

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK



# CITY OF PORTLAND BUILDING PERMIT



This is to certify that

BOWDOIN DEVELOPMENT LLC /Netcom Wireless  
Facilities

PERMIT ID: 2013-00157

Located at

135 CHADWICK ST

CBL: 063 B001001

has permission to **Install/upgrade/replace communications equipment on multi family.**  
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 clsoed-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 procured prior to occupancy.

A handwritten signature in cursive script, reading "Jeanne Bouke".

Fire Prevention Officer

Code Enforcement Officer / Plan Reviewer

**THIS CARD MUST BE POSTED ON THE STREET SIDE OF THE PROPERTY  
THERE IS A PENALTY FOR REMOVING THIS CARD**

**BUILDING PERMIT INSPECTION PROCEDURES**  
Please call 874-8703 (ONLY)  
or email: [buildinginspections@portlandmaine.gov](mailto: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.**

**REQUIRED INSPECTIONS:**

Electrical Close-in

Final - Electric

Final - Commercial

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.

**City of Portland, Maine - Building or Use Permit**

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

<b>Permit No:</b> 2013-00157	<b>Date Applied For:</b> 01/25/2013	<b>CBL:</b> 063 B001001
---------------------------------	--	----------------------------

<b>Location of Construction:</b> 135 CHADWICK ST	<b>Owner Name:</b> BOWDOIN DEVELOPMENT LLC	<b>Owner Address:</b> 131 CHADWICK ST	<b>Phone:</b>
<b>Business Name:</b>	<b>Contractor Name:</b> Netcom Wireless Facilities	<b>Contractor Address:</b> 10 Aevo Park Drive Unit 3 Plymouth	<b>Phone</b> (508) 732-0020
<b>Lessee/Buyer's Name</b> Sprint	<b>Phone:</b>	<b>Permit Type:</b> Radio/Telecommunications Equipment	

<b>Proposed Use:</b> Same: Medical offices on 1st floor with 18 residential units above	<b>Proposed Project Description:</b> Install/upgrade/replace communications equipment on multi family.
--	---

<b>Dept:</b> Historic <b>Note:</b>	<b>Status:</b> Approved	<b>Reviewer:</b> Robert Wiener	<b>Approval Date:</b> 02/04/2013 <b>Ok to Issue:</b> <input checked="" type="checkbox"/>
<b>Dept:</b> Zoning <b>Note:</b>	<b>Status:</b> Approved	<b>Reviewer:</b> Marge Schmuckal	<b>Approval Date:</b> 01/31/2013 <b>Ok to Issue:</b> <input checked="" type="checkbox"/>
<b>Dept:</b> Building <b>Note:</b>	<b>Status:</b> Approved w/Conditions	<b>Reviewer:</b> Jeanie Bourke	<b>Approval Date:</b> 02/27/2013 <b>Ok to Issue:</b> <input checked="" type="checkbox"/>
<ol style="list-style-type: none"> <li>1) Permit approved based upon information provided by the applicant or design professional. Any deviation from approved plans requires separate review and approval prior to work.</li> <li>2) Equipment shall be installed in compliance with the manufacturer's specifications and the UL listing.</li> <li>3) 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.</li> <li>4) The installation shall comply with the wind load requirements of the IBC 2009 and ASCE 7-05</li> </ol>			
<b>Dept:</b> Fire <b>Note:</b>	<b>Status:</b> Not Applicable	<b>Reviewer:</b>	<b>Approval Date:</b> <b>Ok to Issue:</b> <input type="checkbox"/>

**City of Portland, Maine - Building or Use Permit Application**

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

Permit No: 2013-00157	Issue Date:	CBL: 42 063 B001001
--------------------------	-------------	---------------------------

<b>Location of Construction:</b> 135 CHADWICK ST	<b>Owner Name:</b> BOWDOIN DEVELOPMENT LLC	<b>Owner Address:</b> 131 CHADWICK ST PORTLAND, ME 04102	<b>Phone:</b>
<b>Business Name:</b>	<b>Contractor Name:</b> Netcom Wireless Facilities	<b>Contractor Address:</b> 10 Aevo Park Drive Unit 3 Plymouth MA 02360	<b>Phone</b> (508) 732-0020
<b>Lessee/Buyer's Name</b> Sprint	<b>Phone:</b>	<b>Permit Type:</b> Radio/Telecommunications Equipment	<b>Zone:</b> R6
<b>Past Use:</b> Medical offices on first floor with 18 residential apartments above	<b>Proposed Use:</b> Same: Medical offices on 1st floor with 18 residential units above	<b>Permit Fee:</b> \$170.00	<b>Cost of Work:</b> \$15,000.00
<b>Proposed Project Description:</b> Install/upgrade/replace communications equipment on multi family.		<b>FIRE DEPT:</b> <input type="checkbox"/> Approved <input type="checkbox"/> Denied <input checked="" type="checkbox"/> N/A	<b>INSPECTION:</b> Use Group: B/R Type: Tele-communications MURB EC 2009 Signature: JMB 2/27/13
		<b>PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.)</b> Action: <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied Signature: _____ Date: _____	

<b>Permit Taken By:</b> bjs	<b>Date Applied For:</b> 01/25/2013	<b>Zoning Approval</b>		
<p>1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.</p> <p>2. Building permits do not include plumbing, septic or electrical work.</p> <p>3. Building permits are void if work is not started within six (6) months of the date of issuance. False information may invalidate a building permit and stop all work..</p>	<b>Special Zone or Reviews</b> <input type="checkbox"/> Shoreland <input type="checkbox"/> Wetland <input type="checkbox"/> Flood Zone <input type="checkbox"/> Subdivision <input type="checkbox"/> Site Plan Maj <input type="checkbox"/> Minor <input type="checkbox"/> MM <input type="checkbox"/> Date: 1/31/13	<b>Zoning Appeal</b> <input type="checkbox"/> Variance <input type="checkbox"/> Miscellaneous <input type="checkbox"/> Conditional Use <input type="checkbox"/> Interpretation <input type="checkbox"/> Approved <input type="checkbox"/> Denied Date:	<b>Historic Preservation</b> [Signature] <input type="checkbox"/> Not in District or Landmark <input type="checkbox"/> Does Not Require Review <input type="checkbox"/> Requires Review <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied R. W. [Signature] Date: 2/5/13	

**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 application 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



# 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: <u>135 Chadwick St.</u>		
Total Square Footage of Proposed Structure/Area		Square Footage of Lot
Tax Assessor's Chart, Block & Lot Chart#      Block#      Lot#  <u>063 B004</u>	Applicant * <b>must be owner, Lessee or Buyer*</b> Name <u>Sprint</u> Address <u>1 International Blvd</u> City, State & Zip <u>Mahwah, NJ 07495</u>	Telephone: <u>978-828-3264</u> <u>Kristen LeDuc</u> <u>Agent Sprint</u>
Lessee/DBA (If Applicable)	Owner (if different from Applicant) Name <u>Bowdoin Development LLC</u> Address <u>131 Chadwick St.</u> City, State & Zip <u>Portland, ME 04102</u>	Cost Of Work: <u>\$15,000</u> C of O Fee: \$ <u>-</u> Total Fee: \$ <u>170.00</u>
Current legal use (i.e. single family) <u>Apts.</u> If vacant, what was the previous use? <u>N/A</u> Proposed Specific use: <u>Wireless Communication Modification - Unmanned</u> Is property part of a subdivision? <u>N/A</u> If yes, please name _____ Project description: <u>Install Fiber Dist. box w/in lease area. Replace existing antennas. Replace existing GPS antenna. Replace existing coax cable w/ Hybrid flex cables. Replace equipment cabinets. Replace local exchange carrier w/ Fiber optics.</u>		
Contractor's name: <u>Charles B. Anti, Netcom Wireless Facilities 2</u> Address: <u>10 Aero Park Dr. Unit 3</u> City, State & Zip <u>Plymouth, MA 02360</u> Telephone: <u>508-732-0020</u> Who should we contact when the permit is ready: <u>Kristen LeDuc</u> Telephone: <u>978-828-3264</u> Mailing address: <u>8 Brentwood Cr. Danvers, MA 01923</u>		

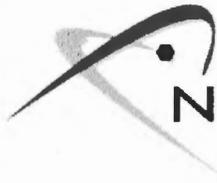
**Please submit all of the information outlined on the applicable Checklist. Failure to do so will result in the automatic denial of your permit.**

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](http://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: Kristen LeDuc Date: 1/4/13

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



**NETWORK BUILDING  
& CONSULTING, LLC**

January 18, 2013

Jeanie Bourke, CEO  
Building Department  
389 Congress Street  
Portland, ME 04101

RE: Sprint Site modification at 131 Chadwick Street, Portland, Maine

Jeanie,

Enclosed please find a Building Permit Application, site plans and related documents for Sprint's modification project at 131 Chadwick Street. Also, included is a copy of the check and the 1<sup>st</sup> page of the application could you kindly include a receipt for the check, and a "received" stamp on the 1<sup>st</sup> page of the application when the building permit is issued.

If you have any questions or comments, please feel free to contact me at the number or email listed below.

Thank you,

*Kristen LeDuc*

**Network Building & Consulting, LLC. an authorized representative of Sprint Nextel**

Kristen LeDuc  
978-828-3264 Office & Mobile  
[kleduc@nbcllc.com](mailto:kleduc@nbcllc.com)  
8 Brentwood Circle  
Danvers, MA 01923

PCS SITE AGREEMENT

SITE NAME PORTLAND SOUTH

SITE I.D. NH/M 65D

1. Premises and Use. Owner leases to Sprint Spectrum L.P., ("Sprint Spectrum") a Delaware limited partnership, the site described below:

- [Check appropriate box(es)]
Real property consisting of approximately square feet of land;
Building interior space consisting of approximately 192 square feet, located in the basement, as agreed upon between Owner and Sprint Spectrum;
Building exterior space for attachment of antennas, consisting of up to twelve antennas, each weighing twelve pounds and each having dimensions of 56 inches high, 10 inches wide and 7 inches thick, and one GPS antenna shown on the attached sketch, together with mounting equipment and structures, to be located on the exterior facade of the elevator shaft, said placement not to interfere with operation of the elevator;
Building exterior space for placement of base station equipment;
Tower antenna space;
Space required for cable runs to connect PCS equipment and antennas, so as not to interfere with any of the mechanical or electrical operations of the building;
In the location(s) ("Site") shown on Exhibit A; together with a non-exclusive easement for reasonable access thereto and to the appropriate, in the discretion of Sprint Spectrum, source of electric and telephone facilities. The Site will be used by Sprint Spectrum for the purpose of installing, removing, replacing, maintaining and operating, at its expense, a personal communications service system facility ("PCS"), including, without limitation, related antenna equipment and fixtures. Sprint Spectrum will use the Site in a manner which will not unreasonably disturb the occupancy of Owner's other tenants. Sprint Spectrum will allow Owner to review and approve plans for initial installation of equipment and fixtures, which approval will not be unreasonably withheld by the Owner. If Owner does not respond in writing to Sprint Spectrum within twenty days following Sprint Spectrum's written request for such approval, such requests will be deemed to have been approved by Owner.

2. Term. The term of this Agreement (the "Initial Term") is five years, commencing on September 1, 1996 ("Commencement Date"). This Agreement will be automatically renewed for two additional terms (each a "Renewal Term") of five years each, unless Sprint Spectrum provides Owner notice of intention not to renew not less than 90 days prior to the expiration of the Initial Term or any Renewal Term.

3. Rent. Rent will be paid beginning on the Commencement Date. The rent will be paid monthly in advance on the first of each month, with partial months to be prorated. The monthly rent will be

4. Title and Quiet Possession. Owner represents and agrees (a) that it is the Owner of the Site; (b) that it has the right to enter into this Agreement; (c) that the person signing this Agreement has the authority to sign; (d) that Sprint Spectrum is entitled to access to the Site at all times and to the quiet possession of the Site throughout the Initial Term and each Renewal Term so long as Sprint Spectrum is not in default beyond the expiration of any cure period; and (e) that Owner shall not interfere with the PCS equipment.

5. Assignment/Subletting. Sprint Spectrum will not assign or transfer this Agreement or sublet all or any portion of the Site without the prior written consent of Owner, which consent will not be unreasonably withheld, delayed or conditioned; provided, however, Sprint Spectrum may assign or sublet without Owner's prior written consent to any party controlling, controlled by or under common control with Sprint Spectrum or to any party which acquires substantially all of the assets of Sprint Spectrum.

6. Notices. All notices must be in writing and are effective when deposited in the U.S. mail, certified and postage prepaid, or when sent via overnight delivery, to the address set forth below, or as otherwise provided by law.

7. Improvements. Sprint Spectrum may, at its expense, make such improvements on the Site as it deems necessary from time to time for the operation of a transmitter site for wireless voice and data communications. Owner agrees to cooperate, at Sprint Spectrum's expense, with Sprint Spectrum with respect to obtaining any required zoning approvals for the Site and such improvements. Upon termination or expiration of this Agreement, Sprint Spectrum will remove its equipment and improvements and will restore the Site to the condition existing on the Commencement Date, except for ordinary wear and tear.

8. Compliance with Laws. Owner represents that Owner's property (including the Site), and all improvements located thereon, are in substantial compliance with building, life/safety, disability and other laws, codes and regulations of applicable governmental authorities. Sprint Spectrum will comply in all material respects with all applicable laws relating to its possession and use of the Site.

9. Interference. Sprint Spectrum will resolve technical interference problems with other equipment located at the Site on the Commencement Date or any equipment that becomes attached to the Site at any future date when Sprint Spectrum desires to add additional equipment to the Site. Likewise, Owner will not permit the installation of any future equipment on the building exterior which results in technical interference problems with Sprint Spectrum's then existing equipment.

10. Utilities. Sprint Spectrum will pay for all utilities used by it at the Site. Owner will cooperate with Sprint Spectrum in Sprint Spectrum's efforts to obtain utilities from any

location provided by Owner or the servicing utility. If Sprint Spectrum determines that improvements to the Site are required to meet Sprint Spectrum's utility needs, any such modifications shall be done at Sprint Spectrum's sole expense. A separate meter shall be installed at Sprint Spectrum's expense.

11. Termination. Sprint Spectrum may terminate this Agreement at any time by notice to Owner without further liability if Sprint Spectrum does not obtain all permits or other approvals (collectively, "approval") required from any governmental authority or any easements required from any third party to operate the PCS system, or if any such approval is canceled, expires or is withdrawn or terminated, or if Owner fails to have proper ownership of the Site or authority to enter into this Agreement, or if Sprint Spectrum, for any other reason, in its sole discretion, determines that it will be unable to use the Site for its intended purpose. Upon such termination, all prepaid rent shall be retained by Owner and Sprint Spectrum shall pay to Owner, as liquidated damages, six months additional rent.

12. Default. If either party is in default under this Agreement for a period of (a) 10 days following receipt of notice from the non-defaulting party with respect to a default which may be cured solely by the payment of money, or (b) 30 days following receipt of notice from the non-defaulting party with respect to a default which may not be cured solely by the payment of money, then, in either event, the non-defaulting party may pursue any remedies available to it against the defaulting party under applicable law, including, but not limited to, the right to terminate this Agreement. If the non-monetary default may not reasonably be cured within a 30 day period, this Agreement may not be terminated if the defaulting party commences action to cure the default within such 30 day period and proceeds with due diligence to fully cure the default.

13. Indemnity. Owner and Sprint Spectrum each indemnifies the other against and holds the other harmless from any and all costs (including reasonable attorneys fees) and claims of liability or loss which arise out of the use and/or occupancy of the site by the indemnifying party. This indemnity does not apply to any claims arising from the sole negligence or intentional misconduct of the indemnified party.

14. Hazardous Substances. Owner represents that it has no knowledge of any substance, chemical or waste (collectively "substance") on the Site that is identified as hazardous, toxic or dangerous in any applicable federal, state or local law or regulation. Sprint Spectrum shall not introduce or use any such substances on the Site in violation of any applicable law.

15. Miscellaneous. (a) This Agreement applies to and binds the heirs, successors, executors, administrators and assigns of the parties to this Agreement; (b) This Agreement is governed by the laws of the State in which the Site is located; (c) If requested by Sprint Spectrum, Owner agrees promptly to execute and deliver to Sprint Spectrum a recordable Memorandum of this Agreement in the form of Exhibit B; (d) This Agreement (including the Exhibits) constitutes the entire agreement between the parties and supersedes all prior written and verbal agreements, representations, promises or understandings between the parties. Any amendments to this Agreement must be in writing and executed by both parties; (e) If any provision of this Agreement is invalid or unenforceable with respect to any party, the remainder of this Agreement or the application of such provision to persons other than those as to whom it is held invalid or unenforceable, will not be affected and each provision of this Agreement will be valid and enforceable to the fullest extent permitted by law; (f) The prevailing party in any action or proceeding in court or mutually agreed upon arbitration proceeding to enforce the terms of this Agreement is entitled to receive its reasonable attorneys' fees and other reasonable enforcement costs and expenses from the non-prevailing party, and (g) Sprint Spectrum will pay up to \$1,000 of Owner's legal fees incurred in the negotiation, drafting and execution of this Agreement by Owner on or before 3:00 PM on June 14, 1996.

The following Exhibits are attached to and made a part of this Agreement: Exhibit A, B, C, D, E, F and G.

OWNER: [Signature]
BY: Alfred Osher
S.S./Tax No.: 007-37-8000
See Exhibit A1 for continuation of Owner signatures
Address: 265 Seaside Ave.
Saco, ME 04072
Date: June 14 1996
OWNER: [Signature]
BY: Dorothy S. Osher
S.S./Tax No.: 004-32-8808
See Exhibit A1 for continuation of Owner signatures



Address: 265 Seaside Ave.  
Saco, ME 04072

Date: June 14, 1996

Print Spectrum L.P., a Delaware limited partnership

Steven Paisner

by: Steven Paisner

is: Director Engineering & Operations,  
New Hampshire/Maine MTA

Address: 135 Commerce Way, Suite 200  
Portsmouth, NH 03801

Date: 6-14-96

## FIRST AMENDMENT TO PCS SITE AGREEMENT

THIS FIRST AMENDMENT TO PCS SITE AGREEMENT ("Amendment") is made effective as of November ~~15, 2009~~<sup>15, 2010</sup> ("Effective Date"), by and between Bowdoin Development, LLC ("Owner") and Sprint Spectrum Realty Company, L.P., a Delaware limited partnership, successor in interest to Sprint Spectrum, L.P., a Delaware limited partnership, previously referred to as "Sprint Spectrum" ("Sprint").

### BACKGROUND

Pursuant to a PCS Site Agreement dated June 18, 1996 ("Agreement"), Alfred Osher and Dorothy S. Osher leased to Sprint a certain portion of real property ("Leased Space") located at 131 Chadwick Street, City of Portland, County of Cumberland, State of Maine ("Owner's Property"), as more particularly described in Exhibit A to the Agreement (the Leased Space and Owner's Property shall collectively be referred to herein as "Site").

Dorothy S. Osher succeeded to Alfred Osher's interest in the Owner's Property upon Alfred Osher's death, and on February 7, 2003, Dorothy S. Osher transferred the Owner's Property to Owner.

Owner and Sprint desire to amend the Agreement as set forth herein. Words and phrases having a defined meaning in the Agreement have the same respective meanings when used herein unless otherwise expressly stated.

### AGREEMENT

The parties agree as follows:

1. **Term.** Paragraph 2 of the Agreement is amended by adding the following:

Notwithstanding anything set forth in Paragraph 2 to the contrary, the current term of this Agreement will expire on August 31, 2011. Commencing on September 1, 2011, the term of this Agreement ("New Initial Term") is sixty (60) months. This Agreement will be automatically renewed for up to two (2) additional terms (each a "Renewal Term") of sixty (60) months each. Each Renewal Term will be deemed automatically exercised without any action by either party unless Sprint gives written notice of its decision not to exercise any option(s) to Owner not less than ninety (90) days prior to expiration of the then current term.

2. **Rent.** Paragraph 3 of the Agreement and Exhibit E of the Agreement are amended by adding the following:

Notwithstanding anything set forth in Paragraph 3 and Exhibit E to the contrary, effective September 1, 2011, rent shall be paid in monthly installments in an amount equal to the greater of (i) the amount of the monthly installments of rent payable during the preceding year increased by [REDACTED], or (ii) the amount of the monthly installments of rent payable during the preceding year increased by an amount equal to the change in the CPI during such year. "CPI" means the Consumer Price Index-U.S. City Averages for Urban Wage Earners and Clerical

Owner's Member initials: D.S.O.

Sprint initials: [Signature]

Workers (1982-84 = 100, unless otherwise noted) published by the United State Department of Labor, Bureau of Labor Statistics (or a reasonably equivalent index if such index is discontinued) as determined by the most recent CPI report ("Rent"). In no event will the amount of the monthly installments of Rent due under this Agreement following such adjustment be less than the amount of such installments during the preceding 12-month period. Partial months shall be prorated, in advance. Thereafter, commencing on each anniversary of the Commencement Date, the Rent will be increased annually by the greater of (i) or (ii) above.

