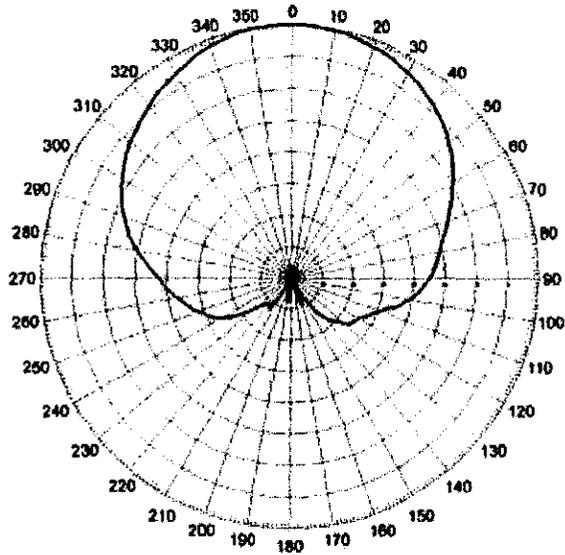
±45° Dual Band Quad Antenna

Decibel®

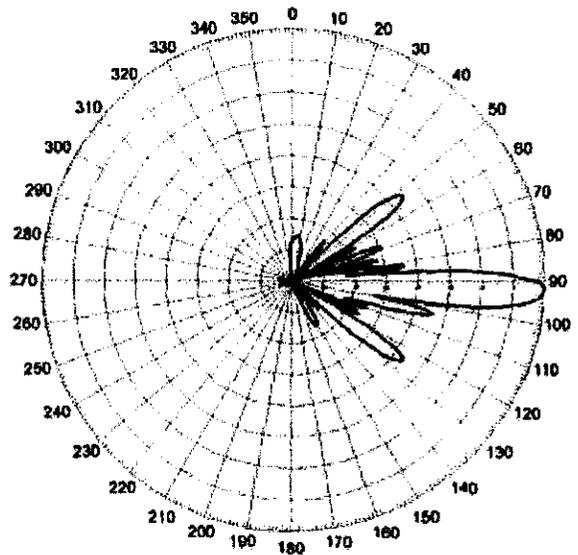
Base Station Antennas

AZIMUTH PATTERN

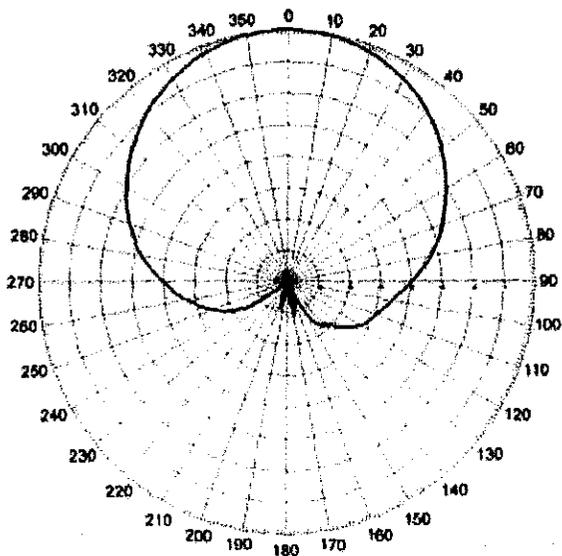
ELEVATION PATTERN



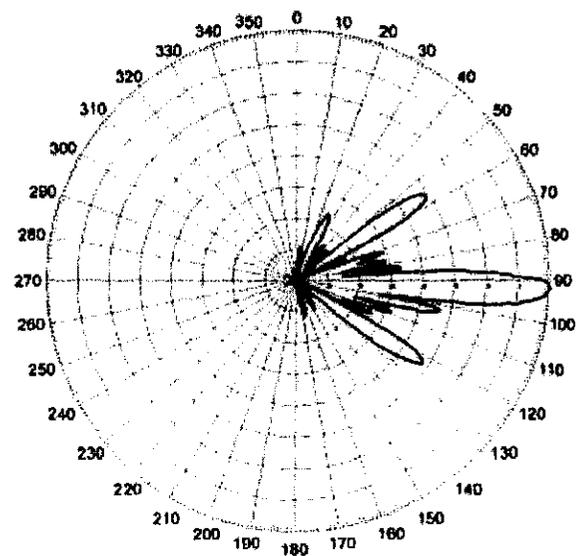
1960 MHz, Tilt: 2°



1960 MHz, Tilt: 2°



2132 MHz, Tilt: 2°



2132 MHz, Tilt: 2°

Note: Scale 5 dB per division.

