



ARLINGTON COUNTY, VIRGINIA

**County Board Agenda Item
Meeting of September 17, 2011**

DATE: August 25, 2011

SUBJECT: U-3303-11-1 USE PERMIT for AT&T public utilities/telecommunications facility located at 2110 Washington Blvd. (Sequoia Plaza II) (RPC# 24-004-016)

Applicant:
AT&T

By:
Phil Stetler, Zoning Specialist
AT&T Authorized Agent
Site Link Wireless, LLC
10015 Old Columbia Road, Suite F-100
Columbia, Maryland 21046

C. M. RECOMMENDATION:

Approve the use permit request to install antennas and related equipment on an existing telecommunications facility, subject to the proposed conditions of the staff report, and with no further scheduled County Board review.

ISSUES: This is a use permit request to install antennas and related equipment on an existing telecommunications facility site. No issues have been identified.

SUMMARY: AT&T is proposing to install three (3) new flush mounted, panel antennas, six (6) remote radio heads (RRHs), one (1) new GPS antenna, two (2) 3-port plates, and a new equipment cabinet including a power plant replacement located on top of the existing equipment platform and shelter at the Sequoia Plaza II building. These improvements are for AT&T's wireless telecommunications network. AT&T is licensed by the Federal Communications Commission (FCC) and operates in full compliance with FCC regulations. The facility will be unmanned and only require infrequent visits by maintenance personnel. The proposed antenna and equipment shelter additions will not create an adverse visual impact on the surrounding area. The applicant provided staff an Electromagnetic Energy (EME) report for the site. The report shows that AT&T will contribute less than five (5) percent of the maximum permissible

County Manager: *BMD/GA*

County Attorney: *[Signature]*

Staff: Marco Antonio Rivero, DCPHD, Planning Division

PLA-5968

15.

exposure (MPE) allowed, and the site is compliant with FCC regulations. Furthermore, the proposal is consistent with the *Interim Guidelines for Telecommunications Facilities on County-Owned Property (Telecommunications Guidelines)*, which also applies to private properties and encourages the placement of antennas on existing structures. Therefore, staff recommends that the County Board approve the use permit request to install antennas and related equipment on an existing telecommunications facility, subject to the proposed conditions of the staff report, and with no further scheduled County Board review.

BACKGROUND: There are currently antennas and related equipment that were previously approved on the site. The following provides information about the site:

Site: The site consists of the by-right Sequoia Plaza II building located at 2110 Washington Blvd.

To the north:	The Sequoia Plaza I and III buildings located at 2100 and 2120 Washington Boulevard.
To the south:	2 nd Street South, single family and two family dwellings, and apartment buildings.
To the east:	South Uhle Street and the Myerton Garden Apartments located at 108 South Courthouse Road zoned “RA8-18”.
To the west:	South Wise Street and Butler Holmes Park located at 101 South Barton Street.

Zoning: The site is zoned “C-2” Service Commercial—Community Business Districts.

Land Use: The site is designated on the General Land Use Plan (GLUP) as “Service Commercial” Personal and business services. Generally one to four stories. Maximum 1.5 F.A.R.

Neighborhood: The site is located within the Penrose Neighborhood Association. As of the date of this report, the neighborhood association has not provided comments to staff.

DISCUSSION: AT&T is proposing to install three (3) new flush mounted, panel antennas, six (6) remote radio heads (RRHs), and one (1) new equipment cabinet located on top of an existing equipment platform at the Sequoia Plaza II building. Three (3) existing antennas will be moved so that the new Long Term Evolution (LTE) antennas can be placed in the center position of each sector, no taller than the existing penthouses. The antennas and proposed RRHs will be painted to match the exterior of the building. Therefore, the proposed antennas will not create an adverse visual impact on the surrounding area. In addition to the antennas and RRHs, there will be one (1) new GPS antenna, two (2) 3-port plates, and a new equipment cabinet including a power plant replacement located on top of the existing equipment platform and shelter. The facility will be unmanned and only require infrequent visits by maintenance personnel.

The applicant submitted an Electromagnetic Energy (EME) Measurement and Site Compliance report that assesses the cumulative conditions for existing and proposed antennas on the site. The report demonstrates that AT&T contributes less than five (5) percent of the maximum

permissible exposure (MPE) for the area. This result indicates that there will be no increase in health risk caused by the addition of three (3) flush mounted, panel antennas. 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.¹ The site is compliant with FCC regulations.

The Interim Guidelines for Placement of Telecommunications Facilities on County-Owned Property (Telecommunications Guidelines) were used to evaluate the application. The *Telecommunications Guidelines* offer direction in the way of design, visual impact, and compliance with Federal Communications Commission (FCC) regulations, among other things. The *Telecommunications Guidelines* can be applied to telecommunication facilities on privately owned 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 related equipment.

CONCLUSION: The proposed use permit request is compliant with the County's *Telecommunications Guidelines* and FCC regulations. The proposed antenna additions and related equipment will not create an adverse visual impact on the area. The EME report shows that AT&T will contribute less than five (5) percent of the MPE allowed. Therefore, staff recommends that the County Board approve the use permit request to install antennas and related equipment on an existing telecommunications facility, subject to the proposed conditions of the staff report, and with no further scheduled County Board review.

Proposed Conditions:

1. The applicant agrees that the antennas and related equipment will be installed as shown on plans dated November 10, 2010, and approved by the County Board on September 17, 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 number of the liaison shall be provided to the Penrose Neighborhood Association and the Zoning Administrator.
3. The applicant agrees that any AT&T antennas on the site shall be removed within ninety (90) days after any cessation of use.

¹ 47 U.S.C. § 332(c)(7)(B)(iv): “[n]o State or local government or instrumentality thereof may regulate the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects or radio frequency emissions to the extent that such facilities comply with the Commission’s regulations concerning such emissions.”

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

PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF INSTALLING NEW EQUIPMENT ON AN EXISTING ROOFTOP EQUIPMENT PAD AND NEW ANTENNAS WITH ASSOCIATED SUPPORT EQUIPMENT.

PROJECT INFORMATION

APPLICANT ADDRESS:
 AT&T
 7150 STANDARD DRIVE
 HANNOVER, MD 21076

JURISDICTION:
 ARLINGTON COUNTY, VA

PROPERTY OWNER:
 WASHINGTON REAL ESTATE EQUITIES TRST I AND
 SEQUOIA PLAZA ARLINGTON, LLC SUITE 600,
 8430 COLONNAD ROAD BOULDERVALE,
 5041 ARLINGTON, TX 76230-2239

LATITUDE:
 N 38.8725° (NAD 83)

LONGITUDE:
 W -77.0256° (NAD 83)

RF DATA SHEET

DATE ISSUED: 4/26/2010
VERSION: UT_002.1

PROJECT CONTACTS

1. AT&T PROJECT MANAGER:
 STRYUN SATRE
 PHONE: (301) 449-3378

2. SITE OWNER:
 WASHINGTON REAL ESTATE EQUITIES TRST I
 AND SEQUOIA PLAZA ARLINGTON, LLC
 8430 COLONNAD BOULEVARD SUITE 600
 5041 ARLINGTON, TX 76230-2239

DRAWING INDEX

DRAWING INDEX	REV
T1-WA-2849-01 TITLE SHEET	1
T1-WA-2849-01A SITE PLAN	0
T1-WA-2849-02 SURVEY/PLAN AND GENERAL NOTES	0
T1-WA-2849-03 EQUIPMENT LAYOUT AND SCOPE OF WORK	1
T1-WA-2849-04 ANTENNA PLAN	0
T1-WA-2849-05 BLDG ELEVATION	0
T1-WA-2849-06 SYSTEM DIAGRAM	0
T1-WA-2849-07 WIRING DIAGRAM	0
T1-WA-2849-08 DETAILS	0
T1-WA-2849-10 DETAILS	0
T1-WA-2849-11 RET CONTROL DIAGRAM	0
T1-WA-2849-12 DETAILS	0
T1-WA-2849-13 DETAILS	0
T1-WA-2849-14 DETAILS	0
T1-WA-2849-15 DETAILS	0

SUPPLIER DOCUMENT REVIEW STATUS

STATUS	NO.
1	0
2	0
3	0
4	0

Permittent to proceed does not constitute acceptance or approval of design details, calculations, or other information. It is the responsibility of the supplier and does not relieve the supplier from all compliance with contractual obligations.

ERT (Responsible Engineer):
 Joseph Hudock, PE
 7150 STANDARD DRIVE
 HANNOVER, MD 21076

BECHTEL COMMUNICATIONS
 3205 WESTING' 098E
 FROEDRICK, MD, 21703
 PHONE: (301) 226-8000

SITE NAME: SEQUOIA BUILDING
 SITE ID NO.: 2849
 2110 WASHINGTON BOULEVARD
 ARLINGTON, VA 22204

at&t
 Mobility
 7150 STANDARD DRIVE
 HANNOVER, MD 21076

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5

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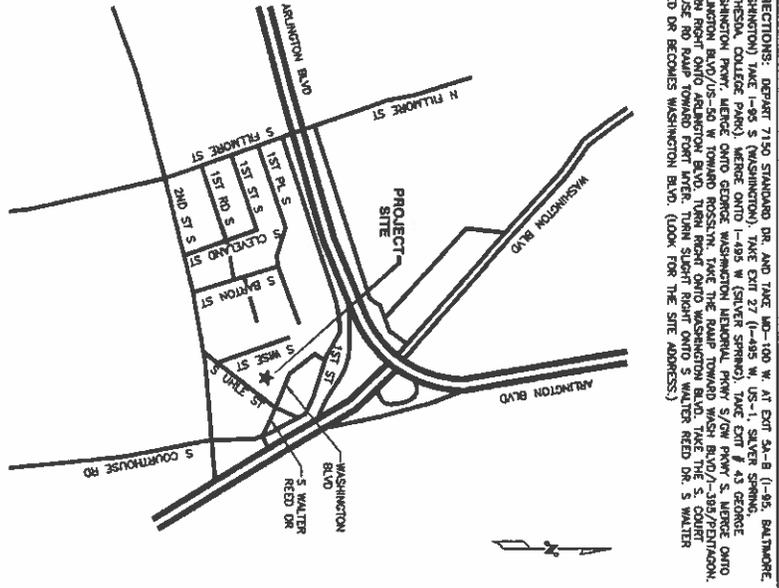
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SITE NAME: SEQUOIA BUILDING
SITE ID NO.: 2849



VICINITY MAP



DIRECTIONS: DEPART 7150 STANDARD DR. AND TAKE RD-109 W. AT EXIT 54-A-B (I-495, BALTIMORE WASHINGTON) TAKE I-95 S (WASHINGTON) TAKE EXIT 27 (I-495 W. US-1, SILVER SPRING, BETHESDA, COLLEGE PARK). MERGE ONTO I-495 W (SILVER SPRING). TAKE EXIT F 43 GEORGE WASHINGTON HWY. MERGE ONTO GEORGE WASHINGTON MEMORIAL PKWY S/W PKWY S. MERGE ONTO WASHINGTON BLVD/US-50 W TOWARD ROSSLYN. TAKE THE RAMP TOWARD WASH BLVD/-389/7ENTAGON. TURN RIGHT ONTO WASHINGTON BLVD. TURN RIGHT ONTO WASHINGTON BLVD. TAKE THE S. COURSE AND MERGE ONTO WASHINGTON BLVD. TURN RIGHT ONTO WASHINGTON BLVD. TAKE THE S. COURSE AND MERGE ONTO WASHINGTON BLVD. (LOOK FOR THE SITE ADDRESS). REED DR BECOMES WASHINGTON BLVD. (LOOK FOR THE SITE ADDRESS).