3. **Termination.** Paragraph 11 of the Agreement is deleted in its entirety and replaced with the following:

"Sprint may terminate the Agreement at any time with thirty (30) days prior written notice, but Owner shall be entitled to retain Rent due under this Agreement until the effective date set forth in the termination notice (calculated on a pro rata basis), and in addition shall pay Owner, as liquidated damages, twelve (12) months additional rent. If the Leased Space is rendered inoperable due to an event beyond the reasonable control of either Sprint or Owner, including, but not limited to eminent domain, condemnation, acts of God or criminal acts, this Agreement may be terminated by either party, in which event no Rent beyond the date upon which the Leased Space is rendered inoperable will be due. In the event of an occurrence described above, Owner shall not be liable for interruption to Tenant's business or for damage to or replacement or repair of Tenant's personal property (including, without limitation, inventory, trade fixtures, floor coverings, furniture, and other property removable by Tenant under the provisions of this Agreement) or to any leasehold improvements installed in the Leased Space by Tenant."

4. **Default.** Paragraph 12 of the Agreement is deleted in its entirety and replaced with the following:

"This Agreement is made on the condition that if Tenant shall fail to pay any Rent or other payment provided hereunder, or shall fail to pay any other monetary obligation to Owner as provided hereunder, within ten (10) days of its due date, or fail to perform any other obligation hereunder and such other failure shall continue for thirty (30) days after written notice thereof by Owner, or if the estate hereby created shall be taken on execution or other process of law, or if Tenant shall be declared bankrupt or insolvent according to law, or if Tenant shall dissolve, or if Tenant shall make or offer to make, in or out of bankruptcy, a composition with Tenant's creditors, or if Tenant shall make an assignment for the benefit of its creditors, or if Tenant shall commit any act of bankruptcy, or if a receiver, trustee or other officer shall be appointed to take charge of Tenant's assets by any court, or if Tenant shall hold over at the termination of this Lease as hereinabove provided, then and in any of said cases, notwithstanding any license of any former breach of covenants or waiver or consent in former instances, Owner lawfully, may, in addition to and not in derogation of any remedies for any preceding breach of covenant and without limiting any other remedy Owner may have under applicable law, immediately or at any time thereafter, without prior demand or prior notice whatsoever, (a) terminate this Lease by notice in writing forthwith or on a date stated in said notice; and (b) expel Tenant and those claiming through or under Tenant and remove its effects and without prejudice to any remedies which might otherwise be used for arrears of rent or preventing a breach of covenant, and upon entry as aforesaid, all rights of Tenant hereunder shall terminate; and Tenant covenants that in  
Owner's Member initials: *D. SO*  
Sprint initials: *[Signature]*

case of such termination, Tenant shall, for the greater of (i) one (1) year following the date of termination given by Owner in such termination notice or the date of expulsion, as applicable; or (ii) the remainder of the then-current term, pay to Owner on the last day of each calendar month the difference, if any, between the rental and other monetary obligations of Tenant that would have been due for such month had there been no such termination and the sum of such amounts being received by Owner from occupants of the Leased Space, if any. Owner shall make reasonable effort to secure a rental equal to the then-prevailing local rate for the Leased Space. In addition, Tenant agrees to pay to Owner, as damages for any above-described breach, all costs of reletting the Leased Space, including real estate commissions, costs of renovating the Leased Space to suit a new comparable Tenant, and costs of moving and storing Tenant's personalty and trade fixtures.

Tenant further agrees to pay and indemnify Owner against all legal costs and charges, including counsel fees reasonably incurred, in obtaining possession of the Leased Space after a default of Tenant or after Tenant's default in surrendering possession upon the expiration or earlier termination of the term of this Agreement or of enforcing any covenant or obligation of Tenant herein contained.

If Landlord is in default under this Agreement for a period of (a) 10 days following receipt of notice from Tenant with respect to a default which may be cured solely by the payment of money, or (b) 30 days following receipt of notice from Tenant with respect to a default which may not be cured solely by the payment of money, then, in either event, Tenant may pursue any remedies available to it against Landlord under applicable law, including, but not limited to, the right to terminate this Agreement. If the non-monetary default may not reasonably be cured within a 30 day period, this Agreement may not be terminated if Landlord commences action to cure the default within such 30 day period and proceeds with due diligence to fully cure the default."

5. **Notices.** Paragraph 6 of the Agreement is amended by deleting the entire provision and substituting the following provision in its place:

"All notices, requests, demands or other communications with respect to this Agreement, whether or not herein expressly provided for, must be in writing and will be deemed to have been delivered either five (5) business days after being mailed by United States first-class certified or registered mail, postage prepaid, return receipt requested; or the next business day after being deposited with an overnight courier service for next-day delivery to the parties at the following addresses (the addresses may be changed by either party by giving written notice.)

Owner's Member initials: SLO

Sprint initials: M

Owner: Bowdoin Development, LLC  
265 Seaside Avenue  
Saco, ME 04072

with a copy to: Jessica M. Emmons, Esq.  
Drummond Woodsum & MacMahon  
84 Marginal Way, Suite 600  
Portland, ME 04101

Sprint: Sprint Spectrum Realty Company, L.P.  
Sprint/Nextel Property Services  
Site ID: NM03XC065-A  
Mailstop KSOPHT0101 -Z2650  
6391 Sprint Parkway  
Overland Park, KS 66251-2650

with a copy to: Sprint/Nextel Law Department  
Attn: Real Estate Attorney  
Site ID: NM03XC065-A  
Mailstop KSOPHT0101-Z2020  
6391 Sprint Parkway  
Overland Park, KS 66251-2020

6. **Additional Terms and Conditions to this Amendment.** Notwithstanding any terms set forth in the Agreement to the contrary, this Amendment incorporates all of the provisions set forth in Schedule I, attached hereto. Owner agrees to promptly execute and deliver to Sprint a recordable Memorandum of Amendment in the form of Attachment 1, attached.

7. **Legal Fees.** Sprint Spectrum Realty Company, L.P. will pay up to [REDACTED] of Owner's legal fees incurred in the negotiation, drafting and execution of this Amendment by Owner.

8. **Reaffirmation; Intention to be Bound.** Except as provided in this Amendment, each and every term, condition and agreement contained in the Agreement will remain in full force and effect. The parties reaffirm that the representations and warranties made by each of the parties in the Agreement are true and accurate as of the Effective Date. The parties executing this Amendment, on behalf of themselves, their assigns and successors, acknowledge and reaffirm their intention to be bound by the terms and conditions of the Agreement.

**SIGNATURES APPEAR ON THE FOLLOWING PAGE**

Owner's Member initials: *D.S.O.*

Sprint initials: *MT*





Massachusetts - Department of Public Safety  
Board of Building Regulations and Standards

Construction Supervisor  
License: **CS-094261**

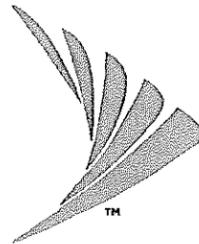


**CHARLES B ANTI**  
**100 BARNFIELD DRIVE**  
**PLYMOUTH MA 02360**

*Thomas H. Kelly*  
Commissioner

Expiration  
**10/29/2013**

# Sprint VISION



"NETWORK VISION MMBTS LAUNCH"  
"MARKET NAME:VT-NH-ME"  
SITE NUMBER:  
**NM03XC065**

## SITE NAME: PORTLAND SOUTH CHADWICK

SITE ADDRESS:  
**131 CHADWICK STREET  
PORTLAND, ME 04102**

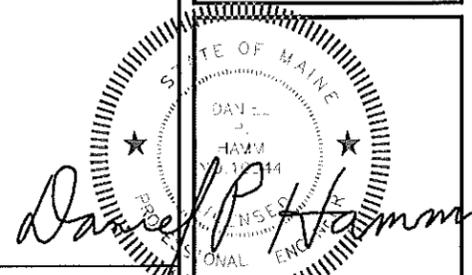
**NOTE:**

OWNER AND TENANT MAY, FROM TIME TO TIME AT TENANT'S OPTION, REPLACE THIS EXHIBIT WITH AN EXHIBIT SETTING FORTH THE LEGAL DESCRIPTION OF THE SITE, OR WITH ENGINEERED OR AS-BUILT DRAWING DEPICTING THE SITE OR ILLUSTRATING STRUCTURAL MODIFICATIONS OR CONSTRUCTION PLANS OF THE SITE. ANY VISUAL OR TEXTUAL REPRESENTATION OF THE EQUIPMENT LOCATED WITHIN THE SITE CONTAINED IN THESE OTHER DOCUMENTS IS ILLUSTRATIVE ONLY, AND DOES NOT LIMIT THE RIGHTS OF SPRINT AS PROVIDED FOR IN THE AGREEMENT. THE LOCATIONS OF ANY ACCESS AND UTILITY EASEMENTS ARE ILLUSTRATIVE ONLY. ACTUAL LOCATIONS MAY BE DETERMINED BY TENANT AND/OR THE SERVICING UTILITY COMPANY IN COMPLIANCE WITH LOCAL LAWS AND REGULATIONS.

**Sprint**  
VISION  
NETWORK VISION MMBTS LAUNCH  
1 INTERNATIONAL BLVD, SUITE 800  
MAHWAH, NJ 07415  
TEL: (800) 352-7641

**Alcatel-Lucent**  
1 ROSEBUSH ROAD  
WESTFORD, MA 01886  
TEL: (978) 952-1600

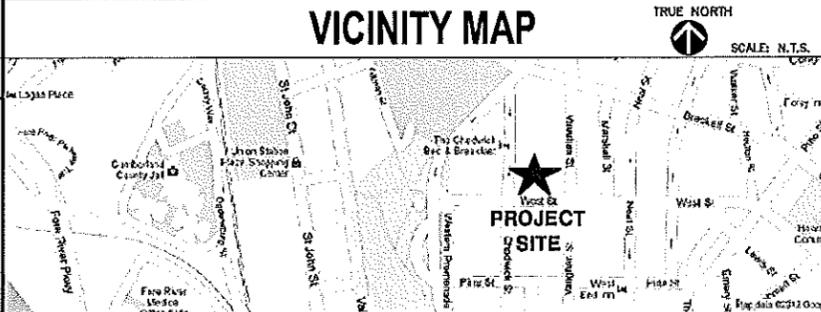
**Hudson**  
Design Group, Inc.  
1600 OSGOOD STREET  
BUILDING 20 NORTH, SUITE 3090  
N. ANDOVER, MA 01845  
TEL: (978) 557-5553  
FAX: (978) 336-5586



### SITE INFORMATION

SITE NUMBER:	NM03XC065	LOCAL POWER COMPANY:	CENTRAL MAINE POWER COMP. 83 EDISON DRIVE AUGUSTA, ME 04336 1-(800)-685-3181
SITE NAME:	PORTLAND SOUTH CHADWICK	LOCAL TELCO COMPANY:	VERIZON 185 FRANKLIN STREET SUITE 200 BOSTON, MA 02110 1-(800)-244-3737
SITE ADDRESS:	131 CHADWICK STREET PORTLAND, ME 04102	APPLICANT:	SPRINT 1 INTERNATIONAL BLVD, SUITE 800 MAHWAH, NJ 07495
COUNTY:	CUMBERLAND	APPLICANT REPRESENTATIVE:	ALCATEL-LUCENT 1 ROBBINS ROAD WESTFORD, MA 01886 (978)952-1600
ZONING:	RESIDENTIAL (R8)	SITE ACQUISITION CONSULTANT:	ALCATEL-LUCENT 1 ROBBINS ROAD WESTFORD, MA 01886 (978)952-1600
PARCEL ID:	063 B002	A&E CONSULTANT:	HUDSON DESIGN GROUP LLC 1600 OSGOOD STREET BLDG 20 NORTH, SUITE 3090 NORTH ANDOVER, MA 01845 TEL: (978) 557-5553 FAX: (978) 336-5586
COORDINATES:	N 43° 39' 05.0" W 70° 16' 27.5"		
GROUND ELEV.:	149.2± (AMSL)		
STRUCTURE TYPE:	ROOFTOP		
STRUCTURE HEIGHT:	54± (AGL)		
ANTENNA RAD CENTER:	64.6± (AGL)		
PROPERTY/ STRUCTURE OWNER:	BOWDOIN DEVELOPMENT LLC 131 CHADWICK STREET PORTLAND, ME 04102		

### VICINITY MAP



**DIRECTIONS FROM MAHWAH, NJ:**

HEAD SOUTH 0.3 MI. TURN LEFT TOWARD US-202 N/RAMAPO VALLEY RD 0.2 MI. TURN LEFT ONTO US-202 N/RAMAPO VALLEY RD 2.2 MI. TURN RIGHT TO MERGE ONTO NJ-17 N 0.5 MI. TAKE THE NEW JERSEY 17 N/INTERSTATE 287 N EXIT TOWARD INTERSTATE 87/NORTH Y. THRUWAY 0.2 MI. KEEP LEFT AT THE FORK. FOLLOW SIGNS FOR I-287 N/87/NJ-17 N/N Y. THRUWAY AND MERGE ONTO I-287 N/NJ-17 N, ENTERING NEW YORK CITY/NEW YORK THRUWAY AND MERGE ONTO I-287 E/1-87 S, CONTINUE TO FOLLOW I-287 E, PARTIAL TOLL ROAD 30.2 MI. TAKE THE EXIT ONTO I-95 N, ENTERING CONNECTICUT 48.2 MI. TAKE EXIT 48 ON THE LEFT TO MERGE ONTO I-91 N TOWARD HARTFORD 36.9 MI. TAKE EXIT 29 TO MERGE ONTO CT-15 NAUS-5 N TOWARD I-84 E/E HARTFORD/BOSTON 0.5 MI. CONTINUE ONTO CT-16 N 1.5 MI. MERGE ONTO I-84 E, PARTIAL TOLL ROAD, ENTERING MASSACHUSETTS 40.8 MI. KEEP RIGHT AT THE FORK, FOLLOW SIGNS FOR I-90 E/N.H. - MAINE/BOSTON AND MERGE ONTO I-90 E, TOLL ROAD 11.7 MI. TAKE EXIT 10 TOWARD AUBURN/WORCESTER, PARTIAL TOLL ROAD 0.5 MI. FOLLOW SIGNS FOR I-290 E/WORCESTER AND MERGE ONTO I-290 E, PARTIAL TOLL ROAD 20.7 MI. TAKE EXIT 26B ON THE LEFT FOR INTERSTATE 495 N TOWARD LOWELL 0.6 MI. MERGE ONTO I-495 N 55.5 MI. MERGE ONTO I-95 N, PARTIAL TOLL ROAD, PASSING THROUGH NEW HAMPSHIRE, ENTERING MAINE 61.0 MI. SLIGHT RIGHT ONTO I-295 N (SIGNS FOR S PORTLAND/DOWNTOWN PORTLAND), PARTIAL TOLL ROAD 4.0 MI. TAKE EXIT 5 TO MERGE ONTO ME-22 E/CONGRESS ST, CONTINUE TO FOLLOW CONGRESS ST 1.0 MI. TURN RIGHT ONTO BRAMHALL ST 0.1 MI. TURN LEFT ONTO CHADWICK ST, DESTINATION WILL BE ON THE LEFT.

### SHEET INDEX

SHEET NO.	DESCRIPTION
T-1	TITLE SHEET
GN-1	GENERAL NOTES
A-1	ROOF PLAN AND ELEVATION
A-2	ANTENNA SCENARIO & EQUIPMENT LAYOUTS
A-3	DETAILS
A-4	RF DATA SHEET
A-5	CABINET & ANTENNA WIRING DIAGRAM
S-1	STRUCTURAL DETAILS
E-1	TYPICAL POWER & GROUNDING ONE LINE DIAGRAM
AAV	SEE AAV SHEETS

### APPROVALS

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

SPRINT:	DATE:
ALU CONSTRUCTION MANAGER:	DATE:
ALU LEASING/ SITE ACQUISITION:	DATE:
ALU RF ENGINEER:	DATE:
LANDLORD/ PROPERTY OWNER:	DATE:

### GENERAL NOTES

- THIS IS AN UNMANNED TELECOMMUNICATION FACILITY AND NOT FOR HUMAN HABITATION:  
-HANDICAPPED ACCESS NOT REQUIRED  
- POTABLE WATER OR SANITARY SERVICE IS NOT REQUIRED  
- NO OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES REQUIRED
- CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACE THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.
- DEVELOPMENT AND USE OF THE SITE WILL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.  
BUILDING CODE: IBC 2009  
ELECTRICAL CODE: 2005 NATIONAL ELECTRICAL CODE  
STRUCTURAL CODE: TIA/EIA-222-G STRUCTURAL STANDARDS FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS  
DIG SAFE: MAINE ONE CALL SYSTEM 1-(888)-344-7233 OR DIAL 811

### SCOPE OF WORK

- INSTALL FIBER DISTRIBUTION BOX AND WITHIN EXISTING LEASE AREA. REPLACE EXISTING MOD CELL & BATTERY CABINETS WITH (1) MM-BTS CABINET & (1) BBU CABINET.
- REMOVE (8) EXISTING CDMA ANTENNAS AND REPLACE WITH (3) NETWORK VISION ANTENNAS & (6) RRHS.
- REMOVE EXISTING CDMA COAX CABLES & INSTALL (3) HYBRIFLEX CABLES FROM EQUIPMENT CABINET TO ANTENNA.
- REMOVE EXISTING GPS ANTENNA AND REPLACE WITH NEW GPS ANTENNA.
- EXISTING LOCAL EXCHANGE CARRIER LANDLINE BACKHAUL FACILITIES TO BE REPLACED WITH PROPOSED ALTERNATIVE ACCESS VENDOR (AAV) FIBER OPTIC FACILITIES INCLUDING PROPOSED OVERHEAD/UNDERGROUND CONDUITS AND NETWORK INTERFACE DEVICE.



DIG SAFE SYSTEMS, INC.  
CALL BEFORE YOU DIG  
1-888-344-7233 OR DIAL 811



SITE NUMBER:  
**NM03XC065**  
SITE NAME:  
**PORTLAND SOUTH CHADWICK**  
SITE ADDRESS:  
**131 CHADWICK STREET  
PORTLAND, ME 04102**

SHEET TITLE  
**TITLE SHEET**

SHEET NUMBER  
**T-1**

**SECTION 01000 - GENERAL REQUIREMENTS**

**PART 1 - GENERAL**

REFER TO SPRINT STANDARD CONSTRUCTION SPECIFICATIONS. IN CASE OF A CONFLICT, SPRINT STANDARD CONSTRUCTION SPECIFICATIONS (LATEST EDITION) SHALL BE FOLLOWED.

**PART 2 - GENERAL NOTES**

- THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
- THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
- THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) SPRINT'S REPRESENTATIVE OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK.
- THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
- THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE THEMSELVES WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONSTRUCTION DRAWINGS.
- THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS / CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S / VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
- THE CONTRACTOR SHALL MAINTAIN A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS AVAILABLE FOR THE USE OF ALL PERSONNEL INVOLVED WITH THE PROJECT.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
- THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING SITE CONDITIONS DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
- THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE ALL UNNECESSARY MATERIAL.
- THE CONTRACTOR SHALL COMPLY WITH ALL PERTINENT SECTIONS OF THE STATE BASIC BUILDING CODE, LATEST EDITION, AND ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY THE ARCHITECT/ENGINEER.
- THE CONTRACTOR SHALL NOTIFY SPRINT'S REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL THE CONFLICT IS RESOLVED BY SPRINT'S REPRESENTATIVE.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
- THE CONTRACTOR SHALL NOTIFY THE RF ENGINEER FOR ANTENNA AZIMUTH VERIFICATION (DURING ANTENNA INSTALLATION) PRIOR TO CONDUCTING SITE SWEEPING.
- THE GENERAL CONTRACTOR SHALL IN ALL INSTANCES CONFORM TO THE SPECIFICATIONS ISSUED BY SPRINT.
- PROVIDE CORE DRILLING AS NECESSARY FOR PENETRATIONS OR RISERS THROUGH THE BUILDING. DO NOT PENETRATE STRUCTURAL MEMBERS WITHOUT STRUCTURAL ENGINEER'S APPROVAL. SLEEVES AND/OR PENETRATIONS IN FIRE RATED CONSTRUCTION SHALL BE PACKED WITH FIRE RATED MATERIAL WHICH SHALL MAINTAIN THE FIRE RATING OF THE STRUCTURE. FILL FOR FLOOR PENETRATIONS SHALL PREVENT PASSAGE OF WATER, SMOKE FIRE AND FUMES. ALL MATERIAL SHALL BE UL APPROVED FOR THIS PURPOSE.

**CONCRETE**

**CAST-IN-PLACE CONCRETE**

**PART 1 - GENERAL**

**1.01 DESCRIPTION**

WORK INCLUDES CONSTRUCTION OF CAST-IN-PLACED CONCRETE FOUNDATIONS, INCLUDING FURNISHING AND INSTALLING READY-MIX CONCRETE, REINFORCING, FORMWORK, AND ACCESSORY MATERIALS AS SHOWN ON THE DRAWINGS. CAST-IN-PLACE CONCRETE INCLUDES ALL SITE CONCRETE, INCLUDING FOUNDATIONS, SLABS ON GRADE, EQUIPMENT PADS, AND GUARD POST FOUNDATIONS.