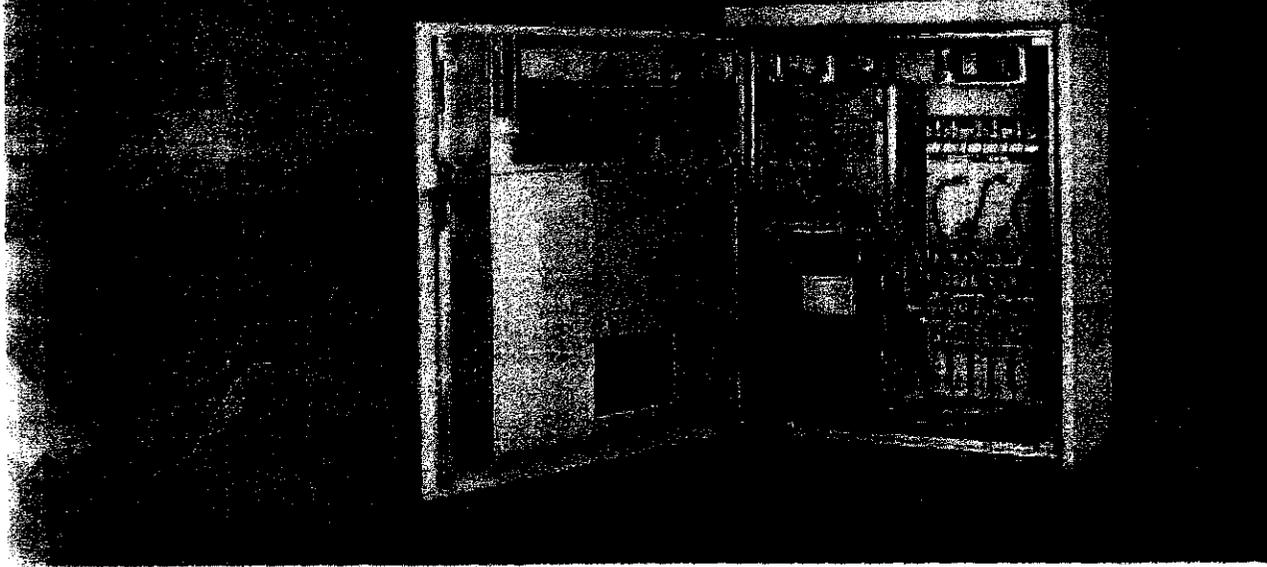
Andrew Corporation
2601 Telecom Parkway
Richardson, Texas U.S.A. 755082-3521
Tel: 214.631.0310

Fax: 214.688.0089
Toll Free Tel: 1.800.676.5342
Fax: 1.800.229.4706
www.andrew.com

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dbtech@andrew.com

Information correct at date of issue but may be subject to change without notice.

GSM

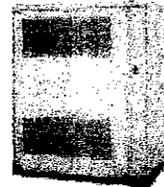
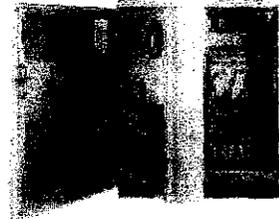


RBS 2106

RBS 2106 is a high capacity, outdoor macro base station supporting up to twelve transceivers per cabinet. It is possible to build one, two and three sector configurations including dual band GSM 900/GSM 1800, in one cabinet. The RBS 2106 supports Enhanced Data rates for Global Evolution (EDGE) and Wideband Code Division Multiple Access (WCDMA) through plug-in units.

The RBS 2106 is a member of the highly successful radio base station family RBS 2000. The RBS 2000 family supports a wide range of applications ranging from extreme coverage to extreme capacity.

Being a RBS 2000 member guarantees coexistence with the installed base of RBS 200 and RBS 2000 products. Ericsson's synchronization based BSS features ensure that transceivers from different generations of radio base stations can easily form common cells. Operators can therefore bridge the past with the future. By making existing sites futureproof, investments are protected while migrating to 3G.



ERICSSON 

Part of the grow-on-site concept

Since it is becoming increasingly difficult to find new base station sites, it is of great interest to remain on existing sites as long as possible. Site space is often a limiting factor for capacity growth. The powerful RBS 2106, included in Ericsson's grow-on-site toolbox, addresses this problem.

On many sites, two or more existing cabinets can be replaced by one RBS 2106, thereby solving the site space problem by making room for another cabinet. This is of major importance, since it makes it possible to reuse and collocate GSM and WCDMA equipment. Furthermore, the plug-in WCDMA transceiver unit (W-TRU) can later be directly housed in the RBS 2106.

Doubled capacity

– superior performance – same footprint

The 12-transceiver RBS 2106 cabinet has the same footprint as RBS 2102 but has doubled capacity, thanks to new double-capacity transceivers and combiners.

