DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK

CITY OF PORTLAND

BUILDING PERMIT

This is to certify that WR PORTLAND HOTEL LLC **Located At** 1050 WESTBROOK ST

Job ID: 2012-03-3589-ALTCOMM **CBL:** 210A- A-005-001

has permission to Modify & upgrade existing rooftop wireless communictions & add 3 antennas with associated equipment **provided that the person or persons, firm or corporation accepting this permit shall comply with all of the provisions of the Statues of Maine and of the Ordinances of the City of Portland regulating the construction, maintenance and use of the buildings and structures, and of the application on file in the department.**

Notification of inspection and written permission procured before this building or part thereof is lathed or otherwise closed-in. 48 HOUR NOTICE IS REQUIRED.	A final inspection must be completed by owner before this building or part thereof is occupied. If a certificate of occupancy is required, it must be

MB 4/19/12

Fire Prevention Officer **Code Enforcement Officer / Plan Reviewer**

THIS CARD MUST BE POSTED ON THE STREET SIDE OF THE PROPERTY
PENALTY FOR REMOVING THIS CARD

City of Portland, Maine - Building or Use Permit Application

389 Congress Street, 04101 Tel: (207) 874-8703, FAX: (207) 8716

Job No:	Date Applied:	CBL:	
2012-03-3589-ALTCOMM	3/21/2012	210A- A-005-001	
Location of Construction: 1050 WESTBROOK ST	Owner Name: WR PORTLAND HOTEL LLC	Owner Address: 30 SOUTH WACKER DR STE 3600 CHICAGO, IL 60606	Phone:
Business Name:	Contractor Name: Nexlink Global Services	Contractor Address: 800 MARSHALL PHELPS RD WINDSOR CONNECTICUT 06095	Phone: (860) 640-4834
Lessee/Buyer's Name: AT&T MOBILITY	Phone: Peter Coore – 978-640-4834	Permit Type: BLDG	Zone: AB
Past Use: Hotel	Proposed Use: Same: Hotel – to modify and upgrade existing wireless communications – 3 additional antennas & associated equipment	Cost of Work: $20,000.00	CEO District:
		Fire Dept: ___ Approved ___ Denied ✓ N/A Signature: 58	Inspection: Use Group: R-1 Type: N/A IBC-2009 Signature: 4/19/12
Proposed Project Description: modification/ upgrade existing wirelss communicion		Pedestrian Activities District (P.A.D.)	
Permit Taken By: Gayle			

1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.
2. Building Permits do not include plumbing, septic or electrial work.
3. Building permits are void if work is not started within six (6) months of the date of issuance. False informatin may invalidate a building permit and stop all work.

Zoning Approval

Special Zone or Reviews	Zoning Appeal	Historic Preservation
___ Shoreland	___ Variance	✓ Not in Dist or Landmark
___ Wetlands	___ Miscellaneous	___ Does not Require Review
___ Flood Zone	___ Conditional Use	___ Requires Review
___ Subdivision	___ Interpretation	___ Approved
✓ Site Plan see attached Approval	___ Approved	___ Approved w/Conditions
___ Maj ___ Min ___ MM	___ Denied	___ Denied
Date: 3/26/12	Date:	Date:

CERTIFICATION

I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in the appication is issued, I certify that the code official's authorized representative shall have the authority to enter all areas covered by such permit at any reasonable hour to enforce the provision of the code(s) applicable to such permit.

SIGNATURE OF APPLICANT ADDRESS DATE PHONE

RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE DATE PHONE

BUILDING PERMIT INSPECTION PROCEDURES

Please call 874-8703 or 874-8693 (ONLY)

or email: buildinginspections@portlandmaine.gov

With the issuance of this permit, the owner, builder or their designee is required to provide adequate notice to the city of Portland Inspections Services for the following inspections. Appointments must be requested 48 to 72 hours in advance of the required inspection. The inspection date will need to be confirmed by this office.

- **Please read the conditions of approval that is attached to this permit!! Contact this office if you have any questions.**
- **Permits expire in 6 months. If the project is not started or ceases for 6 months.**
- **If the inspection requirements are not followed as stated below additional fees may be incurred due to the issuance of a "Stop Work Order" and subsequent release to continue.**

Electrical - Commercial

Final Inspection

The project cannot move to the next phase prior to the required inspection and approval to continue, REGARDLESS OF THE NOTICE OF CIRCUMSTANCES.

IF THE PERMIT REQUIRES A CERTIFICATE OF OCCUPANCY, IT MUST BE PAID FOR AND ISSUED TO THE OWNER OR DESIGNEE BEFORE THE SPACE MAY BE OCCUPIED.

Acting Director of Planning and Urban Development
Gregory Mitchell

Job ID: 2012-03-3589-ALTCOMM **Located At:** 1050 WESTBROOK ST **CBL:** 210A- A-005-001

Conditions of Approval:

Building

1. Application approval based upon information provided by applicant. Any deviation from approved plans requires separate review and approval prior to work.
2. Separate permits are required for any electrical, plumbing, sprinkler, fire alarm, HVAC systems, heating appliances, including pellet/wood stoves, commercial hood exhaust systems and fuel tanks. Separate plans may need to be submitted for approval as a part of this process.

2012 03 3589 68 AB

General Building Permit Application

If you or the property owner owes real estate or personal property taxes or user charges on any property within the City, payment arrangements must be made before permits of any kind are accepted.

Location/Address of Construction: 1050 WESTBROOK STREET		
Total Square Footage of Proposed Structure/Area N/A	Square Footage of Lot	Number of Stories 6

Tax Assessor's Chart, Block & Lot	Applicant *must be owner, Lessee or Buyer*	Telephone:
Chart# 210 A Block# A Lot# 5	Name AT&T MOBILITY Address c/o NEXLINK GLOBAL SERVICES 800 MARSHALL PHELPS RD City, State & Zip WINDSOR CT 06095	PETER COOKE 978-399-8600

Lessee/DBA (If Applicable)	Owner (if different from Applicant)	Cost Of Work: $ 20000
AT&T MOBILITY	Name WR PORTLAND HOTEL LLC Address 30 S. WACKER DR - STE 3600 City, State & Zip CHICAGO IL 60606	C of O Fee: $ Total Fee: $ 220

Current legal use (i.e. single family) WIRELESS COMMUNICATIONS Number of Residential Units
If vacant, what was the previous use? N/A
Proposed Specific use: WIRELESS COMMUNICATIONS
Is property part of a subdivision? NO If yes, please name
Project description: MODIFICATION AND UPGRADE OF EXISTING WIRELESS COMMUNICATION SITE INCLUDING 3 ADDITIONAL ANTENNAS AND ASSOCIATED EQUIPMENT

Contractor's name: NEXLINK GLOBAL SERVICES
Address: 800 MARSHALL PHELPS RD BRIAN PAUL
City, State & Zip WINDSOR CT 06095 Telephone: 860-640-4834
Who should we contact when the permit is ready: PETER COOKE Telephone: 978-399-8600
Mailing address: POB 894 WOLFEBORO NH 03894

Please submit all of the information outlined on the applicable Checklist. Failure to do so will result in the automatic denial of your permit.

In order to be sure the City-fully understands the full scope of the project, the Planning and Development Department may request additional information prior to the issuance of a permit. For further information or to download copies of this form and other applications visit the Inspections Division on-line at www.portlandmaine.gov, or stop by the Inspections Division office, room 315 City Hall or call 874-8703.

I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in this application is issued, I certify that the Code Official's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

Signature: AGENT FOR APPLICANT Date: 3/18/12

RECEIVED
MAR 21 2012
Dept. of Building Inspections
City of Portland Maine

This is not a permit; you may not commence ANY work until the permit is issued

Revised 01-20-10

BY Mail

PORTLAND MAINE

Strengthening a Remarkable City, Building a Community for Life • *www.portlandmaine.gov*

Receipts Details:

Tender Information: Check , BusinessName: Nexlink Global Services, Inc., Check Number: 5892
Tender Amount: 220.00

Receipt Header:

Cashier Id: gguertin
Receipt Date: 3/26/2012
Receipt Number: 42170

Receipt Details:

Referance ID:	5802	Fee Type:	BP-Constr
Receipt Number:	0	Payment Date:	
Transaction Amount:	220.00	Charge Amount:	220.00
Job ID: Job ID: 2012-03-3589-ALTCOMM - modification/ upgrade existing wirelss communicion			
Additional Comments:			

Thank You for your Payment!

STRUCTURAL ANALYSIS REPORT

For

ME 5023 (LTE)

BRADLEY'S CORNER

1050 Westbrook Street
Portland, ME 04102

Equipment Area at Ground Level and Antennas Supported on Roof Top Ballast Mounts

Prepared for:

at&t

500 Enterprise Drive, Suite 3A
Rock Hill, CT 06067

Dated:

March 7, 2012

STATE OF MAINE
DANIEL P. HAMM
No. 10344
LICENSED PROFESSIONAL ENGINEER
3/7/2012

Prepared by:
HUDSON DESIGN GROUP, LLC.
1600 Osgood Street Building 20 North, Suite 2-101
North Andover, MA 01845
Phone: (978) 557-5553
www.hudsondesigngroupllc.com

Hudson Design Group LLC

SCOPE OF WORK:

Hudson Design Group LLC (HDG) has been authorized by AT&T to conduct a structural evaluation of the structure supporting the proposed AT&T equipment located in the areas depicted in the latest HDG's construction drawings.

This report represents this office's findings, conclusions and recommendations' pertaining to the support of AT&T's proposed LTE Equipment.

This office conducted an on-site visual survey of the above areas on March 7, 2012. Attendees included Sergio Anastacio (HDG-Assistant Project Manager).

CONCLUSION SUMMARY:

As-built plans prepared by Sebago Technics dated 11/03/1999 were available obtained for our use. A limited visual survey of the structure was completed in or near the areas of the Proposed Work. Based on our evaluation, we have determined that, in general, structural designs to support the proposed AT&T Equipment within or near the Proposed Location can be completed and components installed with **NO STRUCTURAL UPGRADES REQUIRED** to the existing structure. Reference the attached HDG's drawings for all equipment locations.

A summary of the proposed support types and attachment locations are as follows:

(2) LTE Antenna (SBNH-1D6565C) (96.4"x11.9"x7.1" – Wt. 61lbs.) (Alpha and Beta Sectors)...Mounted on new steel pipes supported by the existing roof top ballast mounts.

(1) LTE Antennas (KMW AM-X-CD-16-65-00T) (54"x12.6"x7.87" - Wt. 33lbs.) (Gamma Sector)....Mounted on a new steel pipe supported by the existing roof top ballast mount.

(1) RBS 6601 Indoor 23" Rack (Wt 100 lbs.)...Mounted inside the existing equipment room at ground level.

(3) Surge Arrestor DC2-48-60-0-9E (1 per sector)...Mounted on unistrut components secured to the existing ballast frames.

(6) RRH (2 per sector) (Wt. = 50 lbs/each).....Mounted on unistrut components secured to the existing steel ballast frames.

Hudson Design Group LLC

Referenced documents are attached.

DESIGN CRITERIA:

1. International Building Code 2009, ASCE 7-10 Minimum Design Loads for Buildings and Other Structures.

   Wind Analysis:

Reference Wind Speed:	110 MPH	(FIG 26.5-1C; ASCE 7-10)
Category:	C	(26.7.3; ASCE 7 -10)
Gust Effect Factor (G):	0.85	(26.9.1; ASCE 7-10)
Force Coefficient (Cf):	Varies	(FIG 29.5-1 thru 29.5-3; ASCE 7-10)
F = qz * G * Cf * Af:		(Equation 29.5-1; ASCE 7-10)

   Snow Loading:

Ground Snow Load (Pg):	60 psf	(FIG 7-1; ASCE 7-10)
Flat Roof Snow Load (Pf):	37.8 psf	

   Pf = 0.7 * Ce * Ct * I * Pg (Equation 7.3-1; ASCE 7-10)

   Ce=0.9; Ct=1.0; I=1.0

2. EIA/TIA -222- G Structural Standards for Steel Antenna Towers and Antenna Supporting Structures

County:	Cumberland
Wind Load:	100 mph

3. Approximate height above grade to antennas: 74'-0"

Hudson Design Group LLC

EXISTING ROOF CONSTRUCTION:

No building plans were able to be obtained at the time of HDG's site visit; therefore, the roof construction is unknown.

Antenna SUPPORT RECOMMENDATIONS:

The new LTE antennas are proposed to be supported by new steel pipes, secured to the existing ballasted roof top frames.

