



EM-SPRINT-002-130509

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EM-SPRINT-002-130509

May 8, 2013

Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051
Attn: Ms. Linda Roberts, Executive Director

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CONNECTICUT
SITING COUNCIL

Re: Talmadge Road, Hamden, CT

Dear Ms. Roberts,

On behalf of Sprint Nextel Corporation ("Sprint"), enclosed for filing are an original and two (2) copies of Sprint's Notice of Exempt Modification for Proposed Modifications to an Existing Telecommunications Facility located at the above-referenced site.

I also enclose herewith a check in the amount of \$625.00 representing the fee for the Notice of Exempt Modification.

If you have any questions, please feel free to contact me.

Thank you,

By: _____

Name: David Weisman
Vertical Development LLC, an authorized representative of Sprint Nextel
Vertical Development LLC
7 Sycamore Way, Unit 1
Branford, CT 06405
Phone – 401-743-9011
Fax – 401-633-6202
DWeisman@verticaldevelopmentllc.com

CC: Mayor Scott D. Jackson
Hamden Government Center
2750 Dixwell Avenue
Hamden, CT 06518

Notice of Exempt Modification

Talmadge Road, Hamden, CT

Sprint Nextel Corporation ("Sprint") submits this Notice of Exempt Modification to the Connecticut Siting Council ("Council") pursuant to Sections 16-50j-73 and 16-50j-72(b) of the Regulations of Connecticut State Agencies ("Regulations") in connection with Sprint's planned modification of antennas and associated equipment on an existing 907' guyed tower located at the end of Talmadge Road in the Town of Hamden. More particularly, Sprint plans to upgrade this site by adding 4G LTE technology to its facilities. The proposed modifications will not increase the tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six (6) decibels, and will probably not increase radio frequency sending or receiving capability which increases the total radio frequency electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to Connecticut General Statutes § 22a-162.

To better meet the growing voice and data demands of its wireless customers, Sprint is upgrading their network nationwide to include 4G technology, which will provide faster service and better overall performance. Pursuant to the 4G upgrade at this site, Sprint will add antennas, install RRHs and notch filters, and install related equipment to its equipment area at the base of the tower within the fenced compound.

The 907' guyed tower located at the end of Talmadge Road in the Town of Hamden (lat. 41° 25' 23.01", long. 72° 57' 04.00") is owned by LIN Television Corporation. It is in a fenced compound within a 73+ acre parcel. Sprint currently has six (6) antennas (two (2) per sector) with a centerline of 200' installed on the tower. Sprint's base station equipment is located adjacent to the base of the tower within a fenced compound inside the larger fenced compound. A site plan depicting this is attached.

Sprint plans to add three (3) RFS APXVSP18-C-A20 antennas, one (1) per sector, all with a centerline of 200'. Connected to each new RFS antenna will be one (1) ALU 800 MHz RRH with one (1) ALU 800 MHz notch filter attached to it and one (1)

ALU 1900 MHz RRH, all of which will be located behind the antenna. After the new antennas have been tested and are deployed on-air, the six (6) previously existing antennas will be removed. The height of the tower will not need to be increased. Sprint also plans to install a new fiber junction box and a new Ciena equipment enclosure, and retrofit or replace the existing BTS cabinet in their equipment space within the tower compound's fenced border. A Corning box will also be installed outside of Sprint's equipment compound but within the tower's fenced compound. The compound's boundaries will not need to be extended. Other than brief, construction-related noise, these modifications will not increase noise levels at the tower site boundary by six (6) decibels.

Sprint commissioned Stainless LLC, to perform a structural analysis of the tower to verify that it can support the proposed loading. This analysis found that, under Revision F, the tower top plate and top bay K-diagonals are overstressed. However, "The original determination of the allowable stress increase under Revision E was based upon the height of the steel tower structure (768.1'). For Revision F, the allowable stress increase determination is based upon the overall height of the height of the tower steel structure including any top-mounted appurtenances (907.9'). The tower top plate and top bay K-diagonals are adequate based upon the provisions of the original 222-E Code. . . . Since the overstresses are due to a change of code methodology and the tower top has performed satisfactorily to date, Stainless LLC is of the opinion that no remediation to the tower top is necessary." (see Page Nos. 4 and 5 of Structural Analysis, April 11, 2013).

The proposed modifications will not add radio frequency sending or receiving capability which increases the total radio frequency electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to Connecticut General Statutes § 22a-162. A radio frequency emissions analysis prepared by EBI Consulting indicates that the proposed final configuration (including other carriers on the tower) will emit 7.884% of the allowable FCC established general public limit sampled at the ground level (see the 5th page of Radio Frequency Emissions Analysis Report - Evaluation of Human Exposure Potential to Non-Ionizing Emissions, September 5,

2012). Emission values for the Sprint antennas have been calculated from the sample point, which is the top of a six foot person standing at the base of the tower. Emissions values for additional carriers were based upon values listed in Connecticut Siting Council active database (see the 3rd and 4th page of Radio Frequency Emissions Analysis Report - Evaluation of Human Exposure Potential to Non-Ionizing Emissions, September 5, 2012). However, it appears there were no reported emissions values from the other carriers in the referenced database. But, since Sprint's antennas will emit only 7.884% of the allowable FCC established general public limit sampled at the ground level, the modifications will probably not increase the total radio frequency electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to Connecticut General Statutes § 22a-162. The information used in the report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01 and ANSI/IEEE Std C95.1 (see the second page of Radio Frequency Emissions Analysis Report - Evaluation of Human Exposure Potential to Non-Ionizing Emissions, September 5, 2012).