The double transceiver unit (dTRU) has some powerful features. The RBS 2106 has better output power than current RBS 2000 products, which are the best on the market today. The improved radio performances mean increased site-to-site distance, and therefore, fewer sites. Another example of a cost saving feature is 121 km Extended Range.

The RBS 2106 comes with two new, extremely flexible combiners. Examples of configurations for 900 and 1800 MHz, supported by the filter combiner (CDU-F), are 3x4, 2x6, 1x12 and dual band 8+4 or 4+8 in one cabinet. CDU-F supports up to 12 transceivers. The other combiner (CDU-G) for 900, 1800 and 1900 MHz can be configured in two modes: capacity mode and coverage mode, making it very flexible. In coverage mode, the output power from the CDU-G is increased, making it perfect for rural sites or when fast rollout is required at a minimum cost. To build a 3x4 configuration, one RBS 2106 cabinet is equipped with three CDU-Gs.

Prepared for the future

The RBS 2000 family is prepared for GSM data services, including General Packet Radio Service (GPRS), High Speed Circuit Switched Data (HSCSD) and 14.4 kbit/s timeslots.

To meet the operators' need for faster datacom solutions, RBS 2106 supports EDGE. A powerful Distribution Switch Unit (DXU) and fast internal buses guarantee full EDGE support. This new DXU is also prepared for IP based Abis transmission.

With the optional BSS feature RBS 2000 synchronization, it is possible to have up to 32 transceivers in one cell. With the optional BSS feature RBS 200 and RBS 2000 in the same cell, it is possible to expand an existing RBS 200 cell with RBS 2106, and thereby introduce EDGE and WCDMA through plug-in units.

Key features

- Six double transceiver units (dTRU), that is, 12 transceivers
- Filter and hybrid combining one, two, or three sectors in one cabinet
- Improved radio performance
- Synthesized and baseband frequency hopping
- Supports 12 transceiver EDGE on all timeslots
- Supports 900, 1800 MHz and 1900 MHz
- Extended Range 121 km
- Duplexer and TMA support for all configurations
- Four transmission ports supporting up to 8 Mbit/s
- Optional built-in transmission equipment
- Prepared for IP based Abis transmission
- Prepared for GPS assisted positioning services
- Internal and external battery back-up

Technical specifications for RBS 2106

Frequency band:	E-GSM 900, GSM 1800, GSM 1900
Tx:	925–960, 1805–1880, 1930–1990 MHz
Rx:	880–915, 1710–1785, 1850–1910 MHz
Number of transceivers:	2–12
Number of sectors:	1–3
Transmission interface:	1.5 Mbit/s (T1), 2 Mbit/s (E1)
Footprint (H x W x D):	1614 x 1300 x 710 mm including installation frame (631/2 x 511/5 x 28 in.)
Dimension (H x W x D):	1614 x 1300 x 940 mm (631/2 x 511/5 x 37 in.)
Weight without batteries:	550 kg (1211 lbs.)
Power into antenna feeder:	33 W / 45.2 dBm (GSM 900) 25 W / 44.0 dBm (GSM 1800 / 1900)
Receiver sensitivity:	-110 dBm (without TMA)
Power supply:	200-250V AC, 50 / 60 Hz
Integrated battery back-up:	Typical 1 hour (fully equipped)
External battery back-up:	Optional 2 hours
Operating temperature:	-33°C – +45°C (-27°F – +113°F)
Weatherproofing:	Min level IP55 in IEC 529