RRH's / Surge Arrestor SUPPORT RECOMMENDATIONS:

The new Surge Arrestors and RRH's are proposed to be mounted on new unistrut components secured to the existing ballast frames.

EQUIPMENT SUPPORT RECOMMENDATIONS:

HDG recommends that the proposed equipment rack be mounted inside the existing AT&T equipment room at ground level.

Notes:

1. Reference the latest HDG construction drawings for all the equipment locations.
2. All detail requirements will be designed and furnished in the construction drawings.
3. Mount all equipment per manufacturer's specifications.
4. HDG is under the assumption that the ballast mounts were located over structurally adequate roof support (i.e. beam or column). HDG was not able to verify the roof structure and its components at the time of our visit.
5. All structural members and their connections are assumed to be in good condition and are free from defects with no deterioration to its member capacities.
6. HDG recommends adding tie-downs to the existing roof top sled mounts.

Hudson Design Group LLC

EXISTING EQUIPMENT:

Photo 1: Sample photo illustrating the existing outdoor equipment.

Photo 2: Sample photo illustrating the existing indoor equipment platform

EXISTING ANTENNAS:

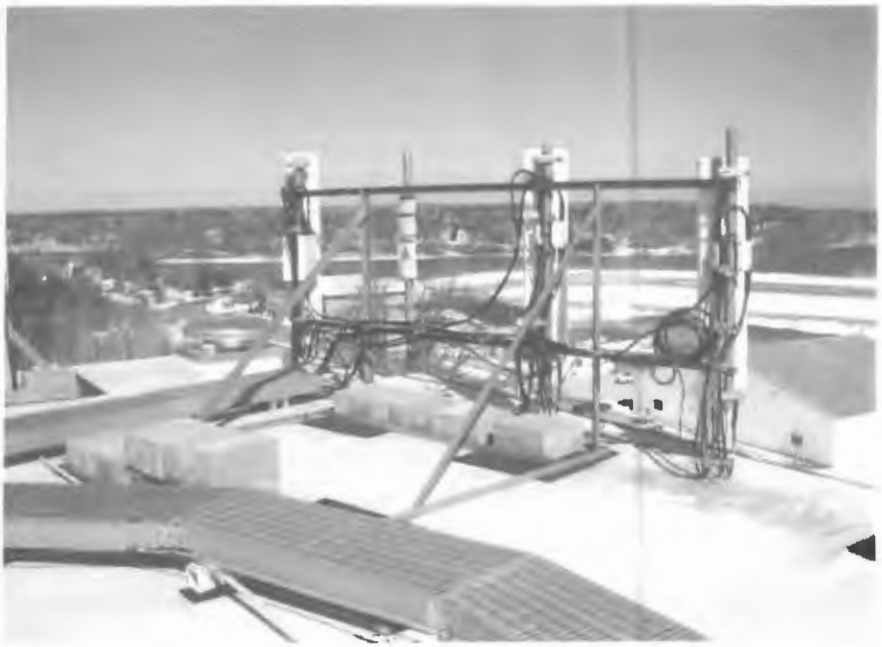


Photo 3: Sample photo illustrating the existing antennas.

Hudson Design Group LLC

Proposed Drawings

PROJECT INFORMATION

SCOPE OF WORK:	UNMANNED TELECOMMUNICATIONS FACILITY MODIFICATIONS
SITE ADDRESS:	1050 WESTBROOK STREET PORTLAND, ME 04102
LATITUDE:	43.650938 N 43° 39' 03.38" N
LONGITUDE:	70.310447 W 70° 18' 37.61" W
JURISDICTION:	NATIONAL, STATE & LOCAL CODES OR ORDINANCES
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY

at&t

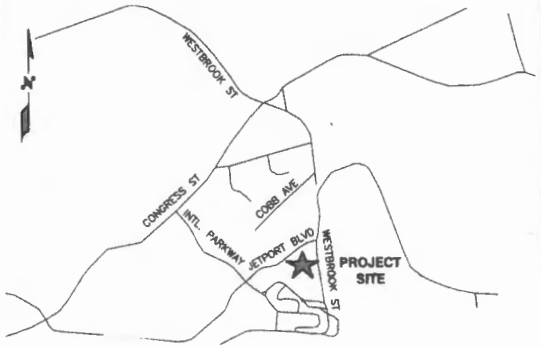
SITE NUMBER: ME5023
SITE NAME: BRADLEY'S CORNER

DRAWING INDEX

VICINITY MAP

DIRECTIONS:

START WEST ON COCHITUATE RD TOWARD BURR ST. 0.3 MI. MAKE A U-TURN AT WHITTIER ST. 0.3 MI. TAKE RAMP RIGHT FOR I-90 E. 8.7 MI. TAKE EXIT 14 FOR I-95 N TOWARD N.H – MAINE PARTIAL TOLL ROAD PASSING THROUGH NEW HAMPSHIRE ENTERING MAINE. 114.3 MI. TAKE EXIT #46/JETPORT (ME-22)/CONGRESS ST. (ME-9) 0.4 MI. TURN RIGHT ON JETPORT RD TOWARD PWM (ME-9) GO 0.1 MI. BEAR RIGHT ON JETPORT BLVD 1.1 MI. TURN RIGHT ON WESTBROOK ST 0.1 MI. ARRIVE AT 1050 WESTBROOK ST, PORTLAND, ON THE RIGHT.



GENERAL NOTES

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

CALL

BEFORE YOU DIG

CALL TOLL FREE 888-DIG-SAFE

UNDERGROUND SERVICE ALERT

Hudson Design Group LLC

NEXLINK GLOBAL SERVICES
A UniTek GLOBAL SERVICES company
800 MARSHALL PHELPS ROAD UNIT#: 2A
WINDSOR, CT 06095

SITE NUMBER: ME5023
SITE NAME: BRADLEY'S CORNER
1050 WESTBROOK STREET
PORTLAND, ME 04102
CUMBERLAND COUNTY

at&t
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP
2	03/08/13	ISSUED FOR CONSTRUCTION	HC	BTR	DPH
1	02/22/13	ISSUED FOR PERMITTING	BB	BTR	DPH
0	02/08/13	ISSUED FOR REVIEW	HC	BTR	DPH

SCALE: AS SHOWN DESIGNED BY: DC DRAWN BY: HC

Licensed Professional Engineer
Brian P. Hamer

AT&T

TITLE SHEET (LTE)

JOB NUMBER	DRAWING NUMBER	REV
5023.01	T-1	2

GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.

2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.

3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.

4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.

5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS 2 AWG STRANDED COPPER FOR OUTDOOR BTS.

6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.

7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.

8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.

9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.

10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.

11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.

12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE 1/2" OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID TINNED COPPER GROUND WIRE, PER NEC 250.50

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
   CONTRACTOR – NEXLINK
   SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – AT&T MOBILITY

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.

3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.

5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.

7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.

9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.

10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.

11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.

15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.

16. CONSTRUCTION SHALL COMPLY WITH UMTS SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T MOBILITY SITES."

17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.

19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

20. APPLICABLE BUILDING CODES:
SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.
BUILDING CODE: IBC 2009
ELECTRICAL CODE: REFER TO ELECTRICAL DRAWINGS
LIGHTENING CODE: REFER TO ELECTRICAL DRAWINGS

SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION;

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-G, STRUCTURAL STANDARDS FOR STEEL

ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES; REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.

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

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	G.C.	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
AWG	AMERICAN WIRE GAUGE	MGB	MASTER GROUND BUS		
BCW	BARE COPPER WIRE	MIN	MINIMUM	TBD	TO BE DETERMINED
BTS	BASE TRANSCEIVER STATION	PROPOSED	NEW	TBR	TO BE REMOVED
EXISTING	EXISTING	N.T.S.	NOT TO SCALE	TBRR	TO BE REMOVED AND REPLACED
EG	EQUIPMENT GROUND	REF	REFERENCE	TYP	TYPICAL
EGR	EQUIPMENT GROUND RING	REQ	REQUIRED		

Hudson Design Group LLC
128 CYPRESS STREET
BUILDING 2F NORTH - SUITE 5-C
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 326-5066

NEXLINK GLOBAL SERVICES
a UniTek GLOBAL SERVICES company
800 MARSHALL PHELPS ROAD UNIT#: 2A
WINDSOR, CT 06095

SITE NUMBER: ME5023
SITE NAME: BRADLEY'S CORNER
1050 WESTBROOK STREET
PORTLAND, ME 04102
CUMBERLAND COUNTY

at&t
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

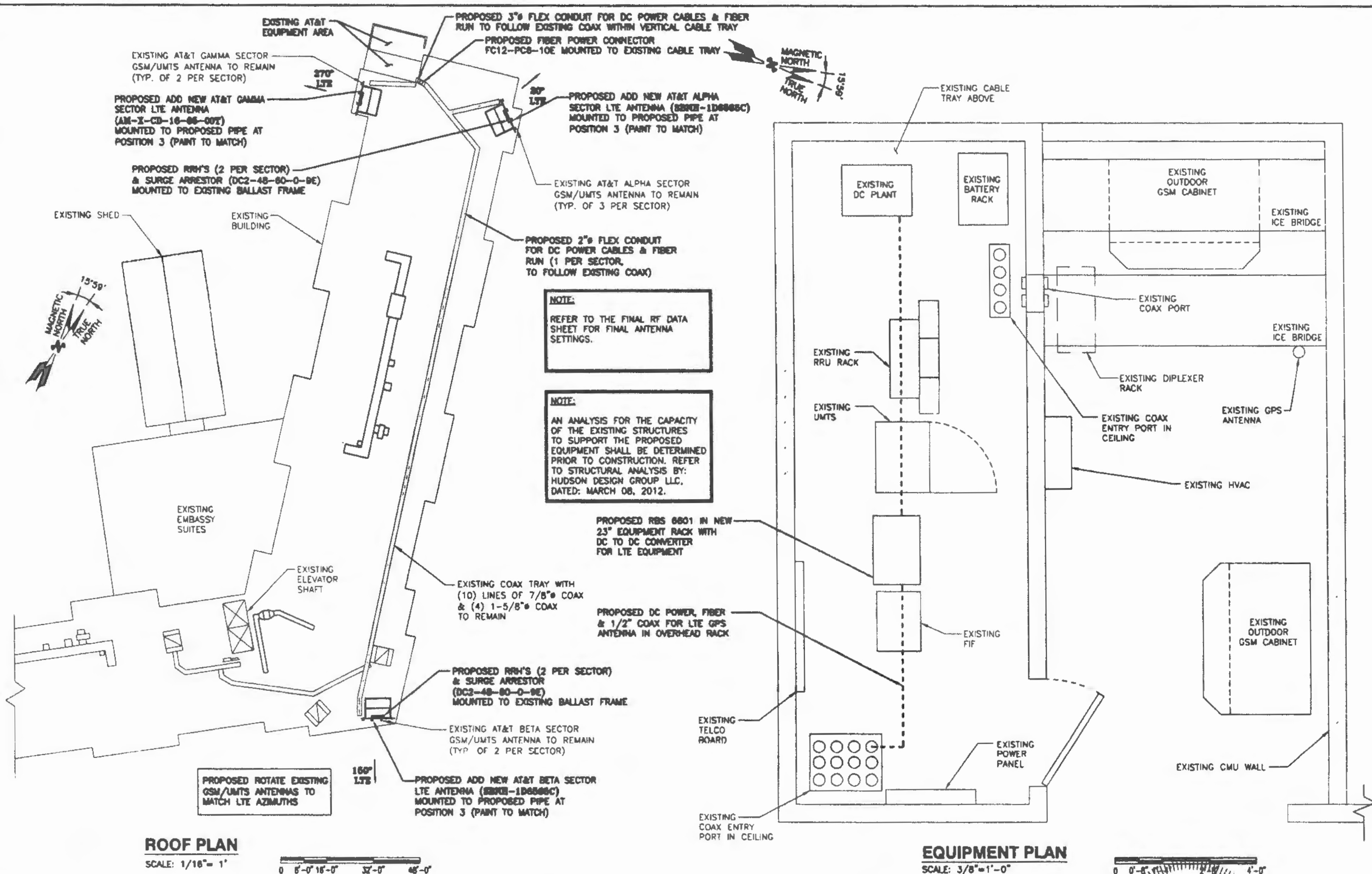
NO.	DATE	REVISIONS	BY	CHK	APP
2	03/09/12	ISSUED FOR CONSTRUCTION	HC	TT	DPH
1	02/23/12	ISSUED FOR PERMITTING	HC	TT	DPH
0	02/09/12	ISSUED FOR REVIEW	HC	TT	DPH