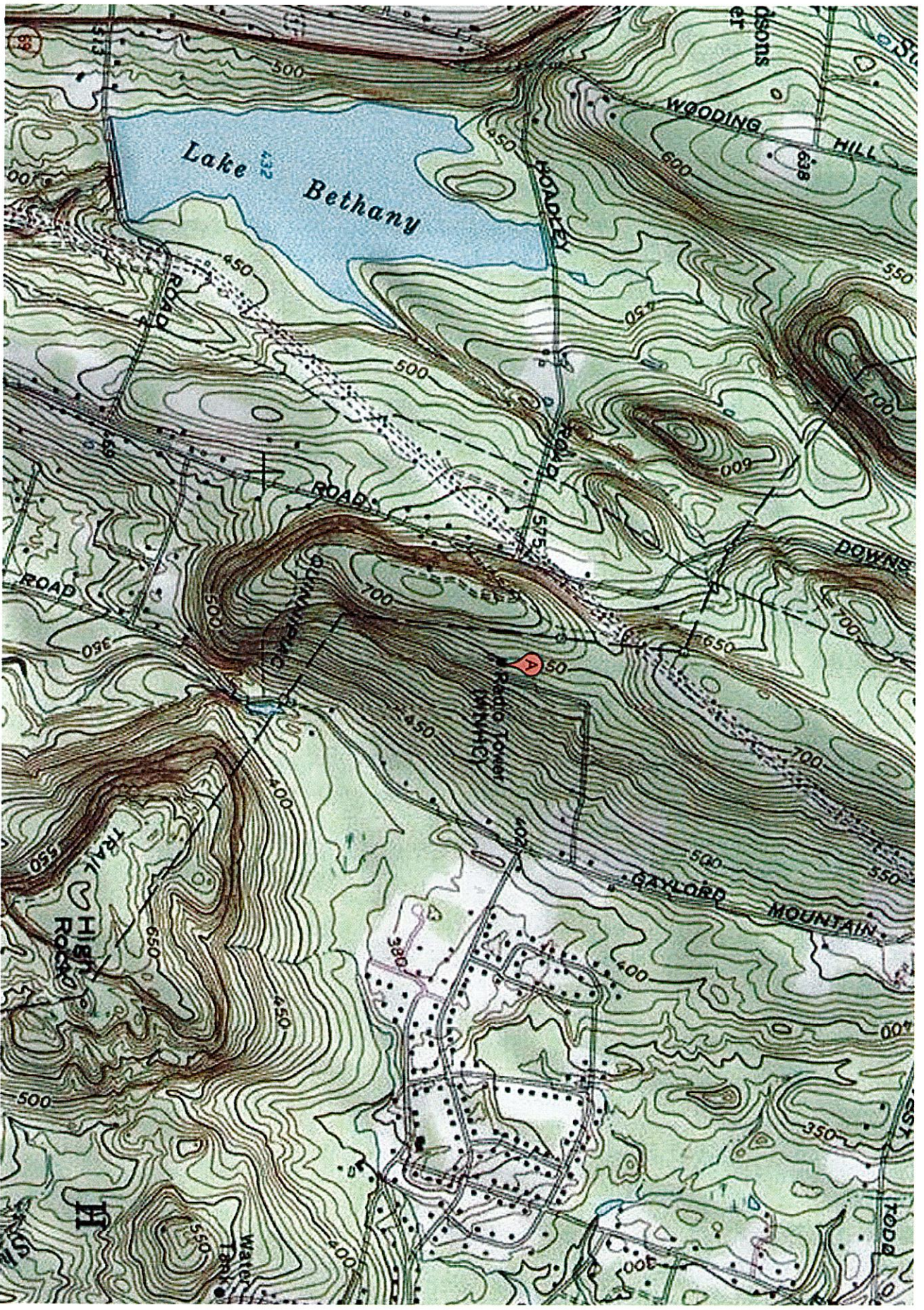
In conclusion, Sprint's proposed modifications do not constitute a modification subject to the Council's review because Sprint will not change the height of the tower, will not extend the boundaries of the compound, will not increase the noise levels at the site, and will probably not increase the total radio frequency electromagnetic radiation power density at the site to levels above applicable standards. Therefore, Sprint respectfully requests that the Council acknowledge that this Notice of Exempt Modification meets the Council's exemption criteria.



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Imagery ©2013 DigitalGlobe, Lu, S. Geological Survey, Map data ©2013 Google



**RADIO FREQUENCY EMISSIONS ANALYSIS REPORT
EVALUATION OF HUMAN EXPOSURE POTENTIAL
TO NON-IONIZING EMISSIONS**

Sprint Existing Facility

Site ID: CT33XC513

**Bethany / L&N Communications
Talmadge Road
Hamden, CT 06518**

September 05, 2012

September 05, 2012

Sprint
Attn: RF Engineering Manager
1 International Boulevard, Suite 800
Mahwah, NJ 07495

Re: Emissions Values for Site **CT33XC513 – Upper Stepney - TLC**

EBI Consulting was directed to analyze the proposed upgrades to the existing Sprint facility located at Talmadge Road, Hamden, CT, for the purpose of determining whether the emissions from the proposed Sprint equipment upgrades on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The number of $\mu\text{W}/\text{cm}^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limit for the cellular band is approximately 567 $\mu\text{W}/\text{cm}^2$, and the general population exposure limit for the PCS band is 1000 $\mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed upgrades to the existing Sprint Wireless antenna facility located at Talmadge Road, Hamden, CT, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. All calculations were performed assuming the main lobe of the antenna was focused at the base of the tower to present a worst case scenario. Actual values seen from this site will be dramatically less than those shown in this report. For this report the sample point is the top of a 6 foot person standing at the base of the tower.

For all calculations, all emissions were calculated using the following assumptions:

- 1) 3 CDMA Carriers (1900 MHz) were considered for each sector of the proposed installation.
- 2) 1 CDMA Carrier (850 MHz) was considered for each sector of the proposed installation
- 3) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 4) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The actual gain in this direction was used per the manufactures supplied specifications.
- 5) The antenna used in this modeling is the RFS APXVSP18-C-A20. This is based on feedback from the carrier with regards to anticipated antenna selection. This antenna has a 15.9 dBd gain value at its main lobe at 1900 MHz and 13.4 dBd at its main lobe for 850 MHz. All calculations were performed assuming the main lobe of the antenna was focused at the base of the tower to present a worst case scenario.



EBI Consulting

environmental | engineering | due diligence

- 6) The antenna mounting height centerline of the proposed antennas is **200.6 feet** above ground level (AGL)
- 7) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

All calculation were done with respect to uncontrolled / general public threshold limits

Summary

All calculations performed for this analysis yielded results that were well within the allowable limits for general public exposure to RF Emissions.

The anticipated Maximum Composite contributions from the Sprint facility are **7.884% (2.628% from each sector)** of the allowable FCC established general public limit considering all three sectors simultaneously sampled at the ground level.