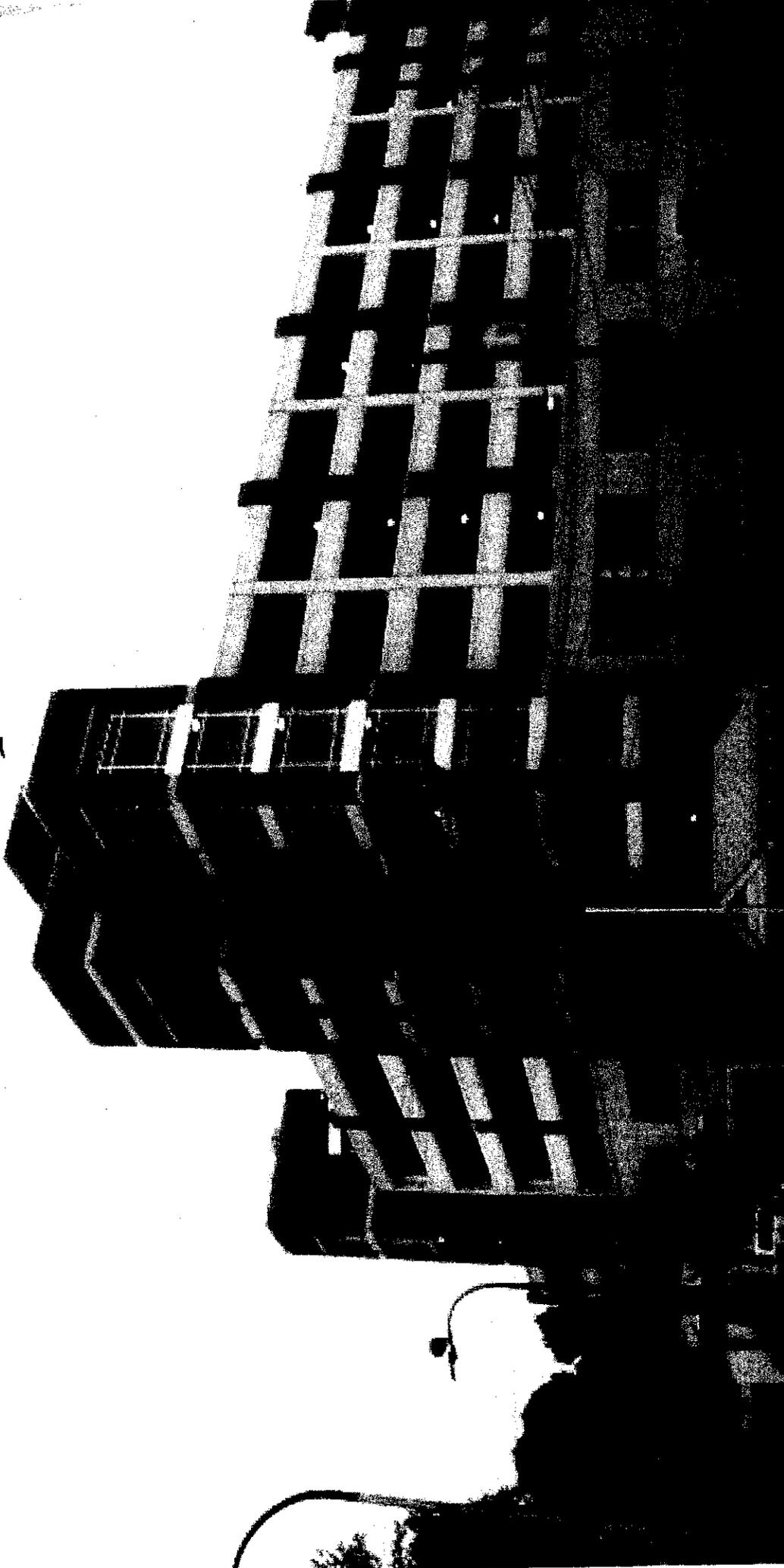


Site Name: WAC 403
Wireless Communicallor Facility
3300 Gallows Rd
Fairfax, VA 22003