**1.02 RELATED WORK**

A. COORDINATE UNDER SLAB CONDUITS

B. COORDINATE WITH GROUNDING

**1.03 APPLICABLE STANDARDS**

A. ACI-301 - SPECIFICATIONS FOR STRUCTURAL CONCRETE BUILDINGS.

B. ACI 347 - GUIDE TO FORMWORK FOR CONCRETE.

C. ASTM C33 - CONCRETE AGGREGATES

D. ASTM C94 - READY-MIXED CONCRETE

E. ASTM C150 - PORTLAND CEMENT

F. ASTM C260 - AIR-ENTRAINING ADMIXTURES FOR CONCRETE.

G. ASTM C309 - LIQUID MEMBRANE FORMING COMPOUNDS FOR CURING CONCRETE.

H. ASTM C494 - CHEMICAL ADMIXTURES FOR CONCRETE.

I. ASTM A616 - DEFORMED STEEL BARS FOR CONCRETE REINFORCEMENT.

J. ASTM A185 - STEEL WELDED WIRE FABRIC FOR CONCRETE REINFORCEMENT

**1.04 QUALITY ASSURANCE**

CONCRETE MATERIALS AND OPERATIONS SHALL BE TESTED AND INSPECTED BY THE ENGINEER AS DIRECTED BY SPRINT.

**1.05 TESTS**

CONCRETE TESTS SHALL BE AS DETAILED BELOW OR AS DIRECTED BY SPRINT. CONCRETE MATERIALS AND OPERATIONS SHALL BE TESTED AND INSPECTED BY THE ENGINEER AS THE WORK PROGRESSES. FAILURE TO DETECT ANY DEFECTIVE WORK OR MATERIAL SHALL NOT IN ANY WAY PREVENT LATER REJECTION WHEN SUCH DEFECT IS DISCOVERED NOR SHALL IT OBLIGATE THE ENGINEER FOR FINAL ACCEPTANCE.

A. THREE CONCRETE TEST CYLINDERS SHALL BE TAKEN OF THE TOWER PIER FOUNDATION. ONE SHALL BE TESTED @ THREE DAYS, ONE @ TWENTY-EIGHT DAYS. THE THIRD CYLINDER SHALL BE KEPT SEPARATELY. (IF REQUIRED TO BE USED IN THE FUTURE.)

B. ONE SLUMP TEST SHALL BE TAKEN FOR EACH SET OF TEST CYLINDERS TAKEN. SLUMP SHALL NOT EXCEED 4" UNLESS OTHERWISE NOTED.

C. SURFACES AGAINST WHICH BACK FILL OR CONCRETE SHALL BE PLACED REQUIRE NO TREATMENT EXCEPT REPAIR OF DEFECTIVE AREAS.

D. SURFACES THAT WILL BE PERMANENTLY EXPOSED SHALL PRESENT A UNIFORM FINISH PROVIDED BY THE REMOVAL OF FINES AND THE FILING OF HOLES AND OTHER IRREGULARITIES WITH DRY PACK GROUT, OR BY SACKING WITH UTILITY OR ORDINARY GROUT.

E. SURFACES THAT WOULD NORMALLY BE LEVEL AND WHICH WILL BE PERMANENTLY EXPOSED TO THE WEATHER SHALL BE SLOPED FOR DRAINAGE, UNLESS ENGINEER'S DESIGN DRAWING SPECIFIES A HORIZONTAL SURFACE OR SHOWS THE SLOPE REQUIRED. THE TOPS OF NARROW SURFACES, SUCH AS STAIR TREADS, WALLS, CURBS, AND PARAPETS SHALL BE SLOPED APPROXIMATELY 3/8" / FT OF WIDTH. BROADER SURFACES SUCH AS WALKS, ROADS, PARKING AREAS AND PLATFORMS SHALL BE SLOPED APPROXIMATELY 1/4" / FT.

F. SURFACES THAT WILL BE COVERED BY BACKFILL OR CONCRETE SHALL BE SMOOTH SCREEDED.

G. EXPOSED SLAB SURFACES SHALL BE CONSOLIDATED, SCREEDED, FLOATED, AND "STEEL TROWELED." HAND OR POWER-DRIVEN EQUIPMENT MAY BE USED FOR FLOATINGS WHICH SHALL BE STARTED AS SOON AS THE SCREENED SURFACE HAS ATTAINED A STIFFNESS TO PERMIT FINISHING OPERATIONS. ALL EDGES MUST HAVE A 3/4" CHAMFER. CONCRETE EXPANSION ANCHORS AND EPOXY ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS, SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. MANUFACTURER'S MINIMUM CONCRETE EDGE DISTANCE SHALL BE MAINTAINED DURING INSTALLATION.

H. INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER PRIOR TO REMEDIAL OR CORRECTIVE ACTION, ANY SUCH ACTION SHALL REQUIRE CONSTRUCTION MANAGER APPROVAL.

I. UNISTRUTS SHALL BE FORMED STEEL CHANNEL STRUT FRAMING AS MANUFACTURED BY UNISTRUT CORP, WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1 5/8"x1 5/8"x12GA UNLESS OTHERWISE NOTED, AND SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION FOR EXTERNAL USE APPLICATIONS.

J. UNLESS OTHERWISE NOTED, EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HLT-HIT HY-20 AND HY-150 SYSTEMS (AS SPECIFIED ON DWG.) OR ENGINEERS APPROVED EQUAL WITH 4-1/4" MIN. EMBEDMENT DEPTH.

K. IF ASSUMED EXISTING CONDITION DIFFERS, ENGINEER MUST BE INFORMED OF ACTUAL FIELD CONDITION. SUBCONTRACTOR TO VERIFY EXISTING DIMENSIONS PRIOR TO STEEL FABRICATION.

L. UNISTRUTS SHALL BE FORMED STEEL CHANNEL STRUT FRAMING AS MANUFACTURED BY UNISTRUT CORP, WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1 5/8"x1 5/8"x12GA UNLESS OTHERWISE NOTED, AND SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION FOR EXTERNAL USE APPLICATIONS.

M. UNLESS OTHERWISE NOTED, EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HLT-HIT HY-20 AND HY-150 SYSTEMS (AS SPECIFIED ON DWG.) OR ENGINEERS APPROVED EQUAL WITH 4-1/4" MIN. EMBEDMENT DEPTH.

N. UNLESS OTHERWISE NOTED, EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HLT-HIT HY-20 AND HY-150 SYSTEMS (AS SPECIFIED ON DWG.) OR ENGINEERS APPROVED EQUAL WITH 4-1/4" MIN. EMBEDMENT DEPTH.

O. UNLESS OTHERWISE NOTED, EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HLT-HIT HY-20 AND HY-150 SYSTEMS (AS SPECIFIED ON DWG.) OR ENGINEERS APPROVED EQUAL WITH 4-1/4" MIN. EMBEDMENT DEPTH.

P. UNLESS OTHERWISE NOTED, EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HLT-HIT HY-20 AND HY-150 SYSTEMS (AS SPECIFIED ON DWG.) OR ENGINEERS APPROVED EQUAL WITH 4-1/4" MIN. EMBEDMENT DEPTH.

Q. UNLESS OTHERWISE NOTED, EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HLT-HIT HY-20 AND HY-150 SYSTEMS (AS SPECIFIED ON DWG.) OR ENGINEERS APPROVED EQUAL WITH 4-1/4" MIN. EMBEDMENT DEPTH.

R. UNLESS OTHERWISE NOTED, EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HLT-HIT HY-20 AND HY-150 SYSTEMS (AS SPECIFIED ON DWG.) OR ENGINEERS APPROVED EQUAL WITH 4-1/4" MIN. EMBEDMENT DEPTH.

S. UNLESS OTHERWISE NOTED, EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HLT-HIT HY-20 AND HY-150 SYSTEMS (AS SPECIFIED ON DWG.) OR ENGINEERS APPROVED EQUAL WITH 4-1/4" MIN. EMBEDMENT DEPTH.

C. USE ACCELERATING ADMIXTURES IN COLD WEATHER AND RETARDING ADMIXTURES IN HOT WEATHER ONLY WHEN APPROVED BY THE ENGINEER.

D. TOTAL AIR CONTENT SHALL BE 5 PERCENT PLUS OR MINUS 1 PERCENT.

**PART 3 - EXECUTION**

**3.01 INSPECTION**

THE CONTRACTOR SHALL VERIFY ANCHORS, SEATS, PENETRATIONS, PLATES, REINFORCEMENT, AND OTHER ITEMS TO CAST INTO CONCRETE ARE ACCURATELY PLACED, HELD SECURELY, AND SHALL NOT CAUSE HARDSHIP IN PLACING CONCRETE.

**3.02 PREPARATION**

A. THE CONTRACTOR SHALL PREPARE PREVIOUSLY PLACED CONCRETE BY CLEANING WITH STEEL BRUSH AND APPLYING BONDING AGENT. APPLY BONDING AGENT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

**3.03 PLACING CONCRETE**

A. THE ENGINEER SHALL BE NOTIFIED NOT LESS THAN 24 HOURS IN ADVANCE OF CONCRETE PLACEMENT. UNLESS INSPECTION IS WAIVED IN EACH CASE, PLACING OF CONCRETE SHALL BE PERFORMED ONLY IN THE PRESENCE OF THE ENGINEER.

B. UNLESS SPECIFIED TO BE BEVELED, EXPOSED EDGES OF FLOATED OR TROWELED SURFACES SHALL BE EDGED WITH A TOOL HAVING A 1/4" CORNER RADIUS.

C. PLACEMENT OF CONCRETE SHALL BE IN ACCORDANCE WITH ACI 301.

D. THE CONTRACTOR SHALL ENSURE THAT REINFORCEMENT, INSERTS, EMBEDDED PARTS, FORMED JOINTS AND VAPOR BARRIERS ARE NOT DISTURBED DURING CONCRETE PLACEMENT.

E. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:

CONCRETE CAST AGAINST EARTH.....3 IN.  
CONCRETE EXPOSED TO EARTH OR WEATHER:  
#6 AND LARGER.....2 IN.  
#5 AND SMALLER & WHF.....1 1/2 IN.  
CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE WALL.....3/4 IN.  
SLAB AND GROUND.....1 1/2 IN.  
BEAMS AND COLUMNS.....1 1/2 IN.

F. SURFACES AGAINST WHICH BACK FILL OR CONCRETE SHALL BE PLACED REQUIRE NO TREATMENT EXCEPT REPAIR OF DEFECTIVE AREAS.

G. SURFACES THAT WOULD NORMALLY BE LEVEL AND WHICH WILL BE PERMANENTLY EXPOSED TO THE WEATHER SHALL BE SLOPED FOR DRAINAGE, UNLESS ENGINEER'S DESIGN DRAWING SPECIFIES A HORIZONTAL SURFACE OR SHOWS THE SLOPE REQUIRED. THE TOPS OF NARROW SURFACES, SUCH AS STAIR TREADS, WALLS, CURBS, AND PARAPETS SHALL BE SLOPED APPROXIMATELY 3/8" / FT OF WIDTH. BROADER SURFACES SUCH AS WALKS, ROADS, PARKING AREAS AND PLATFORMS SHALL BE SLOPED APPROXIMATELY 1/4" / FT.

H. SURFACES THAT WILL BE COVERED BY BACKFILL OR CONCRETE SHALL BE SMOOTH SCREEDED.

I. UNLESS OTHERWISE NOTED, EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HLT-HIT HY-20 AND HY-150 SYSTEMS (AS SPECIFIED ON DWG.) OR ENGINEERS APPROVED EQUAL WITH 4-1/4" MIN. EMBEDMENT DEPTH.

J. UNLESS OTHERWISE NOTED, EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HLT-HIT HY-20 AND HY-150 SYSTEMS (AS SPECIFIED ON DWG.) OR ENGINEERS APPROVED EQUAL WITH 4-1/4" MIN. EMBEDMENT DEPTH.

K. UNLESS OTHERWISE NOTED, EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HLT-HIT HY-20 AND HY-150 SYSTEMS (AS SPECIFIED ON DWG.) OR ENGINEERS APPROVED EQUAL WITH 4-1/4" MIN. EMBEDMENT DEPTH.

L. UNLESS OTHERWISE NOTED, EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HLT-HIT HY-20 AND HY-150 SYSTEMS (AS SPECIFIED ON DWG.) OR ENGINEERS APPROVED EQUAL WITH 4-1/4" MIN. EMBEDMENT DEPTH.

M. UNLESS OTHERWISE NOTED, EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HLT-HIT HY-20 AND HY-150 SYSTEMS (AS SPECIFIED ON DWG.) OR ENGINEERS APPROVED EQUAL WITH 4-1/4" MIN. EMBEDMENT DEPTH.

N. UNLESS OTHERWISE NOTED, EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HLT-HIT HY-20 AND HY-150 SYSTEMS (AS SPECIFIED ON DWG.) OR ENGINEERS APPROVED EQUAL WITH 4-1/4" MIN. EMBEDMENT DEPTH.

O. UNLESS OTHERWISE NOTED, EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HLT-HIT HY-20 AND HY-150 SYSTEMS (AS SPECIFIED ON DWG.) OR ENGINEERS APPROVED EQUAL WITH 4-1/4" MIN. EMBEDMENT DEPTH.

P. UNLESS OTHERWISE NOTED, EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HLT-HIT HY-20 AND HY-150 SYSTEMS (AS SPECIFIED ON DWG.) OR ENGINEERS APPROVED EQUAL WITH 4-1/4" MIN. EMBEDMENT DEPTH.

Q. UNLESS OTHERWISE NOTED, EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HLT-HIT HY-20 AND HY-150 SYSTEMS (AS SPECIFIED ON DWG.) OR ENGINEERS APPROVED EQUAL WITH 4-1/4" MIN. EMBEDMENT DEPTH.

R. UNLESS OTHERWISE NOTED, EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HLT-HIT HY-20 AND HY-150 SYSTEMS (AS SPECIFIED ON DWG.) OR ENGINEERS APPROVED EQUAL WITH 4-1/4" MIN. EMBEDMENT DEPTH.

S. UNLESS OTHERWISE NOTED, EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HLT-HIT HY-20 AND HY-150 SYSTEMS (AS SPECIFIED ON DWG.) OR ENGINEERS APPROVED EQUAL WITH 4-1/4" MIN. EMBEDMENT DEPTH.

T. UNLESS OTHERWISE NOTED, EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HLT-HIT HY-20 AND HY-150 SYSTEMS (AS SPECIFIED ON DWG.) OR ENGINEERS APPROVED EQUAL WITH 4-1/4" MIN. EMBEDMENT DEPTH.

U. UNLESS OTHERWISE NOTED, EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HLT-HIT HY-20 AND HY-150 SYSTEMS (AS SPECIFIED ON DWG.) OR ENGINEERS APPROVED EQUAL WITH 4-1/4" MIN. EMBEDMENT DEPTH.

V. UNLESS OTHERWISE NOTED, EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HLT-HIT HY-20 AND HY-150 SYSTEMS (AS SPECIFIED ON DWG.) OR ENGINEERS APPROVED EQUAL WITH 4-1/4" MIN. EMBEDMENT DEPTH.

W. UNLESS OTHERWISE NOTED, EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HLT-HIT HY-20 AND HY-150 SYSTEMS (AS SPECIFIED ON DWG.) OR ENGINEERS APPROVED EQUAL WITH 4-1/4" MIN. EMBEDMENT DEPTH.

X. UNLESS OTHERWISE NOTED, EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HLT-HIT HY-20 AND HY-150 SYSTEMS (AS SPECIFIED ON DWG.) OR ENGINEERS APPROVED EQUAL WITH 4-1/4" MIN. EMBEDMENT DEPTH.

Y. UNLESS OTHERWISE NOTED, EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HLT-HIT HY-20 AND HY-150 SYSTEMS (AS SPECIFIED ON DWG.) OR ENGINEERS APPROVED EQUAL WITH 4-1/4" MIN. EMBEDMENT DEPTH.

Z. UNLESS OTHERWISE NOTED, EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HLT-HIT HY-20 AND HY-150 SYSTEMS (AS SPECIFIED ON DWG.) OR ENGINEERS APPROVED EQUAL WITH 4-1/4" MIN. EMBEDMENT DEPTH.

**METALS**

**PART 1 - GENERAL**

**1.01 WORK INCLUDED**

A. THE WORK CONSISTS OF THE FABRICATION AND INSTALLATION OF ALL MATERIALS TO BE FURNISHED, AND WITHOUT LIMITING THE GENERALITY THEREOF, INCLUDES ALL EQUIPMENT, LABOR AND SERVICES REQUIRED FOR ALL STRUCTURAL STEEL WORK, INCLUDING ALL ITEMS INCIDENTAL THERETO AS SPECIFIED HEREIN AND AS SHOWN ON THE DRAWINGS, INCLUDING:

1. STEEL FRAMING INCLUDING BEAMS, ANGLES, CHANNELS AND PLATES.

2. WELDING AND BOLTING OF ATTACHMENTS.

**1.02 REFERENCE STANDARDS**

A. THE WORK SHALL CONFORM TO THE CODES AND STANDARDS OF THE FOLLOWING AGENCIES AS FURTHER CITED HEREIN:

1. ASTM: AMERICAN SOCIETY FOR TESTING AND MATERIALS, AS PUBLISHED IN "COMPILATION OF ASTM STANDARDS IN BUILDING CODES"

2. AWS: AMERICAN WELDING SOCIETY INC., AS PUBLISHED IN "STANDARD D1.1-2006, STRUCTURAL WELDING CODE".

3. AISI: AMERICAN INSTITUTE FOR STEEL CONSTRUCTION, AS PUBLISHED IN "CODE FOR STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES"; "SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".

4. EIA/TIA-222-G STRUCTURAL STANDARDS FOR STEEL ANTENNA SUPPORTING STRUCTURES.

PART 2 - STRUCTURAL NOTES  
ALL STEEL WORK SHALL BE PAINTED OR GALVANIZED IN ACCORDANCE WITH THE DRAWINGS AND SPRINT SPECIFICATIONS UNLESS OTHERWISE NOTED. STRUCTURAL STEEL SHALL BE ASTM-992-80 UNLESS OTHERWISE NOTED ON THE SITE SPECIFIC DRAWINGS. STEEL DESIGN, INSTALLATION AND BOLTING SHALL BE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "MANUAL OF STEEL CONSTRUCTION", MISC. STEEL TO BE A36.

DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, ANSI/TIA-222-G STRUCTURAL STANDARDS FOR STEEL ANTENNA SUPPORTING STRUCTURES.

CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND ENGINEER OF RECORD.

DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".

STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE A, OR ASTM A53 PIPE STEEL BLACK AND HOT-DIPPED ZINC-COATED WELDED AND SEAMLESS TYPE E OR S, GRADE B. PIPE SIZES INDICATED ARE NOMINAL. ACTUAL OUTSIDE DIAMETER IS LARGER.

STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS (BEARING TYPE) AND CONFORM TO ASTM A325 "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAN HARDENED WASHERS", UNLESS OTHERWISE NOTED, ALL BOLTS SHALL BE 5/8" DIA TYPE X.

ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.

ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.

FIELD WELDS, DRILL HOLES, SAW CUTS AND ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED WITH AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH REQUIREMENTS OF ASTM A790. GALVANIZING REPAIR PAINT SHALL HAVE 65 PERCENT ZINC BY WEIGHT, ZINC BY DUNKUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION", 13TH EDITION.

CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND D.I. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION", 13TH EDITION.

INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER PRIOR TO REMEDIAL OR CORRECTIVE ACTION, ANY SUCH ACTION SHALL REQUIRE CONSTRUCTION MANAGER APPROVAL.

UNISTRUTS SHALL BE FORMED STEEL CHANNEL STRUT FRAMING AS MANUFACTURED BY UNISTRUT CORP, WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1 5/8"x1 5/8"x12GA UNLESS OTHERWISE NOTED, AND SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION FOR EXTERNAL USE APPLICATIONS.