The anticipated composite MPE value for this site assuming all carriers present is **7.884%** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government



Scott Heffernan
RF Engineering Director

EBI Consulting
21 B Street
Burlington, MA 01803



REPORT 362012

DATE: 4/11/2013

STRUCTURAL ANALYSIS
FOR A 907' G-12 GUYED TOWER
NEW HAVEN, CONNECTICUT

PREPARED BY: AP
CHECKED BY: GAF

APPROVED: GAF 4/11/13



PROFESSIONAL ENGINEER	
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of <u>CONNECTICUT</u>	
Print Name:	<u>Gregg A. Fehrman</u>
Signature:	<u>[Signature]</u>
Date: <u>5/2/13</u>	License # <u>27523</u>

Date	Pages	Remarks
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APPENDIX

GENERAL ARRANGEMENT	A-1
TRANSMISSION LINE ARRANGEMENT	A-2



PROFESSIONAL ENGINEER	
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of <u>CONNECTICUT</u>	
Print Name:	<u>Gregg A. Fehrman</u>
Signature:	<u>[Signature]</u>
Date	<u>5/1/13</u> License # <u>27523</u>

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A. AUTHORIZATION/PURPOSE

As authorized by Kolbe Michalski of Infinigy Engineering PLLC, a structural analysis was performed to investigate the adequacy of a 907' guyed G-12 tower in New Haven, Connecticut to support specified equipment.

B. TOWER HISTORY

The tower was originally designed and furnished in 1995 by Stainless, Inc. It was designed in accordance with TIA/EIA-222-E for a wind speed of 85 mph and 73.6 mph with 1/2" ice while supporting the following equipment:

1. One (1) top mounted Dielectric TCL-12A8(S) antenna, fed by two (2) 6-1/8" rigid lines.
2. One (1) top mounted HDTV antenna, fed by one (1) WR1150 waveguide (future).
3. One (1) Dielectric TFU-28JSM antenna, Ch. 59, at the 730' level, fed by one (1) WR1150 waveguide.
4. One (1) Dielectric TFU-28JSM HDTV antenna, Ch. 14, at the 670' level, fed by one (1) WR1150 waveguide (future).
5. Two (2) ENG Super Quad antennas at the 760' level, fed by one (1) 1-5/8" line and one (1) 1/2" control cable (one future).
6. One (1) ERI 6-bay panel type FM antenna at the 610' level, fed by one (1) 6-1/8" rigid line (future).
7. Two (2) Andrew MMDS wireless cable antennas at the 565' level, fed by one (1) EW20 waveguide (future).
8. One (1) ERI SHPX-3AE FM antenna at the 545' level, fed by one (1) 3" line.
9. One (1) ERI SHPX-3AE FM antenna at the 520' level, fed by one (1) 3" line.
10. Three (3) whip antennas at the 750' level, fed by one (1) 1-5/8" line to each.
11. Three (3) whip antennas at the 500' level, fed by one (1) 1-5/8" line to each.
12. Three (3) whip antennas at the 400' level, fed by one (1) 1-5/8" line to each.
13. Three (3) whip antennas at the 350' level, fed by one (1) 1-5/8" line to each (future).
14. Three (3) whip antennas at the 325' level, fed by one (1) 1-5/8" line to each (future).
15. Three (3) whip antennas at the 300' level, fed by one (1) 1-5/8" line to each (future).
16. One (1) Scala PR-450U antenna at the 339' level, fed by one (1) 7/8" line.
17. One (1) Scala PR-450U antenna at the 247' level, fed by one (1) 7/8" line.
18. One (1) 6' grid dish at the 400' level, fed by one (1) 1-5/8" line.
19. Two (2) 6' grid dishes at the 325' level, fed by one (1) 1-5/8" line to each (future).
20. Two (2) 6' grid dishes at the 225' level, fed by one (1) 1-5/8" line to each (future).
21. Two (2) 8' dishes with radomes at the 325' level, fed by one (1) EW63 waveguide to each (one future).

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22. One (1) 8' dish with radome at the 166' level, fed by one (1) EW63 waveguide (future).
23. One (1) 8' dish with radome at the 150' level, fed by one (1) EW63 waveguide (future).
24. One (1) inside climbing ladder with cable type safety device for the full height of the tower.
25. One (1) single car elevator with guide rails, cables, motor and elevator equipment.
26. Ice shields for all side mounted antennas, except the whip antennas.
27. One (1) red lighting system with circuits in rigid conduit for the full height of the tower.

In 1998, the bottom stack Dielectric THP-O-2-1 antenna of the top mounted stack system was installed per Stainless, Inc. Report 362006. The guy wires of all the four levels were also re-tensioned.

C. CONDITIONS INVESTIGATED

The analysis was performed for the tower supporting the following equipment based upon the following sources:

- Stainless LLC Report 362011 dated 9/7/2012.
 - Design Drawings Set for Site No. CT33XC513 dated 5/23/2012 with details of proposed equipment.
1. One (1) top mounted stacked antenna system consisting of one (1) top Dielectric TCL-12A8(S) antenna, Ch. 8, fed by one (1) 6-1/8" rigid coax, on top of one (1) bottom Dielectric THP-O-2-1 antenna, Ch. 10 DTV, fed by one (1) 3-1/8" rigid coax. (NB: The remaining one of the two (2) 6-1/8" coaxes that originally fed the top stacked TCL antenna is now used to feed the proposed Shively 6810-2R antenna, see below)
 2. One (1) 10' whip antenna at the 758' level, fed by one (1) 1-5/8" heliax shared with Items 4 and 5.
 3. One (1) 5' omni antenna at the 750' level, fed by one (1) 7/8" heliax.
 4. One (1) ENG Super Quad antenna at the 744' level, fed by one (1) 1-5/8" line shared with Items 2 and 5 and by one (1) 1/2" control cable.
 5. One (1) Allen Telecom DB408 antenna at the 742' level, fed by one (1) 1-5/8" line shared with Items 2 and 4.
 6. One (1) Dielectric TFU-31E/V-R(S) antenna, Ch. 59, at the 715' level, fed by one (1) WR1150 waveguide.
 7. One (1) ice shield at the 681' level.
 8. One (1) Andrew PL6-65 6' diameter dish antenna with radome at the 678' level, fed by one (1) EW63 and one (1) 1/2" control cable.
 9. One (1) Dielectric TFU 16DSB-B(C) antenna, Ch. 39 DTV, at the 652' level, fed by one (1) 4-1/16" rigid coax.