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 (LAW) FOR THE LOCATION. THE ENFORCEMENT OF THE ADOPTED CODES AND STANDARDS IS EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

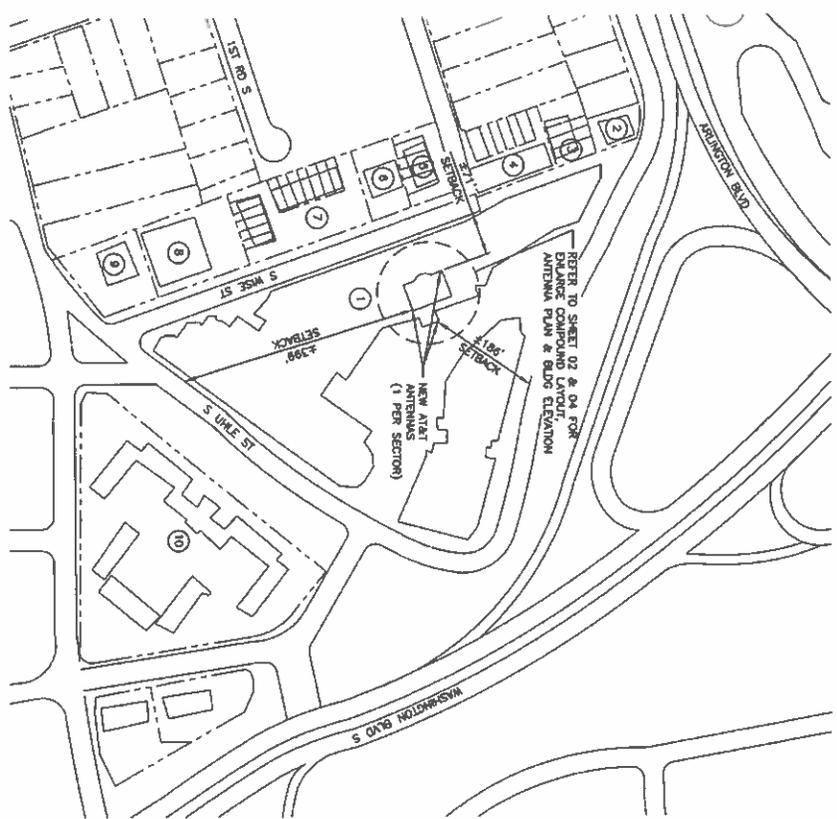
BUILDING CODE:
 INTERNATIONAL BUILDING CODE (IBC) 2006 (VIRGINIA UNIFORM STATEWIDE BUILDING CODE)
 [INTERNATIONAL BUILDING CODE] IBC 2006 (VIRGINIA UNIFORM STATEWIDE BUILDING CODE)
 [NATIONAL ELECTRICAL CODE] NEC 2008 (NATIONAL ELECTRICAL CODE)
 [NATIONAL ELECTRICAL CODE] NEC 2008 (NATIONAL ELECTRICAL CODE)
 [FIRE/LIFE SAFETY CODE] IFC 2006 (VIRGINIA STATEWIDE FIRE PREVENTION CODE)

SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:
 CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
 AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION, ASD, 13TH EDITION
 AISC/ANSI 360-10, STRUCTURAL STEEL DESIGN, 10TH EDITION

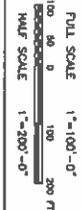
FOR ALL CONTRACTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, WORKMANSHIP OR CONSTRUCTION, THE MOST STRINGENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.



at&t
 TITLE SHEET
 25471-430
 T1-WA-2849-01
 21 X 34" 3/8"



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



BECTHEL COMMUNICATIONS
3285 WESTING DRIVE
FREDERICK, MD, 21705
PHONE: (301) 228-8000

SITE NAME: SEQUOIA BUILDING
SITE ID No.: 2549
2110 WASHINGTON BOULEVARD
ARLINGTON, VA 22204



7150 STANDARD DRIVE
HAWVER, MD 21076

6

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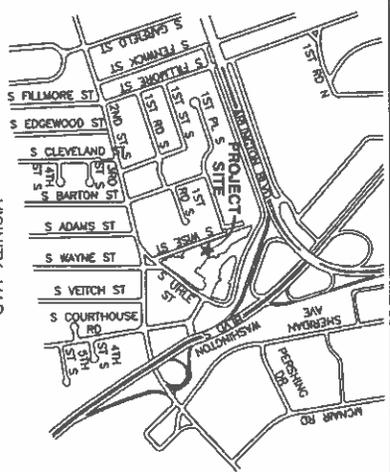
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25471-430 11-M-2849-01A 0

REAL ESTATE ASSESSMENT

- 1. **FP REPUBLIC SEQUOIA LLC**
PARCEL ID: 24004016
PRECINCT: 24001081
ZONING: C-2
MAP/PAGE: 084-08
LOT ADDRESS: 2110 WASHINGTON BOULEVARD
ARLINGTON, VA 22204
OWNER ADDRESS: 9600 BLACKWELL RD #200
ROCKVILLE, MD 20850
- 2. **TU SHINE S, TU CHINCHUANG & CAROL**
PARCEL ID: 24001081
PRECINCT: 24001081
ZONING: R-6
MAP/PAGE: 084-08
LOT ADDRESS: 2400 ARLINGTON BLVD
ARLINGTON, VA 22204
- 3. **JEFFERSON, MICHAEL L**
PARCEL ID: 24001210
PRECINCT: 24001210
ZONING: R14-26
MAP/PAGE: 084-08
LOT ADDRESS: 98 S WISE ST
ARLINGTON, VA 22204
- 4. **JACKSON SQUARE HOMEOWNERS ASSOC INC**
PARCEL ID: 24001211
PRECINCT: 24001211
ZONING: R14-26
MAP/PAGE: 084-08
LOT ADDRESS: 98 S WISE ST
ARLINGTON, VA 22204
- 5. **JACKSON SQUARE HOMEOWNERS ASSOC INC**
PARCEL ID: 24001211
PRECINCT: 24001211
ZONING: R14-26
MAP/PAGE: 084-08
LOT ADDRESS: 98 S WISE ST
ARLINGTON, VA 22204
- 6. **HARPER ADGE MARJOR MARDEN HARPER JAMES E JR**
PARCEL ID: 24005022
PRECINCT: 24005022
ZONING: R14-26
MAP/PAGE: 084-08
LOT ADDRESS: 303 H COMPTON ST
ARLINGTON, VA 22204
- 7. **AVAO SQUARE HOMEOWNERS ASSOC INC**
PARCEL ID: 24005046
PRECINCT: 24005046
ZONING: R14-26
MAP/PAGE: 084-08
LOT ADDRESS: 303 H COMPTON ST
ARLINGTON, VA 22204
- 8. **FIRST UNION NATIONAL BANK OF VIRGINIA**
PARCEL ID: 24005022
PRECINCT: 24005022
ZONING: C-2
MAP/PAGE: 084-08
LOT ADDRESS: P.O. BOX 40962
DALLAS, TX 75221
- 9. **ERINUCH BERHARD TR**
PARCEL ID: 24005023
PRECINCT: 24005023
ZONING: C-2
MAP/PAGE: 084-08
LOT ADDRESS: P.O. BOX 40962
DALLAS, TX 75221
- 10. **INTERION RESIDENTIAL, LLC**
PARCEL ID: 24003001
PRECINCT: 24003001
ZONING: R-6
MAP/PAGE: 084-08
LOT ADDRESS: 4445 WILLARD AVE
CHEVY CHASE, MD 20815



VICINITY MAP

GENERAL NOTES:

1. APPLICANT: AT&T
7150 STANDARD DRIVE
HAWVER, MD 21076
ATTN: STEVEN SPATHE
 2. SITE ADDRESS: 2110 WASHINGTON BOULEVARD
ARLINGTON, VA 22204
 3. SITE DATE: PARCEL ID: 24004016
PRECINCT: 24001081
ZONING: C-2
MAP BOOK PAGE: 084-08
 4. THIS PROJECT CONSISTS OF INSTALLING NEW EQUIPMENT ON A ROOFTOP PLATFORM AND NEW ANTENNAS WITH ASSOCIATED SUPPORT EQUIPMENT ON AN EXISTING ROOFTOP.
 5. NO WATER OR SANITARY UTILITIES ARE REQUIRED FOR THE OPERATION OF THIS FACILITY.
 6. TOTAL DISTURBED AREA: 0 SQUARE FEET (NO WORK ONLY)
- EXISTING UTILITY NOTES:**
1. FOR LANDING LOCATIONS OF EXISTING UTILITIES, NOTIFY "MISS UTILITIES" AT 1-800-552-7001
 2. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS. THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION OF ALL UTILITIES BY FIELD SURVEY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HANDLING ALL UTILITIES IN ADVANCE OF TRENCHING. IF CLEARANCES ARE LESS THAN SPECIFIED ON THIS PLAN OR LESS THAN 12 INCHES WHEN NOT SPECIFIED, CONTACT THE ENGINEER AND THE OWNER OF THE OTHER INVOLVED UTILITY BEFORE PROCEEDING WITH CONSTRUCTION.
 3. FOR FIELD LOCATION OF GAS LINE SERVICES, NOTIFY WASHINGTON LIGHT OR 703-750-1000, 48 HOURS PRIOR TO THE START OF EXCAVATION OR CONSTRUCTION.
 4. QUESTIONS AND/OR ADDITIONS OF UTILITIES FOUND DURING CONSTRUCTION SHALL BE THE SOLE RESPONSIBILITY OF ANY CONTRACTOR DURING EXCAVATION AT THIS SITE. BECKETT UTILITY INFORMATION, QUESTIONS, AND ADDITIONS FOUND BY ANY CONTRACTOR.
 5. DUE TO THE PROXIMITY OF LIVE UNDERGROUND AND OVERHEAD UTILITIES, THE ARE NOT RESPONSIBLE FOR ANY DAMAGE OR INJURY TO EXISTING UTILITIES OR EQUIPMENT USED ON OR ADJACENT TO THE SITE.

NO.	DATE	DESCRIPTION	BY	CHKD
0	02/24/11	ISSUED FOR PERMITS
1	03/01/11	REVISION
2	03/01/11	REVISION



AT&T
SIT PLAN
25471-430 11-M-2849-01A 0

GENERAL NOTES

1. THE SUBCONTRACTOR SHALL GIVE ALL NOTICES AND REGULATIONS AND COMPLIANCE OF ANY PUBLIC AUTHORITY, MUNICIPAL AND LOCAL COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
2. THE ARCHITECT/DRAWER HAS MADE EVERY EFFORT TO SET FORTH IN THE CONTRACT DOCUMENTS THE SCOPE AND CHARACTER OF THE WORK. THE SUBCONTRACTOR BEING THE JOB IS HEREBY CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID SUBCONTRACTOR FROM COMPLETING THE PROJECT AND REPRESENTATION IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
3. THE SUBCONTRACTOR OR BINDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE AT&T REPRESENTATIVE (BECKETT) OF ANY SUBCONTRACTOR'S PROVISIONS OR PROVISIONS THAT MAY BE THE RIGHT OF AT&T OR THAT MAY BE SUBJECT TO AT&T'S REVIEW AND APPROVAL OR EXTENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
4. THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
5. THE SUBCONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMANCE WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT ALL WORK DESCRIBED HEREIN CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
6. THE SUBCONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DOCUMENTS/CONTRACT DOCUMENTS.
7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS OR ORDINANCES.
8. THE SUBCONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPON THE LATEST REVISIONS AND AMENDMENTS OR QUANTIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
9. THE SUBCONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE SUBCONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
10. THE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/DRAWER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
11. THE SUBCONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EXISTENTS, PAVEMENTS, CURBS, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE SUBCONTRACTOR SHALL REPAIR AND MAINTAIN ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROJECT.
12. THE SUBCONTRACTOR SHALL MAINTAIN THE GENERAL WORK AREA AS CLEAN AND UNPAVED FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, AND EXCESS MATERIALS FROM THE PROJECT. ALL EXCESS DIRT ON THE PROPERTY SURFACE SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SLAGS OF ANY NATURE.
13. THE SUBCONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
14. THE SUBCONTRACTOR SHALL NOTIFY THE AT&T REPRESENTATIVE (BECKETT) WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE SUBCONTRACTOR IS TO WRITE MATERIAL OR CONSTRUCTION WITH THE CONTRACT DOCUMENTS. THE AT&T REPRESENTATIVE SHALL BE CONTACTED IMMEDIATELY BY THE AT&T REPRESENTATIVE (BECKETT).
15. THE SUBCONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.



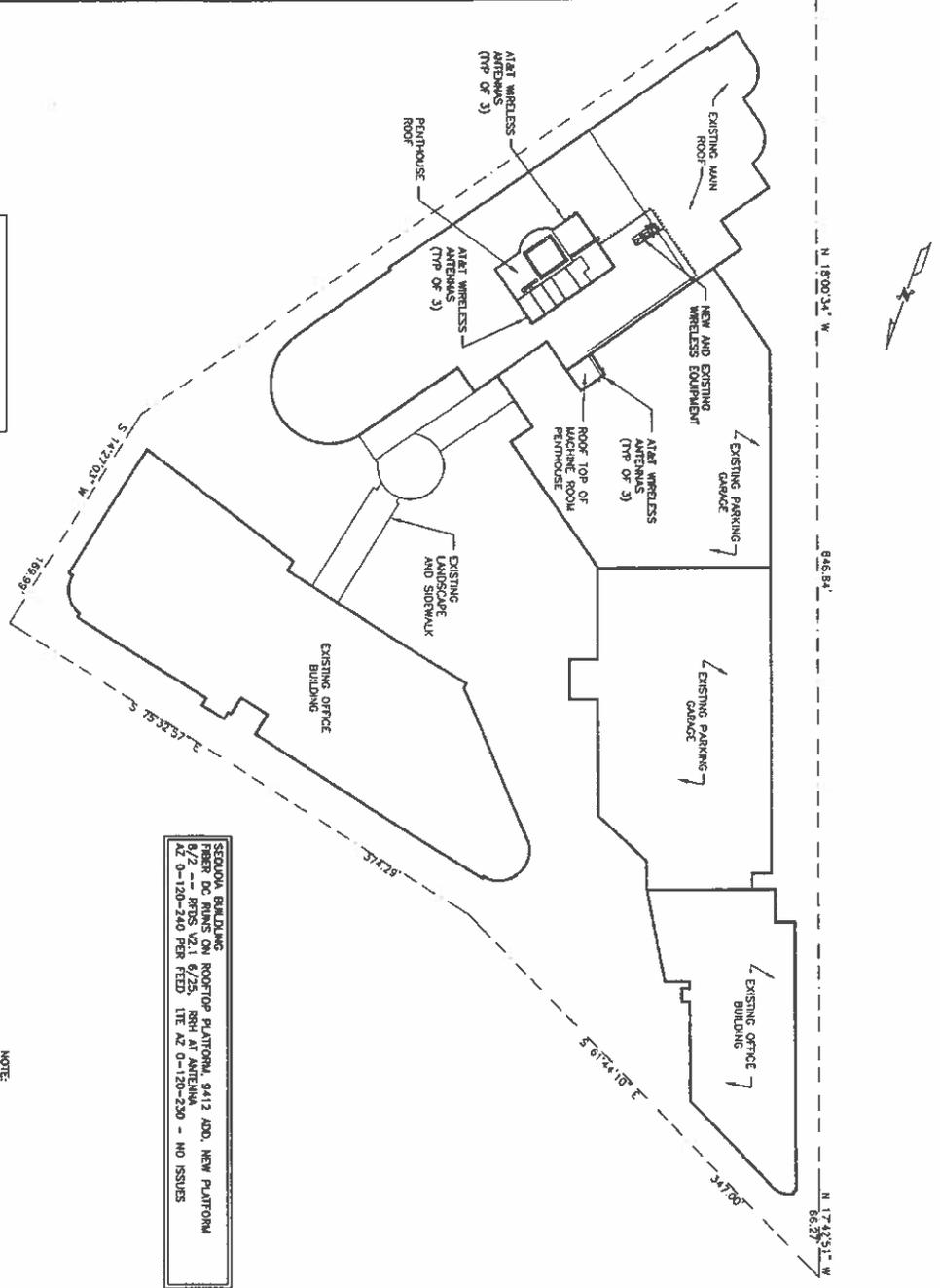
BECHTEL COMMUNICATIONS
5205 WESTVIEW DRIVE
FREDERICK, MD. 21703
PHONE: (301) 228-6000