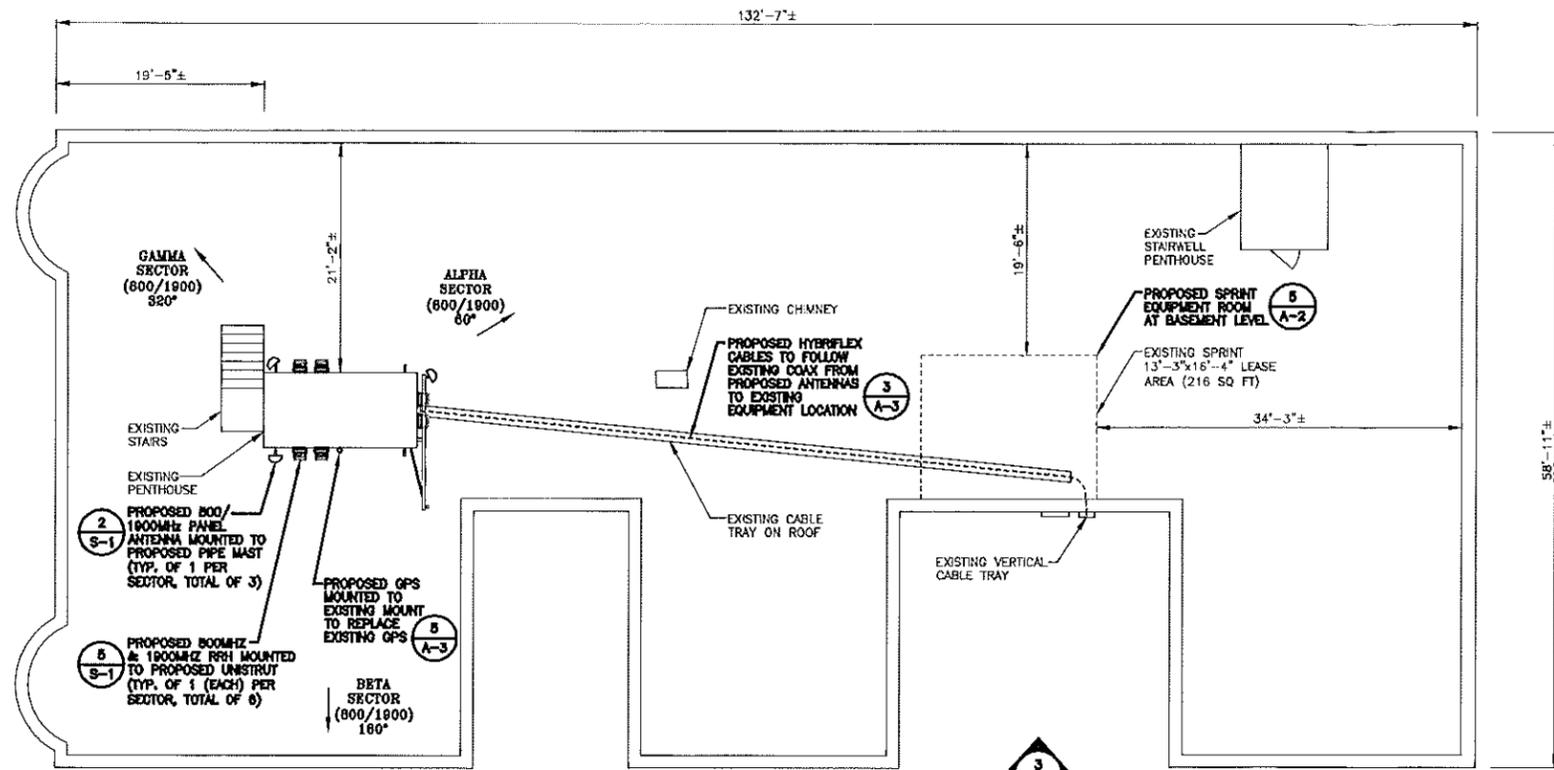
UNLESS OTHERWISE NOTED, EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HLT-HIT HY-20 AND HY-150 SYSTEMS (AS SPECIFIED ON DWG.) OR ENGINEERS APPROVED EQUAL WITH 4-1/4" MIN. EMBEDMENT DEPTH.

UNLESS OTHERWISE NOTED, EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HLT-HIT HY-20 AND HY-150 SYSTEMS (AS SPECIFIED ON DWG.) OR ENGINEERS APPROVED EQUAL WITH 4-1/4" MIN. EMBEDMENT DEPTH.

UNLESS OTHERWISE NOTED, EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HLT-HIT HY-20 AND HY-150 SYSTEMS (AS SPECIFIED ON DWG.) OR ENGINEERS APPROVED EQUAL WITH 4-1/4" MIN. EMBEDMENT DEPTH.

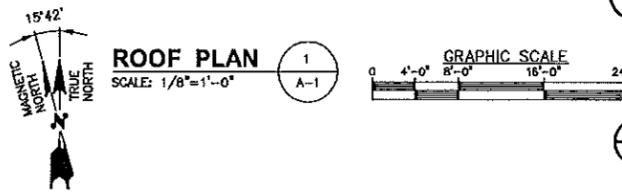
UNLESS OTHERWISE NOTED, EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HLT-HIT HY-20 AND HY-150 SYSTEMS (AS SPECIFIED ON DWG.) OR ENGINEERS APPROVED EQUAL WITH 4-1/4" MIN. EMBEDMENT DEPTH.

UNLESS OTHERWISE NOTED, EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH N



**STRUCTURAL NOTE:**  
 STRUCTURAL INFORMATION  
 TAKEN FROM STRUCTURAL  
 ANALYSIS PERFORMED BY  
 HUDSON DESIGN GROUP, LLC.  
 DATED: DECEMBER 31, 2012

**NOTES:**  
 1) VERIFY EXACT ANTENNA  
 MODEL & AZIMUTHS WITH  
 RF ENGINEER PRIOR TO  
 INSTALLATION.  
 2) REMOVE EXISTING GPS  
 ANTENNA AND REPLACE  
 WITH NEW GPS ANTENNA.



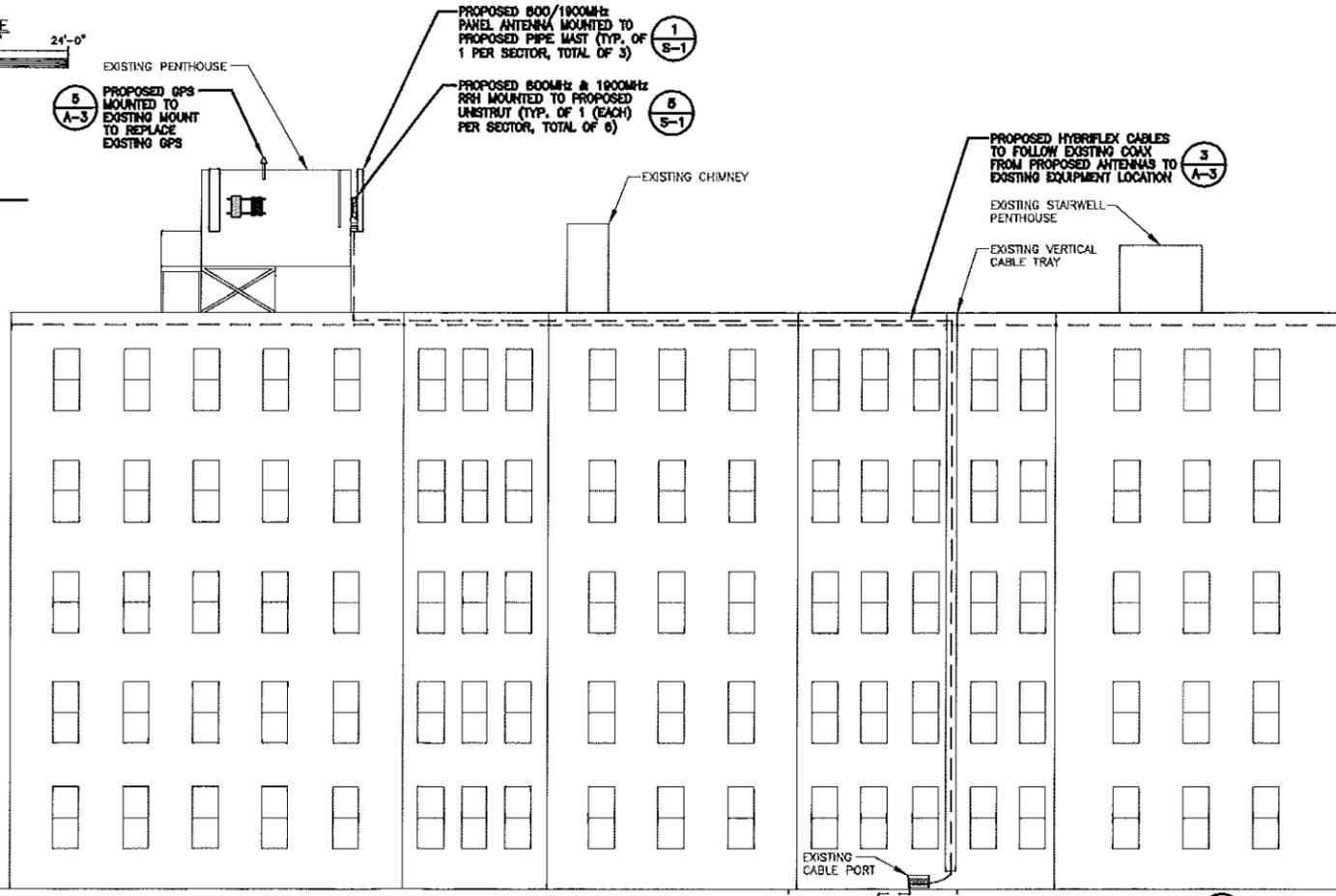
**ROOF PLAN**  
 SCALE: 1/8"=1'-0"

**GRAPHIC SCALE**  
 0 4'-0" 8'-0" 16'-0" 24'-0"

◀ O.L. OF EXISTING SPRINT ANTENNAS  
 ELEV. 84.8'± (AGL)

◀ TOP OF EXISTING ROOFTOP  
 ELEV. 54'-0"± (AGL)

◀ GROUND LEVEL  
 ELEV. 0'-0"± (AGL)



**NORTH ELEVATION**  
 SCALE: 1/8"=1'-0"

**GRAPHIC SCALE**  
 0 4'-0" 8'-0" 16'-0" 24'-0"

CHECKED BY: JX

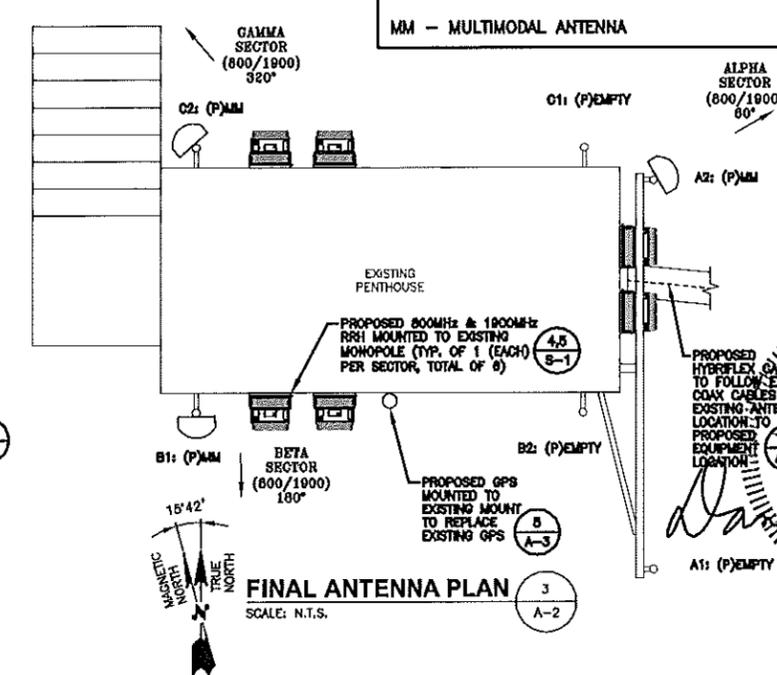
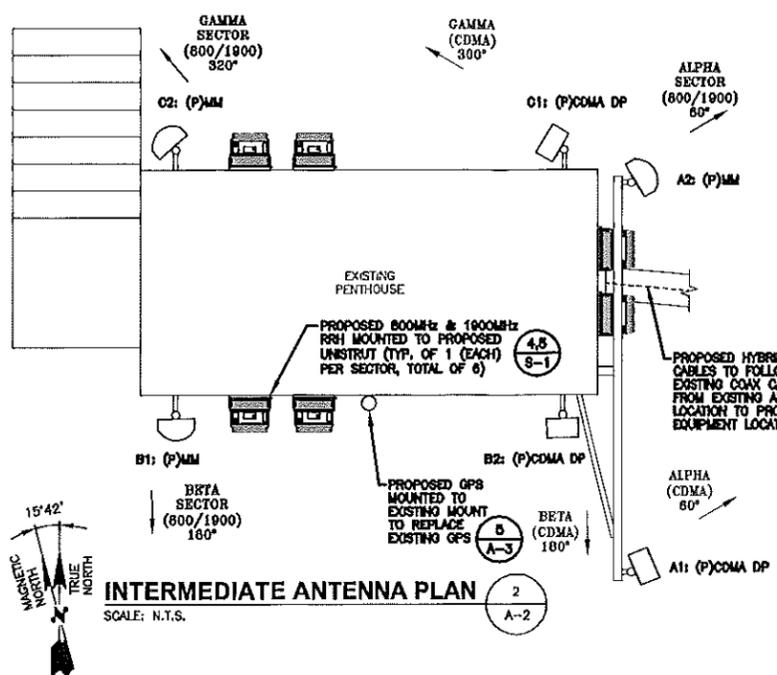
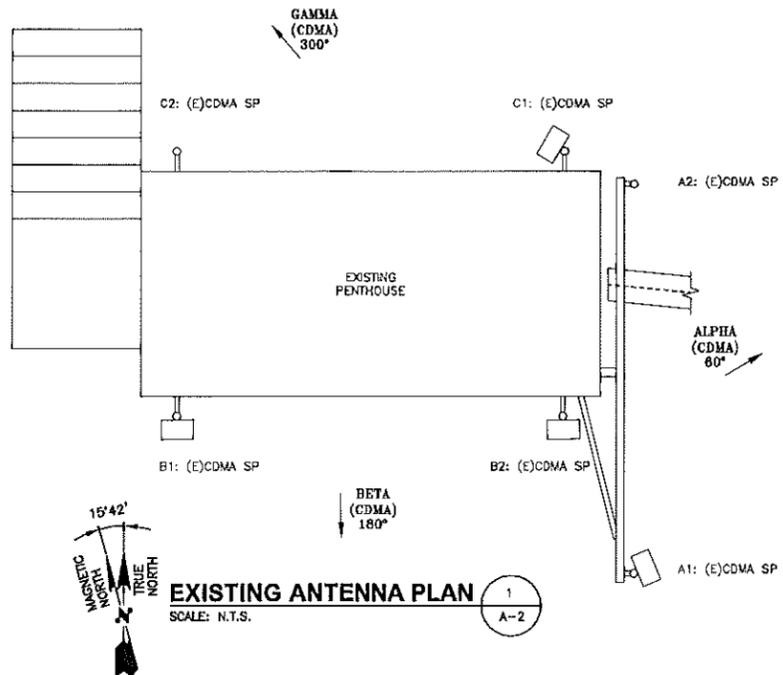
APPROVED BY: DPH

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
2	01/08/12	FOR CONSTRUCTION	SF
1	11/20/12	ISSUED FOR REVIEW	JG

SITE NUMBER:  
 NM03XC065  
 SITE NAME:  
 PORTLAND SOUTH  
 CHADWICK  
 SITE ADDRESS:  
 131 CHADWICK STREET  
 PORTLAND, ME 04102

SHEET TITLE  
 ROOF PLAN AND  
 ELEVATION

SHEET NUMBER  
 A-1



**NOTE:**  
EXISTING ANTENNA AND PLATFORM ORIENTATIONS HAS BEEN TAKEN FROM NETWORK VISION 3G RAN PLANNING PLAYBOOK. G.C. TO VERIFY EXISTING ORIENTATIONS PRIOR TO PROPOSED INSTALLATION.

**ANTENNA STATUS LEGEND:**  
(E) - EXISTING  
(P) - PROPOSED  
EMPTY - ANTENNA PIPE MAST TO REMAIN  
CDMA - SPRINT ANTENNA  
SP - SINGLE POLE  
DP - DUAL POLE  
MM - MULTIMODAL ANTENNA

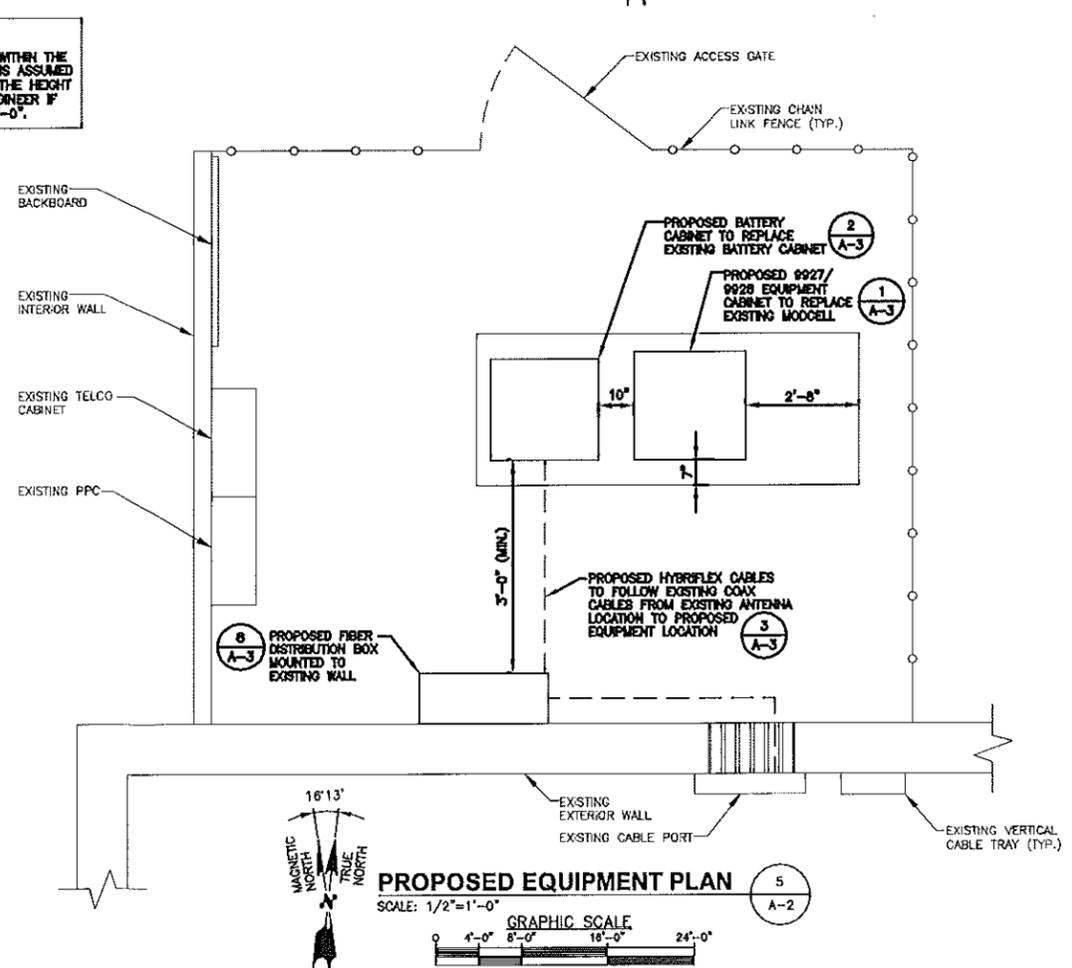
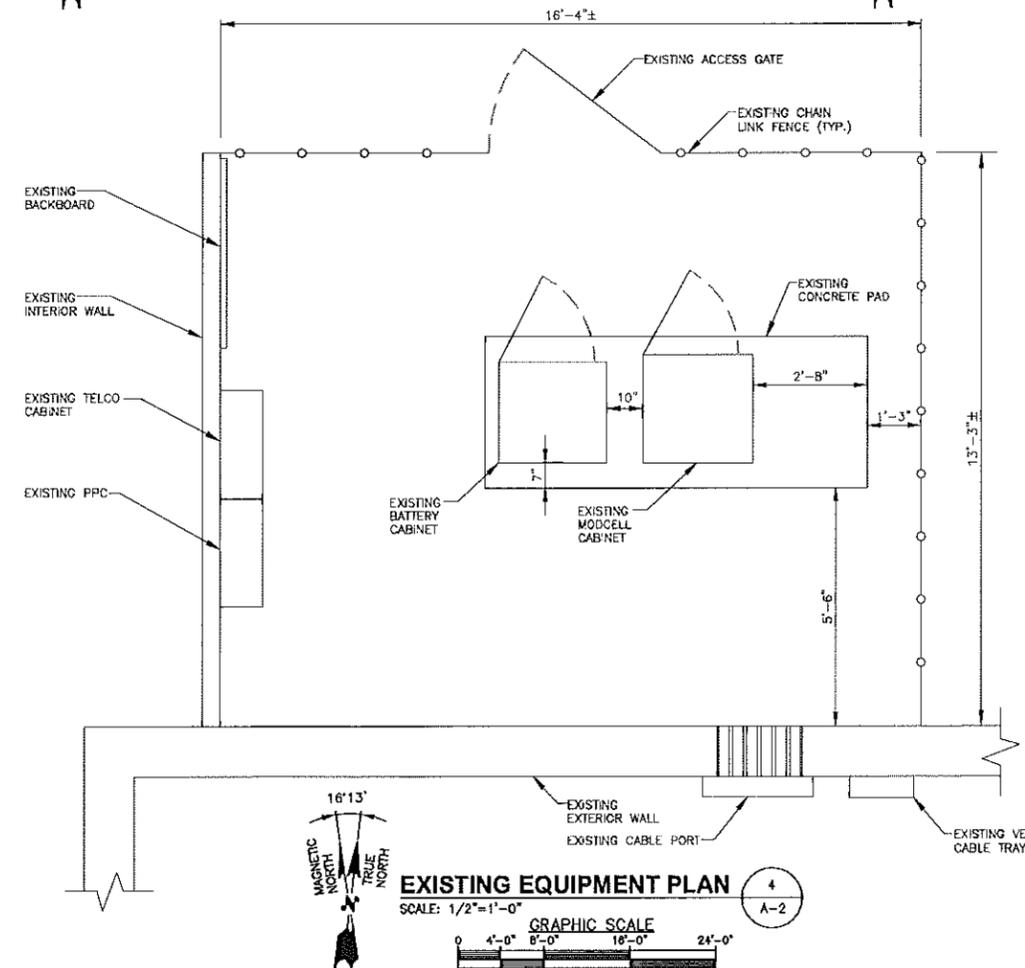
**Sprint VISION**  
NETWORK VISION MASTS LAUNCH  
1 INTERNATIONAL BLVD, SUITE 800  
MASHUA, NJ 07475  
TEL: (800) 357-7641

**Alcatel-Lucent**  
1 ROBBS ROAD  
WESTFORD, MA 01886  
TEL: (978) 952-1600

**Hudson Design Group, LLC**  
1600 OSGOOD STREET  
BUILDING 20 NORTH, SUITE 3090  
N. ANDOVER, MA 01845  
TEL: (978) 557-6553  
FAX: (978) 336-5584

STATE OF MAINE  
JAMES P. HAMM  
LICENSED PROFESSIONAL ENGINEER  
No. 11314  
Professional Seal

**NOTE:**  
THE HEIGHT OF THE CEILING WITHIN THE FENCED-IN EQUIPMENT AREA IS ASSUMED TO BE 7'-0". GO TO VERIFY THE HEIGHT IN FIELD AND NOTIFY THE ENGINEER IF THE HEIGHT IS LESS THAN 7'-0".