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10. One (1) Andrew PL6-65 6' diameter dish antenna with radome at the 630' level, fed by one (1) EW63 and one (1) 1/2" control cable.
11. One (1) Shively 6015-2/3R FM antenna at the 591' level, fed by one (1) 4-1/16" line.
12. Two (2) Allen Telcom DB408 antennas at the 529' level, fed by one (1) 7/8" line to each.
13. One (1) Allen Telcom DB408 antenna at the 510' level, fed by one (1) 7/8" line.
14. One (1) Shively 6810-2R 2-bay FM antenna at the 458' level, fed by one (1) existing 6-1/8" rigid coax. (NB: This coax will be cut at the 440' - 480' level and a 20' length of 3" heliax will be used to connect the 6-1/8" rigid coax to the antenna. The remaining length of the 6-1/8" coax from 480' to the top of tower will remain)
15. One (1) unused 15' whip antenna at the 420' level, fed by one (1) 1/2" line.
16. One (1) unused 10' whip antenna at the 420' level, fed by one (1) 1-5/8" line.
17. One (1) 5' omni antenna at the 348' level, fed by one (1) 7/8" heliax.
18. One (1) ice shield at the 346' level.
19. One (1) 6' grid dish at the 339' level, fed by one (1) 7/8" line.
20. Three (3) EMS FR90-17-02-DPL2 antennas at the 315' level, fed by a total of six (6) 7/8" lines.
21. Three (3) RFS APXVSP18-C-A20 panel antennas and six (6) RRHs on three (3) sector mounts at the 200.6' level, fed by three (3) 1-1/4" Hybriflex cables. (**Proposed Final Configuration**) NB: The existing six panel antennas and feed lines will be retained together with the proposed antennas for an interim period. The results reported in Section F are applicable to both interim and final antenna configurations.
22. One (1) ice shield at the 166' level.
23. One (1) Andrew 8' dish with radome at the 160' level, fed by two (2) EW63 waveguides.
24. One (1) unused 15' whip antenna at the 102' level, fed by one (1) 1/2" line.
25. One (1) unused ASPG952 antenna at the 100' level, fed by one (1) 2-1/4" line.
26. One (1) GPS antenna at the 75' level, fed by one (1) 1/2" line.
27. One (1) 1-1/2" support conduit each to the 348', 2 x 420', 529', 758' levels, and to top of tower.
28. Two (2) 1-1/4" support conduits to the 200' level.
29. One (1) inside climbing ladder with cable type safety device for the full height of the tower.
30. One (1) single car elevator with guide rails, cables, motor and elevator equipment.
31. One (1) red lighting system with circuits within one (1) 1" conduit to the 45' level, and one (1) 1-1/2" conduit for the full height of the tower.

The locations of the transmission lines have been based upon the cross section from Stainless Report 362011 dated 9/7/2012 and shown on Page A-2 of this Report. Proposed transmission lines have been located to minimize the wind load on the tower. Deviating from the line arrangement as shown may invalidate the results of this analysis.

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D. LOADS AND STRESSES

The basic design wind speed for the tower per ANSI/TIA/EIA Standard 222-F is 85 mph with no ice. However the 222-F Code does not provide specific ice thicknesses but recommends a minimum of 1/2" uniform radial ice concurrent with 75% of the no ice design wind load which is equivalent to 73.6 mph.

Research however has shown that tower icing is associated with lower wind speeds, and the thickness also increases with height of the tower. These findings are reflected in the latest Revision 222-G of the Code which also now provides specific design ice thicknesses to be used depending on the tower location. Therefore for this analysis, Revision 222-G has been used to determine the ice case loading condition for the tower. The basic design wind speed for the ice case is 39 mph with 3/4" of uniform ice thickness. Due to escalation of ice thickness with height, a uniform ice thickness of 1" was used in the analysis.

The tower was analyzed for a basic wind speed of 85 mph with no ice, and 39 mph with 1" uniform ice per ANSI/TIA/EIA Standard 222-F. Allowable unit stresses and minimum safety factors used to evaluate the adequacy of the structure were in accordance with ANSI/EIA/TIA Standard 222-F.

E. METHOD OF ANALYSIS

The analysis was performed using Stainless, Inc's Beam-Column Analysis Program, a computer operation which idealizes the tower as a continuous beam-column on non-linear, elastic supports (guys) subject to simultaneous transverse (wind) and axial (dead, ice and vertical components of guy tensions) loads.

F. RESULTS

The results of the analysis show the following overstresses:

<u>COMPONENT</u>	<u>LOCATION</u>	<u>% OVERSTRESSED</u>
Tower top plate	Tower top	12
Top bay K-diagonals	Tower top	13

G. CONCLUSIONS AND RECOMMENDATIONS

Based on the preceding results, the following conclusions may be drawn:

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1. The tower supporting equipment as specified in Section C of this Report is not adequate to achieve a basic wind speed rating of 85 mph with no ice and 39 mph with 1" uniform ice in accordance with ANSI/EIA/TIA Standard 222-F.
2. The overstresses detailed in Section F and calculated in accordance with ANSI/EIA/TIA Standard 222-F are due to a smaller allowable stress increase (1.19) compared to the original design value (1.28) utilized when the tower was first built per Revision E of Standard. The original determination of the allowable stress increase under Revision E was based upon the height of the steel tower structure (768.1'). For Revision F, the allowable stress increase determination is based upon the overall height of the height of the tower steel structure including any top-mounted appurtenances (907.9'). The tower top plate and top bay K-diagonals are adequate based upon the provisions of the original 222-E Code.
3. Since the overstresses are due to a change of code methodology and the tower top has performed satisfactorily to date, Stainless LLC is of the opinion that no remediation to the tower top is necessary. However if compliance to the 222-F Code is a necessity, the tower top and K-diagonals will have to be replaced with new, higher strength components.

H. PROVISIONS OF ANALYSIS

The analysis performed and the conclusions contained herein are based on the assumption that the tower has been properly installed and maintained, including, but not limited to the following:

1. Proper alignment and plumbness.
2. Correct guy tensions.
3. Correct bolt tightness.
4. No significant deterioration or damage to any component.