SITE NAME: SEQUOIA BUILDING
SITE ID No.: 2848
2110 WASHINGTON BOULEVARD
ARLINGTON, VA 22204



7150 STAMFORD DRIVE
HANOVER, MD 21076

6 5 4 3 2 1



SEQUOIA BUILDING
FIBER DO RINGS ON ROOFTOP PLATFORM, 9412 ADD. NEW PLATFORM
9/2 -- RTS V2.1 6/25, RBH AT ANTENNA
AZ 0-120-240 PER FEED LIE AZ 0-120-230 - NO ISSUES

NOTE:
EXISTING STRUCTURE, BOUNDARY, TRUE NORTH AND TOPOGRAHY INFORMATION WERE TAKEN FROM THE 2008 LIDAR DATA PROVIDED BY AT&T MOBILITY. THE DRAWING MANAGER 24897-910-021-039-001, 002, 003, AND 004, DATED 10/02/03.

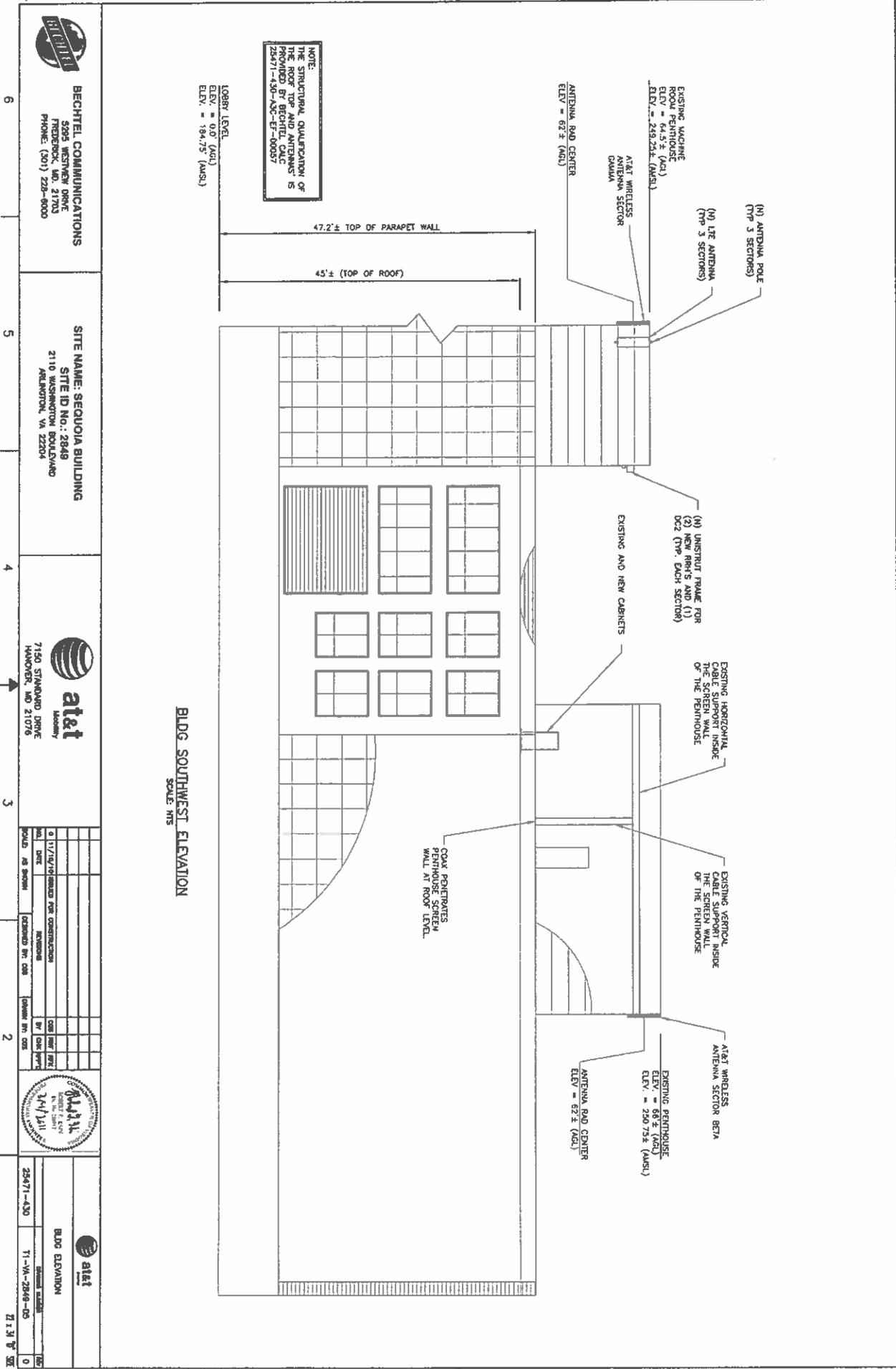
NO.	DATE	REVISION	BY	CHK	APPR	SCALE
1	10/02/03	ISSUED AS NOTED				1"=40'-0"
2	11/17/03	ISSUED FOR CONSTRUCTION				1"=40'-0"




CONTRACT PLAN AND GENERAL NOTES

25471-430
11-11-2848-02

Z 1.3 V SITE



NOTE:
THE STRUCTURAL QUALIFICATION OF
THE ROOF TOP AND ANTENNAS IS
PROVIDED BY BECHTEL CALC
25471-430-ASC-EF-00057

LOBBY LEVEL
ELEV. = 0.0' (MGS)
ELEV. = 194.75' (MGS)

BLDG SOUTHWEST ELEVATION
SCALE: NTS

BECHTEL COMMUNICATIONS
5295 WESTVIEW DRIVE
FREDERICK, MD, 21703
PHONE: (301) 228-9000

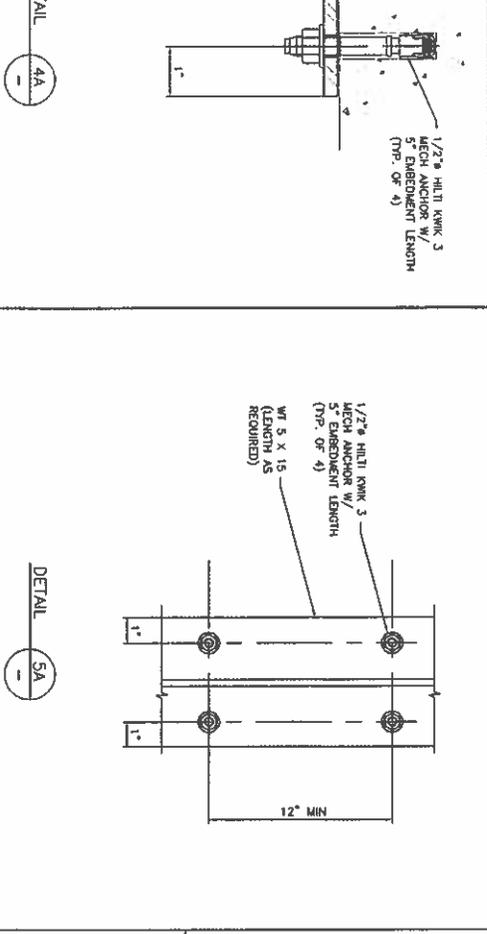
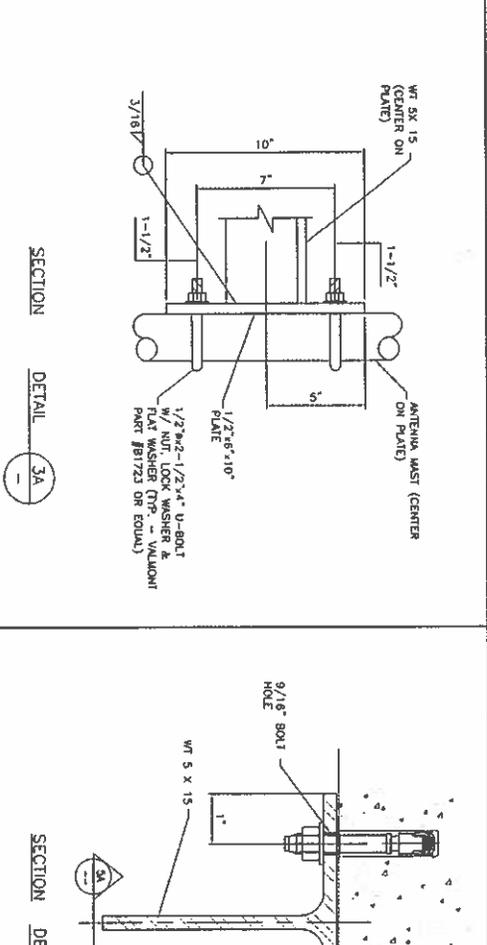
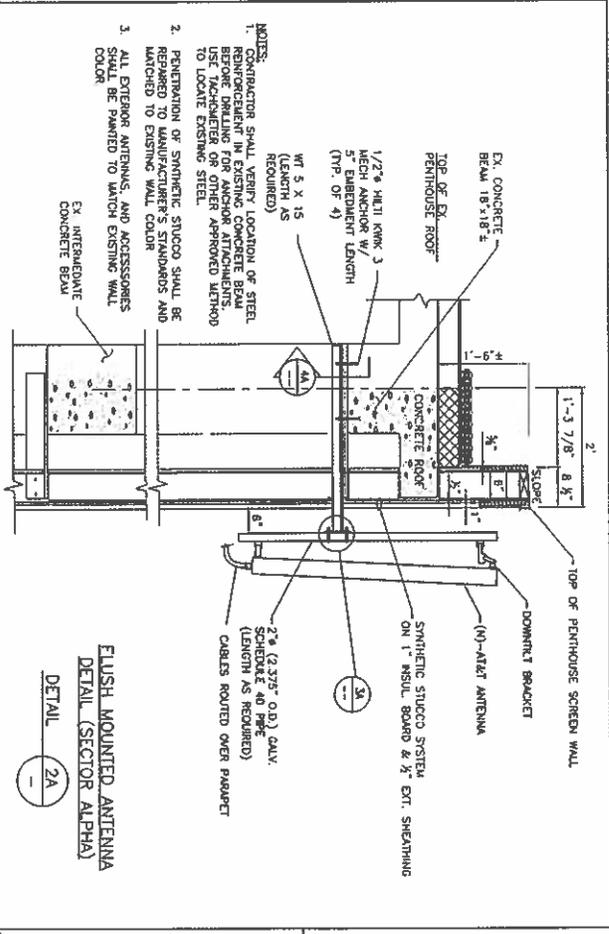
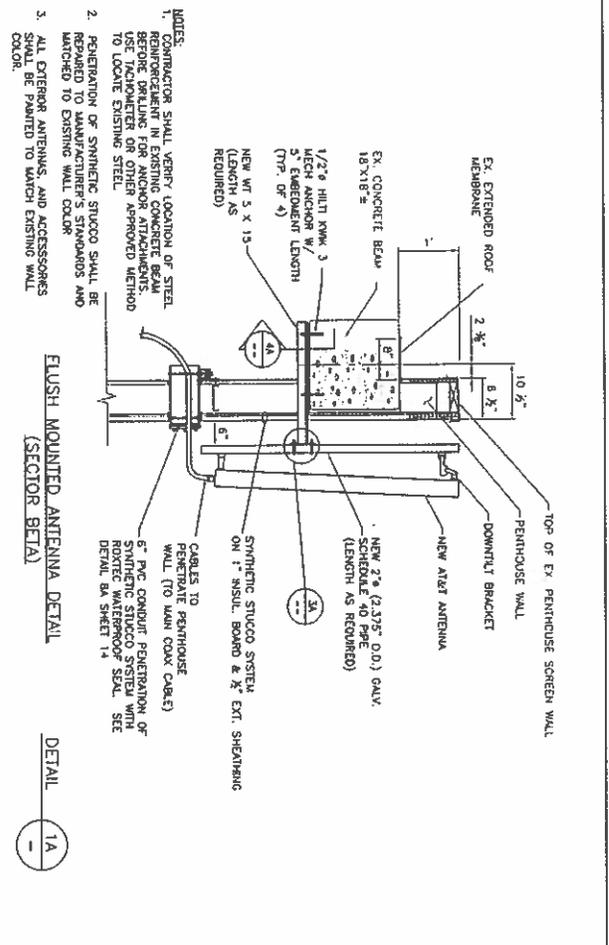
SITE NAME: SEQUOIA BUILDING
SITE ID No.: 2848
2110 WASHINGTON BOULEVARD
ARLINGTON, VA, 22204

at&t
7160 STANFORD DRIVE
HANOVER, MD 21076

NO.	DATE	DESCRIPTION	DESIGNED BY	CHECKED BY	DATE
1	11/17/10	ISSUED FOR CONSTRUCTION			
2					
3					
4					
5					
6					



at&t
BLDG ELEVATION
25471-430
11-14-2848-05
21.31' @ 1/8"