Photograph Information:
View from the West
Showing the Existing Site


NETWORK BUILDING
& CONSULTING, LLC

Proposed T-Mobile
Stealth Penthouse

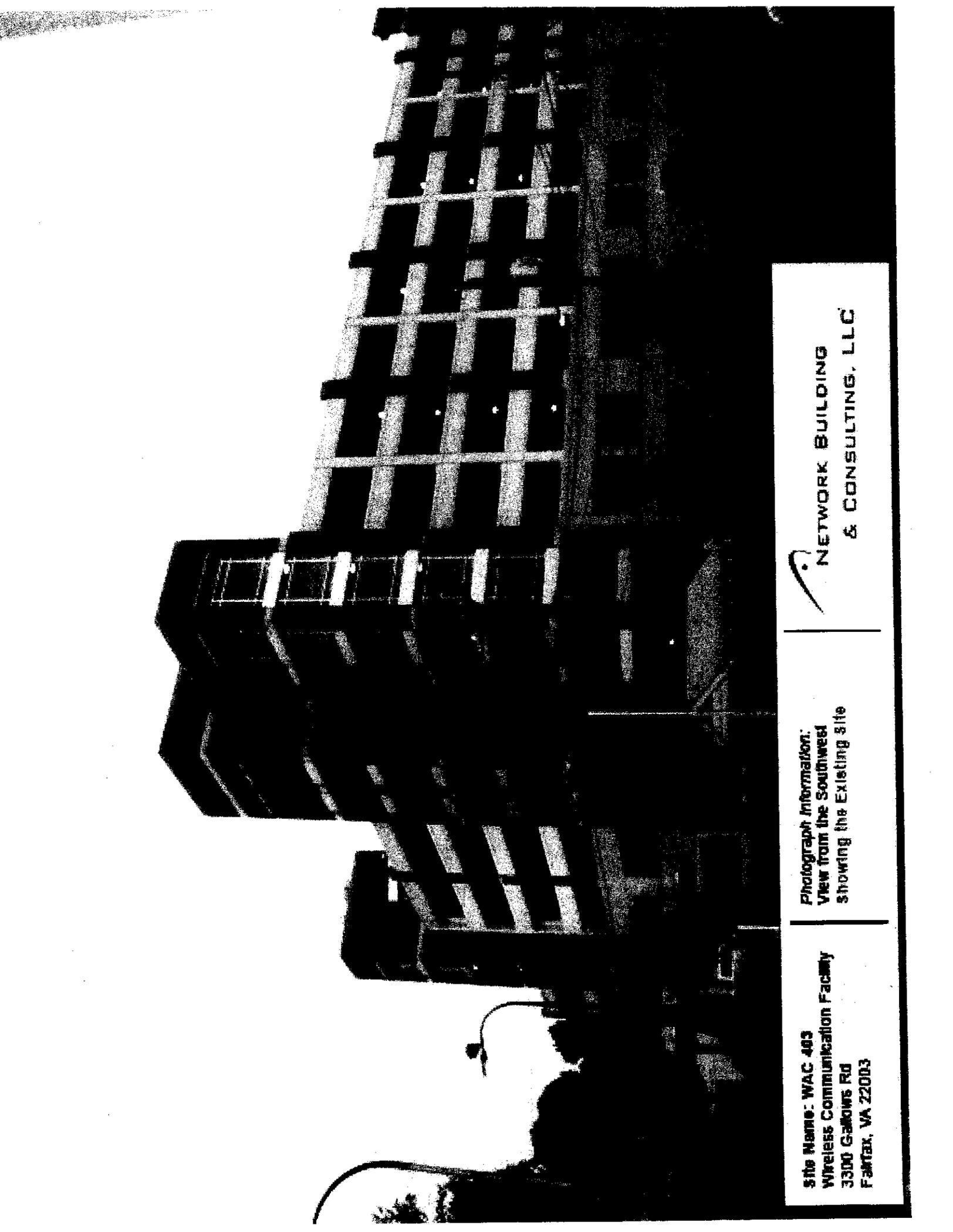


Photograph Information:
View from the Southwest
showing the Proposed Site

Site Name: WAC 403
Wireless Communication Facility
3300 Gallows Rd
Fairfax, VA 22003



NETWORK BUILDING
& CONSULTING, LLC



Site Name: WAC-483
Wireless Communication Facility
3300 Gamows Rd
Fairfax, VA 22003

Photograph Information:
View from the Southwest
showing the Existing Site

 NETWORK BUILDING
& CONSULTING, LLC

Proposed T-Mobile
Stealth Penthouse



Photograph Information:
View from the West
Showing the Proposed Site

Site Name: WAC 403
Wireless Communicallor Facility
3300 Galloway Rd
Fairfax, VA 22003



NETWORK BUILDING
& CONSULTING, LLC

F-Mobile
NORTHEAST, LLC
 1250 BALTIMORE AVENUE
 BELTSVILLE, MD 20705

DATE BY	DESCRIPTION	BY

ALPRO
 CONSULTING GROUP, INC.
 12000 ALPHEUS DRIVE
 SUITE 200
 FARMINGTON, VA 22031
 PHONE: (540) 201-8800
 FAX: (540) 201-8810

PROFESSIONAL ENGINEER
 JOJF M. GEORGE
 Lic. No. 039380
 12/14/09

WAC403E
INOVA
HOSPITAL GARAGE
 3300 GALLOWES RD.
 FAIRFAX, VA 22031

TITLE SHEET

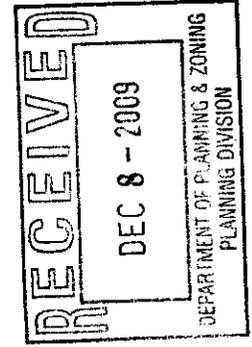
T-1

APPROVED FOR 7D

PROPERTY OWNER OR REP. _____ RF _____
 CONSTRUCTION MANAGER _____ NETWORK _____
 ZONING _____ OPERATIONS _____
 REAL ESTATE _____ OTHER _____

SHEET INDEX

T-1 TITLE SHEET
 C-1 OVERALL SITE PLAN
 C-2 ENLARGED SITE PLAN
 C-3 ELEVATION



F-Mobile
NORTHEAST, LLC

SITE NAME
INOVA HOSPITAL GARAGE

SITE NUMBER
WAC403E

SITE ADDRESS
3300 GALLOWES RD.
FAIRFAX, VA 22031

SITE COORDINATES
 LATITUDE: N 38° 51' 31.43" (NAD 83)
 LONGITUDE: W 77° 13' 48.34" (NAD 83)
 GROUND ELEVATION: 357.4 (NAD 83)