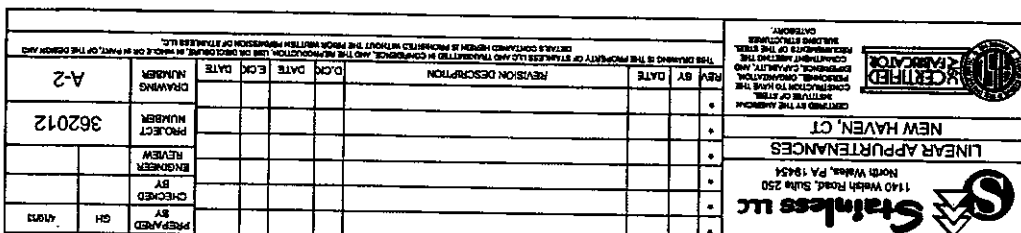
Furthermore, the information and conclusions contained in this Report were determined by application of the current "state-of-the-arts" engineering and analysis procedures and formulae, and Stainless LLC assumes no obligations to revise any of the information or conclusions contained in this Report in the event that such engineering and analysis procedures and formulae are hereafter modified or revised. In addition, under no circumstances will Stainless LLC have any obligation or responsibility whatsoever for or on account of consequential or incidental damages sustained by any person, firm or organization as a result of any information or conclusions contained in the Report, and the maximum liability of Stainless LLC, if any, pursuant to this Report shall be limited to the total funds actually received by Stainless LLC for preparation of this Report.

Customer has requested Stainless LLC to prepare and submit to Customer an engineering analysis with respect to the Subject Tower and has further requested Stainless LLC to make appropriate recommendations regarding suggested structural modifications and changes to the Subject Tower. In making such request of Stainless LLC, Customer has informed Stainless

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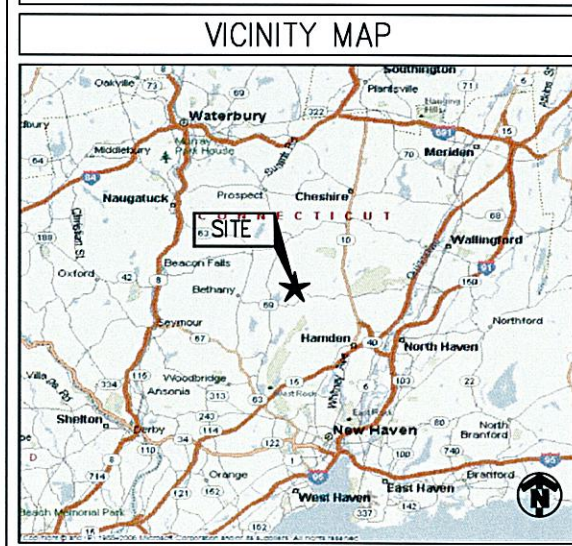
LLC that Customer will make a determination as to whether or not to implement any of the changes or modifications which may be suggested by Stainless LLC and that Customer will have any such changes or modifications made by riggers, erectors and other subcontractors of Customer's choice.

Customer hereby agrees and acknowledges that Stainless LLC shall have no liability whatsoever to Customer or to others for any work or services performed by any persons other than Stainless LLC in connection with the implementation of any structural changes or modifications recommended by Stainless LLC including but not limited to any services rendered for Customer or for others by riggers, erectors or other subcontractors. Customer acknowledges and agrees that any riggers, erectors or subcontractors retained or employed by Customer shall be solely responsible to Customer and to others for the quality of work performed by them and that Stainless LLC shall have no liability or responsibility whatsoever as a result of any negligence or breach of contract by any such rigger, erector or subcontractor.



SHEET INDEX	
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C9	DETAILS
E1	UTILITY SITE PLAN
E2	ONE-LINE DIAGRAMS AND DETAILS
E3	GROUNDING PLAN AND DETAILS

DRIVING DIRECTIONS	
DEPART FROM SPRINT: 1 INTERNATIONAL BLVD. MAHWAH, NJ 07495	
1. HEAD SOUTH ON INTERNATIONAL BLVD TOWARD AVE OF AMERICAS 0.1 MI 2. TURN RIGHT ONTO PARK LN 197 FT 3. CONTINUE STRAIGHT ONTO LEISURE LN 0.1 MI 4. SLIGHT RIGHT ONTO NJ-17 N 0.3 MI 5. MERGE ONTO I-287 N/NJ-17 N VIA THE RAMP ON THE LEFT TO I-87/N.Y. THRUWAY ENTERING NEW YORK 0.6 MI 6. KEEP RIGHT AT THE FORK, FOLLOW SIGNS FOR I-87 S/I-287/TAPPAN ZEE BR/NEW YORK CITY/NEW YORK THRUWAY AND MERGE ONTO I-287 E/I-87 N CONTINUE TO FOLLOW I-287 E PARTIAL TOLL ROAD 26.3 MI 7. TAKE EXIT 9N-9S FOR HUTCHINSON PKWY TOWARD WHITESTONE BRIDGE/MERRITT PKWY 0.2 MI 8. MERGE ONTO WESTCHESTER AVE E 0.3 MI 9. TAKE THE HUTCHINSON PKWY N RAMP TO MERRITT PKWY 0.2 MI 10. MERGE ONTO HUTCHINSON RIVER PKWY N ENTERING CONNECTICUT 3.1 MI 11. CONTINUE ONTO CT-15 N 46.5 MI 12. TAKE EXIT 59 FOR CT-69 TOWARD CT-63/NEW HAVEN/ROCKY HILL 0.1 MI 13. TURN LEFT ONTO CT-69 N/WHALLEY AVE CONTINUE TO FOLLOW CT-69 N 3.3 MI 14. SLIGHT RIGHT ONTO DOWNS RD 1.1 MI 15. SLIGHT RIGHT ONTO BROOKS RD 1.9 MI 16. CONTINUE ONTO W WOODS RD 0.5 MI 17. CONTINUE ONTO GAYLORD MOUNTAIN RD 0.1 MI 18. TURN LEFT ONTO TALMADGE RD 0.4 MI.	