BECHTEL COMMUNICATIONS
5285 WESTVIEW DRIVE
FREDERICK, MD 21703
PHONE: (301) 228-0000

SITE NAME: SEQUOIA BUILDING
SITE ID NO.: 2849
2110 WASHINGTON BOULEVARD
ARLINGTON, VA 22204

at&t
7140 STANFORD DRIVE
HANOVER, MD 21076

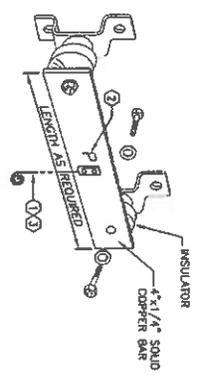
at&t
MOBILITY

NO.	DATE	DESCRIPTION	ISSUED BY	DATE	BY	DATE
0	11/10/10	ISSUED FOR CONSTRUCTION	XXXXXXXXXX			
1		ISSUED FOR CONSTRUCTION	XXXXXXXXXX			
2		ISSUED FOR CONSTRUCTION	XXXXXXXXXX			

at&t

at&t

25471-430 11-10-2849-13



GROUND CONDUCTOR REMAINING ON AIR GROUND BAR SHALL HAVE AN INSULATING LAYER ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

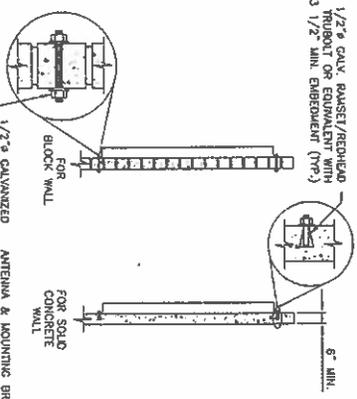
CONNECTION FOR:
 COAXIAL CABLE SURGE SUPPRESSORS
 GENERATOR FRAMES
 GENERATOR FRAME WORK
 24V & 48V DC POWER RETURN BAR
 MASTER GROUND BAR

DETAIL NOTES:

- TWO-HOLE LONG BARREL COMPRESSION LUG WITH 2 AWG STRANDED COPPER CONDUCTOR AND 1/2" O.D. X 3"-0" MAX. GALV. STEEL MOUNTING PIPE CONNECT WITH TWO-HOLE LUG TO "C" SECTION.
- USE PERMANENT MARKER TO LABEL THE WHOLE BAR AS "P" WITH 1" HIGH LETTERS.
- FOR GROUND BAR LOCATED OUTDOORS, ON-GRADE ONLY, EXOTHERMICALLY WELD A 2" AWG BARE THINNED COPPER CONDUCTOR TO GROUND BAR AND EXOTHERMICALLY WELD TO BURRED GROUND CONDUCTOR.

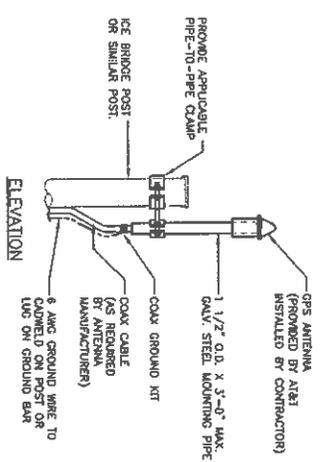
SUPPLEMENTAL/SECTOR GROUND BAR

DETAIL 1124



ANTENNA MOUNTING DETAIL (FOR GAMMA SECTOR)

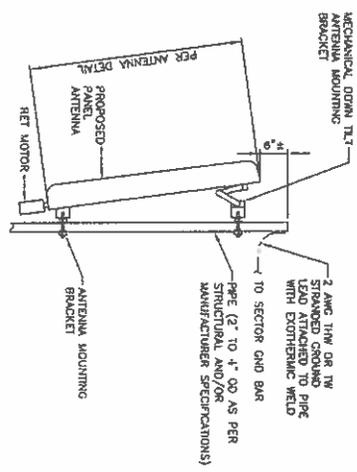
DETAIL 1121



- NOTES:**
- LOCATION OF ANTENNA MUST HAVE CLEAR VIEW OF SOUTHERN SKY AND CANNOT HAVE ANY OBSTACLES EXCEEDING 25% OF THE SURFACE AREA OF A HEMISPHERE AROUND THE GPS ANTENNA.
 - ALL GPS ANTENNA LOCATIONS MUST BE ABLE TO RECEIVE CLEAR SIGNALS FROM A MINIMUM OF FOUR (4) SATELLITES, VERIFY WITH HANDHELD GPS BEFORE FINAL LOCATION OF GPS ANTENNA.