CHECKED BY: JX

APPROVED BY: DPH

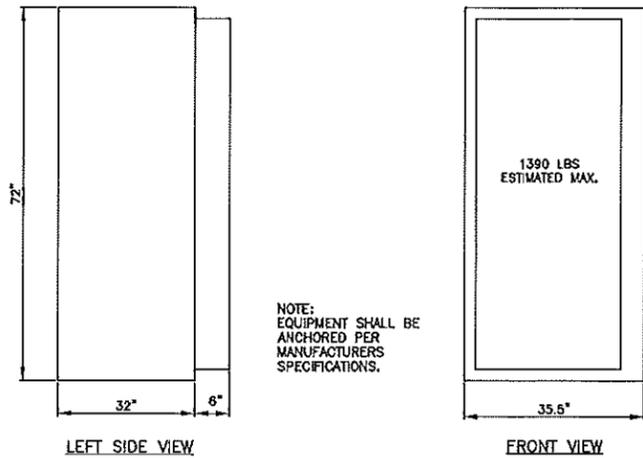
**SUBMITTALS**

REV.	DATE	DESCRIPTION	BY
2	01/08/12	FOR CONSTRUCTION	SF
1	11/20/12	ISSUED FOR REVIEW	JG

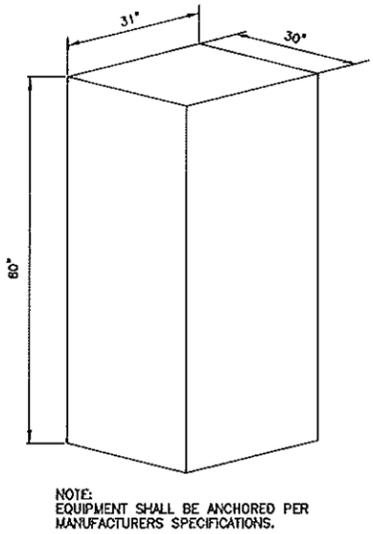
SITE NUMBER:  
NM03XC065  
SITE NAME:  
PORTLAND SOUTH CHADWICK  
SITE ADDRESS:  
131 CHADWICK STREET  
PORTLAND, ME 04102

SHEET TITLE  
ANTENNA SCENARIO & EQUIPMENT LAYOUTS

SHEET NUMBER  
A-2

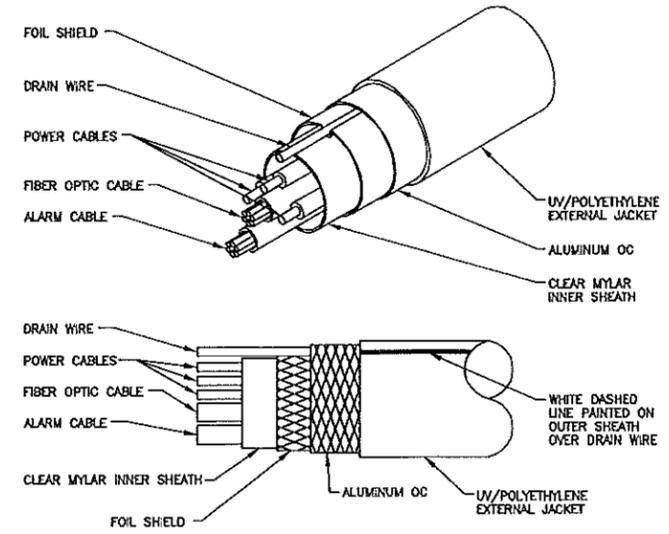


**ALCATEL-LUCENT 9928 OUTDOOR CABINET** 1  
SCALE: N.T.S. A-3

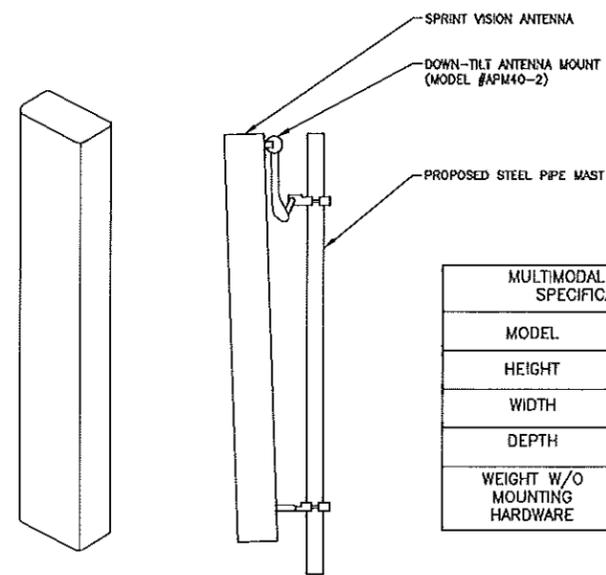


60ECv2 CABINET SPECIFICATIONS	
HEIGHT	60"
WIDTH	31"
DEPTH	30"
TYPICAL WEIGHT (3) BATTERY-STRINGS	1625 LBS.
MAX. WEIGHT (5) BATTERY-STRINGS	2830 LBS.

**60ECv2 BATTERY BACK-UP CABINET** 2  
SCALE: N.T.S. A-3

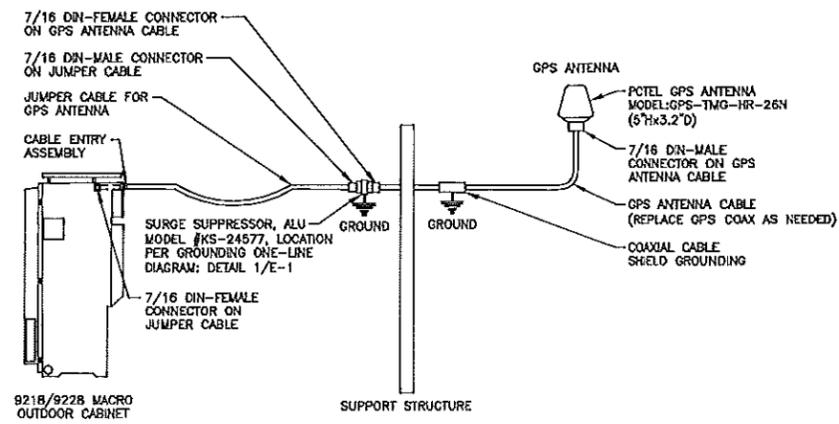


**HYBRIFLEX CABLE DETAIL** 3  
SCALE: N.T.S. A-3

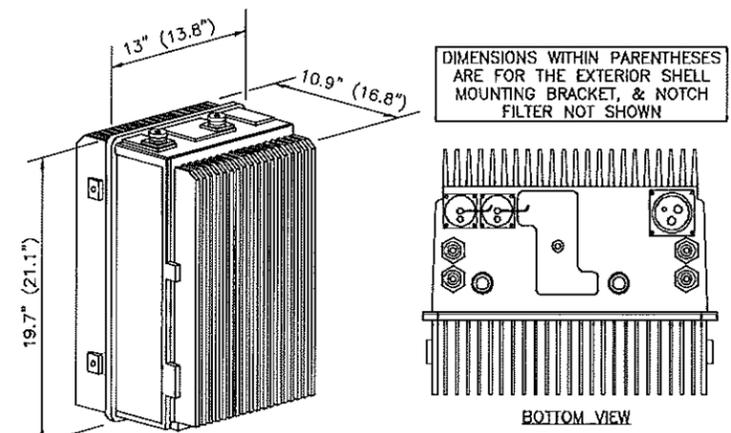


MULTIMODAL ANTENNA SPECIFICATIONS	
MODEL	APXVSP18 --C-A20
HEIGHT	72"
WIDTH	11.8"
DEPTH	7"
WEIGHT W/O MOUNTING HARDWARE	57lbs

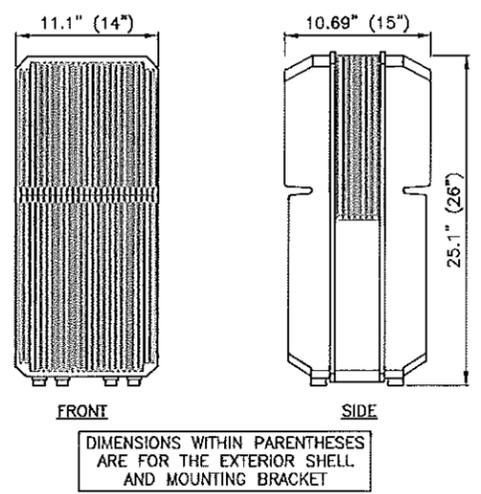
**MULTIMODAL ANTENNA DETAIL** 4  
SCALE: N.T.S. A-3



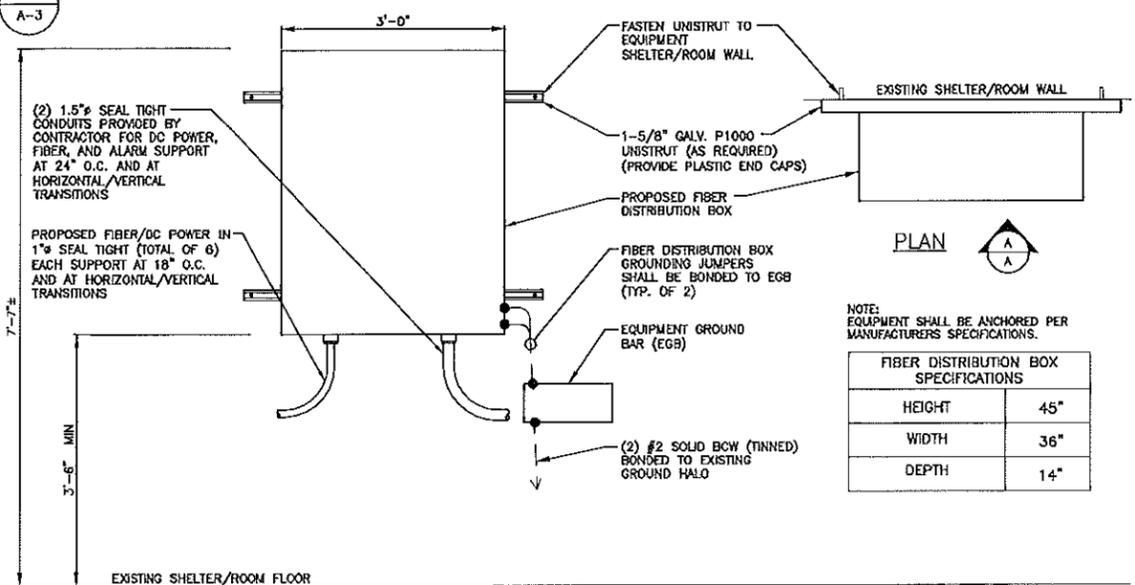
**GPS ANTENNA DETAIL** 5  
SCALE: N.T.S. A-3



**FD-RRH-2x50-800** 6  
SCALE: N.T.S. A-3



**1900MHz RRH** 7  
SCALE: N.T.S. A-3



FIBER DISTRIBUTION BOX SPECIFICATIONS	
HEIGHT	45"
WIDTH	36"
DEPTH	14"

**FIBER DISTRIBUTION BOX** 8  
SCALE: N.T.S. A-3

**Sprint VISION**  
NETWORK VISION MMBS LAUNCH  
1 INTERNATIONAL BLVD, SUITE 800  
MAHWAH, NJ 07495  
TEL: (800) 357-7641

**Alcatel-Lucent**  
1 ROBINS ROAD  
WESTFORD, MA 01886  
TEL: (978) 952-1600

**Hudson Design Group, LLC**  
1600 OSGOOD STREET  
BUILDING 20 NORTH, SUITE 3090  
N. ANDOVER, MA 01845  
TEL: (978) 557-5553  
FAX: (978) 336-5554



CHECKED BY: JX

APPROVED BY: DPH

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
2	01/08/12	FOR CONSTRUCTION	SF
1	11/20/12	ISSUED FOR REVIEW	JG

SITE NUMBER:  
NM03XC065  
SITE NAME:  
PORTLAND SOUTH CHADWICK  
SITE ADDRESS:  
131 CHADWICK STREET  
PORTLAND, ME 04102

SEE TITLE  
DETAILS

SEE NUMBER  
A-3

Market		VT-NH-ME		
Cascade ID		NM03XC065		
		SECTOR 1	SECTOR 2	SECTOR 3
Split sector present		No	No	No
1900MHz_Azimuth		60	180	320
1900MHz_No_of_Antennas		1	1	1
1900MHz_RADCenter(ft)		64.6	64.6	64.6
1900MHz_Antenna_Make		RFS	RFS	RFS
1900MHz_Antenna_Model		APXVSP18-C-A20	APXVSP18-C-A20	APXVSP18-C-A20
1900MHz_Horizontal_Beamwidth		65	65	65
1900MHz_Vertical_Beamwidth		5.5	5.5	5.5
1900MHz_Antenna_Height (ft)		6	6	6
1900MHz_AntennaGain(dBd)		15.9	15.9	15.9
1900MHz_E_Tilt		-1	-3	-5
1900MHz_M_Tilt		0	0	0
1900MHz_Carrier_Forecast_Year_2013		3	3	3
1900MHz_RRH_Manufacturer		ALU	ALU	ALU
1900MHz_RRH_Model		RRH 1900 4X45 65MHz	RRH 1900 4X45 65MHz	RRH 1900 4X45 65MHz
1900MHz_RRH_Count		1	1	1
1900MHz_RRH_Location		Top of the Pole/Tower	Top of the Pole/Tower	Top of the Pole/Tower
1900MHz_Combiner_Model		No Combiner Required	No Combiner Required	No Combiner Required
1900MHz_Top_Jumper #1_Length (RRH or Combiner-to-Antenna for TT or Main Coax to		10 *10	10 *10	10 *10
1900MHz_Top_Jumper #1_Cable_Model (RRH or Combiner-to-Antenna for TT or Main Coax		LCF12-50J	LCF12-50J	LCF12-50J
1900MHz_Top_Jumper #2_Length (RRH to Combiner for TT if applicable, ft)		N/A	N/A	N/A
1900MHz_Top_Jumper #2_Cable_Model (RRH to Combiner for TT if applicable)		N/A	N/A	N/A
1900MHz_Main_Coax_Cable_Length (ft)		N/A *150	N/A *150	N/A *150
1900MHz_Main_Coax_Cable_Model		N/A	N/A	N/A
1900MHz_Bottom_Jumper #1_Length (Ground based RRH to Combiner-OR-Main Coax, ft)		N/A	N/A	N/A
1900MHz_Bottom_Jumper #1_Cable_Model (Ground based RRH to Combiner-OR-Main Coax)		N/A	N/A	N/A
1900MHz_Bottom_Jumper #2_Length (Ground based-Combiner to Main Coax, ft)		N/A	N/A	N/A
1900MHz_Bottom_Jumper #2_Cable_Model (Ground based-Combiner to Main Coax)		N/A	N/A	N/A
800MHz_Azimuth		60	180	320
800MHz_No_of_Antennas		0	0	0
800MHz_RADCenter(ft)		64.6	64.6	64.6
800MHz_Antenna_Make		RFS	RFS	RFS
800MHz_Antenna_Model		APXVSP18-C-A20 (Shared w/1900)	APXVSP18-C-A20 (Shared w/1900)	APXVSP18-C-A20 (Shared w/1900)
800MHz_Horizontal_Beamwidth		65	65	65
800MHz_Vertical_Beamwidth		11.5	11.5	11.5
800MHz_Antenna_Height (ft)		6	6	6
800MHz_AntennaGain (dBd)		13.4	13.4	13.4
800MHz_E_Tilt		-5	-2	-5
800MHz_M_Tilt		0	0	0
800MHz_RRH_Manufacturer		ALU	ALU	ALU
800MHz_RRH_Model		800 MHz RRH 2x50W	800 MHz RRH 2x50W	800 MHz RRH 2x50W
800MHz_RRH_Count		1	1	1
800MHz_RRH_Location		Top of the Pole/Tower	Top of the Pole/Tower	Top of the Pole/Tower
800_Top_Jumper #1_Length (RRH to Antenna for TT or Main Coax to Antenna for GM)		10 *10	10 *10	10 *10
800_Top_Jumper_Cable_Model (RRH to Antenna for TT or Main Coax to Antenna for GM)		LCF12-50J	LCF12-50J	LCF12-50J
800MHz_Main_Coax_Cable_Length (ft)		N/A *150	N/A *150	N/A *150
800MHz_Main_Coax_Cable_Model		N/A	N/A	N/A
800_Bottom_Jumper #1_Length (Ground based RRH to Main Coax)		N/A	N/A	N/A
800_Bottom_Jumper #1_Cable_Model (Ground based RRH to Main Coax)		N/A	N/A	N/A
Plumbing Scenario *		124	124	124

Comments: \* If plumbing scenario does not match the material received, please contact your Construction Manager  
11/9/2012

RF DATA SHEET

SCALE: N.T.S.



SPRINT CONSTRUCTION STANDARDS:

GENERAL CONTRACTOR SHALL ADHERE TO THE FOLLOWING SPRINT CONSTRUCTION STANDARDS (AS AMENDED FROM TIME TO TIME AND AVAILABLE ON THE ALU FST DATABASE):

- CONSTRUCTION STANDARDS: INTEGRATED CONSTRUCTION STANDARDS FOR WIRELESS SITES - VERSION 4.0, INCLUDING EXHIBITS A-M.
- CONSTRUCTION SPECIFICATIONS: CONSTRUCTION STANDARDS EXHIBIT A - STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES (VERSION 4.0).
- GROUNDING STANDARDS: EXTERIOR GROUNDING SYSTEM DESIGN.
- GROUNDING STANDARDS (SUPPLEMENT): ANTI-THEFT UPDATE TO SPRINT GROUNDING 082412 AND SPRINT ENGINEERING LETTER EL-0504 DATED 04.20.12.
- WEATHER PROOFING STANDARDS: EXCERPT FROM CONSTRUCTION STANDARDS EXHIBIT A, SECTION 3.8 WEATHERPROOFING CONNECTORS AND GROUND KITS.
- COLOR CODING: SPRINT NEXTEL ANT AND LINE COLOR CODING (DRAFT) V3 09-08-11.

IMPORTANT:

GENERAL CONTRACTOR/TOWER CREW SHALL VERIFY THAT THE LATEST RF DATA SHEET ARE USED FOR EQUIPMENT INSTALLATION.

NOTE:

(\* NOTE: ALU CM SHALL CONFIRM ALL JUMPER/HYBRIFLEX LENGTHS BEFORE PREPARING B.O.M.