Sprint

NETWORK VISION MMBTS LAUNCH CONNECTICUT MARKET

SITE NAME

BETHANY / L & N COMMUNICATION

SITE NUMBER

CT33XC513

SITE ADDRESS

TALMADGE ROAD
HAMDEN, CT 06518

STRUCTURE TYPE

GUY TOWER



UNDERGROUND
SERVICE ALERT
CALL TOLL FREE
1-800-922-4455
THREE WORKING DAYS BEFORE YOU DIG

PROJECT TEAM

ALCATEL-LUCENT

808 AVIATION PARKWAY
SUITE 700
MORRISVILLE, NC 27650

PROJECT MANAGER

infinigy engineering

11 Herbert Drive
Latham, NY 12110
OFFICE #: (518) 690-0790
FAX #: (518) 690-0793

ENGINEER

SCOPE OF WORK:

- HANDICAP ACCESS REQUIREMENTS ARE NOT REQUIRED
- FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
- FACILITY HAS NO PLUMBING OR REFRIGERANTS
- THIS FACILITY SHALL MEET OR EXCEED ALL FAA AND FCC REGULATORY REQUIREMENTS
- ALL NEW MATERIAL SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR UNLESS NOTED OTHERWISE. CABINETS, ANTENNAS/RRU AND CABLES FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR
- INSTALL NEW ANTENNAS/RRH'S ON EXISTING TOWER
- INSTALL NEW BTS OR RETROFIT EXISTING BTS IN EXISTING EQUIPMENT AREA
- REMOVE EXISTING CDMA ANTENNAS AND COAX CABLES
- SPRINT TO REPLACE EXISTING POWER CABINET WITH NEW SECOND BATTERY CABINET OR INSTALL NEW SECOND BATTERY CABINET IF THERE IS AVAILABLE SPACE IN EXISTING SPRINT LEASE AREA.

PROJECT SUMMARY	
<u>SITE NAME:</u>	BETHANY / L & N COMMUNICATION
<u>SITE NO.:</u>	CT33XC513
<u>SITE ADDRESS:</u>	TALMADGE ROAD HAMDEN, CT 06518
<u>COUNTY:</u>	NEW HAVEN
<u>SITE COORDINATES:</u>	
<u>LATITUDE:</u>	41° 25' 23.01" N (NAD 83)
<u>LONGITUDE:</u>	72° 57' 04.00" W (NAD 83)
<u>GROUND ELEV.:</u>	±654' (AMSL)
<u>JURISDICTION:</u>	TOWN OF HAMDEN
<u>APPLICANT:</u>	SPRINT 1 INTERNATIONAL BLVD. MAHWAH, NJ 07495
<u>LAND OWNER:</u>	LIN TELEVISION CORPORATION ONE WEST EXCHANGE STREET SUITE 5A PROVIDENCE, RI 02903
<u>CONSTRUCTION MANAGER:</u>	TODD AMANN 914-715-9363
<u>BUILDING CODE:</u>	2003 INTERNATIONAL BUILDING CODE 2005 CONNECTICUT BUILDING CODE W/ 2009 AMENDMENT
<u>ELECTRICAL CODE:</u>	2005 NATIONAL ELECTRIC CODE

ENGINEER'S LICENSE	
CERTIFICATION STATEMENT: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF CONNECTICUT.	
LICENSED ENGINEER - STATE OF CONNECTICUT	

APPROVALS	
SPRINT CONST.	DATE
ALU RF	DATE
ALU LEASING/SITE ACQ.	DATE
IN-MARKET CONSTRUCTION LEAD	DATE
SITE OWNER	NAME/COMPANY: DATE

A/E Consultant:

infinigy engineering

11 Herbert Drive
Latham, NY 12110
(518) 690-0790

STATE OF CONNECTICUT
Professional Engineer
No. 24705
LICENSED

Project Number: 286-044

Project Title: CT33XC513 BETHANY/L&N COMMUNICATIONS

Client: Sprint

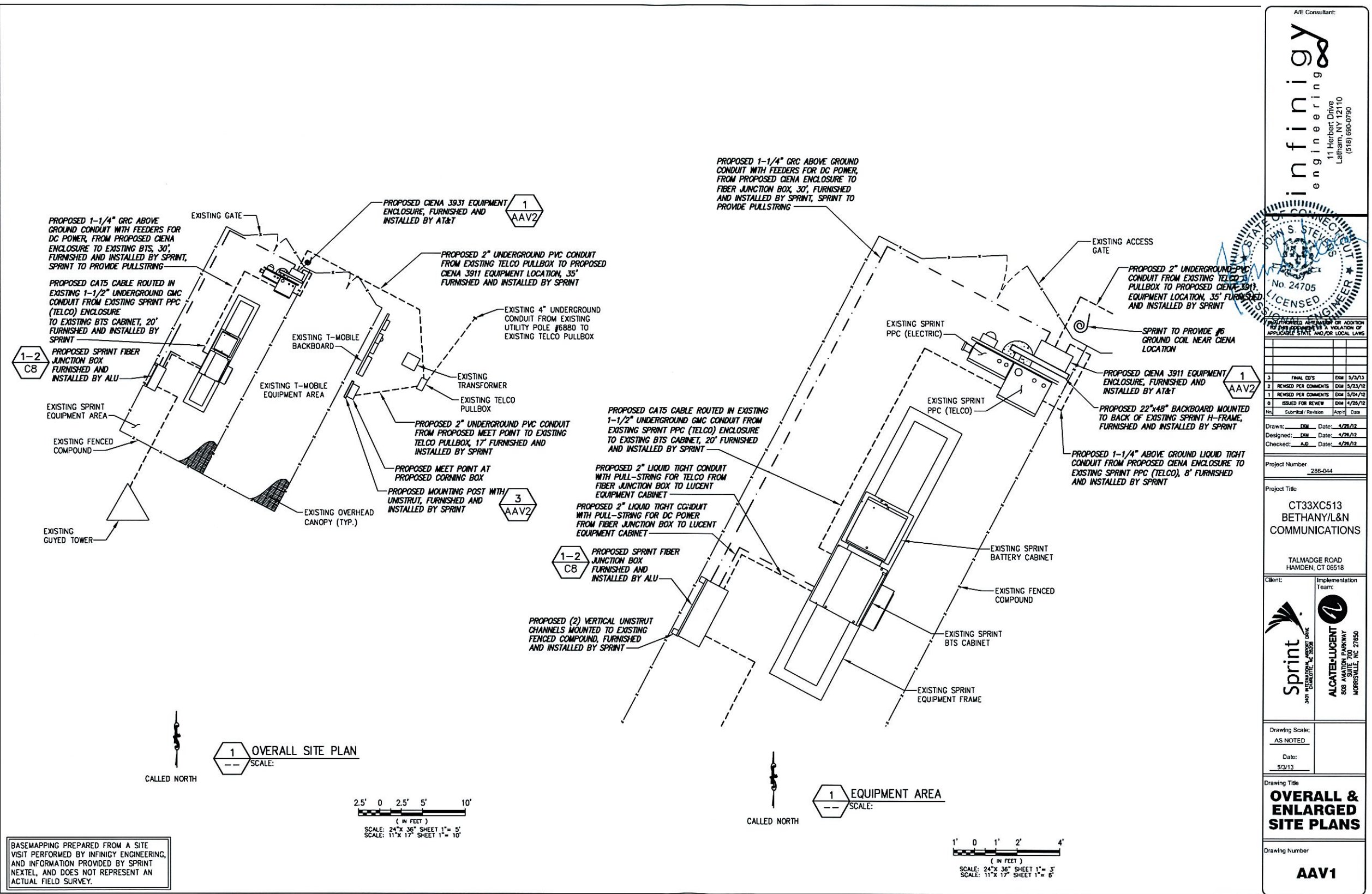
Implementation Team: ALCATEL-LUCENT

Drawing Scale: AS NOTED

Date: 5/3/13

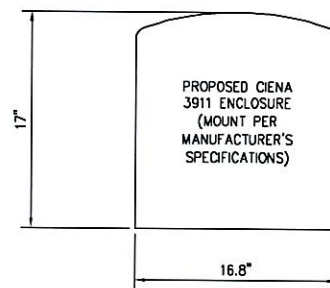
Drawing Title: **TITLE SHEET**

Drawing Number: **T1**



1. 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.
2. 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.
3. 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.
4. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OF PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
5. 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.
6. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDORS SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
7. THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
8. 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.
9. 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.
10. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
11. THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
12. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
13. THE CONTRACTOR SHALL NOTIFY THE 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 CONFLICT IS RESOLVED BY THE REPRESENTATIVE.
14. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
15. ALL UNDERGROUND UTILITY INFORMATION WAS DETERMINED FROM SURFACE INVESTIGATIONS AND EXISTING PLANS OF RECORD OR VIA A REPRESENTATIVE. THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO ANY SITE WORK. SEE UNDERGROUND UTILITY COMPANY SHEET T-1 (DIG SAFE, MISS UTILITY, ETC.)
16. IF ASSUMED EXISTING CONDITION DIFFERS, ENGINEER MUST BE INFORMED OF ACTUAL FIELD CONDITION.
17. REFER TO THE SITE PLAN FOR APPROXIMATE LENGTH OF ALL U/G WORK AND LOCATION. FINAL LOCATION TO BE DETERMINED BY CLIENT. ALL MATERIALS TO BE USED AS ACCORDING TO DETAIL INSTRUCTIONS. ALL MATERIALS NOT INCLUDED IN THE DETAILS SHALL BE USED ACCORDING TO CODE AND/OR LOCAL JURISDICTION REGULATIONS INCLUDING MATERIALS, PREPARATION, EXACERBATION, EQUIPMENT AND INSTALLATION FOR UNDERGROUND WORK.
18. CONTRACTOR TO COORDINATE WITH SPRINT & PROVIDE GROUND BOND PER NE-250 & SPRINT STANDARDS FOR CLIENT EQUIPMENT AS REQUIRED.
19. ALL ELECTRICAL SPECIFICATIONS SHALL BE IN STRICT ACCORDANCE TO SECTIONS 16010, 16075, 16110, 16120, 16410 AND 16450 OF THE N.E.C.




1. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
2. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AN PROCURED PER SPECIFICATION REQUIREMENTS. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
3. 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 REQUIREMENT IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALIC CONDUITS
4. PROVISION OF AC/DC POWER IN UNDER SEPARATE SCOPE OF WORK
5. GROUNDING SHALL COMPLY WITH NEC ART. 250. APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION FITTINGS. TEST COMPLETED GROUND SYSTEM AND ENSURE ADEQUACY.
6. CONTRACTOR TO PROVIDE GALV. P1000 UNISTRUT FRAMING AND 3/8" GALV. U-BOLTS/BOLTS AS NECESSARY FOR EXISTING CONDITIONS AND TO VERIFY SPACE IS APPROVED BY ALL NECESSARY PARTIES.



NOTE:
NUMBER AND SIZE OF CONDUITS MAY VARY. SEE DWG
E1 FOR CONDUIT SIZE AND LOCATION. CONFIRM CONDUIT
SEPARATION AND DIMENSIONS SHOWN WITH LOCAL
UTILITY COMPANY.

The drawing consists of three views of a meter board:

- PLAN VIEW:** Shows the top-down layout. It features a central vertical line labeled "V.L.F." (Vertical Line of Face). A small square indicates a hole or notch in the center.
- METER BOARD ELEVATION:** Shows the side profile of the board. It includes three horizontal struts labeled "TS3x3x3/8 (TYP)". The vertical distance between the top and bottom struts is marked as "6'-3\"". The board is shown resting on a "FINISH GRADE" surface. The depth of the board is indicated as "1'-2\"".
- END VIEW:** Shows the end profile of the board. It includes a dimension of "3 Sides (TYP)" and a small square indicating a hole or notch in the center.

A/E Consultant: infinity engineering 11 Herbert Drive Latham, NY 12110 (518) 690-0790	
	
PROJECTED ALTERATION OR ADDITION TO PREVIOUS DRAWING IS A VIOLATION OF APPLICABLE STATE AND/OR LOCAL LAWS	
3	FINAL CDS
2	REVISED PER COMMENTS
1	REVISED PER COMMENTS
0	ISSUED FOR REVIEW
Rev	Submittal / Revision App'd Date
Drawn:	DOM Date: 4/26/12
Designed:	DOM Date: 4/26/12
Checked:	AJO Date: 4/26/12
Project Number	
286-044	
Project Title	
CT33XC513 BETHANY/L&N COMMUNICATIONS	
TALMADGE ROAD HAMDEN, CT 06518	
Client:  Sprint <small>WIRELESS SERVICE PROVIDER</small>	Implementation Team:  ALCATEL-LUCENT <small>808 AVIATION PARKWAY SUITE 100 MORRISTOWN, NJ 07960</small>
Drawing Scale: <u>AS NOTED</u>	Date: <u>5/3/13</u>
NOTES & DETAILS	
Drawing Number	
AAV2	