E911-GPS ANTENNA PIPE MOUNT

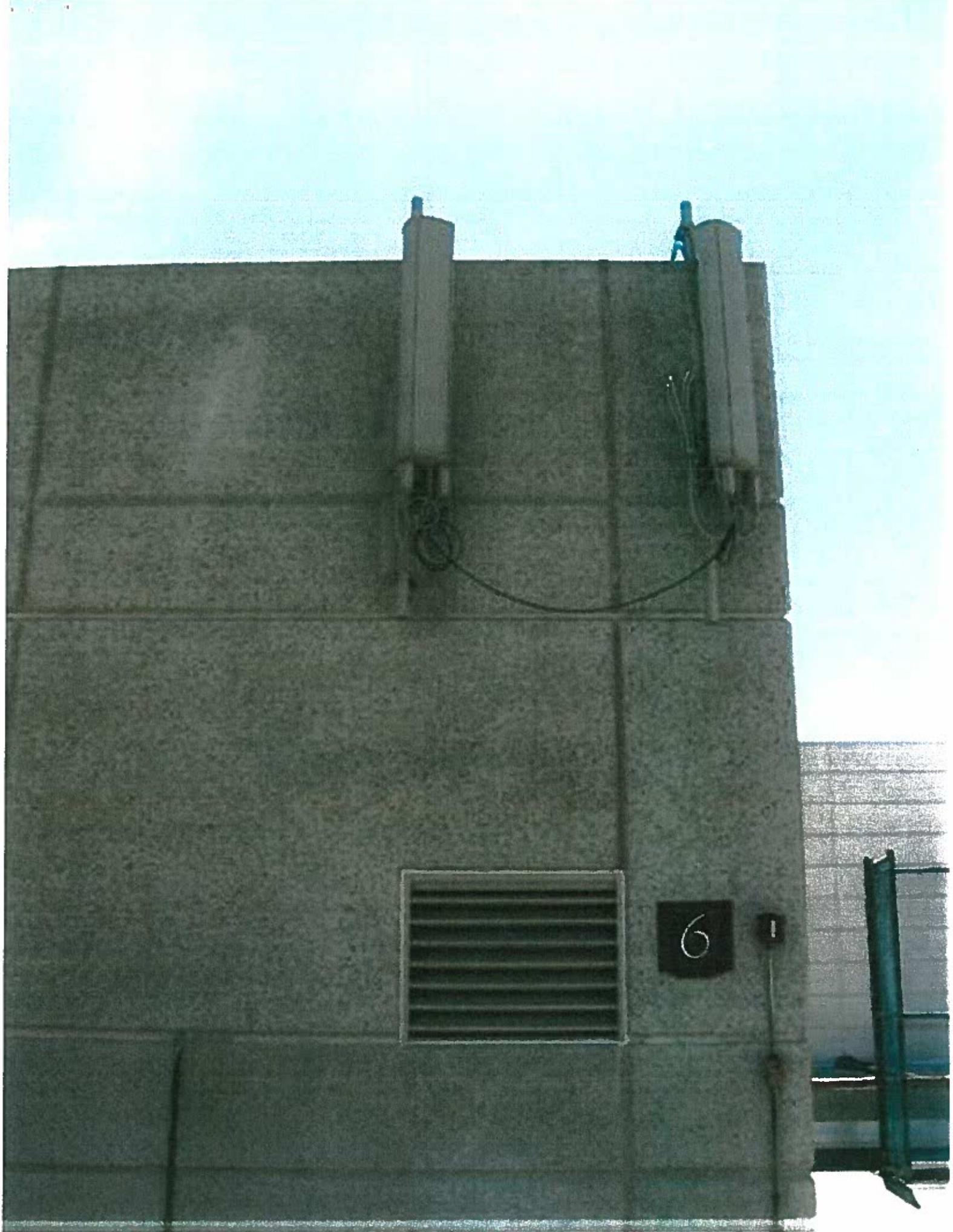
DETAIL 1121

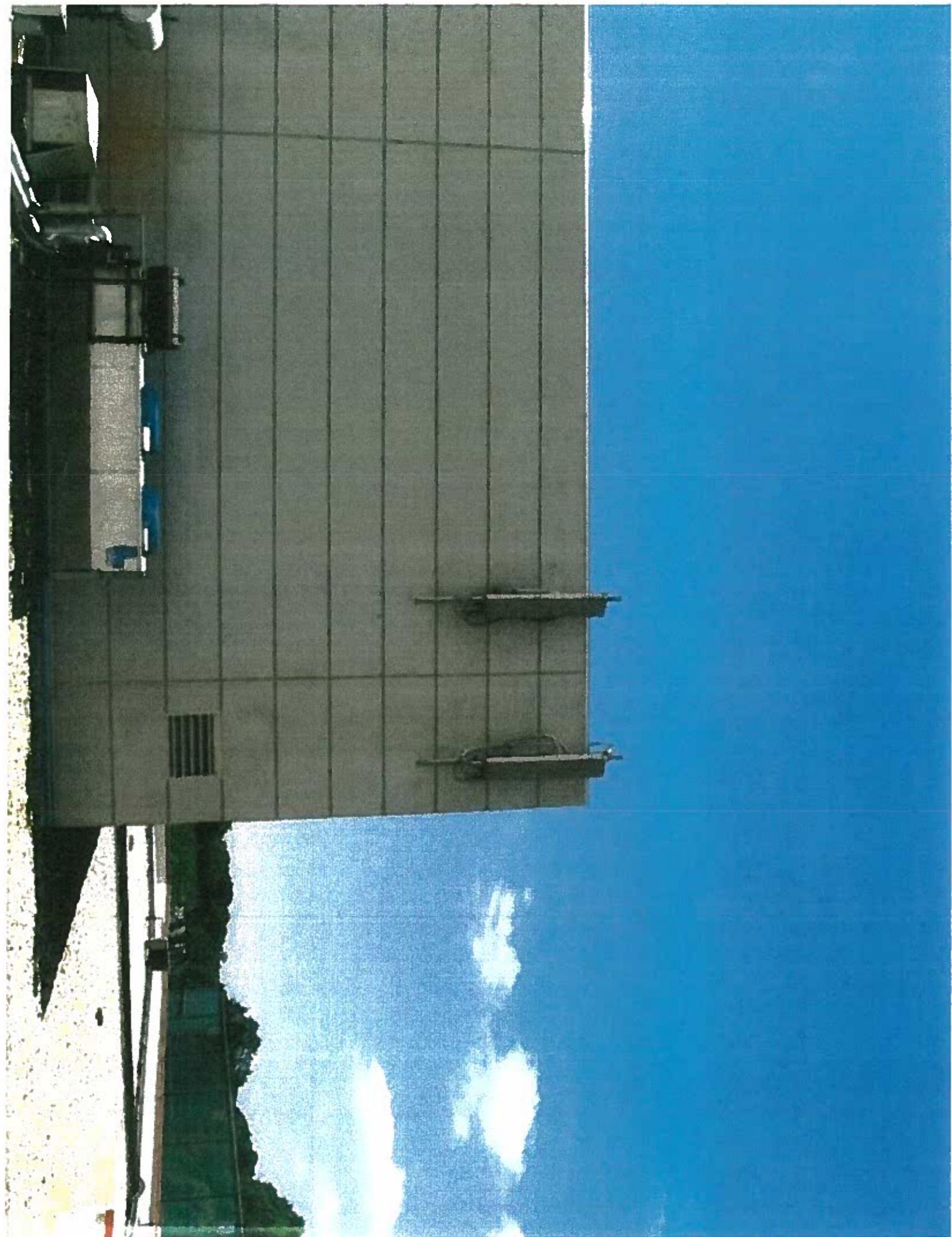


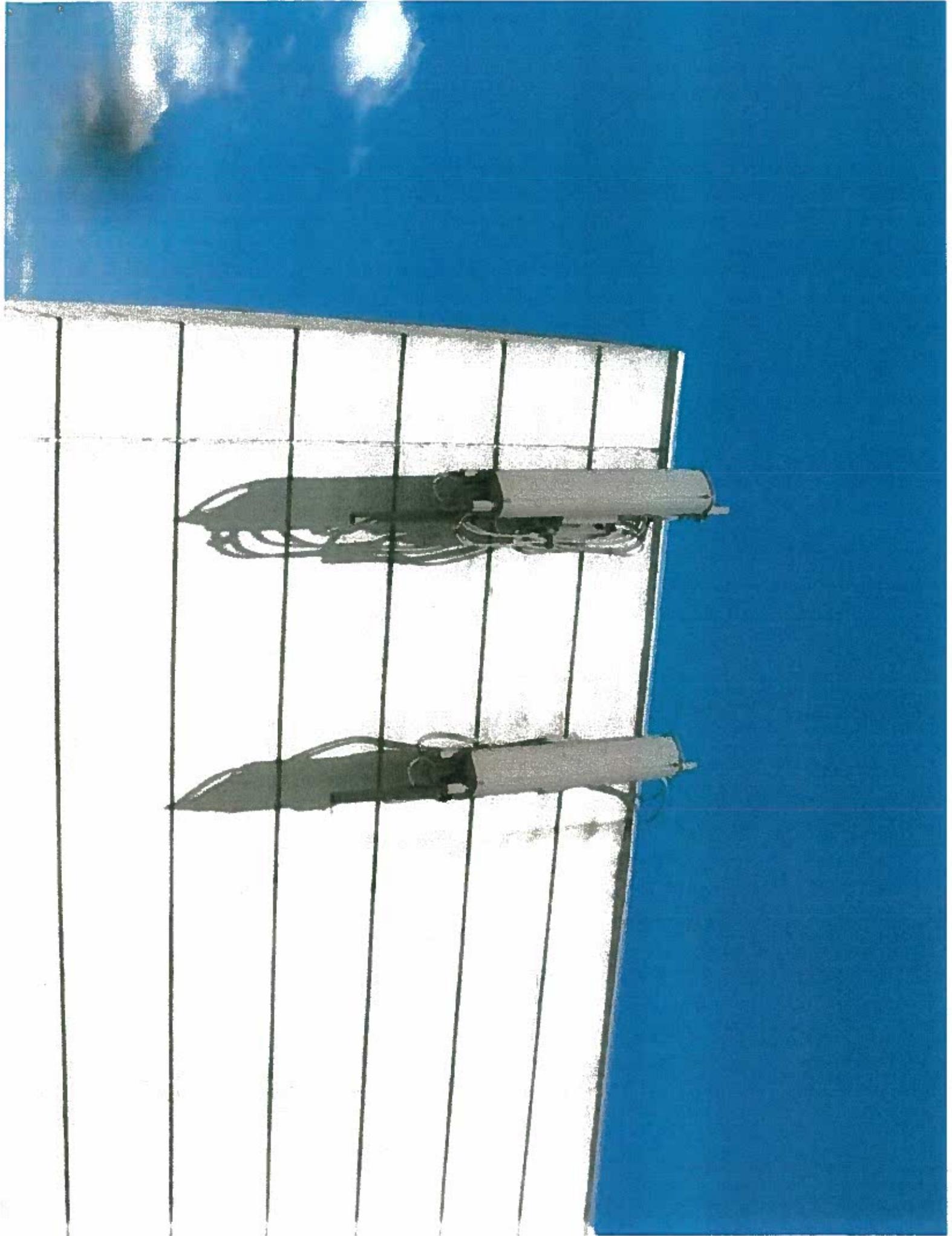
ANTENNA MOUNTING DETAIL

DETAIL 1520

DESCRIPTION	120/240 VOLTS, 1-PHASE, WAVE 200A		SYSTEM VOLTAGE (V)		DESCRIPTION
	VA	BRK POS	L1	L2	
SUB PANEL	217	C	3	3	RECTIFIER 1-2
AS COND 1	610	NC	20	5	RECTIFIER 1-3
AS COND 2	610	NC	20	7	RECTIFIER 1-4
AS COND 3	610	NC	20	5	RECTIFIER 2-1
AS COND 4	610	NC	20	17	RECTIFIER 2-2
AS COND 5	610	NC	20	21	RECTIFIER 2-3
RECTIFIER 1-1	1550	C	30	25	RECTIFIER 2-4
RECTIFIER 1-2	1550	C	30	27	RECTIFIER 2-5
RECTIFIER 1-3	1550	C	30	29	RECTIFIER 2-6
RECTIFIER 1-4	1550	C	30	31	RECTIFIER 2-7
RECTIFIER 2-1	1550	C	30	33	RECTIFIER 2-8
RECTIFIER 2-2	1550	C	30	35	RECTIFIER 2-9
RECTIFIER 2-3	1550	C	30	37	RECTIFIER 2-10
RECTIFIER 2-4	1550	C	30	39	RECTIFIER 2-11
RECTIFIER 2-5	1550	C	30	41	RECTIFIER 2-12
RECTIFIER 2-6	1550	C	30	43	RECTIFIER 2-13
RECTIFIER 2-7	1550	C	30	45	RECTIFIER 2-14
RECTIFIER 2-8	1550	C	30	47	RECTIFIER 2-15
RECTIFIER 2-9	1550	C	30	49	RECTIFIER 2-16
RECTIFIER 2-10	1550	C	30	51	RECTIFIER 2-17
RECTIFIER 2-11	1550	C	30	53	RECTIFIER 2-18
RECTIFIER 2-12	1550	C	30	55	RECTIFIER 2-19
RECTIFIER 2-13	1550	C	30	57	RECTIFIER 2-20
RECTIFIER 2-14	1550	C	30	59	RECTIFIER 2-21
RECTIFIER 2-15	1550	C	30	61	RECTIFIER 2-22
RECTIFIER 2-16	1550	C	30	63	RECTIFIER 2-23
RECTIFIER 2-17	1550	C	30	65	RECTIFIER 2-24
RECTIFIER 2-18	1550	C	30	67	RECTIFIER 2-25
RECTIFIER 2-19	1550	C	30	69	RECTIFIER 2-26
RECTIFIER 2-20	1550	C	30	71	RECTIFIER 2-27
RECTIFIER 2-21	1550	C	30	73	RECTIFIER 2-28
RECTIFIER 2-22	1550	C	30	75	RECTIFIER 2-29
RECTIFIER 2-23	1550	C	30	77	RECTIFIER 2-30
RECTIFIER 2-24	1550	C	30	79	RECTIFIER 2-31
RECTIFIER 2-25	1550	C	30	81	RECTIFIER 2-32
RECTIFIER 2-26	1550	C	30	83	RECTIFIER 2-33
RECTIFIER 2-27	1550	C	30	85	RECTIFIER 2-34
RECTIFIER 2-28	1550	C	30	87	RECTIFIER 2-35
RECTIFIER 2-29	1550	C	30	89	RECTIFIER 2-36
RECTIFIER 2-30	1550	C	30	91	RECTIFIER 2-37
RECTIFIER 2-31	1550	C	30	93	RECTIFIER 2-38
RECTIFIER 2-32	1550	C	30	95	RECTIFIER 2-39
RECTIFIER 2-33	1550	C	30	97	RECTIFIER 2-40
RECTIFIER 2-34	1550	C	30	99	RECTIFIER 2-41
RECTIFIER 2-35	1550	C	30	101	RECTIFIER 2-42
RECTIFIER 2-36	1550	C	30	103	RECTIFIER 2-43
RECTIFIER 2-37	1550	C	30	105	RECTIFIER 2-44
RECTIFIER 2-38	1550	C	30	107	RECTIFIER 2-45
RECTIFIER 2-39	1550	C	30	109	RECTIFIER 2-46
RECTIFIER 2-40	1550	C	30	111	RECTIFIER 2-47
RECTIFIER 2-41	1550	C	30	113	RECTIFIER 2-48
RECTIFIER 2-42	1550	C	30	115	RECTIFIER 2-49
RECTIFIER 2-43	1550	C	30	117	RECTIFIER 2-50
RECTIFIER 2-44	1550	C	30	119	RECTIFIER 2-51
RECTIFIER 2-45	1550	C	30	121	RECTIFIER 2-52
RECTIFIER 2-46	1550	C	30	123	RECTIFIER 2-53
RECTIFIER 2-47	1550	C	30	125	RECTIFIER 2-54
RECTIFIER 2-48	1550	C	30	127	RECTIFIER 2-55
RECTIFIER 2-49	1550	C	30	129	RECTIFIER 2-56
RECTIFIER 2-50	1550	C	30	131	RECTIFIER 2-57
RECTIFIER 2-51	1550	C	30	133	RECTIFIER 2-58
RECTIFIER 2-52	1550	C	30	135	RECTIFIER 2-59
RECTIFIER 2-53	1550	C	30	137	RECTIFIER 2-60
RECTIFIER 2-54	1550	C	30	139	RECTIFIER 2-61
RECTIFIER 2-55	1550	C	30	141	RECTIFIER 2-62
RECTIFIER 2-56	1550	C	30	143	RECTIFIER 2-63
RECTIFIER 2-57	1550	C	30	145	RECTIFIER 2-64
RECTIFIER 2-58	1550	C	30	147	RECTIFIER 2-65
RECTIFIER 2-59	1550	C	30	149	RECTIFIER 2-66
RECTIFIER 2-60	1550	C	30	151	RECTIFIER 2-67
RECTIFIER 2-61	1550	C	30	153	RECTIFIER 2-68
RECTIFIER 2-62	1550	C	30	155	RECTIFIER 2-69
RECTIFIER 2-63	1550	C	30	157	RECTIFIER 2-70
RECTIFIER 2-64	1550	C	30	159	RECTIFIER 2-71
RECTIFIER 2-65	1550	C	30	161	RECTIFIER 2-72
RECTIFIER 2-66	1550	C	30	163	RECTIFIER 2-73
RECTIFIER 2-67	1550	C	30	165	RECTIFIER 2-74
RECTIFIER 2-68	1550	C	30	167	RECTIFIER 2-75
RECTIFIER 2-69	1550	C	30	169	RECTIFIER 2-76
RECTIFIER 2-70	1550	C	30	171	RECTIFIER 2-77
RECTIFIER 2-71	1550	C	30	173	RECTIFIER 2-78
RECTIFIER 2-72	1550	C	30	175	RECTIFIER 2-79
RECTIFIER 2-73	1550	C	30	177	RECTIFIER 2-80
RECTIFIER 2-74	1550	C	30	179	RECTIFIER 2-81
RECTIFIER 2-75	1550	C	30	181	RECTIFIER 2-82
RECTIFIER 2-76	1550	C	30	183	RECTIFIER 2-83
RECTIFIER 2-77	1550	C	30	185	RECTIFIER 2-84
RECTIFIER 2-78	1550	C	30	187	RECTIFIER 2-85
RECTIFIER 2-79	1550	C	30	189	RECTIFIER 2-86
RECTIFIER 2-80	1550	C	30	191	RECTIFIER 2-87
RECTIFIER 2-81	1550	C	30	193	RECTIFIER 2-88
RECTIFIER 2-82	1550	C	30	195	RECTIFIER 2-89
RECTIFIER 2-83	1550	C	30	197	RECTIFIER 2-90
RECTIFIER 2-84	1550	C	30	199	RECTIFIER 2-91
RECTIFIER 2-85	1550	C	30	201	RECTIFIER 2-92
RECTIFIER 2-86	1550	C	30	203	RECTIFIER 2-93
RECTIFIER 2-87	1550	C	30	205	RECTIFIER 2-94
RECTIFIER 2-88	1550	C	30	207	RECTIFIER 2-95
RECTIFIER 2-89	1550	C	30	209	RECTIFIER 2-96
RECTIFIER 2-90	1550	C	30	211	RECTIFIER 2-97
RECTIFIER 2-91	1550	C	30	213	RECTIFIER 2-98
RECTIFIER 2-92	1550	C	30	215	RECTIFIER 2-99
RECTIFIER 2-93	1550	C	30	217	RECTIFIER 2-100
RECTIFIER 2-94	1550	C	30	219	RECTIFIER 2-101
RECTIFIER 2-95	1550	C	30	221	RECTIFIER 2-102
RECTIFIER 2-96	1550	C	30	223	RECTIFIER 2-103
RECTIFIER 2-97	1550	C	30	225	RECTIFIER 2-104
RECTIFIER 2-98	1550	C	30	227	RECTIFIER 2-105
RECTIFIER 2-99	1550	C	30	229	RECTIFIER 2-106
RECTIFIER 2-100	1550	C	30	231	RECTIFIER 2-107
RECTIFIER 2-101	1550	C	30	233	RECTIFIER 2-108
RECTIFIER 2-102	1550	C	30	235	RECTIFIER 2-109
RECTIFIER 2-103	1550	C	30	237	RECTIFIER 2-110
RECTIFIER 2-104	1550	C	30	239	RECTIFIER 2-111
RECTIFIER 2-105	1550	C	30	241	RECTIFIER 2-112
RECTIFIER 2-106	1550	C	30	243	RECTIFIER 2-113
RECTIFIER 2-107	1550	C	30	245	RECTIFIER 2-114
RECTIFIER 2-108	1550	C	30	247	RECTIFIER 2-115
RECTIFIER 2-109	1550	C	30	249	RECTIFIER 2-116
RECTIFIER 2-110	1550	C	30	251	RECTIFIER 2-117
RECTIFIER 2-111	1550	C	30	253	RECTIFIER 2-118
RECTIFIER 2-112	1550	C	30	255	RECTIFIER 2-119
RECTIFIER 2-113	1550	C	30	257	RECTIFIER 2-120
RECTIFIER 2-114	1550	C	30	259	RECTIFIER 2-121
RECTIFIER 2-115	1550	C	30	261	RECTIFIER 2-122
RECTIFIER 2-116	1550	C	30	263	RECTIFIER 2-123
RECTIFIER 2-117	1550	C	30	265	RECTIFIER 2-124
RECTIFIER 2-118	1550	C	30	267	RECTIFIER 2-125
RECTIFIER 2-119	1550	C	30	269	RECTIFIER 2-126
RECTIFIER 2-120	1550	C	30	271	RECTIFIER 2-127
RECTIFIER 2-121	1550	C	30	273	RECTIFIER 2-128
RECTIFIER 2-122	1550	C	30	275	RECTIFIER 2-129
RECTIFIER 2-123	1550	C	30	277	RECTIFIER 2-130
RECTIFIER 2-124	1550	C	30	279	RECTIFIER 2-131
RECTIFIER 2-125	1550	C	30	281	RECTIFIER 2-132
RECTIFIER 2-126	1550	C	30	283	RECTIFIER 2-133
RECTIFIER 2-127	1550	C	30	285	RECTIFIER 2-134
RECTIFIER 2-128	1550	C	30	287	RECTIFIER 2-135
RECTIFIER 2-129	1550	C	30	289	RECTIFIER 2-136
RECTIFIER 2-130	1550	C	30	291	RECTIFIER 2-137
RECTIFIER 2-131	1550	C	30	293	RECTIFIER 2-138
RECTIFIER 2-132	1550	C	30	295	RECTIFIER 2-139
RECTIFIER 2-133	1550	C	30	297	RECTIFIER 2-140
RECTIFIER 2-134	1550	C	30	299	RECTIFIER 2-141
RECTIFIER 2-135	1550	C	30	301	RECTIFIER 2-142
RECTIFIER 2-136	1550	C	30	303	RECTIFIER 2-143
RECTIFIER 2-137	1550	C	30	305	RECTIFIER 2-144
RECTIFIER 2-138	1550	C	30	307	RECTIFIER 2-145
RECTIFIER 2-139	1550	C	30	309	RECTIFIER 2-146
RECTIFIER 2-140	1550	C	30	311	RECTIFIER 2-147
RECTIFIER 2-141	1550	C	30	313	RECTIFIER 2-148
RECTIFIER 2-142	1550	C	30	315	RECTIFIER 2-149
RECTIFIER 2-143	1550	C	30	317	RECTIFIER 2-150
RECTIFIER 2-144	1550	C	30	319	RECTIFIER 2-151
RECTIFIER 2-145	1550	C	30	321	RECTIFIER 2-152
RECTIFIER 2-146	1550	C	30	323	RECTIFIER 2-153
RECTIFIER 2-147	1550	C	30	325	RECTIFIER 2-154
RECTIFIER 2-148	1550	C	30	327	RECTIFIER 2-155
RECTIFIER 2-149	1550	C	30	329	RECTIFIER 2-156
RECTIFIER 2-150	1550	C	30	331	RECTIFIER 2-157
RECTIFIER 2-151	1550	C	30	333	RECTIFIER 2-158
RECTIFIER 2-152	1550	C	30	335	RECTIFIER 2-159
RECTIFIER 2-153	1550	C	30		