SCALE: AS SHOWN | DESIGNED BY: DC | DRAWN BY: HC

AT&T

GENERAL NOTES
(LTE)

JOB NUMBER	DRAWING NUMBER	REV
5023.01	GN-1	2


EXISTING AT&T EQUIPMENT AREA
PROPOSED 3"ø FLEX CONDUIT FOR DC POWER CABLES & FIBER RUN TO FOLLOW EXISTING COAX WITHIN VERTICAL CABLE TRAY
PROPOSED FIBER POWER CONNECTOR FC12-PC6-10E MOUNTED TO EXISTING CABLE TRAY
MAGNETIC NORTH
TRUE NORTH
15'59'
EXISTING AT&T GAMMA SECTOR GSM/UMTS ANTENNA TO REMAIN (TYP. OF 2 PER SECTOR)
270° LTE
30° LTE
PROPOSED ADD NEW AT&T GAMMA SECTOR LTE ANTENNA (AM-X-CD-16-65-00T) MOUNTED TO PROPOSED PIPE AT POSITION 3 (PAINT TO MATCH)
PROPOSED ADD NEW AT&T ALPHA SECTOR LTE ANTENNA (SBNH-1D6565C) MOUNTED TO PROPOSED PIPE AT POSITION 3 (PAINT TO MATCH)
PROPOSED RRH'S (2 PER SECTOR) & SURGE ARRESTOR (DC2-48-60-0-9E) MOUNTED TO EXISTING BALLAST FRAME
EXISTING AT&T ALPHA SECTOR GSM/UMTS ANTENNA TO REMAIN (TYP. OF 3 PER SECTOR)
EXISTING SHED
EXISTING BUILDING
PROPOSED 2"ø FLEX CONDUIT FOR DC POWER CABLES & FIBER RUN (1 PER SECTOR, TO FOLLOW EXISTING COAX)
NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.
NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION. REFER TO STRUCTURAL ANALYSIS BY: HUDSON DESIGN GROUP LLC. DATED: MARCH 08, 2012.
EXISTING EMBASSY SUITES
EXISTING ELEVATOR SHAFT
EXISTING COAX TRAY WITH (10) LINES OF 7/8"ø COAX & (4) 1-5/8"ø COAX TO REMAIN
PROPOSED RRH'S (2 PER SECTOR) & SURGE ARRESTOR (DC2-48-60-0-9E) MOUNTED TO EXISTING BALLAST FRAME
EXISTING AT&T BETA SECTOR GSM/UMTS ANTENNA TO REMAIN (TYP OF 2 PER SECTOR)
150° LTE
PROPOSED ROTATE EXISTING GSM/UMTS ANTENNAS TO MATCH LTE AZIMUTHS
PROPOSED ADD NEW AT&T BETA SECTOR LTE ANTENNA (SBNH-1D6565C) MOUNTED TO PROPOSED PIPE AT POSITION 3 (PAINT TO MATCH)
ROOF PLAN
SCALE: 1/16"= 1'
0 8'-0" 16'-0" 32'-0" 48'-0"
EXISTING CABLE TRAY ABOVE
EXISTING DC PLANT
EXISTING BATTERY RACK
EXISTING OUTDOOR GSM CABINET
EXISTING ICE BRIDGE
EXISTING COAX PORT
EXISTING ICE BRIDGE
EXISTING RRU RACK
EXISTING DIPLEXER RACK
EXISTING UMTS
EXISTING COAX ENTRY PORT IN CEILING
EXISTING GPS ANTENNA
EXISTING HVAC
PROPOSED RBS 6601 IN NEW 23" EQUIPMENT RACK WITH DC TO DC CONVERTER FOR LTE EQUIPMENT
PROPOSED DC POWER, FIBER & 1/2" COAX FOR LTE GPS ANTENNA IN OVERHEAD RACK
EXISTING FIF
EXISTING OUTDOOR GSM CABINET
EXISTING TELCO BOARD
EXISTING POWER PANEL
EXISTING CMU WALL
EXISTING COAX ENTRY PORT IN CEILING
EQUIPMENT PLAN
SCALE: 3/8"=1'-0"
0 0'-8" 2'-8" 4'-0"

Hudson Design Group LLC

NEXLINK GLOBAL SERVICES
a UniTek GLOBAL SERVICES company
500 MARSHALL PHELPS ROAD UNIT#: 2A
WINDSOR, CT 06095

SITE NUMBER: ME5023
SITE NAME: BRADLEY'S CORNER
1050 WESTBROOK STREET
PORTLAND, ME 04102
CUMBERLAND COUNTY

at&t
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
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0	02/08/12	ISSUED FOR REVIEW	HC		DPH

SCALE: AS SHOWN | DESIGNED BY: DC | DRAWN BY: HC

AT&T
ROOF PLAN & EQUIPMENT PLAN (LTE)

JOB NUMBER	DRAWING NUMBER	REV
5023.01	A-1	2

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

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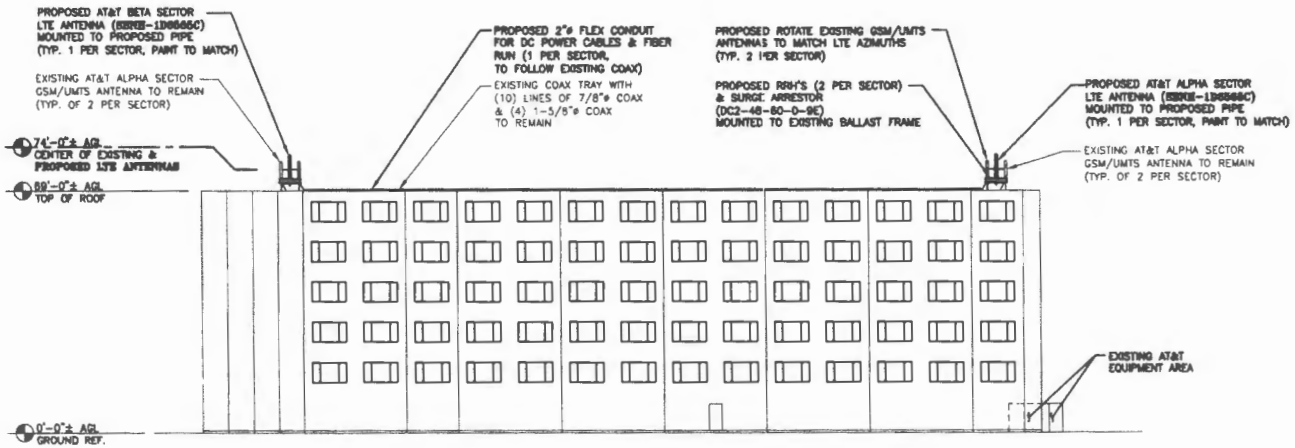

EAST ELEVATION

SCALE: 1/16"=1'-0"

0 8'-0" 16'-0" 32'-0" 48'-0"

Hudson Design Group LLC
28 LOWELL STREET
P.O. BOX 279
ANDOVER, MA 01810
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a UniTek GLOBAL SERVICES company
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SITE NUMBER: ME5023
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PORTLAND, ME 04102
CUMBERLAND COUNTY

at&t
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK'D	APP'D
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0	02/08/12	ISSUED FOR REVIEW	HC	BH	DPH

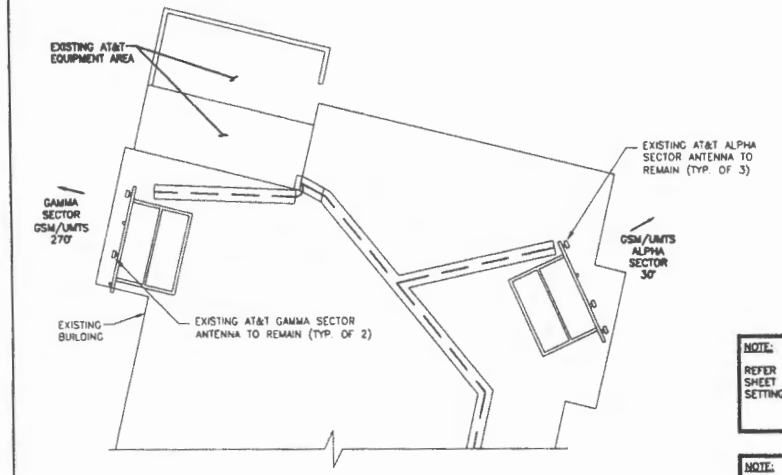
SCALE: AS SHOWN | DESIGNED BY: DC | DRAWN BY: HC

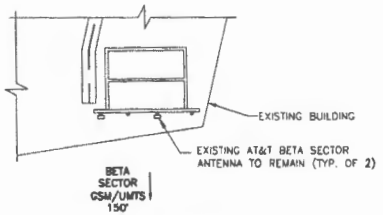
Licensed Professional Engineer
Daniel P. Hamm

AT&T

ELEVATION (LTE)

JOB NUMBER	DRAWING NUMBER	REV
5023.01	A-2	2

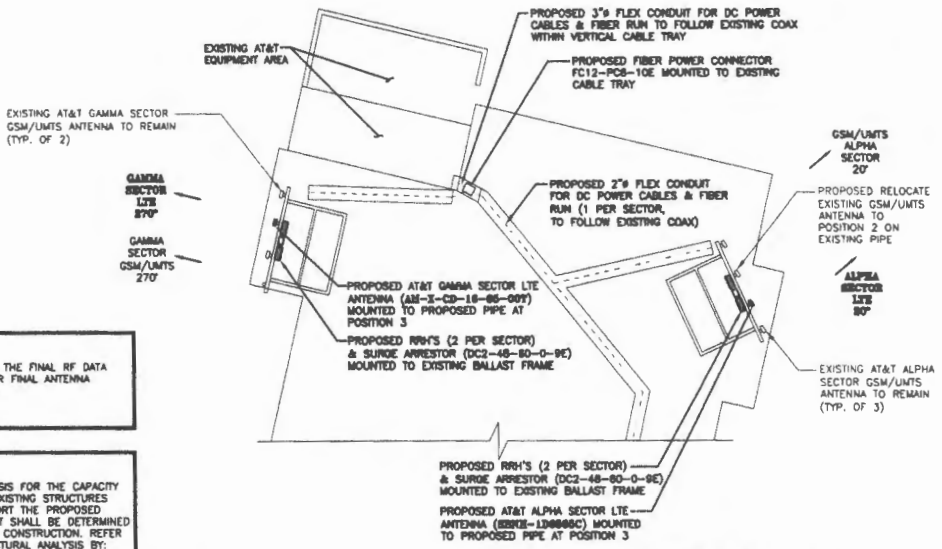


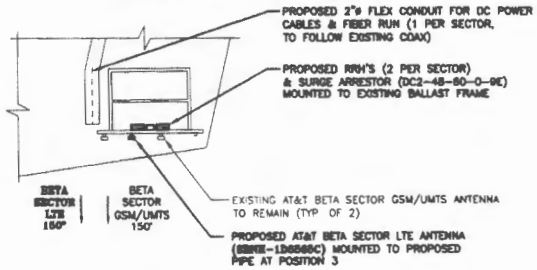


EXISTING GSM/UMTS ANTENNA LAYOUT
SCALE: N.T.S.

NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION. REFER TO STRUCTURAL ANALYSIS BY: HUDSON DESIGN GROUP LLC, DATED: MARCH 08, 2012.





PROPOSED LTE ANTENNA LAYOUT
SCALE: N.T.S.