CHECKED BY: JX

APPROVED BY: DPH

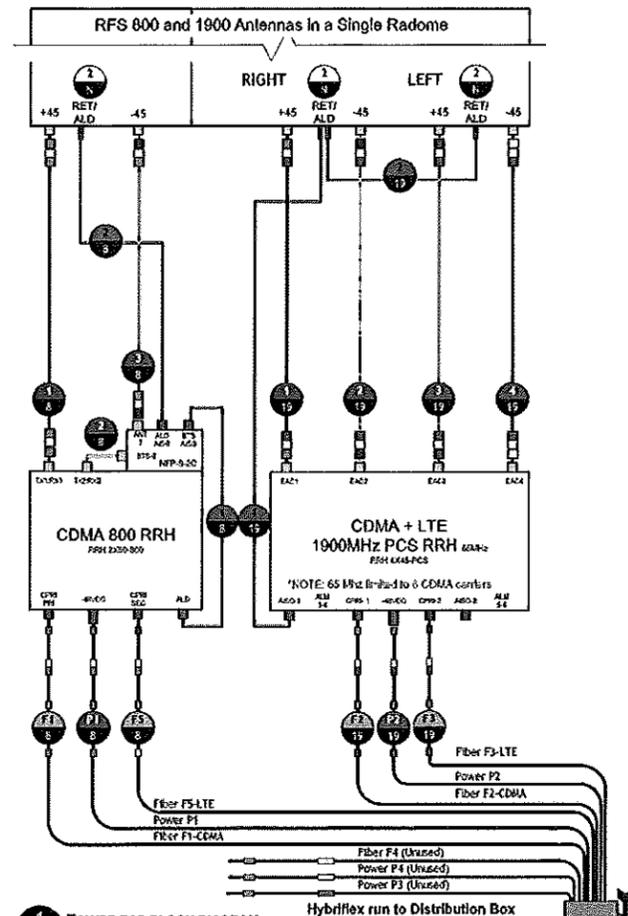
SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
2	01/08/12	FOR CONSTRUCTION	SF
1	11/20/12	ISSUED FOR REVIEW	JG

SITE NUMBER: NM03XC065  
SITE NAME: PORTLAND SOUTH CHADWICK  
SITE ADDRESS: 131 CHADWICK STREET, PORTLAND, ME 04102

SHEET TITLE: RF DATA SHEET

SHEET NUMBER: A-4

SCENARIO 124\_v2.0



**Power Feed Polarity Definition:**  
 IF Wires are BLACK AND BLACK/WHITE STRIPE:  
 ■ Black= -48VDC Feed (Battery)  
 ■ Black/White Stripe= Return

IF Wires are RED AND BLACK:  
 ■ Red= -48VDC Feed (Battery)  
 ■ Black= Return

**NOTE:** For power feed use the same Hybriflex OEM color designator as the fiber.

■ MM Pair 1= F1= Green= P1(Green)  
 ■ MM Pair 2= F2= Blue= P2(Blue)  
 ■ MM Pair 3= F3= Red= P3(Red)  
 ■ MM Pair 4= F4= Yellow= P4(Yellow)  
 ■ MM Pair 5= F5= Orange= (No P5 power feed)

**2 HYBRIFLEX OEM COLOR CODE**  
 BD1 SCALE: N.T.S.

**1 TOWER TOP BLOCK DIAGRAM**  
 BD1 SCALE: N.T.S.

19	DC Power Pair 3 Hybriflex, 1900 LTE RRH1 -48VDC port TO/FROM Distribution Box Breaker 3 (S1), 7 (S2), 11 (S3) 1900MHz
20	Fiber Pair 3, 1900 RRH2 CPRI PRI port TO/FROM Distribution Box, Top LC Bulkhead, Position 3-4 (S1), 9-10 (S2), Lower LC BH, Position 3-4 (S3) 1900MHz
21	DC Power Jumper, Power Pair 3 CTAP TO/FROM 1900 LTE RRH2 -48VDC port (42" Jumper) 1900MHz
22	Fiber Jumper, 1900 RRH1 CPRI SEC port TO/FROM 1900 RRH2 CPRI SEC port 1900MHz
23	AISG Cable Jumper, 1900 CDMA RRH1 AISG port TO/FROM 1900 Antenna RET/ADL port 1900MHz
24	AISG Cable Jumper, 1900 Antenna RET/ADL port TO/FROM 1900 Antenna RET/ALD port (RET Motors) 1900MHz
25	Coax Jumper, 1900 LTE RRH1 TX1/RX1 port TO/FROM Combiner Port G1 1900MHz
26	Coax Jumper, 1900 LTE RRH1 TX2/RX2 port TO/FROM Combiner Port G2 1900MHz
27	Coax Jumper, 1900 LTE RRH2 TX1/RX1(logical TX/RX3) port TO/FROM Combiner Port G3 1900MHz
28	Coax Jumper, 1900 LTE RRH2 TX2/RX2(logical TX/RX4) port TO/FROM Combiner Port G4 1900MHz
29	DC Power Pair 2 Hybriflex, 1900 CDMA RRH1 -48VDC port TO/FROM Distribution Box Breaker 2(S1), 6 (S2), 10 (S3) 1900MHz
30	Fiber Pair 2, 1900 CDMA RRH1 CPRI PRI port TO/FROM Distribution Box, Top LC Bulkhead, Position 13-14 (S1), 19-20 (S2), Lower LC BH, Position 13-14 (S3) 1900MHz
31	DC Power Jumper, Power Pair 2 CTAP TO/FROM 1900 CDMA RRH2 -48VDC port (42" Jumper) 1900MHz
32	Fiber Jumper, 1900 RRH1 CPRI SEC port TO/FROM 1900 RRH2 CPRI SEC port 1900MHz
33	Coax Jumper, 1900 CDMA RRH1 TX1/RX1 port TO/FROM Combiner Port A1B1 1900MHz
34	Coax Jumper, 1900 CDMA RRH1 TX2/RX2 port TO/FROM Combiner Port A2B2 1900MHz
35	Coax Jumper, 1900 CDMA RRH2 TX1/RX1(logical TX/RX3) port TO/FROM Combiner Port A3B3 1900MHz
36	Coax Jumper, 1900 CDMA RRH2 TX2/RX2(logical TX/RX4) port TO/FROM Combiner Port A4B4 1900MHz
37	Coax Jumper, 1900 Combiner COM 1 port TO/FROM Antenna +45 port 1900MHz
38	Coax Jumper, 1900 Combiner COM 2 port TO/FROM Antenna -45 port 1900MHz
39	Coax Jumper, 1900 Combiner COM 3 port TO/FROM Antenna +45 port 1900MHz
40	Coax Jumper, 1900 Combiner COM 4 port TO/FROM Antenna -45 port 1900MHz
41	Spare Fiber Pairs & DC Power terminated, weatherproofed, spooled and tie wrapped to side of 800MHz RRH. (cable management) Notes
42	Alarm jumper cap connection. This alarm jumper must be in place to make the RRH # 2 of the pair. (#2 is always the one farthest from the pipe) Notes
43	Power Cable "Y" jumper. C-Tap Jumper from Pair 3 to 1900 RRH2. Weatherproof C-Tap and leave 18-24" loop. Notes

**CONNECTION LEGEND**  
 SCALE: N.T.S.

**IMPORTANT:**  
 GENERAL CONTRACTOR/TOWER CREW SHALL VERIFY THAT THE LATEST NETWORK VISION RAN CONNECTION DIAGRAMS ARE USED FOR EQUIPMENT INSTALLATION

**IMPORTANT:**  
 VELCRO STRAPS ONLY MAY BE USED ON FIBER. CABLE TIES OR TIE WRAP MUST NOT BE USED ON FIBER.



CHECKED BY: JX

APPROVED BY: DPH

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
2	01/08/12	FOR CONSTRUCTION	SF
1	11/20/12	ISSUED FOR REVIEW	JG

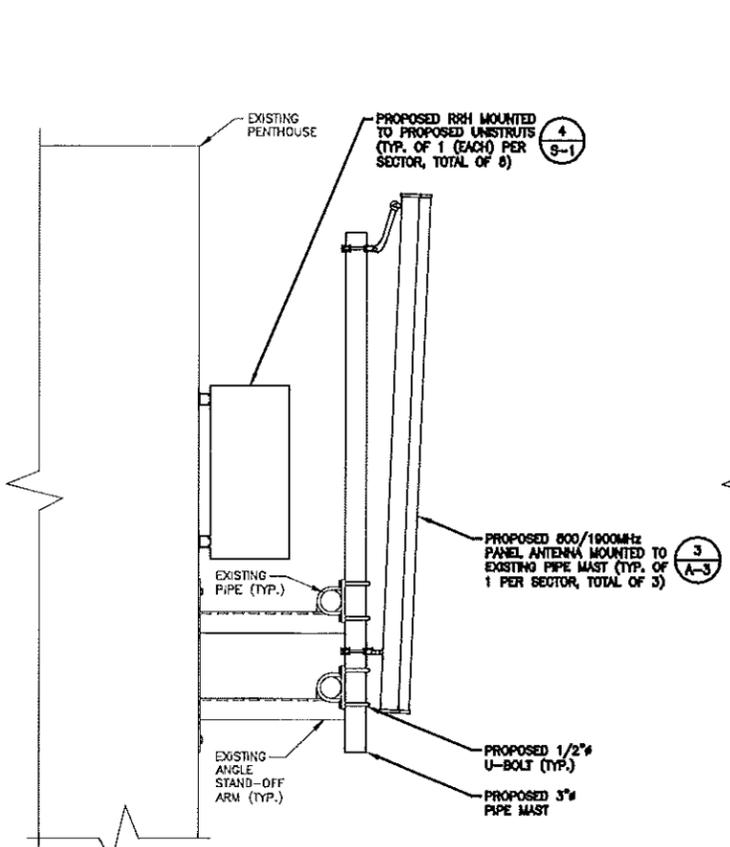
SITE NUMBER:  
 NM03XC065

SITE NAME:  
 PORTLAND SOUTH CHADWICK

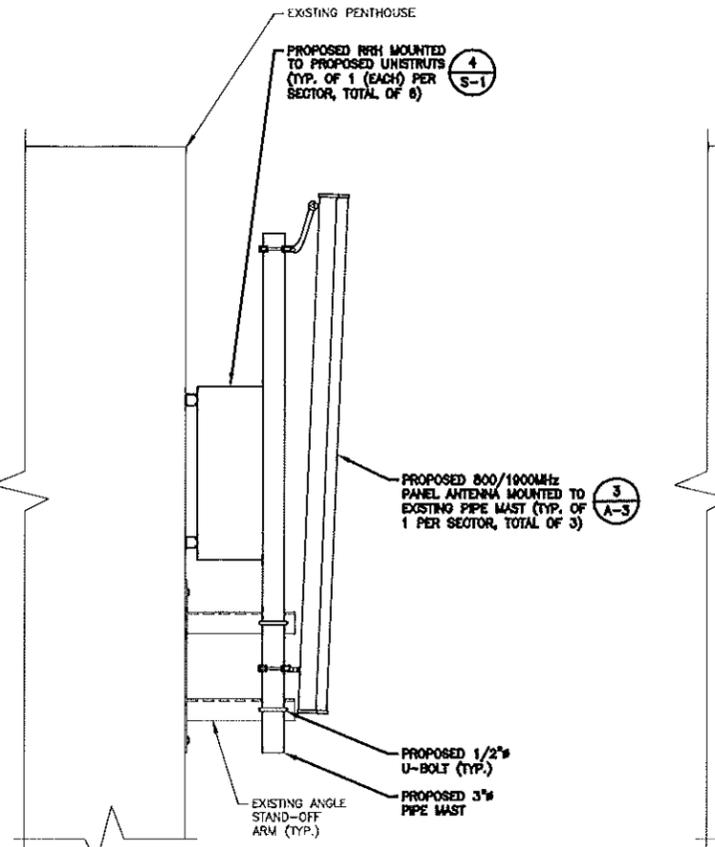
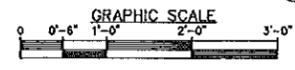
SITE ADDRESS:  
 131 CHADWICK STREET  
 PORTLAND, ME 04102

SHEET TITLE  
 CABINET &  
 ANTENNA WIRING  
 DIAGRAM

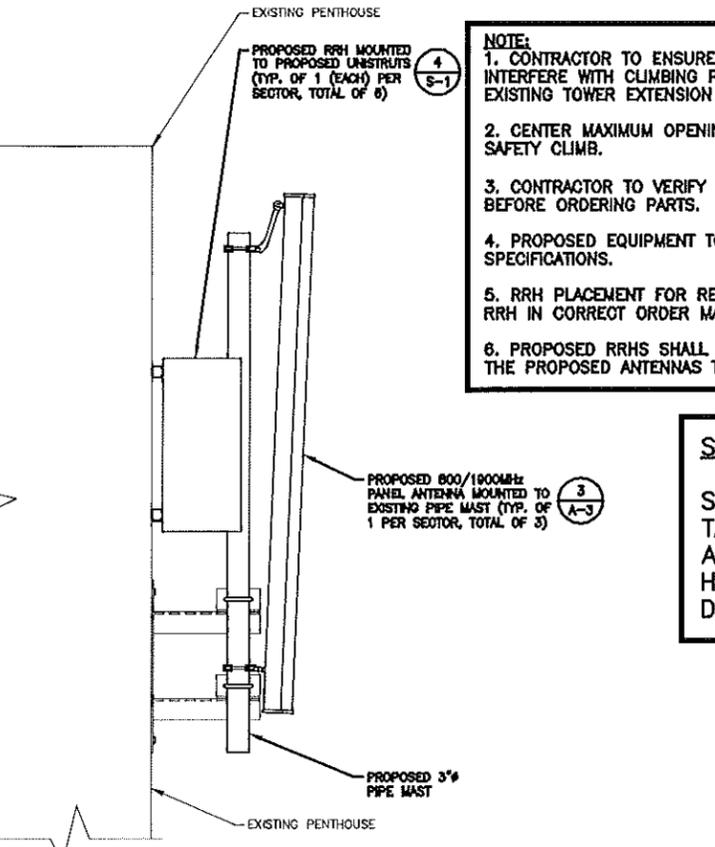
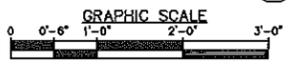
SHEET NUMBER  
 A-5



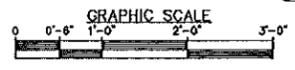
**ANTENNA MOUNTING PLAN (ALPHA SECTOR)**  
SCALE: 1"=1'-0"



**ANTENNA MOUNTING PLAN (BETA SECTOR)**  
SCALE: 1"=1'-0"

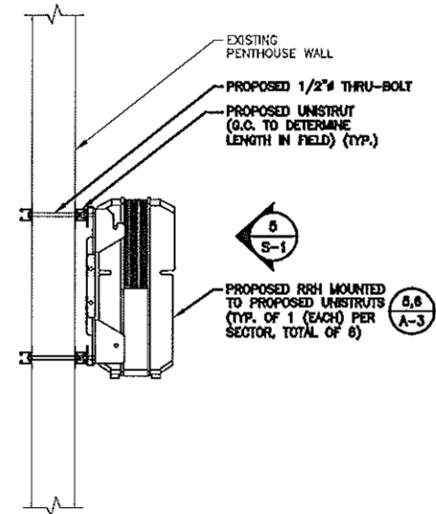


**ANTENNA MOUNTING PLAN (GAMMA SECTOR)**  
SCALE: 1"=1'-0"

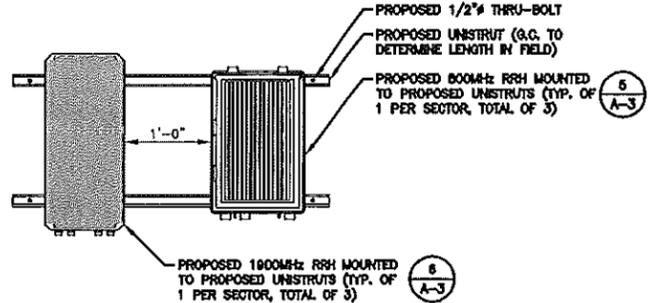
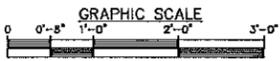


- NOTE:**
1. CONTRACTOR TO ENSURE THAT RRH MOUNTING DOES NOT INTERFERE WITH CLIMBING PEGS, CABLE CLIMB, COAX PORTS, OR EXISTING TOWER EXTENSION PLATE.
  2. CENTER MAXIMUM OPENING BETWEEN ADJACENT RRH ON EXISTING SAFETY CLIMB.
  3. CONTRACTOR TO VERIFY DIAMETER OF EXISTING MONOPOLE/UNIPOLE BEFORE ORDERING PARTS.
  4. PROPOSED EQUIPMENT TO BE MOUNTED PER MANUFACTURERS SPECIFICATIONS.
  5. RRH PLACEMENT FOR REFERENCE ONLY. CONTRACTOR SHALL PLACE RRH IN CORRECT ORDER MATCHING PROPOSED ANTENNA PLACEMENT.
  6. PROPOSED RRHS SHALL BE PLACED AS CLOSE AS POSSIBLE BETWEEN THE PROPOSED ANTENNAS TIP AND TAILS LOCATIONS.

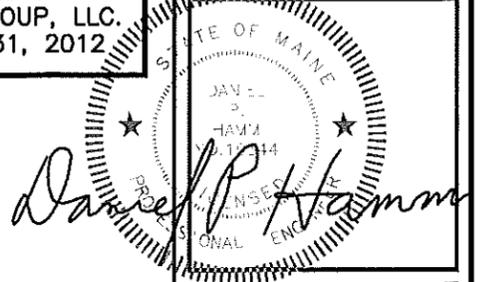
**STRUCTURAL NOTE:**  
STRUCTURAL INFORMATION TAKEN FROM STRUCTURAL ANALYSIS PERFORMED BY HUDSON DESIGN GROUP, LLC. DATED: DECEMBER 31, 2012



**RRH MOUNTING PLAN**  
SCALE: 1"=1'-0"



**RRH MOUNTING PLAN**  
SCALE: 1"=1'-0"



CHECKED BY: JX  
APPROVED BY: DPH

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
2	01/08/12	FOR CONSTRUCTION	SF
1	11/20/12	ISSUED FOR REVIEW	JG

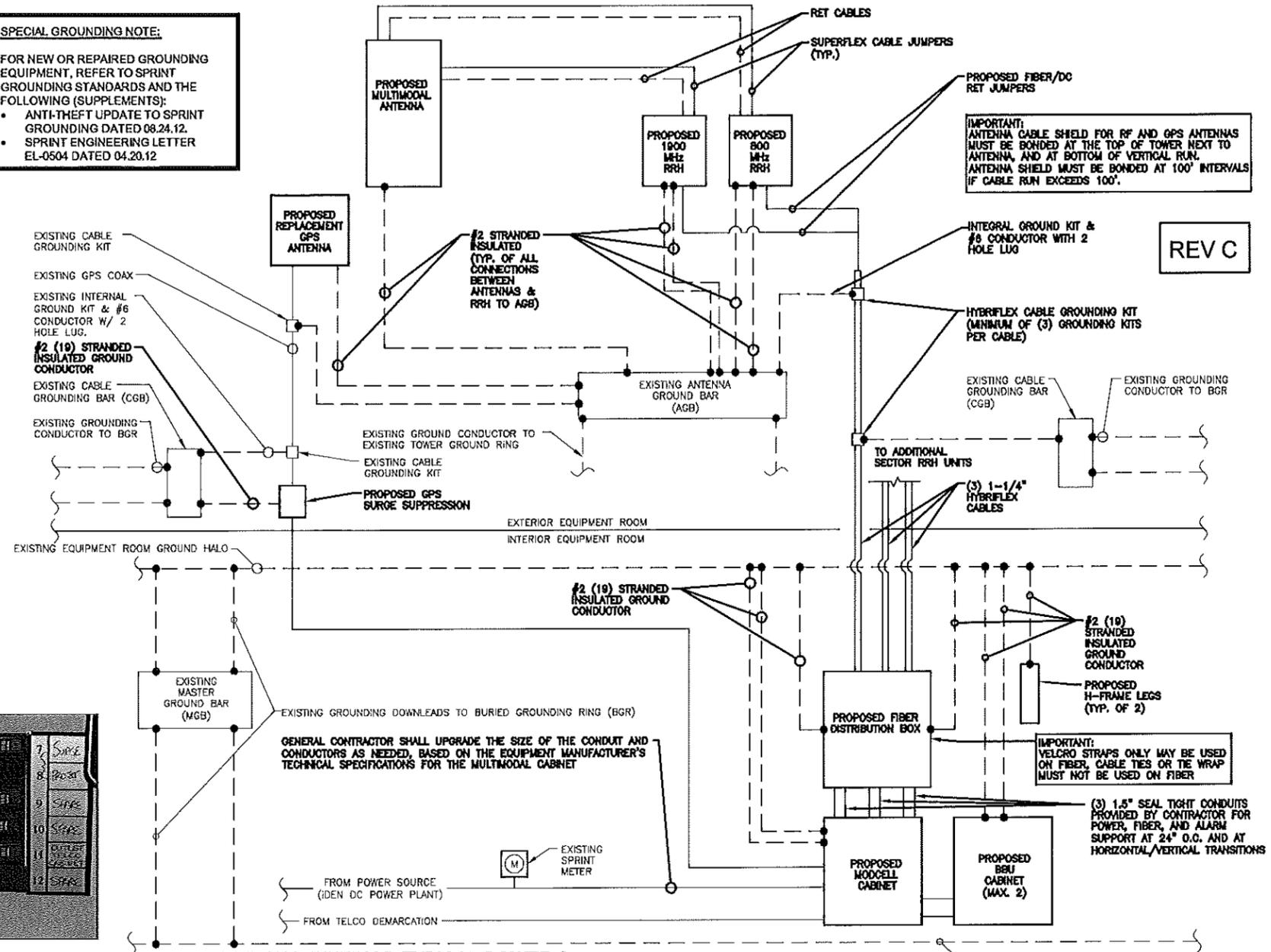
SITE NUMBER:  
NM03XC065  
SITE NAME:  
PORTLAND SOUTH CHADWICK  
SITE ADDRESS:  
131 CHADWICK STREET  
PORTLAND, ME 04102