Electromagnetic Energy (“EME”) Measurement and Site Compliance Report



Prepared for



Site Information

US ID: 27480
Site Name: SEQUOIA BUILDING
Address: 2110 WASHINGTON BOULEVARD,
ARLINGTON VA 22204

Survey Date: Oct 6, 2010
Surveyed By: Kia
M-RFSC: Sean Miller

Report Date: Oct 6, 2010



AT&T

US ID: 27480 - Site Name: SEQUOIA BUILDING
Electromagnetic Energy (“EME”)
Measurement and Site Compliance Report



2110 WASHINGTON BOULEVARD, ARLINGTON VA 22204



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1 Summary

1.1 Introduction

AT&T has installed RF transmitting antennas at the following location (the “wireless telecommunications facility”):

Street Address: WEST BURR BOULEVARD, KEARNEYSVILLE WV 25430

US ID: 27480

Construction ID: 2849

Latitude / Longitude: 38.872503 / -77.083603

Telnet, Inc performed an RF emission survey of the RF environment surrounding the facilities installed by AT&T at this location. The facility is located on a Four Story building

AT&T is licensed by the Federal Communications Commission (“FCC”) to provide wireless communications services. As required by the FCC, wireless system operators perform an assessment of the potential human exposure to radio frequency emissions emanating from transmitting antennas at the site.

The physical survey verified antenna placement and technical specifications for accurate recommendations to determine compliance with FCC guidelines. Antenna specifications presented herein are based on direct evidence from an antenna or transmitter cabinet, information from the site manager or building manager, information from the licensees, educated estimates by the field technician or a combination of some or all of these sources.

1.2 Statement of Compliance

After evaluation of the total RF emission levels from all the operators and a thorough review of the site access procedures, signage and observable antenna locations, Telnet has determined that:

This site is compliant with FCC Policy.

AT&T contributes more than 5% of the maximum permissible exposure (MPE) based on theoretical modeling using the parameters supplied by the client.

The compliance determination is based on General Public MPE levels due to predicted and measured levels based on Spatial Averaging, RF signage placement, and the level of restricted access to the antennas at the site.



1.3 Safety Recommendations & Site Compliance Actions

This site is compliant with the FCC rules and regulations and further steps must be taken at this time. Since AT&T contributes more than 5% of the MPE, should this site be non-compliant for any reason, all other operators who contribute greater than 5 % would all be liable to bring the site into compliance.

During the field visit, Telnet documented the presence and location of signs and barriers. Areas that require that action in order to meet AT&T corporate policy are listed below. No action means the location is compliant with the company policy.

Site Access Locations

No Action required

Alpha Sector Location

No Action required

Beta Sector Location

No Action required

Gamma Sector Location

No Action required

1.3.1 Lockout/Tagout Procedures for Antenna, Transmission Line and Power Amplifier Maintenance

Whenever anyone is working on an antenna, transmission line, high power amplifier (HPA), or multi-channel power amplifier (MCPA), the transmitter (power amplifier) MUST be turned off. This can be accomplished either locally by flipping a circuit breaker(s) or remotely by command from the NMC/NOC.

The person initiating or requesting the transmitter shutdown is the ONLY person authorized to restore the transmitter to service. This person is responsible for making sure that ALL work has been completed, that ALL cables have been properly reconnected, and that EVERYONE is clear of the work area before the transmitter is reactivated. Generally, this person is considered to be the one actually performing the work. In the case of a contractor working at an active site, the FE/Technician may initiate the request on behalf of the contractor.



1.3.2 Lockout/Tagout Procedure, Local Shutdown

After securing permission to shut the transmitter down, the Field Engineer (FE)/Field Technician (FT) will turn off the circuit breaker and verify that the correct transmitter was deactivated. The FE/FT will then place a locking device(s) over the circuit breaker(s) to prevent accidental activation by an unauthorized person and place a TAG on, or in the immediate vicinity of, the circuit breaker(s). The tag should state "Do Not Operate." At the NMC/NOC the same note, including date and time and location, must be entered in the computer or a tag must be placed on the monitor frame in such a manner that the console operator will be made aware that the transmitter can not be activated without permission from the person who initiated the maintenance request.

The FE/FT will turn the key(s) over to the person performing the work. Upon completion of the work, this person performing the task will return the key(s). As a precautionary measure, prior to reactivating the transmitter, the FE/FT MUST verify, to the extent possible, that all connections have been made and that the work area is clear of personnel.

1.3.3 Lockout/Tagout Procedure, Remote Shutdown

After requesting the NMC/NOC to shut the transmitter down, the FE/FT will verify that the correct transmitter was deactivated. The FE/FT will then place a TAG on or in the immediate vicinity of transmitter. The tag should state "Do Not Operate." At the NMC/NOC the same note, including date/time, must be entered in the computer or a tag must be placed on the monitor frame in such a manner that the console operator will be made aware that the transmitter can not be activated unless the following conditions are met: 1) The tag has been removed by the person performing the work; and 2) Permission is provided by the person who initiated the maintenance request.

Upon completion of the work, the person performing the task will remove the tag and notify the FE/FT that the work is completed. As a precautionary measure, prior to requesting reactivation of the transmitter, the FE/FT MUST verify, to the extent possible, that all connections have been made and that the work area is clear of personnel.

Note: Even though normal procedures call for a remote shutdown, if it is possible to turn off the circuit breaker without causing a software reload or other similar problems the FE/FT should follow the local shut down procedure.



1.4 Site Measurements

The site survey crew has provided the sketch of the rooftop with a visual representation of the RF environment at the site and depict antenna locations and rooftop structures. Figure 3 depict the surveyed measurements in percentage of MPE limits for General Population standards. Percentages greater than 100% exceed the FCC MPE limits. Section 4.5 contains actual spatially averaged MPE measured at each reference point.

Additional Information in the Site Layout Diagram

The RF emissions diagram provides indications of RF Signage, barriers and locked doors.

RF Signage & Barrier Key					
RF Signage			Barriers		
Type	Existing Location	Recommended Location	Type	Existing Location	Recommended Location
Notice	NE	NR	Locked Door	LE	LR
Caution	CE	CR	Fencing	RE	RR
Warning	WE	WR	Rope Chain		
Information Sign 1	I1E	I1R	Paint Stripes		
Information Sign 2	I2E	I2R	Tape		
Information Sign 3	I3E	I3R			
Information Sign 4	I4E	I4R			

Table 1
RF Signage & Barrier Key

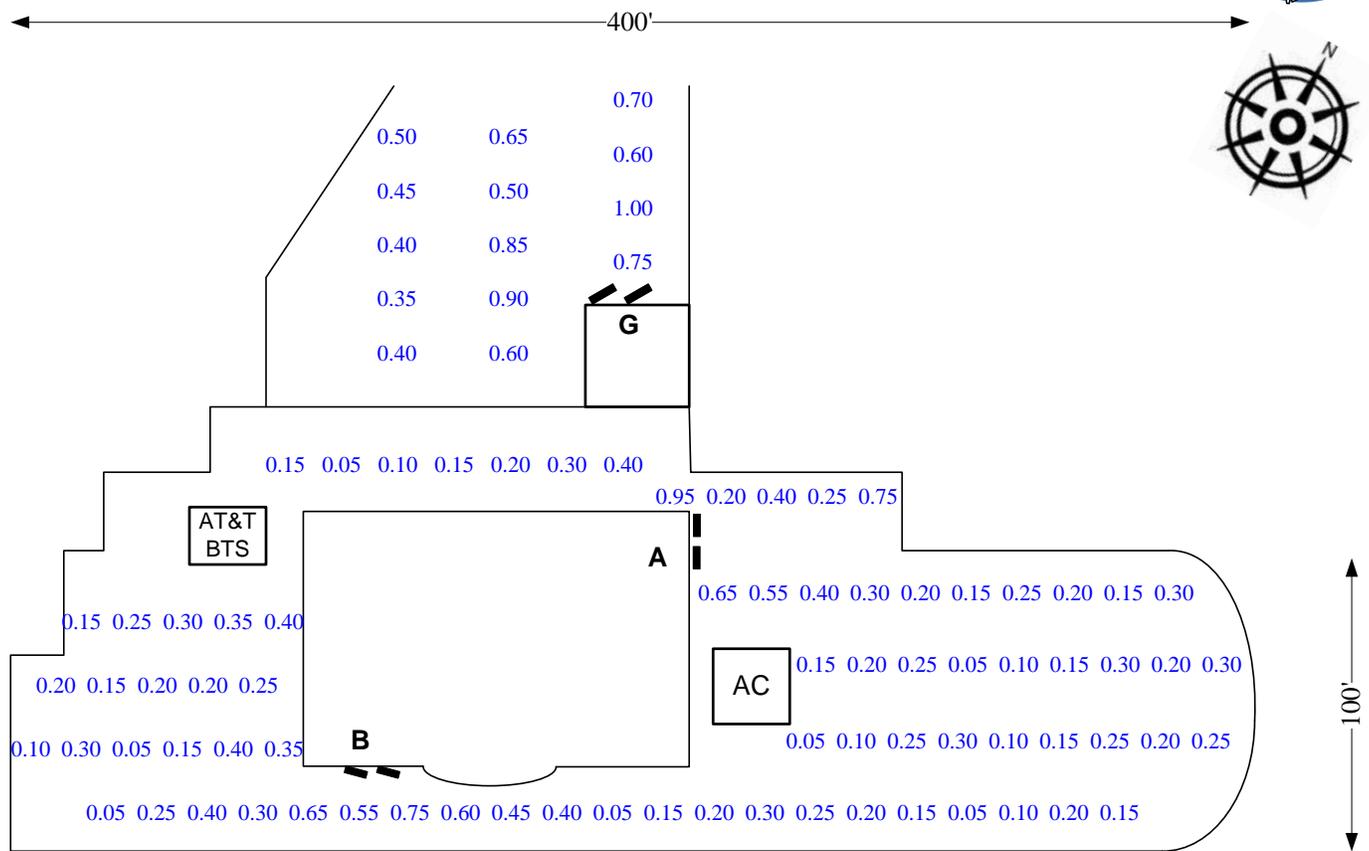
1.5 Roof Level Measurements

Figure 1 represents the actual readings at various points on the rooftop. These measurements depicts the energy levels that can be encountered by an individual at the site.