Hudson Design Group LLC
28 Lord Road, Suite 280
Marlborough, MA 01752
Tel: (978) 460-1450
Fax: (978) 460-1451

NEXLINK GLOBAL SERVICES
a UniTek GLOBAL SERVICES company
500 MARSHALL PHELPS ROAD UNIT#: 2A
WINDSOR, CT 06095

SITE NUMBER: ME5023
SITE NAME: BRADLEY'S CORNER
1050 WESTBROOK STREET
PORTLAND, ME 04102
CUMBERLAND COUNTY

at&t
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP
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1	02/23/12	ISSUED FOR PERMITTING	BB	DPH	DPH
0	02/08/12	ISSUED FOR REVIEW	HC	DPH	DPH

SCALE: AS SHOWN | DESIGNED BY: DC | DRAWN BY: HC

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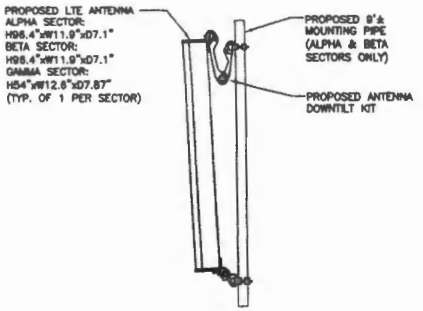
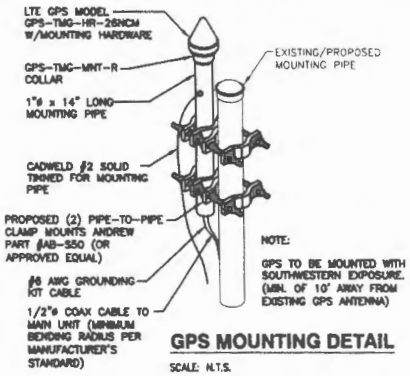
ANTENNA LAYOUT (LTE)

JOB NUMBER	DRAWING NUMBER	REV
5023-01	A-3	2



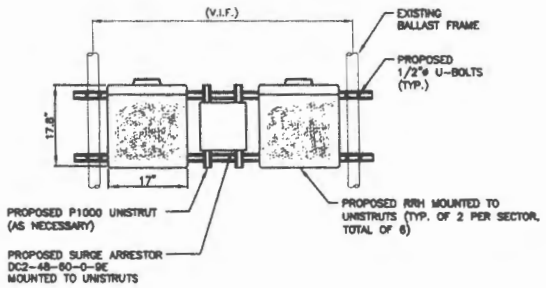
PROPOSED LTE ANTENNA DETAIL

SCALE: N.T.S.



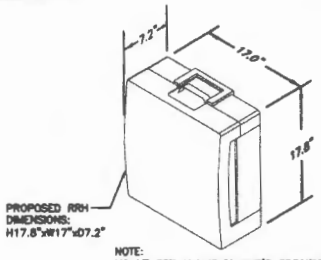
GPS MOUNTING DETAIL

SCALE: N.T.S.



PROPOSED RRH AND SURGE ARRESTOR MOUNTING DETAIL

SCALE: N.T.S.



NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

RRH DETAIL

SCALE: N.T.S.

NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:
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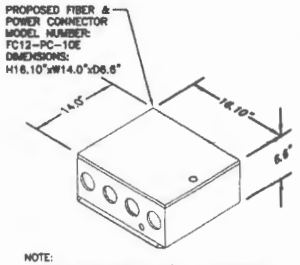
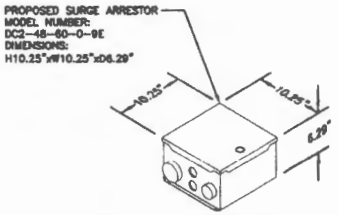


NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

FIBER & POWER CONNECTOR DETAIL

SCALE: N.T.S.



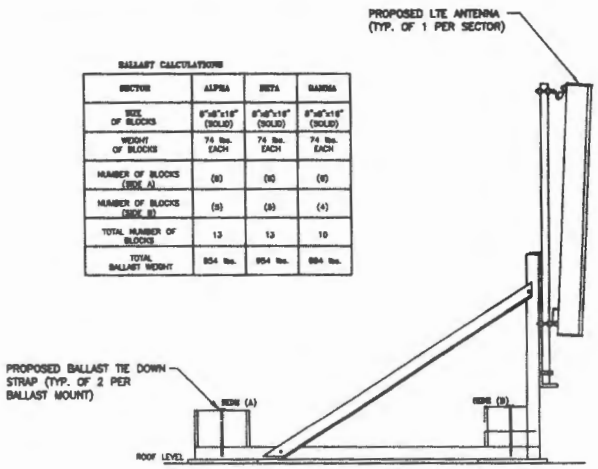
NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

DC SURGE SUPPRESSOR DETAIL

SCALE: N.T.S.

BALLAST CALCULATIONS

SECTOR	ALPHA	BETA	GAMMA
SIZE OF BLOCKS	8"x8"x16" (SOLID)	8"x8"x16" (SOLID)	8"x8"x16" (SOLID)
WEIGHT OF BLOCKS	74 lbs. EACH	74 lbs. EACH	74 lbs. EACH
NUMBER OF BLOCKS (SIDE A)	(8)	(8)	(6)
NUMBER OF BLOCKS (SIDE B)	(5)	(5)	(4)
TOTAL NUMBER OF BLOCKS	13	13	10
TOTAL BALLAST WEIGHT	954 lbs.	954 lbs.	884 lbs.



PROPOSED LTE ANTENNA DETAIL (ALPHA SECTOR)

SCALE: N.T.S.

Hudson Design Group LLC
ADDRESS
TEL. (978) 557-5553
FAX: (978) 336-5586

NEXLINK a GLOBAL SERVICES company
800 MARSHALL PHELPS ROAD UNIT#: 2A
WINDSOR, CT 06095

SITE NUMBER: ME5023
SITE NAME: BRADLEY'S CORNER
1050 WESTBROOK STREET
PORTLAND, ME 04102
CUMBERLAND COUNTY

at&t
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP
2	03/09/12	ISSUED FOR CONSTRUCTION	HC	DC	DPH
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0	02/08/12	ISSUED FOR REVIEW	HC	DC	DPH

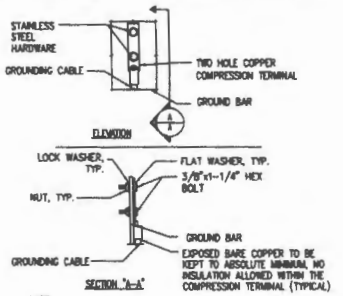
SCALE: AS SHOWN | DESIGNED BY: DC | DRAWN BY: HC

Richard P. Harman

AT&T

DETAILS (LTE)

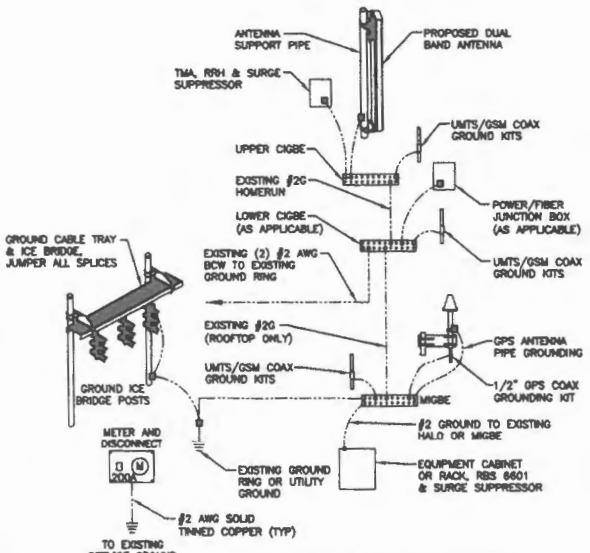
JOB NUMBER	DRAWING NUMBER	REV
5023.001	A-4	2



NOTE:
1. "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
3. CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB, AND MGB.

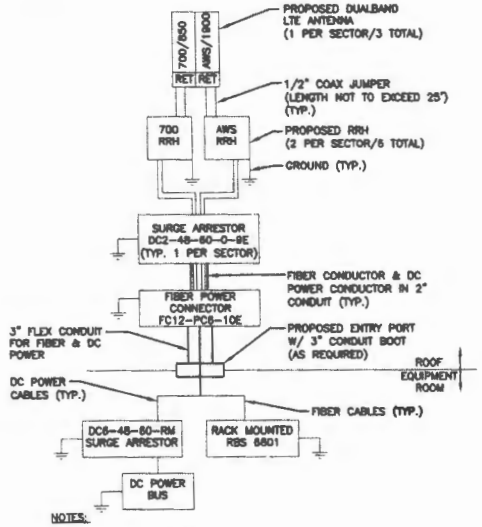
TYPICAL GROUND BAR CONNECTION DETAIL

2 — N.T.S.



GROUNDING RISER DIAGRAM

1 — N.T.S.

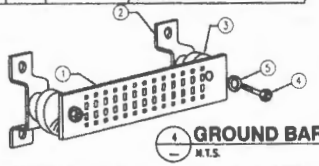


NOTES:
1. CONTRACTOR TO CONFIRM ALL PARTS.
2. INSTALL ALL EQUIPMENT TO MANUFACTURER'S RECOMMENDATIONS.

PLUMBING DIAGRAM

3 — N.T.S.

WIRELESS SOLUTIONS INC.			
NO.	REQ.	PART NO.	DESCRIPTION
1	1	HLGB-0420-15	SOLID GND. BAR (20"x4"x1/4")
2	2	———	WALL MTG. BRKT.
3	2	———	INSULATORS
4	4	———	5/8"-11x1" H.H.C.S.
5	4	———	5/8 LOCKWASHER



GROUND BAR - DETAIL

4 — N.T.S.

EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" – SURGE PRODUCERS

CABLE ENTRY PORTS (HATCH PLATES) (#2)
GENERATOR FRAMEWORK (IF AVAILABLE) (#2)
TELCO GROUND BAR
COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2)
+24V POWER SUPPLY RETURN BAR (#2)
-48V POWER SUPPLY RETURN BAR (#2)
RECTIFIER FRAMES.

SECTION "A" – SURGE ABSORBERS

INTERIOR GROUND RING (#2)
EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2)
METALLIC COLD WATER PIPE (IF AVAILABLE) (#2)
BUILDING STEEL (IF AVAILABLE) (#2)

Hudson Design Group LLC
[illegible]

NEXLINK GLOBAL SERVICES
a UniTek GLOBAL SERVICES company
600 MARSHALL PHELPS ROAD UNIT#: 2A
WINDSOR, CT 06095

SITE NUMBER: ME5023
SITE NAME: BRADLEY'S CORNER
1050 WESTBROOK STREET
PORTLAND, ME 04102
CUMBERLAND COUNTY

at&t
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP
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0	02/08/12	ISSUED FOR REVIEW	HC	BTT	DPH

SCALE: AS SHOWN | DESIGNED BY: DC | DRAWN BY: HC

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PLUMBING DIAGRAM & GROUNDING DETAILS (LTE)

AT&T NUMBER	DRAWING NUMBER	REV
5023-01	G-1	2

Hudson Design Group LLC

Calculations

Date: 03-01-12
Project Name: BRADLEY'S CORNER
Project Number: ME5023
Designed By: AA **Checked By:** MSC

Hudson Design Group LLC

2.6.5.2 Velocity Pressure Coeff:

$K_z = 2.01\ (z/z_g)^{2/\alpha}$

K_z= 1.188

z= 74 (ft) → ANTENNAS
z_g= 900 (ft)
α= 9.5

Kzmin ≤ Kz ≤ 2.01

Table 2-4

Exposure	Z_g	α	K_{zmin}	K_e
B	1200 ft	7	0.70	0.90
C	900 ft	9.5	0.85	1
D	700 ft	11.5	1.03	1.10

2.6.6.4 Topographic Factor:

Table 2-5

Topo. Category	K_t	f
2	0.43	1.25
3	0.53	2
4	0.72	1.5

$K_{zt} = [1+(K_e K_t/K_h)]^2$ $K_h = e^{(f*z/H)}$

K_{zt}= #DIV/0!