SHEET TITLE  
STRUCTURAL DETAILS

SHEET NUMBER  
S-1

**SPECIAL GROUNDING NOTE:**  
 FOR NEW OR REPAIRED GROUNDING EQUIPMENT, REFER TO SPRINT GROUNDING STANDARDS AND THE FOLLOWING (SUPPLEMENTS):

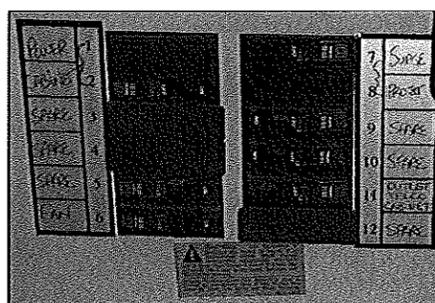
- ANTI-THEFT UPDATE TO SPRINT GROUNDING DATED 08.24.12
- SPRINT ENGINEERING LETTER EL-0504 DATED 04.20.12



REV C

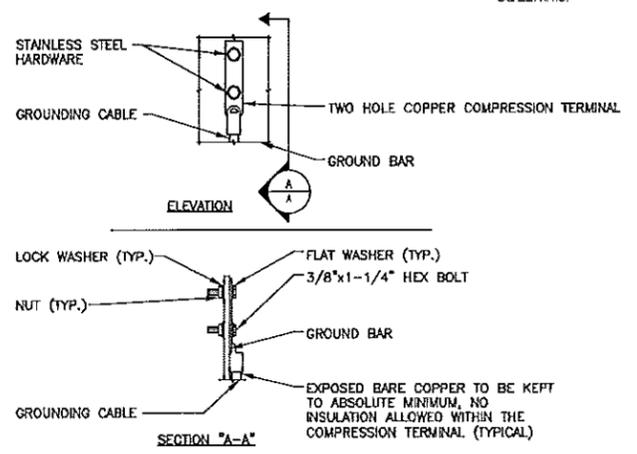
- ELECTRICAL NOTES**
- 1) ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
  - 2) THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL CONDUIT ROUTING WITH LOCAL UTILITY COMPANIES AND SPRINT CONSTRUCTION MANAGER.
  - 3) ALL CONDUITS ROUTED BELOW GRADE SHALL TRANSITION TO RIGID GALVANIZED ELBOWS WITH RIGID GALVANIZED STEEL CONDUIT ABOVE GRADE.
  - 4) ALL METAL CONDUITS SHALL BE PROVIDED WITH GROUNDING BUSHINGS.
  - 5) GENERAL CONTRACTOR SHALL PROVIDE ALL DIRECT BURIED CONDUITS WITH PLASTIC WARNING TAPE IDENTIFYING CONTENTS. TAPE COLORS SHALL BE ORANGE FOR TELEPHONE AND RED FOR ELECTRIC.
  - 6) ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
  - 7) THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIALS DESCRIBED BY DRAWINGS AND SPECIFICATIONS INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
  - 8) GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
  - 9) ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.
  - 10) BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.
  - 11) ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THHN, OR THW INSULATION.
  - 12) RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE PPC AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH FULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.
  - 13) RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH FULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
  - 14) ABOVE GROUND PORTION OF CONDUIT BETWEEN BTS AND PROJECT OWNER'S CELL SITE PPC SHALL BE RIGID CONDUIT.
  - 15) FOR NEW OR REPAIRED GROUNDING EQUIPMENT, REFER TO SPRINT GROUNDING STANDARDS AND THE FOLLOWING SUPPLEMENTS  
 ANTI-THEFT UPDATE TO SPRINT GROUNDING DATED 08.24.12  
 SPRINT ENGINEERING LETTER EL-0504 DATED 04.20.12

- GROUNDING NOTES**
- 1) ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
  - 2) ALL GROUND WIRE SHALL BE BARE COPPER #2 AWG UNLESS OTHERWISE NOTED.
  - 3) ALL GROUND WIRES SHALL PROVIDE A STRAIGHT, DOWNWARD PATH TO GROUND WITH GRADUAL BENDS AS REQUIRED. GROUND WIRES SHALL NOT BE LOOPED OR SHARPLY BENT.
  - 4) EACH EQUIPMENT CABINET SHALL BE CONNECTED TO THE MASTER GROUND BAR (MGB) WITH #2 AWG INSULATED STRANDED COPPER WIRE. EQUIPMENT CABINETS SHALL EACH HAVE (2) CONNECTIONS.
  - 5) PROVIDE DEDICATED #2 AWG COPPER GROUND WIRE FROM EACH ANTENNA MOUNTING PIPE TO ASSOCIATED AGB (TYP.)
  - 6) ANTENNA GROUND KITS SHALL BE FURNISHED BY SPRINT AND INSTALLED BY ELECTRICAL CONTRACTOR.
  - 7) COORDINATE NEW SPRINT GROUND SYSTEM WITH EXISTING SITE GROUND SYSTEM.
  - 8) GROUNDING SHALL COMPLY WITH NEC ART. 250. ADDITIONALLY, GROUNDING, BONDING AND LIGHTNING PROTECTION SHALL BE DONE IN ACCORDANCE WITH PROJECT OWNER'S BTS SITE GROUNDING STANDARDS.
  - 9) GROUND HYBRIFLEX CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS HYBRIFLEX CABLE GROUNDING KITS.
  - 10) ALL GROUND CONNECTIONS TO BE BURNED HYDROGROUND COMPRESSION TYPE CONNECTORS OR GADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
  - 11) ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS WITHIN 6 FEET OF PROJECT OWNER EQUIPMENT OR CABINET TO MASTER GROUND BAR OR GROUNDING RING.
  - 12) CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
  - 13) APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.

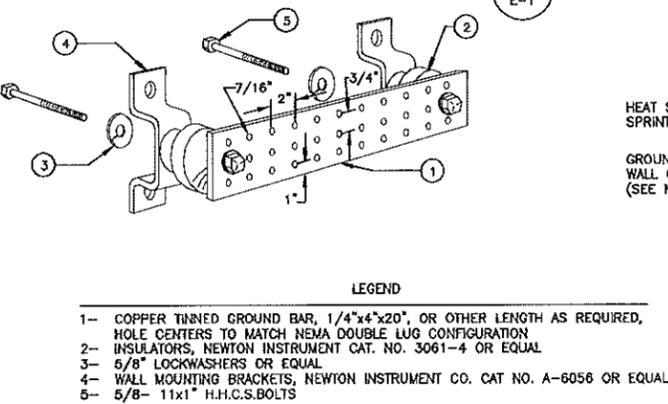


EXISTING PANEL SCHEDULE

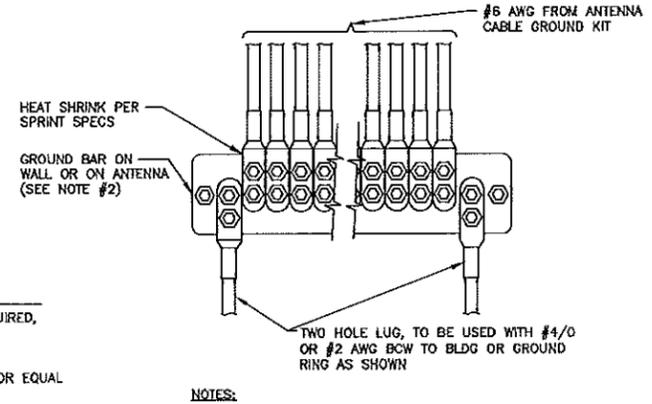
TOWER TOP INTERIOR TYPICAL POWER & GROUNDING ONE LINE DIAGRAM  
 SCALE: N.T.S.



TYPICAL GROUND BAR CONNECTION DETAIL  
 SCALE: N.T.S.



TYPICAL GROUND BAR DETAIL  
 SCALE: N.T.S.



TYPICAL INSTALLATION OF GROUND WIRE TO GROUND BAR DETAIL  
 SCALE: N.T.S.

**Sprint VISION**  
 NETWORK VISION MMBIS LAUNCH  
 1 INTERNATIONAL BLVD, SUITE 800  
 MANNING, NJ 07095  
 TEL: (800) 357-7641

**Alcatel-Lucent**  
 1 ROSBNS ROAD  
 WESTFORD, MA 01886  
 TEL: (978) 952-1600

**Hudson Design Group, Inc.**  
 1600 OSGOOD STREET  
 BUILDING 20 NORTH, SUITE 3090  
 N. ANDOVER, MA 01845  
 TEL: (978) 557-5553  
 FAX: (978) 555-5565



CHECKED BY: JX

APPROVED BY: DPH

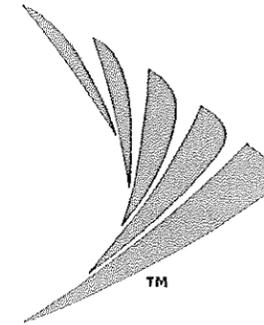
SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
2	01/08/12	FOR CONSTRUCTION	SF
1	11/20/12	ISSUED FOR REVIEW	JG

SITE NUMBER:  
 NM03XC065  
 SITE NAME:  
 PORTLAND SOUTH CHADWICK  
 SITE ADDRESS:  
 131 CHADWICK STREET  
 PORTLAND, ME 04102

SHEET TITLE  
 TYPICAL POWER & GROUNDING ONE LINE DIAGRAM

SHEET NUMBER  
 E-1

# Sprint<sup>®</sup> VISION



SITE NUMBER:  
**NM03XC065**

## SITE NAME: **PORTLAND SOUTH CHADWICK**

SITE ADDRESS:  
**131 CHADWICK STREET  
PORTLAND, ME 04102**

**Sprint<sup>®</sup>  
VISION**  
1 INTERNATIONAL BLVD, SUITE 800  
MAHWAH, NJ 07445  
TEL: (908) 357-7441

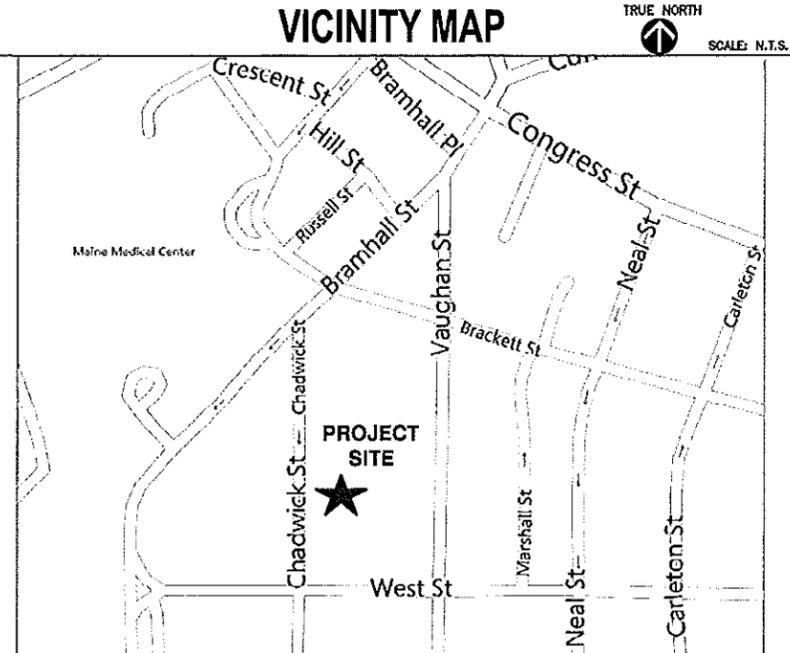
**Alcatel-Lucent**  
1 ROBBINS ROAD  
WESTFORD, MA 01886  
TEL: (978) 952-1600

**Hudson  
Design Group, LLC**  
1600 OSGOOD STREET  
BUILDING 20 NORTH, SUITE 3090  
N. ANDOVER, MA 01845  
TEL: (978) 557-5533  
FAX: (978) 556-5584

### SITE INFORMATION

SITE NUMBER:	NM03XC065	LOCAL POWER COMPANY:	CENTRAL MAINE POWER
SITE NAME:	PORTLAND SOUTH CHADWICK	AAV PROVIDER:	FAIRPOINT
SITE ADDRESS:	131 CHADWICK STREET PORTLAND, ME 04102	APPLICANT:	SPRINT 1 INTERNATIONAL BLVD. SUITE 800 MAHWAH, NJ 07495
COUNTY:	CUMBERLAND CO.	APPLICANT REPRESENTATIVE:	ALCATEL-LUCENT 1 ROBBINS ROAD WESTFORD, MA 01886 TEL: (978) 952-1600
ZONING:	RESIDENTIAL	SITE ACQUISITION CONSULTANT:	CROWN CASTLE CORP. 2000 CORPORATE DRIVE CANONSBURG, PA 15317
PARCEL ID#:	MAP 63, BLOCK B, LOT 2	A&E CONSULTANT:	HUDSON DESIGN GROUP LLC 1600 OSGOOD STREET BLDG 20 NORTH, SUITE 3090 NORTH ANDOVER, MA 01845 TEL: (978) 557-5533 FAX: (978) 336-5586
COORDINATES:	N 43° 39' 05.0" W 70° 16' 27.5"		
GROUND ELEV.:	148± (AMSL)		
STRUCTURE TYPE:	ROOF TOP		
STRUCTURE HEIGHT:	54' (AGL)		
ANTENNA RAD CENTER:	64'-6"± (AGL)		
TOWER OWNER:	CROWN CASTLE CORP. 2000 CORPORATE DRIVE CANONSBURG, PA 15317		

### VICINITY MAP



### SHEET INDEX

SHEET	DESCRIPTION	REV
T-1	TITLE SHEET	1
T-2	SITE PHOTOS	1
A-1	COMPOUND PLAN	1
A-2	DETAILS	1

### APPROVALS

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

ALCATEL-LUCENT REP:	_____	DATE:	_____
AAV REP:	_____	DATE:	_____
SITE ACQUISITION:	_____	DATE:	_____
LANDLORD/ PROPERTY OWNER:	_____	DATE:	_____

CHECKED BY: KB

APPROVED BY: DPH

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
1	01/09/13	FOR REVIEW	SR
0	09/12/12	FOR REVIEW	BY

SITE NUMBER:  
**NM03XC065**  
SITE NAME:  
**PORTLAND  
SOUTH CHADWICK**  
SITE ADDRESS:  
**131 CHADWICK STREET  
PORTLAND, ME 04102**

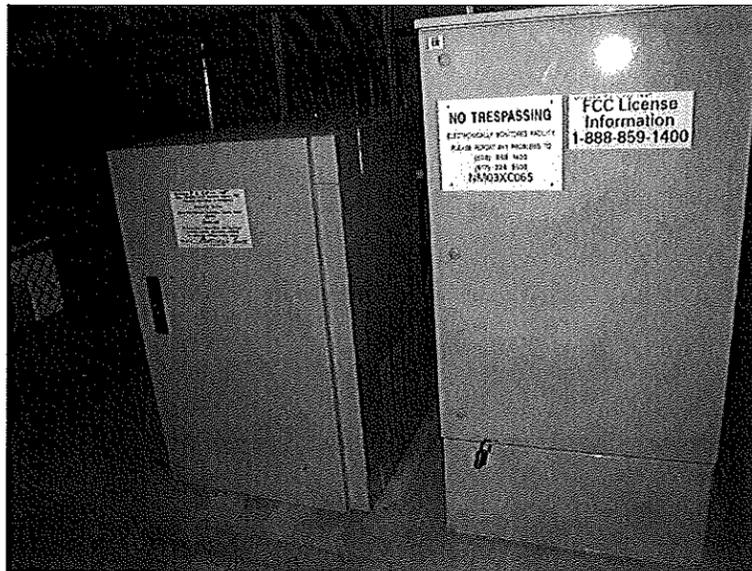
SHEET TITLE  
**TITLE SHEET**

SHEET NUMBER  
**T-1**

### GENERAL NOTES

- THIS IS AN UNMANNED TELECOMMUNICATION FACILITY AND NOT FOR HUMAN HABITATION:  
-HANDICAPPED ACCESS NOT REQUIRED  
- PORTABLE WATER OR SANITARY SERVICE IS NOT REQUIRED  
- NO OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES REQUIRED
- CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACE THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.
- DEVELOPMENT AND USE OF THE SITE WILL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES. BUILDING CODE: MASSACHUSETTS STATE BUILDING CODE 780 CMR - 8TH EDITION  
ELECTRICAL CODE: 2008 NATIONAL ELECTRICAL CODE  
STRUCTURAL CODE: TIA/EIA-222-G OR LATEST EDITION

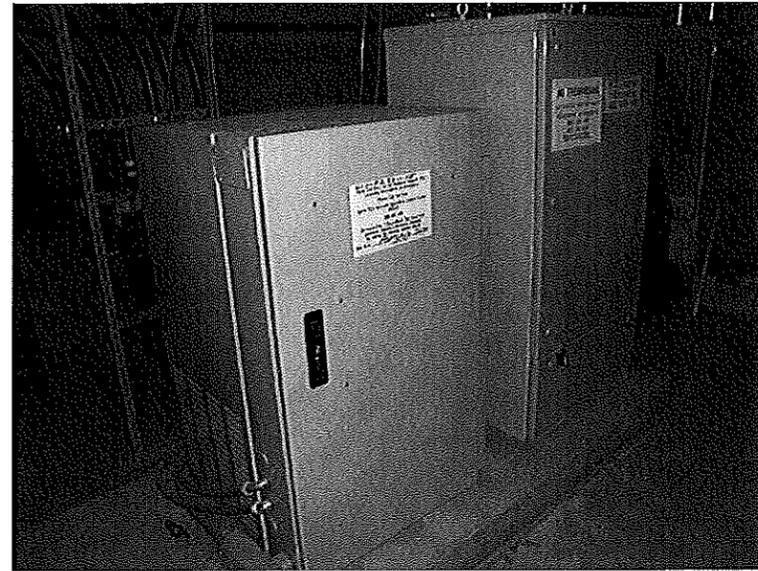
CALL  
  
**BEFORE YOU DIG**  
CALL TOLL FREE **888-DIG-SAFE**



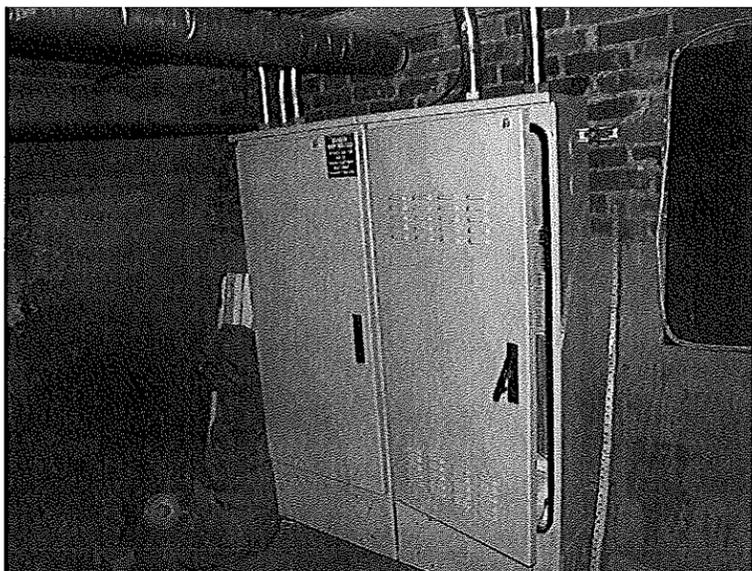
EXISTING SIGNAGE 1  
T-2



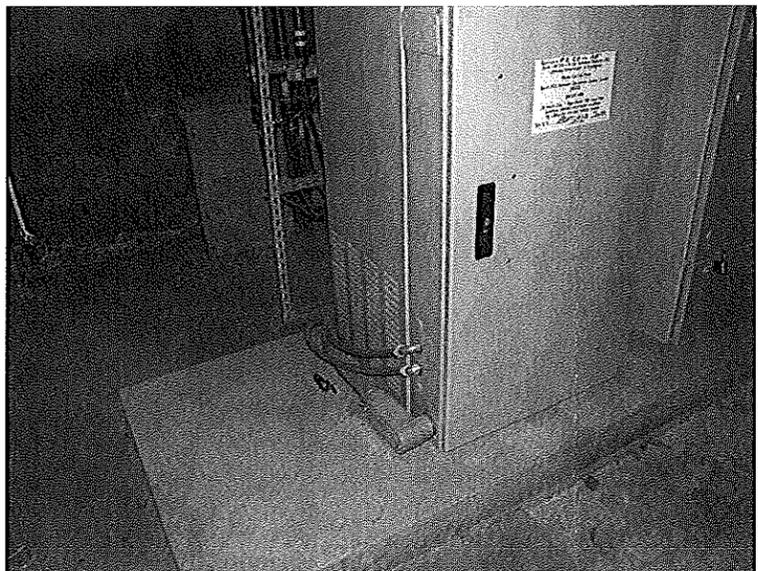
PROPOSED MEET POINT 2  
T-2



EXISTING EQUIPMENT AREA 3  
T-2

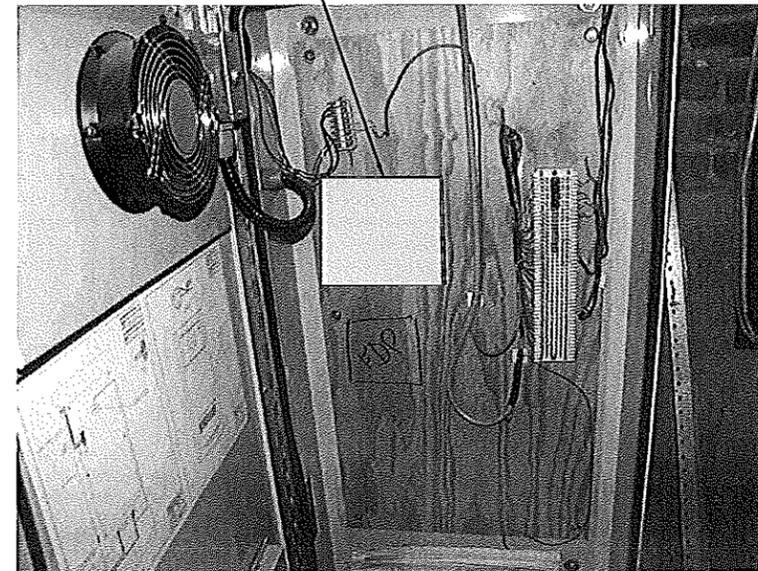


EXISTING TELCO BOARD 4  
T-2



EXISTING POWER SOURCE 5  
T-2

PROPOSED METRONID TO BE MOUNTED ON EXISTING BACKBOARD IN EXISTING SPRINT TELCO CABINET



PROPOSED NID EQUIPMENT LOCATION 6  
T-2

**Sprint VISION**  
 1 INTERNATIONAL BLVD, SUITE 800  
 MAHWAH, NJ 07475  
 TEL: (800) 357-7641

**Alcatel-Lucent**  
 1 ROSSIN ROAD  
 WEST FORD, MA 01886  
 TEL: (978) 952-1600

**Hudson Design Group, LLC**  
 1600 OSGOOD STREET  
 BUILDING 20 NORTH SUITE 3090  
 N. ANDOVER, MA 01845  
 TEL: (978) 557-5553  
 FAX: (978) 336-5556