Maximum value for Occupational Standard based on Spatial Averaging: 0.20%

Maximum value for General Population Standard based on Spatial Averaging: 1.00%

Result Summary : AT&T is Compliant with FCC Policy based on General Public Maximum Permissible Exposure



Legend

■ AT&T Antenna

Scale



Figure 1
Numbers in Blue are the Percentage (%) of MPE Limits for General Population Standard



1.6 RF Modeling

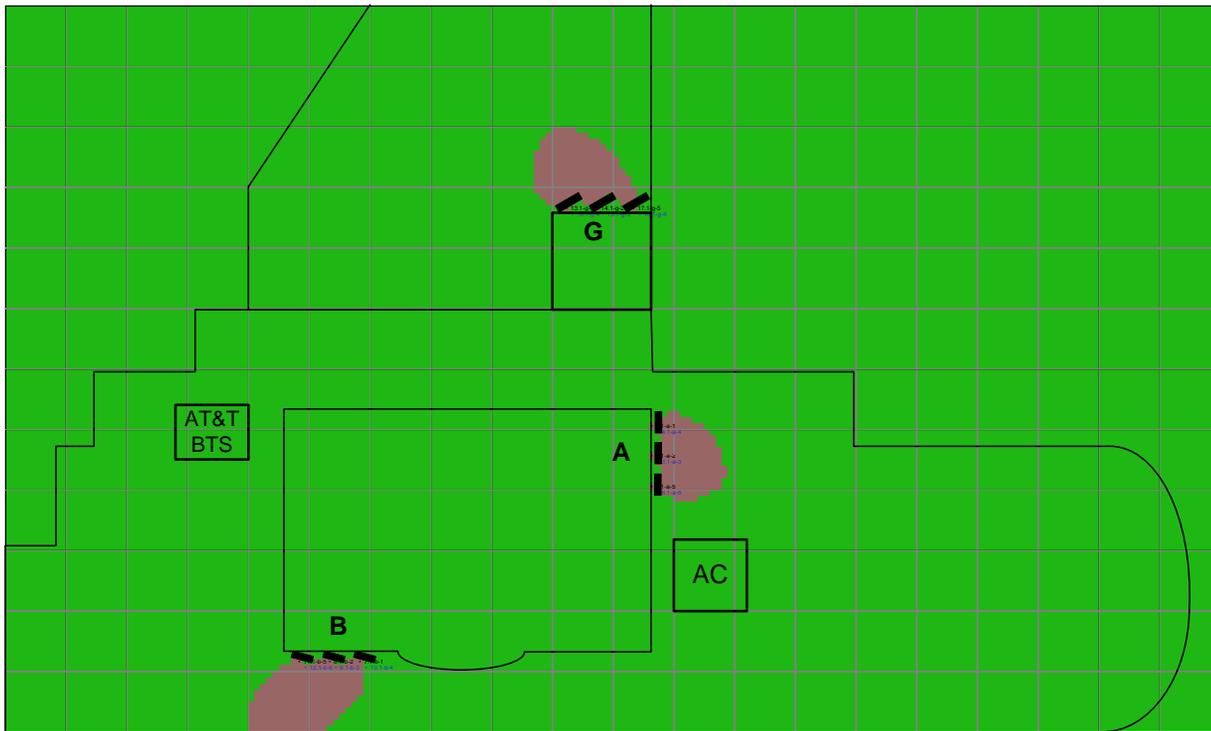
The modeling calculations assume that the antennas are operating at 100% capacity; that all antenna channels are transmitting simultaneously and that the radio transmitters are operating at full power. Obstructions (trees, buildings etc) that would normally attenuate the signal are not taken into account. As a result, the predicted signal levels are more conservative (higher) than the actual signal levels will be from the measurement conclusions.



Figure 2
Percent of FCC General Population Exposure Limit, All carriers including proposed LTE



← 400' →



Legend

■ AT&T Antenna

■ General Population Standard 0-5%
■ General Population Standard >5%
Uptime=100%
of Antennas on = 9

Scale

0 40 ft

Figure 3
5% FCC Exposure Limit, AT&T



2 Site Configuration

A survey was performed on 10/6/2010 to determine the RF emission levels present at the site. Measurements were performed on the areas considered accessible to the occupational population. At this site, additional steps were taken to assess areas accessible to the general population. The results of the measurements were the combined energy levels of AT&T antennas. To measure the RF emissions within the vicinity, Telnet, inc, utilized NARDA E Field Probe Model EA5091, Frequency Range 300 KHz - 50 GHz with NARDA Electromagnetic Survey Meter Model NBM-550. Calibration was performed by Narda Safety Test Solutions on April 26, 2007 for a total interval of 24 month.

Relevant administrative and compliance-related information about the antenna site rooftop area is summarized in the table below :

Rooftop Access	
Access Method	Gate access from building parking lot
Access to Keys	Yes
Door Locked	Yes
Collocation Status	
	Not colocated
Rooftop Area Classification	
	General Population
Weather Conditions	
	Sunny / Clear

2.1 Antenna Inventory

The Antenna Inventory shows all transmitting antennas on the site (see Table 1). This inventory was verified on site and was used by Telnet to perform software modeling of RF emissions . The inventory coincides with the site diagrams on this report, identifying each antennas location at the site.

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



Antenna Number	Operator	Type	TX Freq (MHz)	ERP (Watts)	Gain (dBd)	Model	Azimuth (deg.)	Length (ft)	Horizontal Beamwidth (Deg.)	X	Y	Z
1-a-1	AT&T	Panel	850	276	11.45	Kathrein 80010121	60	4.5	90	107	51	12
1-a-2	AT&T	Panel	1900	412	14.35	Kathrein 80010121	60	4.5	90	107	46	12
1-a-3	AT&T	Panel	850	244	11.45	Kathrein 80010121	60	4.5	90	107	46	12
1-a-4	AT&T	Panel	1900	1093	14.35	Kathrein 80010121	60	4.5	90	107	51	12
1-a-5	AT&T	Panel	700	220	11.00	Kathrein 80010764-700	60	4.3	65	107	41	12
1-a-6	AT&T	Panel	2100	409	14.85	Kathrein 80010764-AWS	60	4.3	65	107	41	12
1-b-1	AT&T	Panel	850	336	11.45	Kathrein 80010121	180	4.5	90	59	12	12
1-b-2	AT&T	Panel	1900	558	14.35	Kathrein 80010121	180	4.5	90	54	12	12
1-b-3	AT&T	Panel	850	297	11.45	Kathrein 80010121	180	4.5	90	54	12	12
1-b-4	AT&T	Panel	1900	1483	14.35	Kathrein 80010121	180	4.5	90	59	12	12
1-b-5	AT&T	Panel	700	268	11.00	Kathrein 80010764-700	180	4.3	65	49	12	12
1-b-6	AT&T	Panel	2100	554	14.85	Kathrein 80010764-AWS	180	4.3	65	49	12	12
1-g-1	AT&T	Panel	850	301	11.45	Kathrein 80010121	300	4.5	90	93	87	12
1-g-2	AT&T	Panel	1900	472	14.35	Kathrein 80010121	300	4.5	90	98	87	12
1-g-3	AT&T	Panel	850	267	11.45	Kathrein 80010121	300	4.5	90	98	87	12
1-g-4	AT&T	Panel	1900	1252	14.35	Kathrein 80010121	300	4.5	90	93	87	12
1-g-5	AT&T	Panel	700	240	11.00	Kathrein 80010764-700	300	4.3	65	104	87	12
1-g-6	AT&T	Panel	2100	468	14.85	Kathrein 80010764-AWS	300	4.3	65	104	87	12

**Table 2
Antenna Inventory**



2.2 AT&T Site Specifications

AT&T will be operating in four different frequency bands – the 700 MHz, 850 MHz, 1900 MHz & 2100 MHz- and plans to use three different technologies called GSM, UMTS, LTE.

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

Wireless Provider	AT&T
Frequency	850 Mhz
Antenna Manufacture & Model	Kathrein-80010121
Maximum Gain	13.6 dBi
RF Channels Per Sector (Max)	8 (GSM) 1 (UMTS)
Max. Trans Power / RF Channel	40 Watts
Antenna Centerline Postion Above Ground Level (A,B,G)	62' ,62' ,62'
Antenna Orientation	60 ,180 ,300 degrees
Wireless Provider	AT&T
Frequency	1900 Mhz
Antenna Manufacture & Model	Kathrein-80010121
Maximum Gain	16.5 dBi
RF Channels Per Sector (Max)	8 (GSM) 3 (UMTS)
Max. Trans Power / RF Channel	40 Watts
Antenna Centerline Postion Above Ground Level (A,B,G)	62' ,62' ,62'
Antenna Orientation	60 ,180 ,300 degrees
Wireless Provider	AT&T
Frequency	700 Mhz
Antenna Manufacture & Model	Kathrein-80010764-700
Maximum Gain	13.15 dBi
RF Channels Per Sector (Max)	1 (LTE)
Max. Trans Power / RF Channel	40 Watts
Antenna Centerline Postion Above Ground Level (A,B,G)	62' ,62' ,62'
Antenna Orientation	60 ,180 ,300 degrees



Wireless Provider	AT&T
Frequency	2100 Mhz
Antenna Manufacture & Model	Kathrein-80010764-AWS
Maximum Gain	17 dBi
RF Channels Per Sector (Max)	1 (AWS)
Max. Trans Power / RF Channel	40 Watts
Antenna Centerline Postion Above Ground Level (A,B,G)	62' ,62' ,62'
Antenna Orientation	60 ,180 ,300 degrees

Table 3
Site Specifications

3 Photos of Rooftop and Antennas

3.1 AT&T Existing Sectors



AT&T Sector 1



AT&T Sector 2



AT&T Sector 3



AT&T BTS



3.2 Signs and Access to the Site

Required RF signs include an information sign and all access locations were checked.

Pictures below show the Roof top Gate access from Building parking lot.



Parking Lot leading to access gate



Gate for roof access



4 Modeling Summary and Assumptions

4.1.1 General Model Assumptions

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

The site has been modeled with these assumptions to show the maximum RF energy density. Telnet Inc believes this to be a worst case analysis, based on best available data.

If at any time power density measurements were to be made, Telnet Inc believes the real time measurements would indicate levels below those shown in this report. By modeling in this way, we have conservatively shown exclusion areas (areas not to be entered without a personal RF monitor, carriers reducing power or performing real time measurements to show real time exposure levels).

4.1.2 Use of Generic Antennas

For the purposes of this report, the use of 'Generic' as an antenna model, or 'Unknown' for a wireless carrier, means that the information about the carrier, their FCC license and/ or antenna information was not provided and could not be obtained while on site. In the event of unknown information, Telnet will use our industry specific knowledge of equipment, antenna models and transmit power to model the site. If more specific information can be obtained for the unknown measurement criteria, remodeling of the site is recommended. If no information is available regarding the transmitting service associated with an unidentified antenna, using the antenna manufacturer's published data regarding the antenna's physical characteristics makes more conservative assumptions.



4.1.3 Statistical Summary

Statistical Summary		
%MPE	SQ. FT	%SQ. FT.
	24000	100.00 % of total ROOF Area
0 -100	24000	100.00 % of Selected Area
101 - 500	0	0.00 % of Selected Area
501 - 5000	0	0.00 % of Selected Area
> 5000	0	0.00 % of Selected Area
<p>Roof Area 24000 sq. ft. Max %MPE 37.8 % Min %MPE 0.1 % Using Near/Far Spatial Avg Model With FCC 1997 Public Standard</p>		

Table 4 Percent of FCC General Population Exposure Limit, All carriers

Statistical Summary		
%MPE	SQ. FT	%SQ. FT.
	24000	100.00 % of total ROOF Area
0 -5	23518	97.99 % of Selected Area
6 - 500	482	2.01 % of Selected Area
501 - 5000	0	0.00 % of Selected Area
> 5000	0	0.00 % of Selected Area
<p>Roof Area 24000 sq. ft. Max %MPE 37.8 % Min %MPE 0.1 % Using Near/Far Spatial Avg Model With FCC 1997 Public Standard</p>		

Table 5 Percent of FCC General Population Exposure Limit, AT&T proposed



5 Survey Methodology

5.1 Sampling Description

The rooftop area of the site under evaluation was laid out in a grid of measurement points. Measurements were performed every 5-10' at various locations on the rooftop. The measurements were performed using industry-accepted techniques described in FCC Bulletin OET-65. At each measurement point identified where measurement was over 20%, a spatially averaged measurement is collected over the height of an average human body. The survey meter performs a time average measurement while the user slowly moves the probe over a distance range of 0 cm to 200 cm (about six feet) above the rooftop level. The results recorded at each measurement location include the average values over the spatial distance. The analysis included all emitters aggregated by carrier and height that were indicated to be present.