(If Category 1 then K_{zt}=1.0)

Category=	1

K_h= #DIV/0!
K_e= 0 (from Table 2-4)
K_t= 0 (from Table 2-5)
f= 0 (from Table 2-5)
z= 74
H= 0 (Ht. of the crest above surrounding terrain)
K_{zt}= 1.00

Date: 03-01-12
Project Name: BRADLEY'S CORNER
Project Number: ME5023
Designed By: AA **Checked By**: MSC

Hudson Design Group LLC

2.6.7 Gust Effect Factors

2.6.7.1 Self Supporting Lattice Structures

Gh = 1.0 Latticed Structures > 600 ft

Gh = 0.85 Latticed Structures 450 ft or less

Gh = 0.85 + 0.15 [h/150 - 3.0] h= ht. of structure

h= 74 Gh= 0.474

2.6.7.2 Guyed Masts Gh= 0.85

2.6.7.3 Pole Structures Gh= 1.1

2.6.7.4 Structures Supported on Other Structures
(Cantilivered tubular or latticed spines, pole, structures on buildings (ht. : width ratio > 5)

Gh= 1.35 Gh= 1.35

Date: 03-01-12
Project Name: BRADLEY'S CORNER
Project Number: ME5023
Designed By: AA **Checked By:** MSC

Hudson Design Group LLC

2.6.8 Design Ice Thickness:

$t_{iz} = 2.0*t_i*I*K_{iz}*(K_{zt})^{0.35}$

t_{iz}= **2.17**

t_i= 1
I= 1
K_{iz}= 1.08
K_{zt}= 1

$K_{iz} = [z/33]^{0.10} \leq 1.4$

K_{iz}= **1.08**

Calculating the weight of ice, the cross-sectional area of ice shall be determined by:

$A_{iz} = \pi*t_{iz}*(D_c + t_{iz})$

Dc= 96.4 (in) Largest Dim of Member

A_{iz}= **671.41**

2.6.9 Design Wind Load:

F= qz*Gh*(EPA's)

$q_z = 0.00256*K_z*K_{zt}*K_d*V_{max}^2$

q_z= **28.89**

K_z= 1.188
K_{zt}= 1
K_d= 0.95
V_{max}= 100

Table 2-2

Structure Type	Wind Direction Probability Factor, Kd
Latticed structures with triangular, square or rectangular cross sections	**0.85**
Tubular pole structures, latticed structures with other cross sections, appurtenances.	**0.95**

Date: 03-01-12
Project Name: BRADLEY'S CORNER
Project Number: ME5023
Designed By: AA **Checked By:** MSC

Hudson Design Group LLC

Determine Cf:

If lattice Structure See Manual

If Tubular Pole Structure, Use Corrected Value from Table 2.7 Below

C mph.ft	Round	18 Sided	16 Sided	12 Sided	8 Sided
< 32 (Subcritical)	1.2	1.2	1.2	1.2	1.2
32 to 64 (Transitional)	$38.4/C^{1.0}$	$25.8/C^{0.885}$	$12.6/C^{0.678}$	$2.99/C^{0.263}$	1.2
> 64 (Supercritical)	0.6	0.65	0.75	1	1.2

$C = (I*K_{zt}*K_2)^{0.5}*V*D$

Dp = Outside Diameter or Out to Out: 0.2 feet

C= **21.80** **Cf=** 1.2

Appurtenances	Height	Width	Depth	Flat Area	Force Per Appurtenance
Item No.1	96.4	11.9	7.1	7.97	**372.83** (lbs) → (P) ALPHA + GAMMA SECTOR
Item No.2	54	12.6	7.87	4.73	**221.13** (lbs) → (P) GAMMA SECTOR
Item No.3	55	11	5	4.20	**196.63** (lbs) → (E) ALL SECTORS
Item No.4	0	0	0	0.00	**0.00** (lbs)
Item No.5	0	0	0	0.00	**0.00** (lbs)

TOTAL FORCE (ΣF_A) = **790.59** (lbs)

Date: 03-01-12
Project Name: BRADLEY'S CORNER
Project Number: ME5023
Designed By: AA **Checked By:** MSC

Hudson Design Group LLC

2.6.5.2 Velocity Pressure Coeff:

$K_z = 2.01\ (z/z_g)^{2/\alpha}$

K_z= **1.188**

z= 74 (ft) → RRH's
z_g= 900 (ft)
α= 9.5

Kzmin ≤ Kz ≤ 2.01

Table 2-4

Exposure	Z_g	α	K_{zmin}	K_e
B	1200 ft	7	0.70	0.90
C	900 ft	9.5	0.85	1
D	700 ft	11.5	1.03	1.10

2.6.6.4 Topographic Factor:

Table 2-5

Topo. Category	K_t	f
2	0.43	1.25
3	0.53	2
4	0.72	1.5

$K_{zt} = [1+(K_e K_t/K_h)]^2$ $K_h = e^{(f*z/H)}$

K_{zt}= #DIV/0!

(If Category 1 then K_{zt} =1.0)

Category=	1

K_h= #DIV/0!
K_e= 0 (from Table 2-4)
K_t= 0 (from Table 2-5)
f= 0 (from Table 2-5)
z= 74
H= 0 (Ht. of the crest above surrounding terrain)
K_{zt}= 1.00

Date: 03-01-12
Project Name: BRADLEY'S CORNER
Project Number: ME5023
Designed By: AA **Checked By**: MSC

Hudson Design Group LLC

2.6.7 Gust Effect Factors

2.6.7.1 Self Supporting Lattice Structures

Gh = 1.0 Latticed Structures > 600 ft

Gh = 0.85 Latticed Structures 450 ft or less

Gh = 0.85 + 0.15 [h/150 - 3.0] h= ht. of structure

h= 74 Gh= 0.474

2.6.7.2 Guyed Masts Gh= 0.85

2.6.7.3 Pole Structures Gh= 1.1

2.6.7.4 Structures Supported on Other Structures
(Cantilivered tubular or latticed spines, pole, structures on buildings (ht. : width ratio > 5)

Gh= 1.35 Gh= **1.35**

Date: 03-01-12
Project Name: BRADLEY'S CORNER
Project Number: ME5023
Designed By: AA **Checked By:** MSC

Hudson Design Group LLC

2.6.8 Design Ice Thickness:

$t_{iz} = 2.0*t_i*I*K_{iz}*(K_{zt})^{0.35}$

t_i=	1	
I=	1	
K_{iz}=	1.08	
K_{zt}=	1	

t_{iz}= 2.17

$K_{iz} = [z/33]^{0.10} \leq 1.4$

K_{iz}= 1.08

Calculating the weight of ice, the cross-sectional area of ice shall be determined by:

$A_{iz} = \pi*t_{iz}*(D_c + t_{iz})$ Dc= 96.4 (in) Largest Dim of Member

A_{iz} = 671.41

2.6.9 Design Wind Load:

F= qz*Gh*(EPA's)

$q_z = 0.00256*K_z*K_{zt}*K_d*V_{max}^2$

K_z=	1.188
K_{zt}=	1
K_d=	0.95
V_{max}=	100

q_z= 28.89

Table 2-2

Structure Type	Wind Direction Probability Factor, Kd
Latticed structures with triangular, square or rectangular cross sections	**0.85**
Tubular pole structures, latticed structures with other cross sections, appurtenances.	**0.95**

Date: 03-01-12
Project Name: BRADLEY'S CORNER
Project Number: ME5023
Designed By: AA **Checked By:** MSC

Hudson Design Group LLC

Determine Cf:

If lattice Structure See Manual

If Tubular Pole Structure, Use Corrected Value from Table 2.7 Below

C mph.ft	Round	18 Sided	16 Sided	12 Sided	8 Sided
< 32 (Subcritical)	1.2	1.2	1.2	1.2	1.2
32 to 64 (Transitional)	$38.4/C^{1.0}$	$25.8/C^{0.885}$	$12.6/C^{0.678}$	$2.99/C^{0.263}$	1.2
> 64 (Supercritical)	0.6	0.65	0.75	1	1.2

$C = (I*K_{zt}*K_z)^{0.5}*V*D$

Dp = Outside Diameter or Out to Out: 0.2 feet

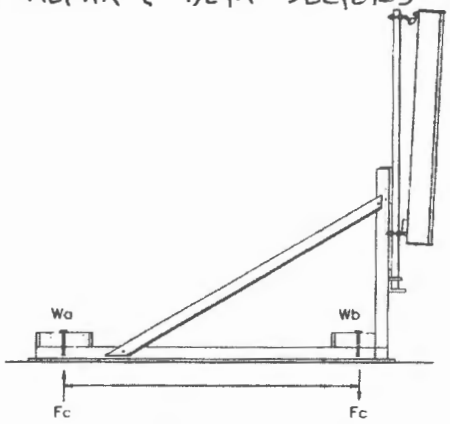
C= 21.80 **Cf=** 1.2

Appurtenances	Height	Width	Depth	Flat Area	Force Per Appurtenance
Item No.1	17.8	17	7.2	2.10	**98.35** (lbs) → (P) RRN
Item No.2	17.8	17	7.2	2.10	**98.35** (lbs) → (P) RRH
Item No.3	10.25	10.25	6.26	0.73	**34.15** (lbs) → (P) SURGE ARRESTOR
Item No.4	0	0	0	0.00	**0.00** (lbs)
Item No.5	0	0	0	0.00	**0.00** (lbs)

TOTAL FORCE (ΣF_A) = **230.84** (lbs)

Site Name:	MUJOY HILL		
Site No.	ME5023		
Done by:	AA	**Checked by:** MSC	
Date:	3/1/2012		

Calculate Total Ballast Required for Ballast Mount - ALPHA & BETA SECTORS



Length = 7 ft

WIND FORCES

F antenna =	767	lbs.
F rrh =	197	lbs.
F surge =	35	lbs.
Antenna Height =	5	ft
RRH & Surge Height =	2	ft

Overturning at Ballast

Moment =	5158.8	lbs.-ft	S.F.
			1.2
Hold Down Force =	736.97	lbs.	Per Side

Wa Ballast

Equipment

Frame =	150	lbs.

Total Ballast Required Wa= **586.97** lbs.

Blocks Required Wa = **8** Assumed 78lbs Block (8"x8"x16" Solid)

Wb Ballast

Equipment

Frame	150	lbs.
Antennas	100	lbs.
RRH's	100	lbs.
Surge Arrestor	20	lbs.
Total =	370	lbs.

Total Ballast Required Wb = **366.97** lbs.

Blocks Required Wb= **5** Assumed 78lbs Block (8"x8"x16" Solid)

Site Name: MUJOY HILL
Site No. ME5023
Done by: AA **Checked by:** MSC
Date: 3/1/2012

Hudson Design Group LLC

Calculate Total Ballast Required for Ballast Mount - GAMMA SECTOR

WIND FORCES

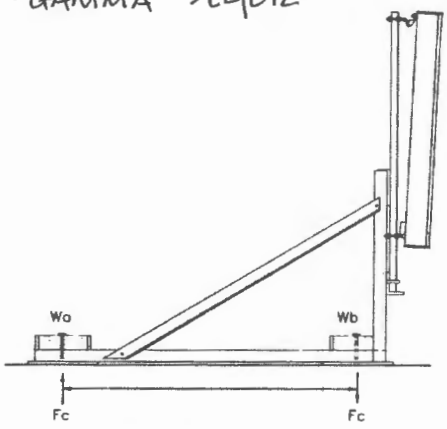
F antenna = 615 lbs.

F rrh = 197 lbs.

F surge = 35 lbs.

Antenna Height = 5 ft

RRH & Surge Height = 2 ft



Length = 7 ft

Overturning at Ballast

Moment = 4246.8 lbs.-ft S.F. 1.2

Hold Down Force = 606.69 lbs. Per Side

Wa Ballast

Equipment

Frame =	150	lbs.

Total Ballast Required Wa= 456.69 lbs.

Blocks Required Wa = 6 Assumed 78lbs Block (8"x8"x16" Solid)

Wb Ballast

Equipment

Frame	150	lbs.
Antennas	100	lbs.
RRH's	100	lbs.
Surge Arrestor	20	lbs.
Total =	370	lbs.

Total Ballast Required Wb = 236.69 lbs.

Blocks Required Wb= 4 Assumed 78lbs Block (8"x8"x16" Solid)

Administrative Authorization Application

Portland, Maine

Planning and Urban Development Department, Planning Division

PROJECT NAME: AT&T MOBILITY WIRELESS INSTALLATION LTE UPGRADE

PROJECT ADDRESS: 1050 Westbrook Street **CHART/BLOCK/LO** [redacted]

APPLICATION FEE: $50.00 **($50.00)**

PROJECT DESCRIPTION: (Please Attach Sketch/Plan of the Proposal/Development)

Installation of 3 Additional Antennas and associated equipment to existing facility

CONTACT INFORMATION:

OWNER/APPLICANT		**CONSULTANT/AGENT**	
Name:	AT&T Mobility	**Name:**	Peter Cooke
Address:	c/o Nexlink Global Services	**Address:**	POB 874
	800 Marshall Phelps Rd		Wolfeboro, NH 03894
Work #:	Windsor, CT 06095	**Work #:**	978-399-8600
Cell #:	860-420-8562	**Cell #:**	978-399-8600
Fax #:		**Fax #:**	888-
Home #:		**Home #:**	
E-mail:	Mark Roberts <robertsm@nexlinkgs.com>	**E-mail:**	pcooke@wellmanassociates.net

Criteria for an Administrative Authorization: (see section 14-523(4) on pg .2 of this appl.)	**Applicant's Assessment Y(yes), N(no), N/A**	**Planning Division Y(yes), N(no), N/A**
a) Is the proposal within existing structures?	Yes	Y, roof top
b) Are there any new buildings, additions, or demolitions?	No	N
c) Is the footprint increase less than 500 sq. ft.?	Yes	Y
d) Are there any new curb cuts, driveways or parking areas?	No	N
e) Are the curbs and sidewalks in sound condition?	N/A	N/A
f) Do the curbs and sidewalks comply with ADA?	N/A	N/A
g) Is there any additional parking?	No	N
h) Is there an increase in traffic?	No	N
i) Are there any known stormwater problems?	No	N
j) Does sufficient property screening exist?	Yes	Y
k) Are there adequate utilities?	Yes	Y
l) Are there any zoning violations?	No	N
m) Is an emergency generator located to minimize noise?	N/A	N/A
n) Are there any noise, vibration, glare, fumes or other impacts?	No	No

RECEIVED

Signature of Applicant:	**Date:**
Agent for Applicant	2/29/12

FEB 29 2012

City of Portland
Planning Division

Planning Division Use Only Authorization Granted X Partial Exemption ____ Exemption Denied ____

Standard Condition of Approval: The applicant shall obtain all required City Permits, including building permits from the Inspection Division (Room 315, City Hall (874-8703)) prior to the start of any construction.