PROJECT SUMMARY

LANDLORD
 BOARD OF SUPERVISORS
 FAIRFAX COUNTY
 1000 GOVERNMENT CENTER PM
 FAIRFAX, VA 22035

APPLICANT
 F-MOBILE NORTHEAST, LLC
 12500 BALTIMORE AVENUE
 BELTSVILLE, MD 20705
 PHONE: (410) 244-0600
 FAX: (410) 244-0600

CONSULTANTS

A&E CONSULTANT
 ALPRO CONSULTING GROUP, INC.
 12000 ALPHEUS DRIVE, SUITE 204
 DALLAS, TX 75243
 PHONE: (972) 231-8883
 CONTACT: JOJF M. GEORGE P.E.

PRIME CONTRACTOR
 STRONG BUILDING AND CONSULTING, LLC
 7540 COLA COLA AVE., SUITE 108
 HANOVER, MD 21076
 PHONE: (301) 325-6987
 CONTACT: ROGER HADZETT

TOWER ENGINEER
 BY OTHERS

UTILITIES

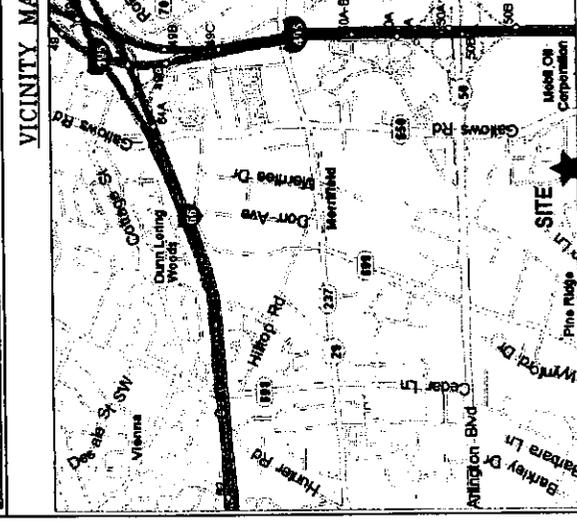
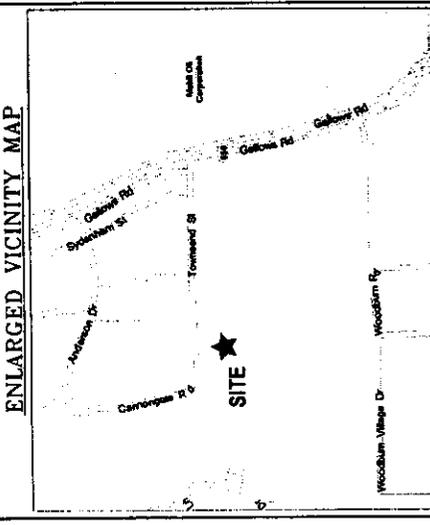
MISS UTILITY
 CALL BEFORE DIGGING!
 CONSTRUCTION TO CALL 48
 HOURS BEFORE DIGGING!
 CONTRACTOR RESPONSIBLE
 FOR DAMAGE OF EXISTING
 UTILITIES DURING CONSTRUCTION

POWER
 DOMINION POWER
 PHONE: 1-800-661-3000

TELCO
 VERIZON CUSTOMER SERVICE
 PHONE: (800) 487-5000

PROJECT TYPE
 EXISTING PARKING GARAGE WITH PROPOSED ANTENNAS AT 117 RAD CENTER WITH NEW ASSOCIATED UNARMED COMMUNICATION EQUIPMENT PLATFORM AND SCREENING AT TOP OF GARAGE.

DIRECTIONS TO SITE
 INSTRUCTION DEPART 12000 BALTIMORE AVE, BELTSVILLE, MD 20705 ON US-1 (BALTIMORE AVE) SOUTH-WESTSIDE RAMP (RIGHT) ONTO I-495 (I-495 SOUTH) TO SITE ON RAMP KEEP RIGHT TO SOUTH ON RAMP KEEP STRAIGHT TO STAY ON RAMP KEEP STRAIGHT ONTO LOCAL ROADS) NEW LEFT (SOUTH) ONTO 56-150 (GALLOWES RD) ARRIVE 3300 GALLOWES RD, FAIRFAX, VA 22031



Mobile
NORTHEAST, LLC

12800 BALTIMORE AVENUE
BELTSVILLE, MD 20705

DRAWN BY: C. QUINN
CHECKED BY: J. GEORGE
ADD JOB #:

REV. NO. DATE DESCRIPTION BY

REV. NO.	DATE	DESCRIPTION	BY

ALPRO
CONSULTING GROUP, INC.
12011 WINDSOR JUNCTION PRESERVE
SUITE 200 DALLAS, TX 75244
PHONE: 972.444.8888
WWW.ALPRO.COM



WAC403E
INOVA
HOSPITAL GARAGE
FOR CALLINGS AND
PARTIAL, VA 22002

SHEET TITLE
**OVERALL
SITE PLAN**

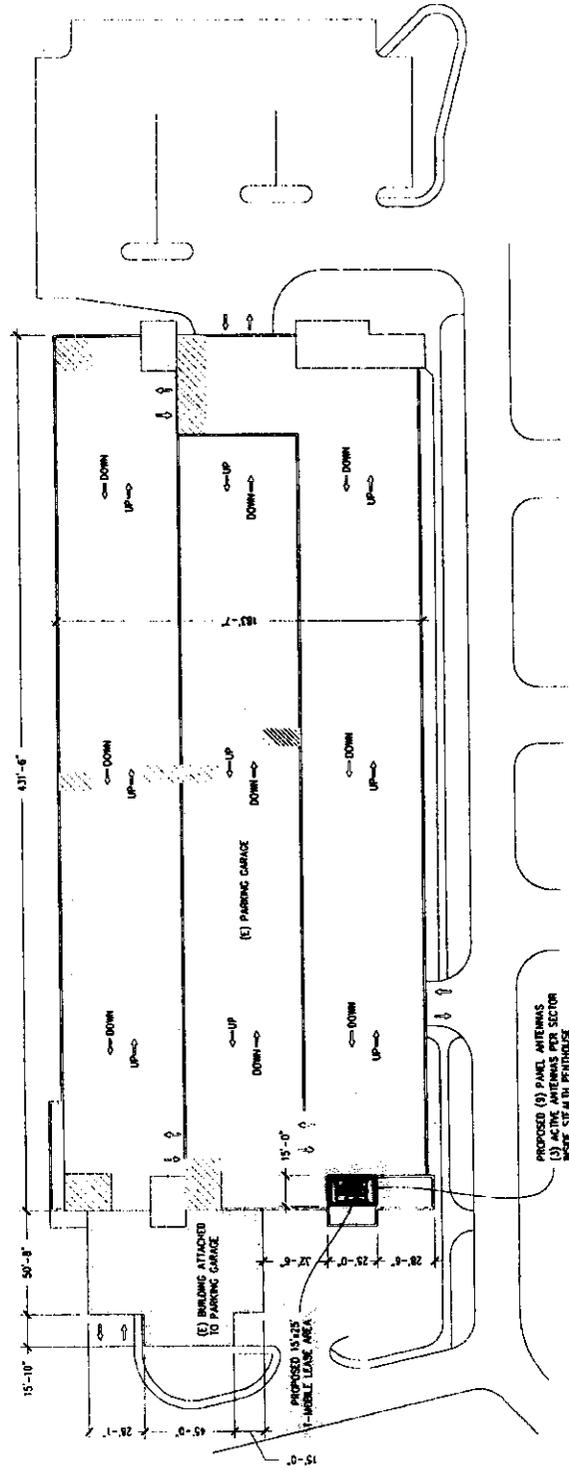
SHEET NUMBER
C-1



FOR 24" X 36" PLOT - 1" = 30'
FOR 11" X 17" PLOT - 1" = 60'