6 Analysis and Computation

Based on emission patterns of the antennas at this location most of the energy emitted is spread towards the horizon. This assumes the antennas have a zero downtilt. If a mechanical downtilt other than zero is applied to the antennas then the maximum energy emitted will need to be calculated using the information below.

The following formulas can be used for calculating the power density.

Power density is calculated by dividing the surface area of the sphere or the unit area normal to the direction of the propagation. This information is usually shown in units of microwatts per square centimeter (uW/cm²), milliwatt per square centimeters (mW/cm²), or watts per square meter (W/m²).

6.1 Analysis

$$S = \frac{(P \times KFact)}{(2\pi Rh)}$$

where :

S = power density (mW/cm²)

P = total power input to the antenna (mW)

K = antenna correction factor / numeric factor for antenna discrimination

R = straight line distance of the antenna from a 6 ft. human (cm)

h = distance between the roof level and the bottom of the antenna (cm) or the vertical distance from the tip of the antenna to the roof level where a 6 ft. human being is assumed standing directly from the antenna (also equal to R at 0)

MPE% = Calculated exposure level, as a percentage of the FCC MPE limit for continuous exposure of the general population



7 FCC Limits for MPE

The FCC guidelines for human exposure to RF electromagnetic fields were derived from the recommendations of two expert organizations, the National Council on Radiation Protection and Measurements (“NCRP”) and the Institute of Electrical and Electronics Engineers (“IEEE”). The exposure guidelines are based on thresholds for known adverse effects and they incorporate appropriate margin of safety. The federal health and safety agencies such as: the Environmental Protection Agency (“EPA”), the Food and Drug Administration (“FDA”), the National Institute on Occupational Safety and Health (“NIOSH”) and the Occupational Safety and Health Administration (“OSHA”) have also been actively involved in monitoring and investigating issues related to RF exposure.

The FCC’s MPE limits are based on exposure limits over a wide range of frequencies recommended by the NCRP and the exposure limits developed by the IEEE and adopted by the American National Standards Institute (“ANSI”) to replace the 1982 ANSI guidelines. The limits for localized absorption are based on the recommendations of both the ANSI/IEEE and the NCRP. The potential hazard associated with the RF electromagnetic fields is discussed in OET Bulletin No. 56 “Questions and Answers about the Biological Effects and Potential Hazards of RF Electromagnetic Fields”. This document can be obtained on the FCC website at <http://www.fcc.gov>.

Sections 7.1, 7.2 and 7.3 represent the FCC limits for both occupational and general population exposures to different radio frequencies:

7.1 (A) Limits for Occupational/Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f ²)*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6



7.2 (B) Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f ²)*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz

*Plane-wave equivalent power density

NOTE 1: **Occupational/controlled** limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

NOTE 2: **General population/uncontrolled** exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

7.3 Controlled and Uncontrolled Exposure Limits

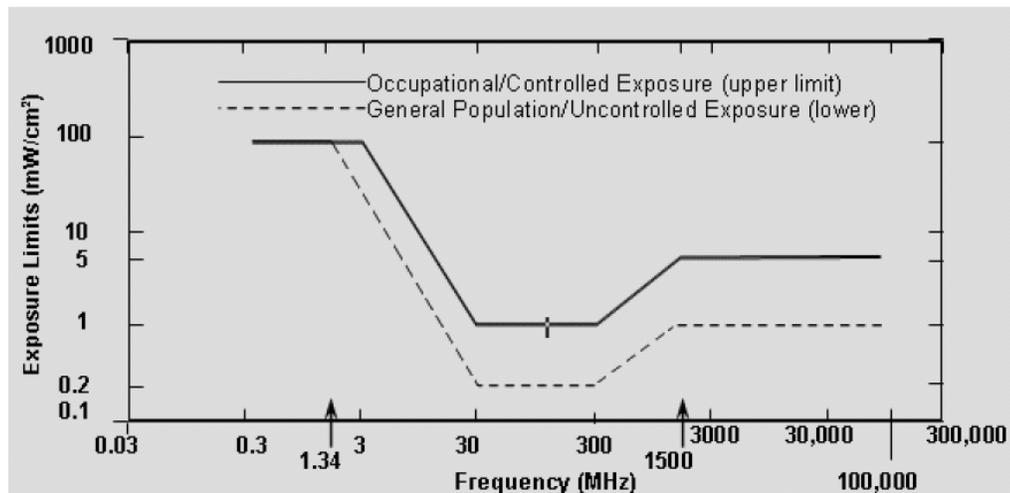


Figure 3



8 FCC Standard Certification

This report certifies that the site SEQUOIA BUILDING – 27480 is in compliance with the FCC standard. The analysis and procedure used to provide the report is according to OET Bulletin 65 and other industry standards.

Prepared by:
Kia
RF Technician
Telnet Inc.

Date: 10/06/10

Reviewed by:
Homan Alizadeh
Project Manager, EMF Specialist
Telnet Inc.

Date: 10/06/10



9 Glossary of Terms

1. *Electromagnetic Field (energy density)* – the electromagnetic energy contained in an infinitesimal volume divided by that volume.
2. *Exposure* – Exposure occurs whenever and wherever a person is subjected to electric, magnetic or electromagnetic fields other than those originating from physiological processes in the body and other natural phenomena.
3. *General Population / Uncontrolled Exposure* – applies to human exposure to RF fields 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. Therefore, members of the general public always fall under this category when exposure is not employment-related.
4. *Maximum Permissible Exposure (MPE)* – the rms and peak electric and magnetic field strength, their squares, or the plane-wave equivalent power densities associated with these fields to which a person may be exposed without harmful effect and with an acceptable safety factor.
5. *Occupational / Controlled Exposure* – applies to human exposure to RF fields 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. Occupational/controlled 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/controlled limits.
6. *Power Density (S)* – Power per unit area normal to the direction of propagation, usually expressed in units of watts per square meter (W/m^2) or, for convenience, units such as milliwatts per square centimeter (mW/cm^2) or microwatts per square centimeter ($\mu W/cm^2$).
7. *Ionization* – a process by which electrons are stripped from atoms and molecules. This process can produce molecular changes that can lead to damage in biological tissue, includes effect on DNA, the genetic material. This process requires interaction with high levels of electromagnetic energy.
8. *Non-Ionizing radiation* – a type of emission that is not great enough to cause ionization of atom and molecules. “RF and Microwave Emissions” are low-level energy which are not capable of ionization.



10 Appendix

Narda Safety Test Solutions
435 Moreland Road, Hauppauge, NY 11788
Phone: 631-231-1700 · Fax: 631-231-1711
E-mail: nardaeast@L-3com.com
www.nardamicrowave.com



Calibration Certificate

Narda Safety Test Solutions hereby certifies that the referenced equipment has been calibrated by qualified personnel to Narda's approved procedures. The calibration was carried out within a certified quality management system conforming to ISO 9001:2000.

The metrological confirmation system for test equipment complies with ISO 10012-1.

Object	Electric Field Probe EA5091
Part Number (P/N)	2402/07
Serial Number (S/N)	01006
Manufacturer	Narda Safety Test Solutions
Date of Calibration	Tue 07/Jul/2009 13:10:41
Results of Calibration	Test Results within Specification
Confirmation interval (recommended)	24 Months
Ambient Conditions	(23 +/-3)°C (40..60)% rel. humidity
Calibration Procedure	ATE Software 990199 Ver. 1.49
Probe Definition File Set	P/N 990199-04 Ver. 1.06
Results Filed Under	EA5091_01006_07Jul2009.txt

Hauppauge, NY

Calibrated by

Quality Assurance

This certificate may only be published in full, unless permission for the publication of an approved extract has been obtained in writing from the Director of Quality Assurance.

Certificate No. 01006_07Jul2009.txt

Date of issue: 07/Jul/2009

Page 1 of 6



Narda Safety Test Solutions GmbH
Sandwiesenstrasse 7 · D-72793 Pfullingen · Germany
Phone: +49-7121-9732-0 · Fax: +49-7121-9732-790



Calibration Certificate

Narda Safety Test Solutions GmbH hereby certifies that the referenced equipment has been calibrated by qualified personnel to Narda's approved procedures. The calibration was carried out within a certified quality management system conforming to DIN EN ISO 9001:2000.

The metrological confirmation system for test equipment complies with ISO 10012-1.

Object	Broadband Field Meter NBM-550
Part Number (P/N)	2401/01
Serial Number (S/N)	A-0125
Manufacturer	Narda Safety Test Solutions GmbH
Customer	
Date of Calibration	2009-07-02
Results of Calibration	Test results within specifications
Confirmation interval (recommended)	24 months
Ambient conditions	(23 ± 3)°C (20 ... 60) % rel. humidity
Calibration procedure	2401-8700-00A

Pfullingen, 2009-07-02


Person in charge
M. Budim


Head of Laboratory
N. Moll

This certificate may only be published in full, unless permission for the publication of an approved extract has been obtained in writing from the Managing Director.

MANAGEMENT
SYSTEM

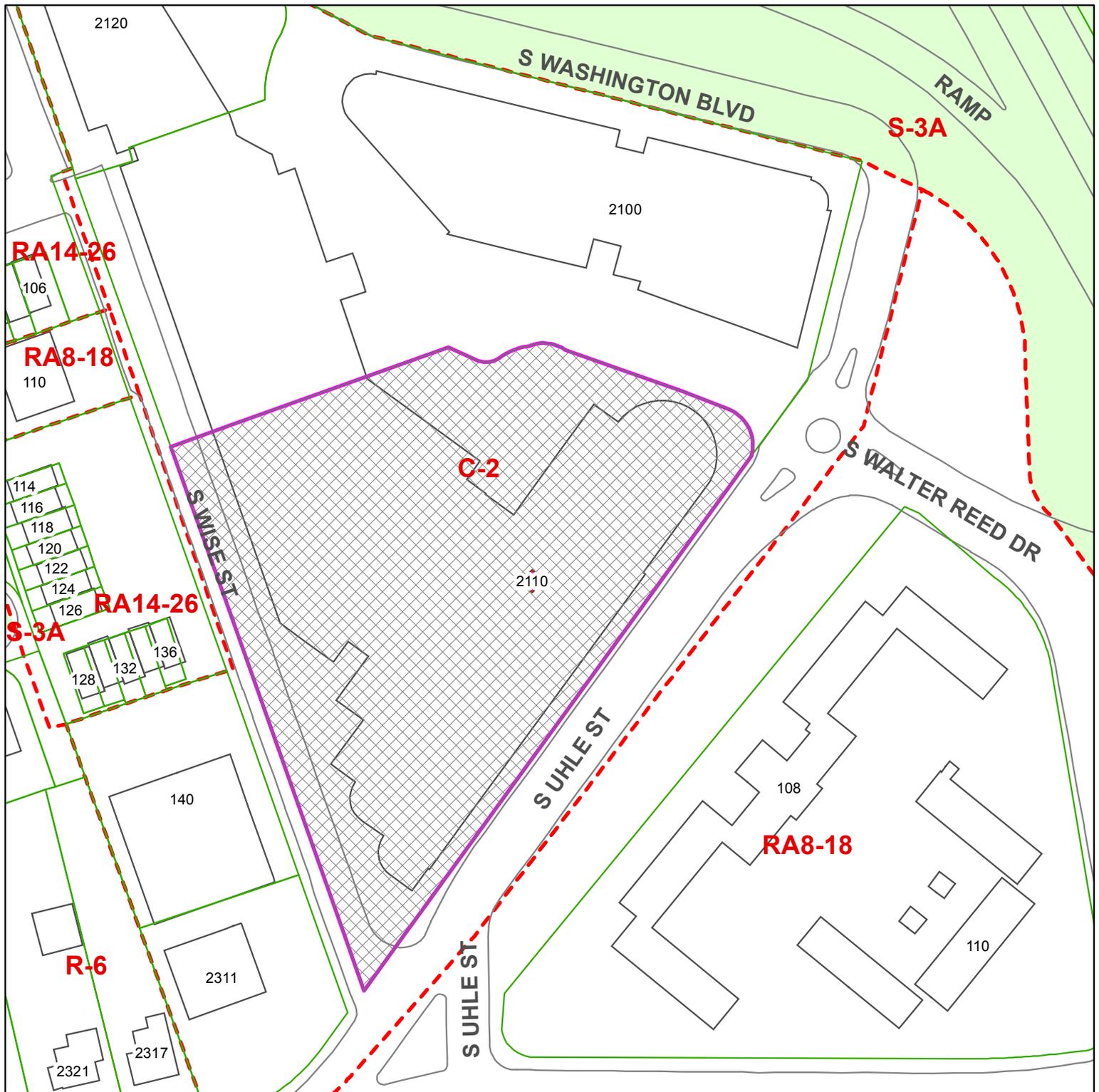


Certified by DQS against
DIN EN ISO 9001:2000
(Reg.-No. 99379-QM)

Certificate No. NBM-550-A-0125-090702-63

Date of issue: 2009-07-02

Page 1 of 3



U-3303-11-1

2110 Washington Blvd

RPC# 24-004-016



 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.