Planner Signature Barbara Barhydt Date 3/8/12

IMPORTANT NOTICE TO APPLICANT: The granting of an Administrative Authorization to exempt a development from site plan review does not exempt this proposal from other required approvals or permits, nor is it an authorization for construction. You should first check with the Building Inspections Office, Room 315, City Hall (207)874-8703, to determine what other City permits, such as a building permit, will be required.

PROVISION OF PORTLAND CITY CODE
14-523 (SITE PLAN ORDINANCE)
RE: Administrative Authorization

Sec. 14-523 (b). Applicability
No person shall undertake any development identified in Section 14-523 without obtaining a site plan improvement permit under this article. (c) Administrative Authorization. Administrative Authorization means the Planning Authority may grant administrative authorization to exempt a development proposal from complete or partial site plan review that meets the standards below, as demonstrated by the applicant.

1. The proposed development will be located within existing structures, and there will be no new buildings, demolitions, or building additions other than those permitted by subsection b of this section;
2. Any building addition shall have a new building footprint expansion of less than five hundred (500) square feet;
3. The proposed site plan does not add any new curb cuts, driveways, or parking areas; the existing site has no more than one (1) curb cut and will not disrupt the circulation flows and parking on-site; and there will be no drive-through services provided;
4. The curbs and sidewalks adjacent to the lot are complete and in sound condition, as determined by the public works authority, with granite curb with at least four (4) inch reveal, and sidewalks are in good repair with uniform material and level surface and meet accessibility requirements of the Americans with Disabilities Act;
5. The use does not require additional or reduce existing parking, either on or off the site, and the project does not significantly increase traffic generation;
6. There are no known stormwater impacts from the proposed use or any existing deficient conditions of stormwater management on the site;
7. There are no evident deficiencies in existing screening from adjoining properties; and
8. Existing utility connections are adequate to serve the proposed development and there will be no disturbance to or improvements within the public right-of-way.
9. There are no current zoning violations;
10. Any emergency generators are to be located to minimize noise impacts to adjoining properties and documentation that routine testing of the generators occur on weekdays between the hours of 9 a.m. to 5 p.m. Documentation pertaining to the noise impacts of the emergency generator shall be submitted; and
11. There is no anticipated noise, vibration, glare, fumes or other foreseeable impacts associated with the project.

a. **Filing the Application.** An applicant seeking an administrative authorization under this subsection shall submit an administrative authorization application for review, detailing the site plan with dimensions of proposed improvements and distances from all property lines, and stating that the proposal meets all of the provisions in standards 1-11 of Section 14-423 (b)1. **The application must be accompanied by an application fee of $50.**

b. **Review.** Upon receipt of such a complete application, the Planning Authority will process it and render a written decision of approval, approval with conditions or denial, with all associated findings.

c. **Decision.** If a full administrative authorization is granted, the application shall be approved without further review under this article, and no performance guarantee shall be required. In the event that the Planning Authority determines that standards a and b of Section 14-523 (b) (1) and at least four (4) of the remaining standards have been met, the Planning Authority shall review the site plan according to all applicable review standards of Section 14-526 that are affected by the standards in this subsection that have not been met. If an exemption or partial exemption from site plan review is not granted, the applicant must submit a site plan application that will undergo a full review by the Planning Board or Planning Authority according to the standards of Section 14-526.

Criteria for an Adminstrative Authorizations: (See Section 14-523 (4) on page 2 of this application)	Applicant's Assessment Y(yes), N(no), N/A	Planning Division Use Only
a) Is the proposal within existing structures?	Yes	Yes, roof top
b) Are there any new buildings, additions, or demolitions?	No	No
c) Is the footprint increase less than 500 sq. ft.?	Yes	Yes
d) Are there any new curb cuts, driveways or parking areas?	No	No
e) Are the curbs and sidewalks in sound condition?	n/a	N/a
f) Do the curbs and sidewalks comply with ADA?	n/a	n/a
g) Is there any additional parking?	No	No
h) Is there an increase in traffic?	No	No
i) Are there any known stormwater problems?	No	No
j) Does sufficient property screening exist?	Yes	Yes
k) Are there adequate utilities?	Yes	Yes
l) Are there any zoning violations?	No	No
m)Is an emergency generator located to minimize noise?	n/a	n/a
n) Are there any noise, vibration, glare, fumes or other impacts?	No	no

The Administrative Authorization for 1050 Westbrook Street was approved by Barbara Barhydt, Development Review Services Manager on March 8, 2012 with the following required Standard Condition of Approval listed below:

1. Standard Condition of Approval: The applicant shall obtain all required City Permits, including building permits from the Inspection Division (874-8703) and any other permits required from the Department of Public Services (874-8801) prior to the start of any construction.

Barbara Barhydt 3/8/12

PROJECT INFORMATION

SCOPE OF WORK:	UNMANNED TELECOMMUNICATIONS FACILITY MODIFICATIONS
SITE ADDRESS:	1050 WESTBROOK STREET PORTLAND, ME 04102
LATITUDE:	43.650938 N 43° 39' 03.38" N
LONGITUDE:	70.310447 W 70° 18' 37.61" W
JURISDICTION:	NATIONAL, STATE & LOCAL CODES OR ORDINANCES
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY

at&t

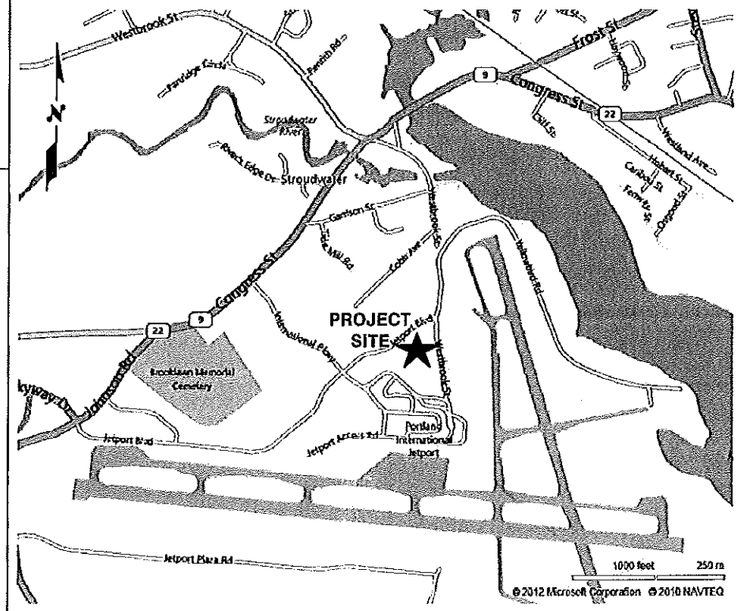
SITE NUMBER: ME5023
SITE NAME: BRADLEY'S CORNER

DRAWING INDEX

VICINITY MAP

DIRECTIONS:

START WEST ON COCHITUATE RD TOWARD BURR ST. 0.3 MI. MAKE A U-TURN AT WHITTIER ST. 0.3 MI. TAKE RAMP RIGHT FOR I-90 E. 6.7 MI. TAKE EXIT 14 FOR I-95 N TOWARD N.H - MAINE PARTIAL TOLL ROAD PASSING THROUGH NEW HAMPSHIRE ENTERING MAINE. 114.3 MI, TAKE EXIT #46/JETPORT (ME-22)/CONGRESS ST. (ME-9) 0.4 MI, TURN RIGHT ON JETPORT RD TOWARD PWM (ME-9) GO 0.1 MI, BEAR RIGHT ON JETPORT BLVD 1.1 MI, TURN RIGHT ON WESTBROOK ST 0.1 MI, ARRIVE AT 1050 WESTBROOK ST, PORTLAND, ON THE RIGHT.



GENERAL NOTES

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

CALL

BEFORE YOU DIG

CALL TOLL FREE 888-DIG-SAFE

UNDERGROUND SERVICE ALERT

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 2-101
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5566

NEXLINK GLOBAL SERVICES
a UniTek GLOBAL SERVICES company
800 MARSHALL PHELPS ROAD UNIT#: 2A
WINDSOR, CT 06095

SITE NUMBER: ME5023
SITE NAME: BRADLEY'S CORNER
1050 WESTBROOK STREET
PORTLAND, ME 04102
CUMBERLAND COUNTY

at&t
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	02/23/12	ISSUED FOR PERMITTING	SB	DJ	DPH
0	02/08/12	ISSUED FOR REVIEW	HC	DJ	DPH

SCALE: AS SHOWN DESIGNED BY: DC DRAWN BY: HC

STATE OF MAINE
DANIEL P. HAMM
10034
LICENSED PROFESSIONAL ENGINEER

AT&T

TITLE SHEET (LTE)

JOB NUMBER	DRAWING NUMBER	REV
5023.01	T-1	1

GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.

2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.

3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.

4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.

5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS 2 AWG STRANDED COPPER FOR OUTDOOR BTS.

6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.

7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.

8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.

9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.

10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.

11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWS COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.

12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE 1/2" OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID TINNED COPPER GROUND WIRE, PER NEC 250.50

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR – NEXLINK
SUBCONTRACTOR -- GENERAL CONTRACTOR (CONSTRUCTION)
OWNER -- AT&T MOBILITY

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.

3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.

5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.

7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.

9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.

10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.

11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.

15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.

16. CONSTRUCTION SHALL COMPLY WITH UMTS SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T MOBILITY SITES."

17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.

19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

20. APPLICABLE BUILDING CODES:
SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.
BUILDING CODE: IBC 2009
ELECTRICAL CODE: REFER TO ELECTRICAL DRAWINGS
LIGHTENING CODE: REFER TO ELECTRICAL DRAWINGS

SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION;

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-G, STRUCTURAL STANDARDS FOR STEEL

ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES; REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.