LEGEND

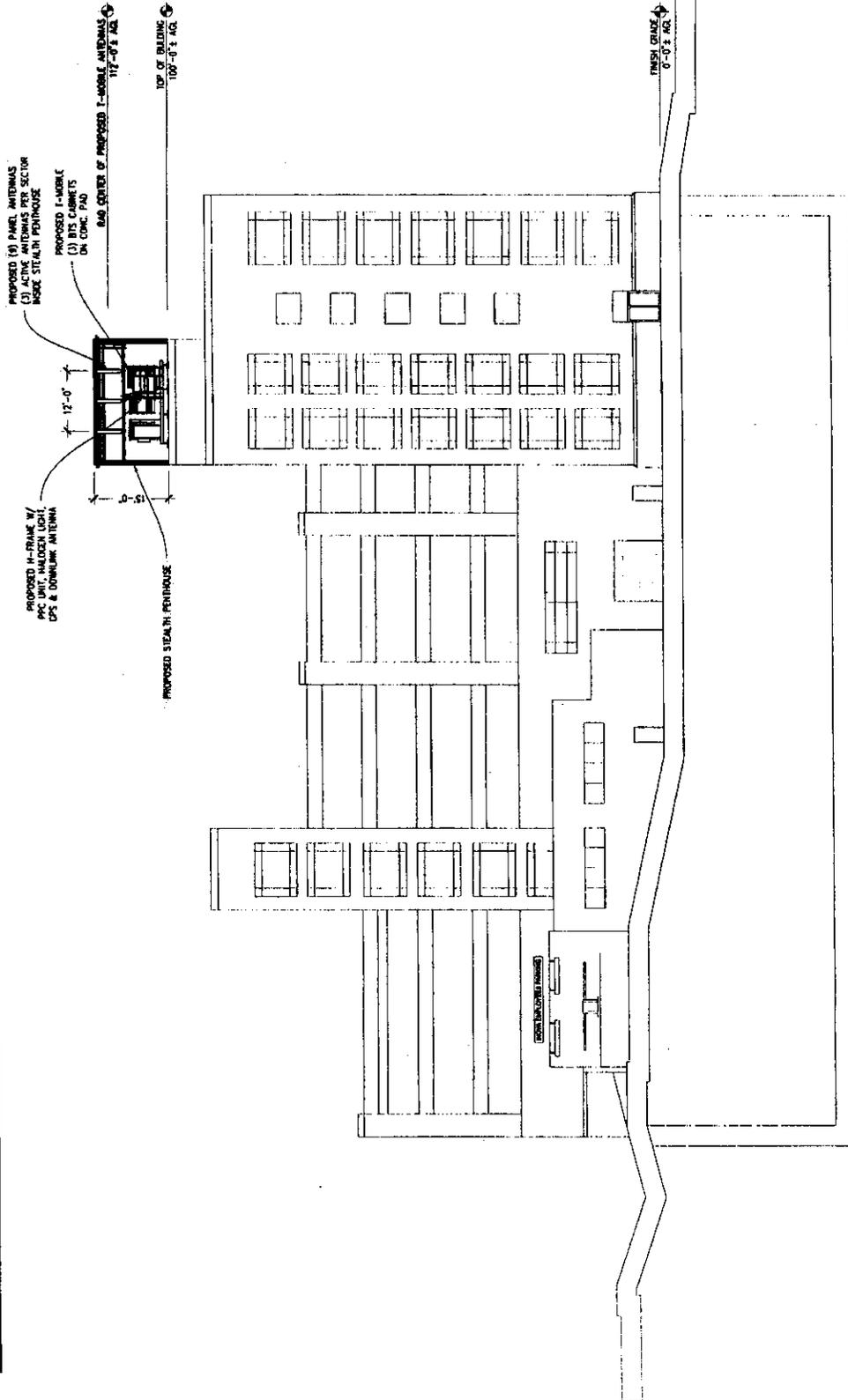
PROPOSED	NEW
(E)	EXISTING
---	CENTER LINE
---	PROPERTY LINE
X---	FENCE LINE
G---	GROUND WIRE
OH---	OVERHEAD POWER
OH---	OVERHEAD TELCO
OH---	UNDERGROUND POWER CONDUIT
P---	UNDERGROUND TELCO CONDUIT
T---	



PROPOSED (E) PANEL ANTENNAS
(E) ACTIVE ANTENNAS PER SECTOR
MODE STEALTH PENETROOR

1 OVERALL SITE PLAN

NOTE: REFER TO THESESS' INTERVIEW AND UTILITY SCHEDULE (E) FOR THE MUST BE ANALYZED BY A LICENSED STRUCTURAL ENGINEER TO VERIFY TOWER IS CAPABLE OF SUPPORTING PROPOSED LOADS. REFER TO STRUCTURAL ANALYSIS BY OTHERS FOR EXACT MOUNTING DETAILS AND INFORMATION. THIS PLAN IS FOR REFERENCE ONLY AND NOT INTENDED TO BE USED FOR CONSTRUCTION PURPOSES.



FOR 1/4" = 1' SCALE
FOR 1/8" = 1' SCALE

1 WEST ELEVATION
Scale: 3/32" = 1'

F-Mobile
NORTHEAST, LLC
1300 BALTIMORE AVENUE
BETHESDA, MD 20815

DRAWN BY: C. CHAN
CHECKED BY: J. GEORGE
AEC JOB # 09-1108

NO.	DATE	DESCRIPTION	BY

ALLPRO
CONSULTING GROUP, INC.
1271 WILSON & JOHNSON FREWAY
SUITE 100, DALLAS, TX 75243
PHONE: 972-251-1100
WWW.ALLPRO.COM

COMMONWEALTH OF VIRGINIA
PROFESSIONAL ENGINEER
QUI M. GEORGE
Lic. No. 0389880
12/1/11

WAC403E
JINOVA
HOSPITAL GARAGE
1300 GALLOWAY RD.
HARRISBURG, PA 17104

SHEET TITLE
ELEVATION

SHEET NUMBER
C-3