CHECKED BY: KB

APPROVED BY: DPH

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
1	01/09/13	FOR REVIEW	SR
0	09/12/12	FOR REVIEW	BY

SITE NUMBER:  
 NM03XC065  
 SITE NAME:  
 PORTLAND  
 SOUTH CHADWICK  
 SITE ADDRESS:  
 131 CHADWICK STREET  
 PORTLAND, ME 04102

SHEET TITLE  
 SITE PHOTOS

SHEET NUMBER  
 T-2

SPRINT TO PROVIDE MULE TAPE AND INNERDUCT IN EXISTING/PROPOSED CONDUIT PATHS UNLESS OTHERWISE NOTED

**AAV SCOPE OF WORK NOTES:**

- 1 **MEET POINT:** EXISTING UTILITY POLE # 12.
- 2 **FIBER RUN:** PROPOSED FAIRPOINT FIBER TO ORIGINATE FROM EXISTING UTILITY POLE #12 VIA AERIAL RUN TO PROPOSED BUILDING ATTACHMENT (APPROX. 40'±)
- 3 PROPOSED CORE DRILL THROUGH BRICK WALL.
- 4 PROPOSED FIBER TO CONTINUE FROM PROPOSED BUILDING ATTACHMENT WITHIN PROPOSED 2" RGS CONDUIT A.G. THROUGH PROPOSED CORE DRILL TO PROPOSED METRONID. (APPROX. 140'±)
- 5 SPRINT TO PROVIDE MULE TAPE AND 3/4" INNERDUCT A.G. FOR THE FIBER. (APPROX. 140'±)
- 6 PROPOSED METRONID TO BE MOUNTED ON EXISTING BACKBOARD INSIDE SPRINT TELCO CABINET BY FAIRPOINT.
- 7 PROPOSED FIBER TO CONTINUE FROM PROPOSED METRONID AND RUN WITHIN EXISTING 2" RGS CONDUIT A.G. TO PROPOSED MM-BTS. (APPROX. 20'±)
- 8 PROPOSED FIBER FROM EXISTING UTILITY POLE # 12 TO PROPOSED MM-BTS CABINET (APPROX. 200'± TOTAL)
- 9 **POWER RUN:** PROPOSED INSTALL 1-1/4" RGS CONDUIT A.G. FROM THE PROPOSED MM-BTS TO PROPOSED METRONID. (APPROX. 20'±) (DC POWER CONDUCTORS \*TBD BY SPRINT GC\*)

CALL  
BEFORE YOU DIG  
CALL TOLL FREE 888-DIG-SAFE

**Sprint VISION**  
1 INTERNATIONAL BLVD, SUITE 800  
MAHWAH, NJ 07475  
TEL: (800) 357-7441

**Alcatel-Lucent**  
1 ROSSINS ROAD  
WESTFORD, MA 01886  
TEL: (978) 952-1600

**Hudson Design Group, LLC**  
1620 OSGOOD STREET  
BUILDING 20 NORTH, SUITE 3090  
N. ANDOVER, MA 01845  
TEL: (978) 557-5533  
FAX: (978) 354-5564

CHECKED BY: KB

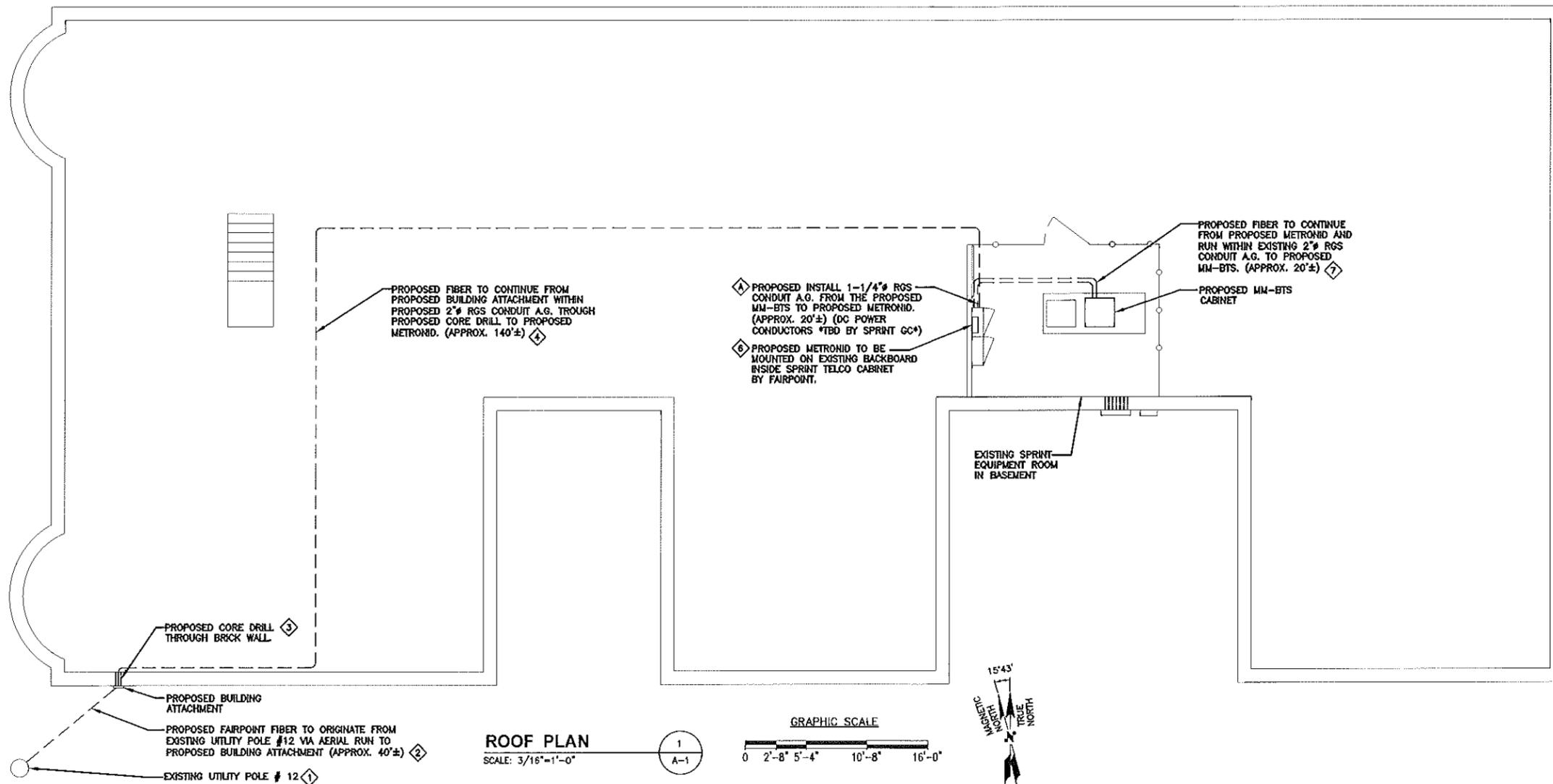
APPROVED BY: DPH

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
1	01/09/13	FOR REVIEW	SR
0	09/12/12	FOR REVIEW	BY

SITE NUMBER:  
NM03XC065  
SITE NAME:  
PORTLAND  
SOUTH CHADWICK  
SITE ADDRESS:  
131 CHADWICK STREET  
PORTLAND, ME 04102

SHEET TITLE  
COMPOUND PLAN

SHEET NUMBER  
A-1



MAXIMUM PIPE DIAMETER (%)	MAXIMUM EMT	ANNULAR SPACE (in.)	FORMING MATERIAL THICKNESS (in.)	MINIMUM SEALANT THICKNESS (in.)	F RATING (HOURS)	T RATING (HOURS)
1-1/2	-	3/8 TO 2-1/8	2-1/2	2	3	1
6	4	3/8 TO 3/4	3-1/2	1	3	0
6	4	3/8 TO 1	2-1/2	2	3	0

CONCRETE FLOOR OR WALL ASSEMBLY, MINIMUM 4-1/2 in. THICKNESS FLOOR/ MINIMUM 6-1/2 in. WALL

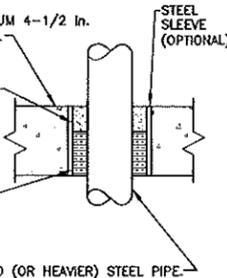
TYPE AS OR TYPE SS:  
MINIMUM THICKNESS OF SEALANT AS SPECIFIED IN THE TABLE BELOW, APPLIED WITHIN THE OPENING, FLUSH WITH THE TOP SURFACE OF THE FLOOR OR BOTH SURFACES OF THE WALL.

FORMING MATERIAL:  
MINERAL WOOL INSULATION (MINIMUM 4.0 pcf) FIRMLY PACKED INTO THE OPENING AS A PERMANENT FORM; SEE TABLE FOR MINIMUM REQUIRED THICKNESS

METALLIC PIPE:  
STEEL PIPE: 6" (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE- CONDUIT: 4" (OR SMALLER) ELECTRICAL METALLIC TUBING (EMT) OR 6" RIGID STEEL CONDUIT.

UL SYSTEM NUMBER: C-AJ-1020  
F RATING - 3 HR.

PIPE AND CONDUIT PENETRATION  
DETAIL IN CONCRETE OR MASONRY



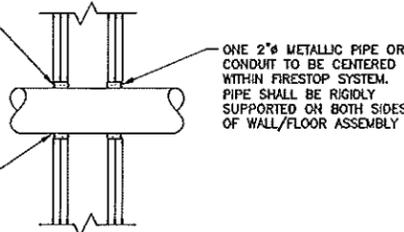
PACKING MATERIAL: MIN. 1 in. THICKNESS OF MIN. 3.5 pcf FIBERGLASS INSULATION SHALL BE WRAPPED AROUND THE THROUGH-PENETRANT AND SECURED TOGETHER BY MEANS OF NO. 24 AWG STEEL TIE WIRE. PACKING MATERIAL SHALL BE CENTERED AT MID-DEPTH OF OPENING AND RECESSED FROM BOTH SURFACES OF WALL ASSEMBLY REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL.

FILL VOID OR CAVITY MATERIAL - CAULK OR PUTTY:  
IN 2 HR FIRE RATED ASSEMBLIES MIN 3/4 in. THICKNESS FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH BOTH SURFACES OF WALL. ADDITIONAL FILL MATERIAL TO BE INSTALLED SUCH THAT A MIN 1/4 in. CROWN IS FORMED AROUND THE PENETRATING ITEM. IN 1 HR FIRE RATED ASSEMBLIES, MIN 5/8 in. THICKNESS OF FILL MATERIAL APPLIED WITHIN ANNULUS ON BOTH SURFACES OF WALL. ADDITIONAL FILL MATERIAL TO BE INSTALLED SUCH THAT A MIN 3/8 in. CROWN IS FORMED AROUND THE PENETRATING ITEM AND LAPPING 1 in. BEYOND THE PERIPHERY OF THE OPENING.

SPECIFIED TECHNOLOGIES INC.  
SPECSEAL SERIES SSS SEALANT,  
SPECSEAL LCI SEALANT OR SPECSEAL PUTTY.

UL SYSTEM NUMBER: W-L-1029  
F RATING - 1 & 2 HR.

PIPE AND CONDUIT PENETRATION  
DETAIL IN GYPSUM WALLBOARD



PACKING MATERIAL: MIN 1-1/2 in. THICKNESS OF MIN 6 pcf MINERAL WOOL BATT INSULATION FIRMLY PACKED INTO OPENING AS A PERMANENT FORM. PACKING MATERIAL TO BE RECESSED FROM TOP SURFACE OF FLOOR OR FROM BOTH SURFACES OF WALL AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL.

ONE 2" SCHEDULE 40 PVC PIPE TO BE CENTERED WITHIN FIRESTOP SYSTEM. A NOM. ANNULAR SPACE OF 5/16" IS REQUIRED WITHIN THE FIRESTOP SYSTEM PIPE SHALL BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL/FLOOR ASSEMBLY

FILL VOID OR CAVITY MATERIAL - SEALANT:  
MIN 2 in. THICKNESS OF FILL MATERIAL APPLIED WITHIN ANNULUS, FLUSH WITH THE TOP SURFACE OF FLOOR OR WITH BOTH SURFACES OF WALL.

SPECIFIED TECHNOLOGIES INC.  
SPECSEAL SERIES SSS SEALANT OR  
SPECSEAL LCI SEALANT.

UL SYSTEM NUMBER: C-AJ-2057  
F RATING - 2 HR.

PVC CONDUIT PENETRATION  
DETAIL IN CONCRETE OR MASONRY

WALL HR	MAX DIAM OF THROUGH PENETRANT in.	T RATING HR
1	2	
1	1-1/4	1
2	2	1
2	1-1/4	1 1/2

THE HOURLY F RATING OF THE FIRESTOP SYSTEM IS EQUAL TO THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED.

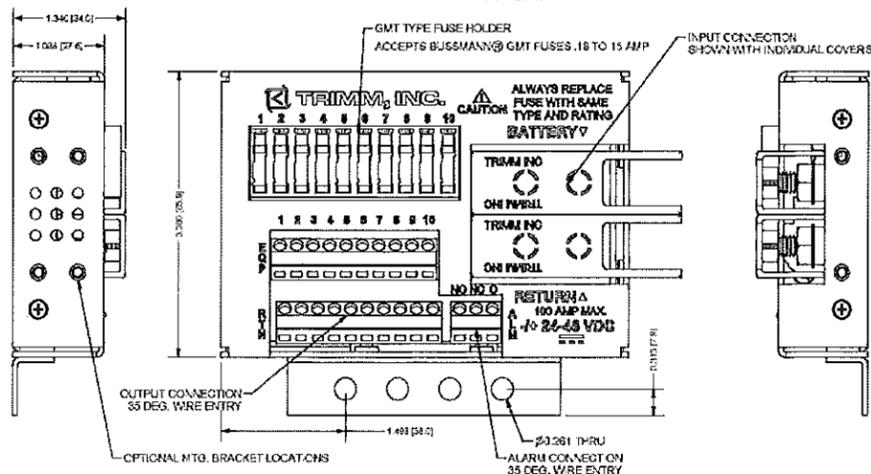
THROUGH PENETRANTS: ONE 2" NONMETALLIC PIPE, CONDUIT OR RACEWAY TO BE CENTERED WITHIN THE FIRESTOP SYSTEM. A NOM ANNULAR SPACE OF 5/16 in. IS REQUIRED WITHIN THE FIRESTOP SYSTEM. PIPE, CONDUIT OR RACEWAY TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF THE FLOOR OR WALL ASSEMBLY.

FILL VOID OR CAVITY MATERIAL - SEALANT:  
MIN 5/8 in. THICKNESS OF FILL MATERIAL APPLIED WITHIN ANNULUS, FLUSH WITH BOTH SURFACES OF WALL. ADDITIONAL FILL MATERIAL TO BE INSTALLED SUCH THAT A MIN 1/4 in. THICK CROWN IS FORMED AROUND THE PENETRATING ITEM AND LAPPING 1 in. BEYOND THE PERIPHERY OF THE OPENING.

SPECIFIED TECHNOLOGIES INC.  
SPECSEAL SERIES SSS SEALANT,  
SPECSEAL LCI SEALANT.

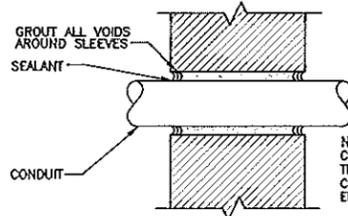
UL SYSTEM NUMBER: W-L-2093  
F RATING - 1 & 2 HR.

PVC CONDUIT PENETRATION  
DETAIL IN GYPSUM WALLBOARD



### FUSE PANEL DETAIL

SCALE: N.T.S.



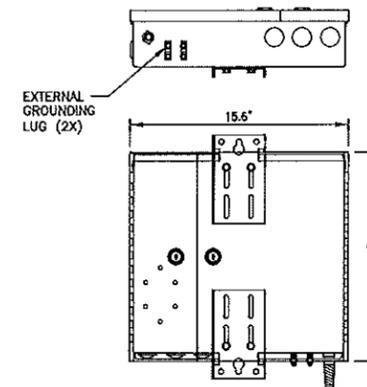
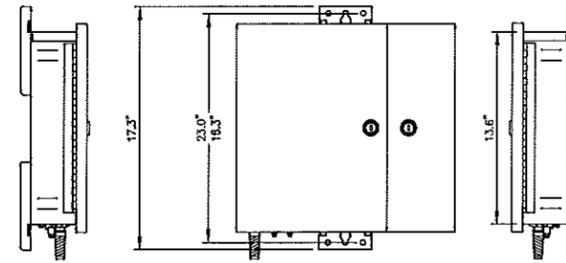
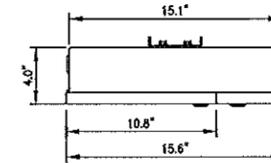
ALL CORES THROUGH ELECTRIC ROOMS TO BE FIRE-STOPPED.  
USE FULL CONDUIT RUNS THROUGH PENETRATIONS

NOTE:  
CORE HOLE 1 1/2" LARGER THAN THE DIAMETER OF THE CONDUIT. CORE DRILLS TO BE SEALED WITH ELASTOMERIC SEALANT.

PIPE AND CONDUIT PENETRATION  
DETAIL IN NON-RATED PARTITION

### PENETRATION DETAILS

SCALE: N.T.S.



### METRO NID CABINET DETAIL

SCALE: N.T.S.

**Sprint**  
VISION  
1 INTERNATIONAL BLVD, SUITE 800  
MAHWAH, NJ 07475  
TEL: (800) 357-7641

**Alcatel-Lucent**  
1 ROSSINS ROAD  
WILYFORD, MA 01886  
TEL: (978) 932-1600

**Hudson**  
Design Group, Inc.  
1600 OSGOOD STREET  
BUILDING 20 NORTH, SUITE 3090  
N. ANDOVER, MA 01845  
TEL: (978) 557-5553  
FAX: (978) 334-5584

CHECKED BY: KB

APPROVED BY: DPH

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
1	01/09/13	FOR REVIEW	SR
0	09/12/12	FOR REVIEW	BY

SITE NUMBER:  
NM03XC065  
SITE NAME:  
PORTLAND  
SOUTH CHADWICK  
SITE ADDRESS:  
131 CHADWICK STREET  
PORTLAND, ME 04102

SHEET TITLE  
DETAILS

SHEET NUMBER  
A-2