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

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	G.C.	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
AWG	AMERICAN WIRE GAUGE	MGB	MASTER GROUND BUS		
BCW	BARE COPPER WIRE	MIN	MINIMUM	TBD	TO BE DETERMINED
BTS	BASE TRANSCEIVER STATION	PROPOSED	NEW	TBR	TO BE REMOVED
EXISTING	EXISTING	NTS	NOT TO SCALE	TBRR	TO BE REMOVED AND REPLACED
EG	EQUIPMENT GROUND	REF	REFERENCE	TYP	TYPICAL
EGR	EQUIPMENT GROUND RING	REQ	REQUIRED		

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a UniTek GLOBAL SERVICES company
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WINDSOR, CT 06095

SITE NUMBER: ME5023
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PORTLAND, ME 04102
CUMBERLAND COUNTY

at&t
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	02/23/12	ISSUED FOR PERMITTING	SB	DPH	DPH
0	02/08/12	ISSUED FOR REVIEW	HC	DPH	DPH

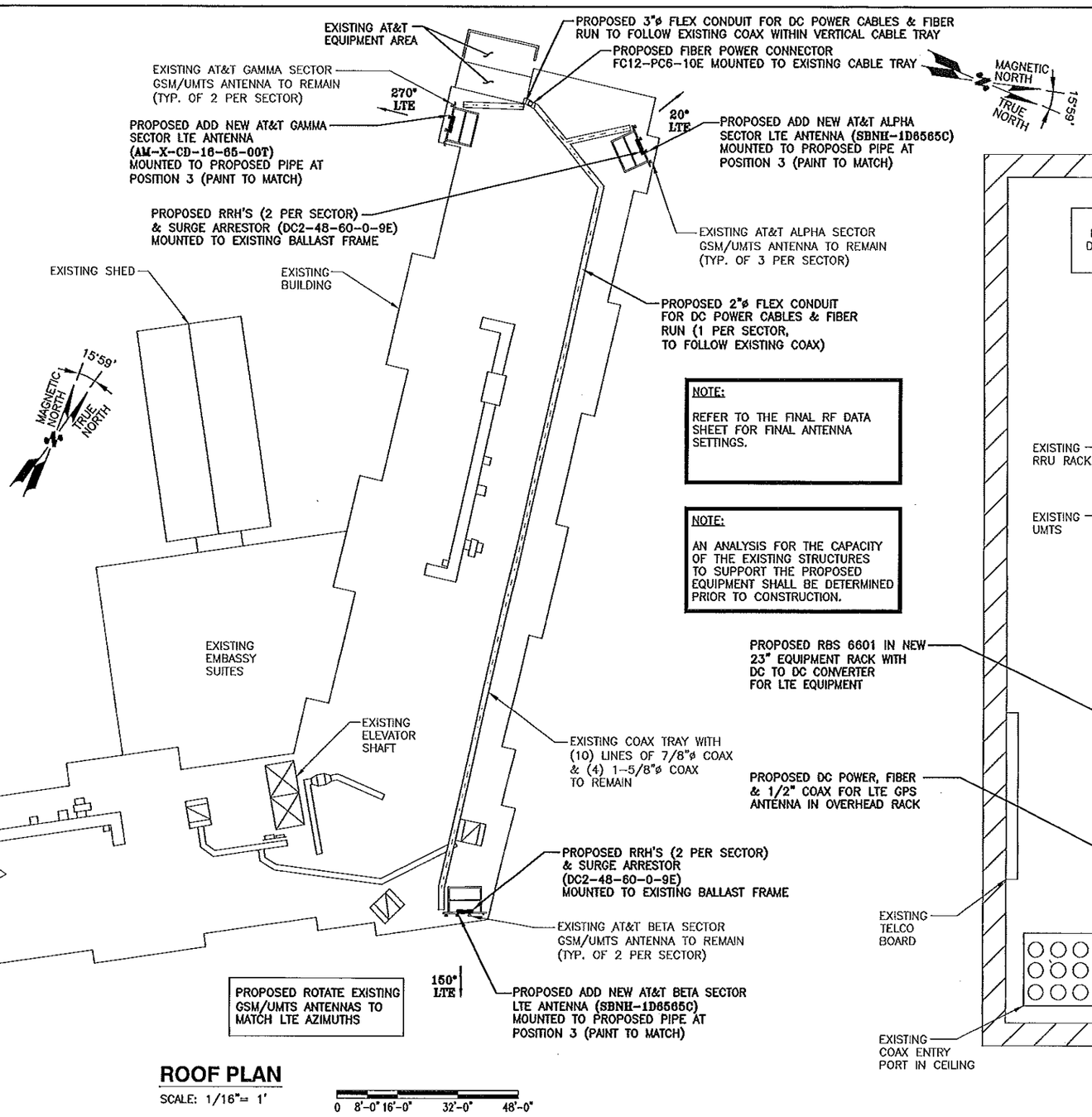
SCALE: AS SHOWN | DESIGNED BY: DC | DRAWN BY: HC

STATE OF MAINE
DANIEL P. HAMAN
No. 10054
LICENSED PROFESSIONAL ENGINEER

AT&T

GENERAL NOTES (LTE)

JOB NUMBER	DRAWING NUMBER	REV
5023.01	GN-1	1



ROOF PLAN
SCALE: 1/16"= 1'

EQUIPMENT PLAN
SCALE: 3/8"=1'-0"

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SCALE: AS SHOWN | DESIGNED BY: DC | DRAWN BY: HC | CHK APP'D: DPH

STATE OF MAINE
DANIEL P. HAMAN
10803
LICENSED PROFESSIONAL ENGINEER

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ROOF PLAN & EQUIPMENT PLAN (LTE)

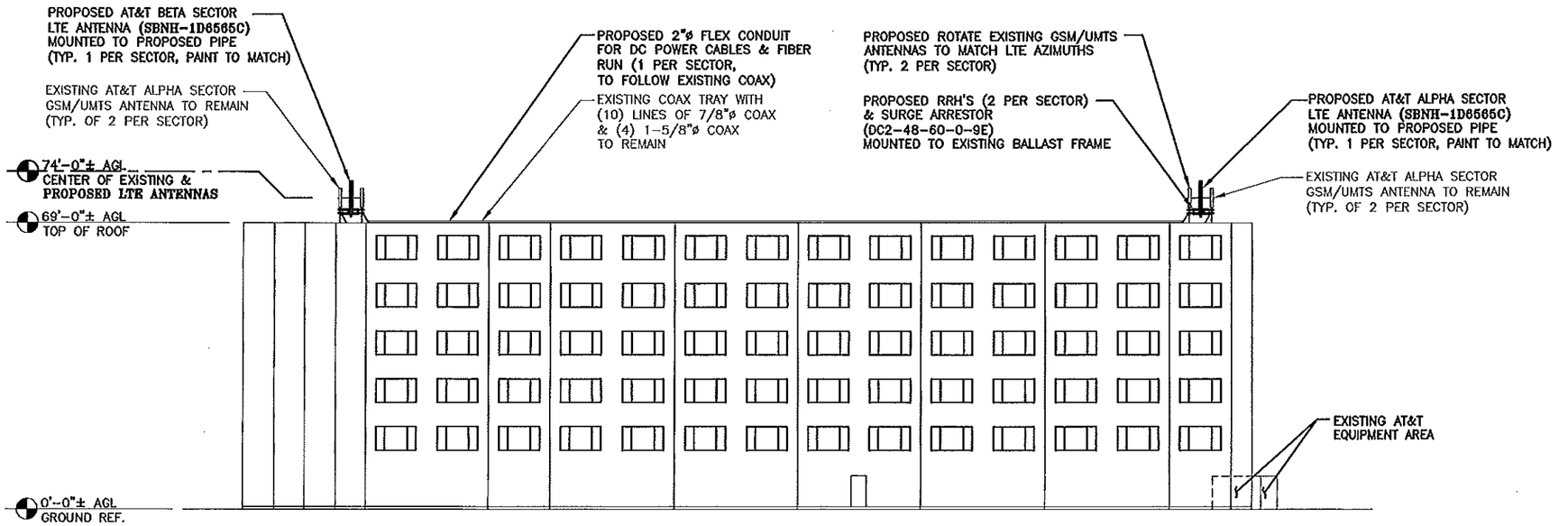
JOB NUMBER	DRAWING NUMBER	REV
5023.01	A-1	1

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.



EAST ELEVATION

SCALE: 1/16"=1'-0"

0 8'-0" 16'-0" 32'-0" 48'-0"

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STATE OF MAINE
DANIEL P. HUDON
03-1
LICENSED PROFESSIONAL ENGINEER

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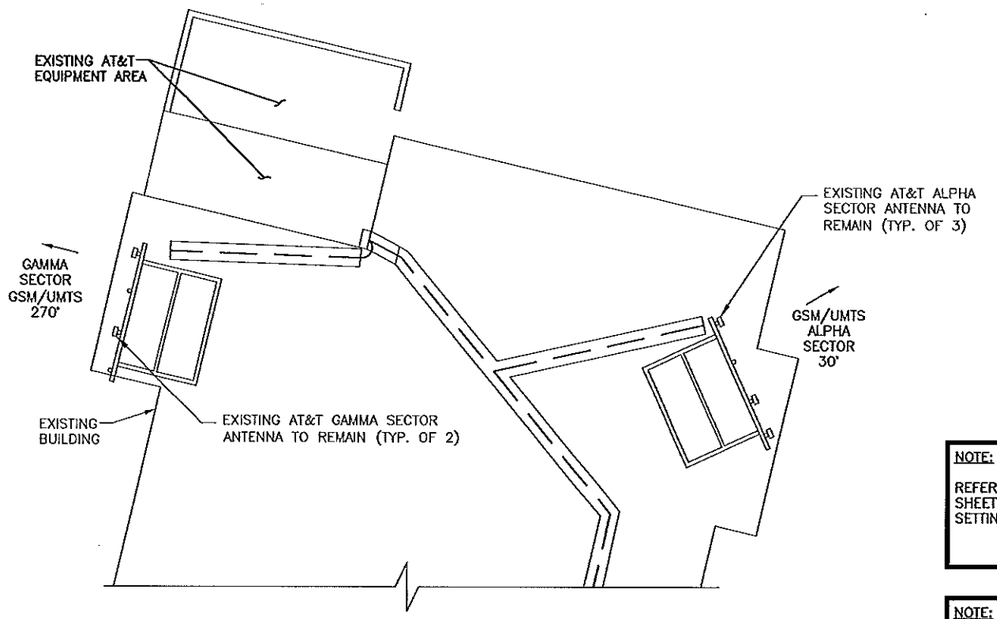
ELEVATION (LTE)

JOB NUMBER	DRAWING NUMBER	REV
5023.01	A-2	1



NOTE:

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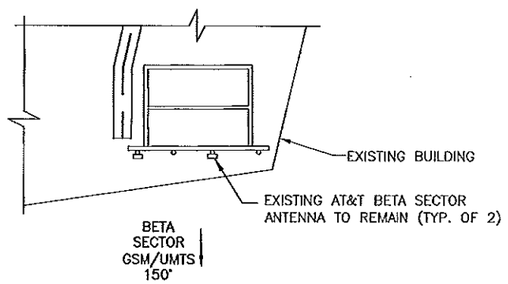
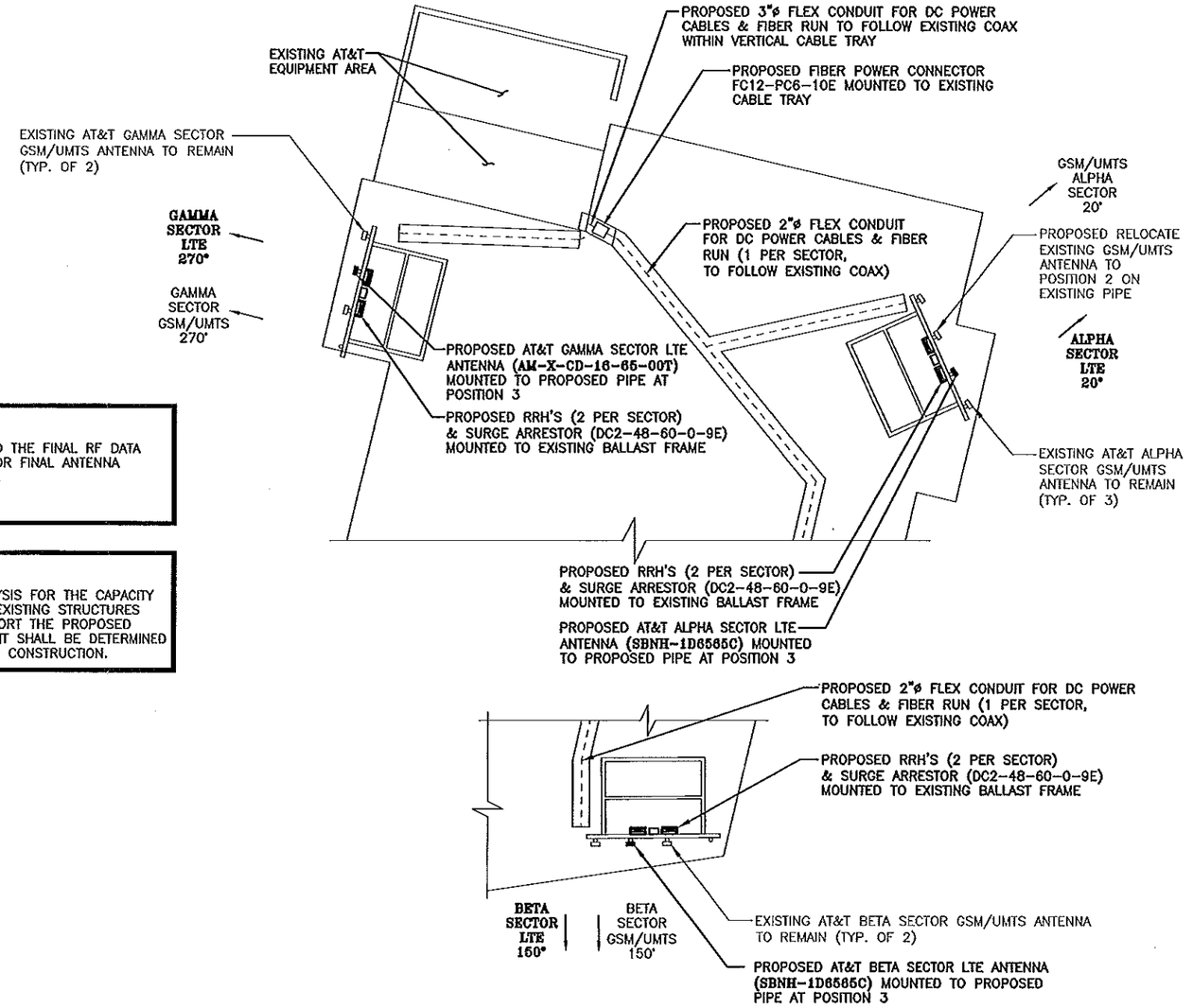


EXISTING GSM/UMTS ANTENNA LAYOUT

SCALE: N.T.S.



PROPOSED LTE ANTENNA LAYOUT

SCALE: N.T.S.

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SCALE: AS SHOWN | DESIGNED BY: DC | DRAWN BY: HC | CHK'D BY: DPH

STATE OF MAINE — DANIEL P. HAMM — 10803 — LICENSED PROFESSIONAL ENGINEER

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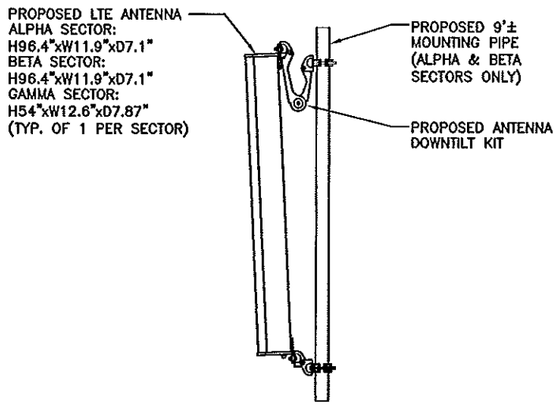
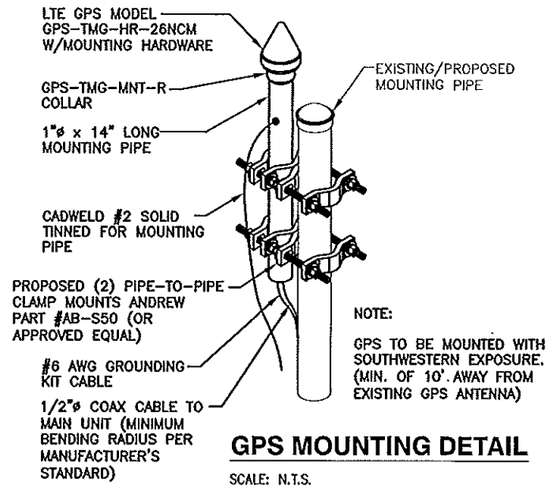
ANTENNA LAYOUT (LTE)

JOB NUMBER	DRAWING NUMBER	REV
5023.01	A-3	1



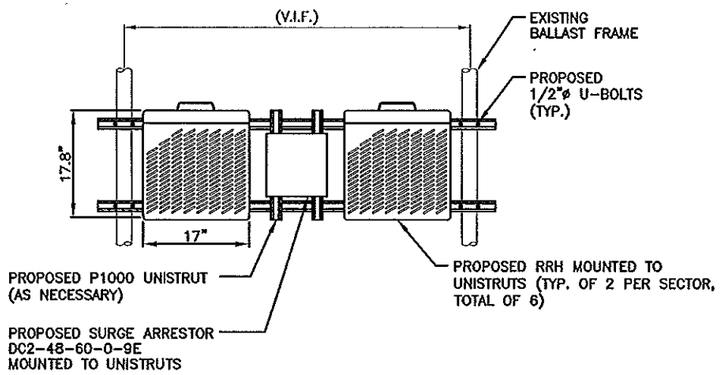
PROPOSED LTE ANTENNA DETAIL

SCALE: N.T.S.



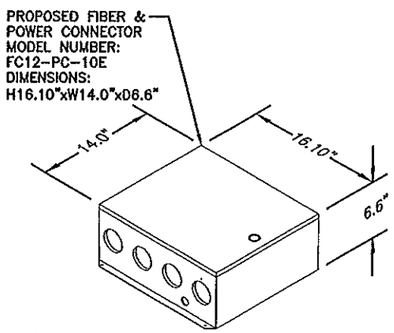
GPS MOUNTING DETAIL

SCALE: N.T.S.



PROPOSED RRH AND SURGE ARRESTOR MOUNTING DETAIL

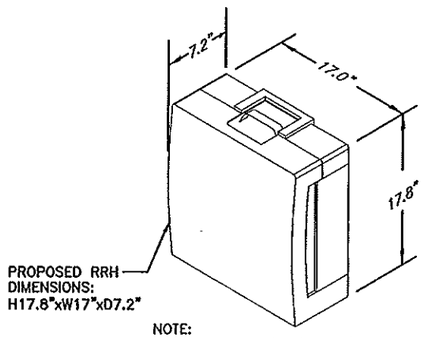
SCALE: N.T.S.



NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

FIBER & POWER CONNECTOR DETAIL

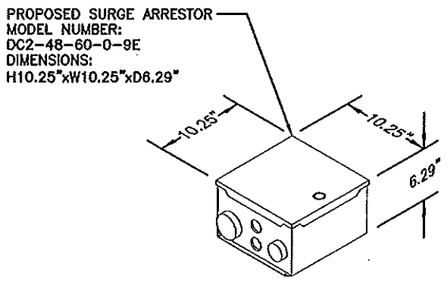
SCALE: N.T.S.



NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

RRH DETAIL

SCALE: N.T.S.



NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

DC SURGE SUPPRESSOR DETAIL

SCALE: N.T.S.

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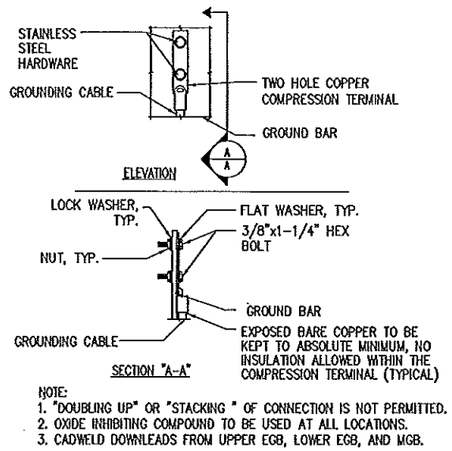
STATE OF MAINE
DANIEL P. HUDON
03-10101
REGISTERED PROFESSIONAL ENGINEER
LICENSED

AT&T

DETAILS (LTE)

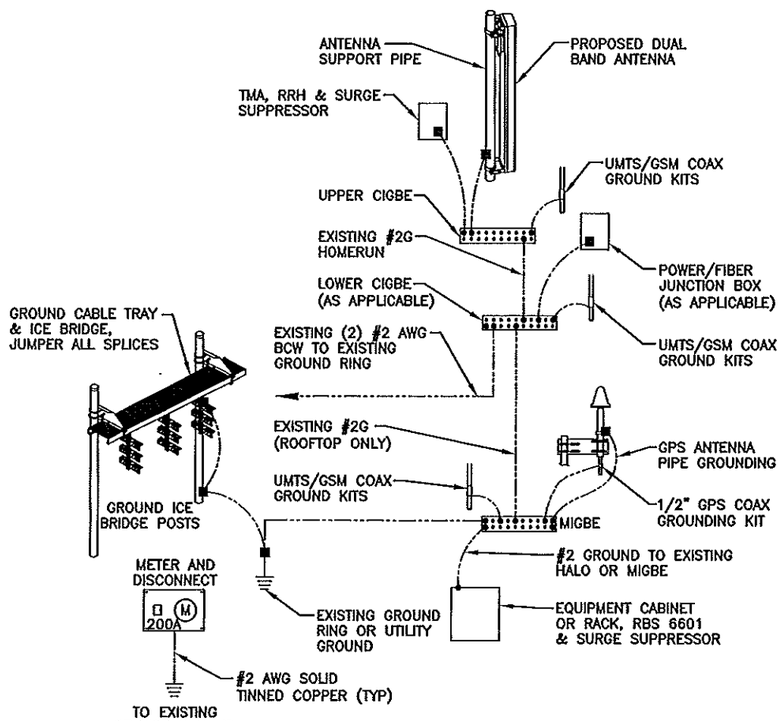
JOB NUMBER	DRAWING NUMBER	REV
5023.01	A-4	1



NOTE:
1. "DOUBLING UP" OR "STACKING " OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
3. CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB, AND MGB.

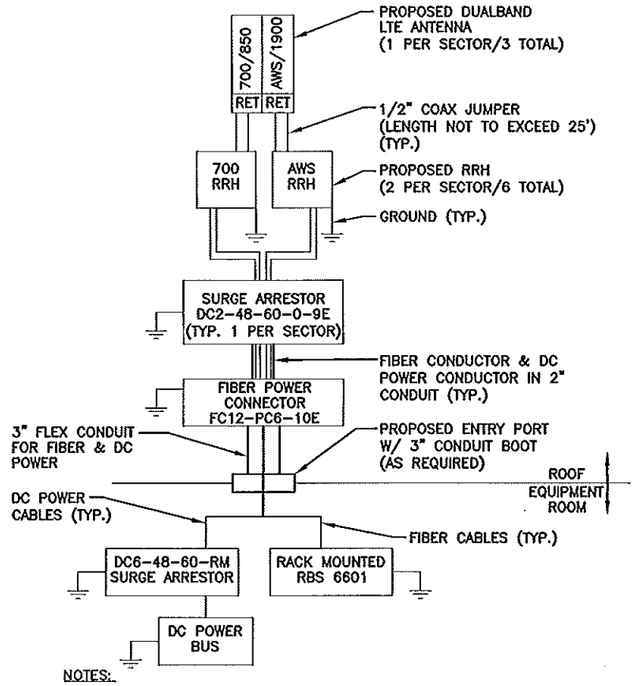
TYPICAL GROUND BAR CONNECTION DETAIL

2 — N.T.S.



GROUNDING RISER DIAGRAM

1 — N.T.S.



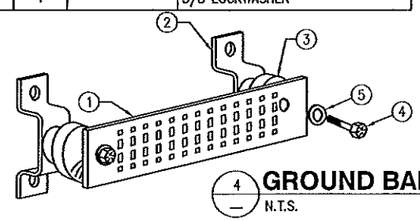
NOTES:

1. CONTRACTOR TO CONFIRM ALL PARTS.
2. INSTALL ALL EQUIPMENT TO MANUFACTURER'S RECOMMENDATIONS.

PLUMBING DIAGRAM

3 — N.T.S.

WIRELESS SOLUTIONS INC.			
NO.	REQ.	PART NO.	DESCRIPTION
1	1	HLGB-0420-IS	SOLID GND. BAR (20"x4"x1/4")
2	2	———	WALL MTG. BRKT.
3	2	———	INSULATORS
4	4	———	5/8"-11x1" H.H.C.S.
5	4	———	5/8 LOCKWASHER



GROUND BAR - DETAIL

4 — N.T.S.

EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" – SURGE PRODUCERS

CABLE ENTRY PORTS (HATCH PLATES) (#2)
GENERATOR FRAMEWORK (IF AVAILABLE) (#2)
TELCO GROUND BAR
COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2)
+24V POWER SUPPLY RETURN BAR (#2)
–48V POWER SUPPLY RETURN BAR (#2)
RECTIFIER FRAMES.

SECTION "A" – SURGE ABSORBERS

INTERIOR GROUND RING (#2)
EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2)
METALLIC COLD WATER PIPE (IF AVAILABLE) (#2)
BUILDING STEEL (IF AVAILABLE) (#2)

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STATE OF MAINE
DANIEL P. HAMON
03-4
LICENSED PROFESSIONAL ENGINEER

AT&T

PLUMBING DIAGRAM & GROUNDING DETAILS (LTE)

JOB NUMBER	DRAWING NUMBER	REV
5023.01	G--1	1