GENERAL NOTES

PART 1 – GENERAL REQUIREMENTS

- 1.1 THE WORK SHALL COMPLY WITH APPLICABLE NATIONAL CODES AND STANDARDS, LATEST EDITION, AND PORTIONS THEREOF, INCLUDED BUT NOT LIMITED TO THE FOLLOWING:
 - A. GR-63-CORE NEBS REQUIREMENTS: PHYSICAL PROTECTION
 - B. GR-78-CORE GENERIC REQUIREMENTS FOR THE PHYSICAL DESIGN AND MANUFACTURE OF TELECOMMUNICATIONS EQUIPMENT.
 - C. NATIONAL FIRE PROTECTION ASSOCIATION CODES AND STANDARDS (NFPA) INCLUDING NFPA 70 (NATIONAL ELECTRICAL CODE - "NEC").
 - D. AND NFPA 101 (LIFE SAFETY CODE).
 - E. AMERICAN SOCIETY FOR TESTING OF MATERIALS (ASTM).
 - F. INSTITUTE OF ELECTRONIC AND ELECTRICAL ENGINEERS (IEEE).
- 1.2 DEFINITIONS:
 - A. WORK: THE SUM OF TASKS AND RESPONSIBILITIES IDENTIFIED IN THE CONTRACT DOCUMENTS.
 - B. COMPANY: SPRINT NEXTEL CORPORATION
 - C. ENGINEER: SYNONYMOUS WITH ARCHITECT & ENGINEER AND "A&E". THE DESIGN PROFESSIONAL HAVING PROFESSIONAL RESPONSIBILITY FOR THE DESIGN OF THE PROJECT.
 - D. CONTRACTOR: CONSTRUCTION CONTRACTOR; CONSTRUCTION VENDOR; INDIVIDUAL OR ENTITY WHO AFTER EXECUTION OF A CONTRACT IS BOUND TO ACCOMPLISH THE WORK.
 - E. THIRD PARTY VENDOR OR AGENCY: A VENDOR OR AGENCY ENGAGED SEPARATELY BY THE COMPANY, A&E, OR CONTRACTOR TO PROVIDE MATERIALS OR TO ACCOMPLISH SPECIFIC TASKS RELATED TO BUT NOT INCLUDED IN THE WORK.
- 1.3 POINT OF CONTACT: COMMUNICATION BETWEEN THE COMPANY AND THE CONTRACTOR SHALL FLOW THROUGH THE SINGLE COMPANY SITE DEVELOPMENT SPECIALIST OR OTHER PROJECT COORDINATOR APPOINTED TO MANAGE THE PROJECT FOR THE COMPANY.
- 1.4 ON-SITE SUPERVISION: THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL EMPLOY A COMPETENT SUPERINTENDENT WHO SHALL BE IN ATTENDANCE AT THE SITE AT ALL TIMES DURING PERFORMANCE OF THE WORK.
- 1.5 DRAWINGS, SPECIFICATIONS AND DETAILS REQUIRED AT JOBSITE: THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN A FULL SET OF THE CONSTRUCTION DRAWINGS, STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES, AND THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES AT THE JOBSITE FROM MOBILIZATION THROUGH CONSTRUCTION COMPLETION.
 - A. THE JOBSITE DRAWINGS, SPECIFICATIONS AND DETAILS SHALL BE CLEARLY MARKED DAILY IN PENCIL WITH ANY CHANGES IN CONSTRUCTION OVER WHAT IS DEPICTED IN THE DOCUMENTS. AT CONSTRUCTION COMPLETION, THIS JOBSITE MARKUP SET SHALL BE DELIVERED TO THE COMPANY OR COMPANY'S DESIGNATED REPRESENTATIVE. TO BE FORWARDED TO THE COMPANY'S A&E VENDOR FOR PRODUCTION OF "AS-BUILT" DRAWINGS.
- 1.6 USE OF JOB SITE: THE CONTRACTOR SHALL CONFINE ALL CONSTRUCTION AND RELATED OPERATIONS INCLUDING STAGING AND STORAGE OF MATERIALS AND EQUIPMENT, PARKING, TEMPORARY FACILITIES, AND WASTE STORAGE TO THE LEASE PARCEL UNLESS OTHERWISE PERMITTED BY THE CONTRACT DOCUMENTS.
- 1.7 NOTICE TO PROCEED:
 - A. NO WORK SHALL COMMENCE PRIOR TO COMPANY'S WRITTEN NOTICE TO PROCEED.
 - B. UPON RECEIVING NOTICE TO PROCEED, CONTRACTOR SHALL FULLY PERFORM ALL WORK NECESSARY TO PROVIDE SPRINT NEXTEL WITH AN OPERATIONAL WIRELESS FACILITY.

PART 2 – EXECUTION

- 2.1 TEMPORARY UTILITIES AND FACILITIES: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY UTILITIES AND FACILITIES NECESSARY EXCEPT AS OTHERWISE INDICATED IN THE CONSTRUCTION DOCUMENTS. TEMPORARY UTILITIES AND FACILITIES INCLUDE, POTABLE WATER, HEAT, HVAC, ELECTRICITY, SANITARY FACILITIES, WASTE DISPOSAL FACILITIES, AND TELEPHONE/COMMUNICATION SERVICES. PROVIDE TEMPORARY UTILITIES AND FACILITIES IN ACCORDANCE WITH OSHA AND THE AUTHORITY HAVING JURISDICTION. CONTRACTOR MAY UTILIZE THE COMPANY ELECTRICAL SERVICE IN THE COMPLETION OF THE WORK WHEN IT BECOMES AVAILABLE. USE OF THE LESSORS OR SITE OWNER'S UTILITIES OR FACILITIES IS EXPRESSLY FORBIDDEN EXCEPT AS OTHERWISE ALLOWED IN THE CONTRACT DOCUMENTS.
- 2.2 ACCESS TO WORK: THE CONTRACTOR SHALL PROVIDE ACCESS TO THE JOB SITE FOR AUTHORIZED COMPANY PERSONNEL AND AUTHORIZED REPRESENTATIVES OF THE ARCHITECT/ENGINEER DURING ALL PHASES OF THE WORK.
- 2.3 TESTING: REQUIREMENTS FOR TESTING BY THIS CONTRACTOR SHALL BE AS INDICATED HEREWITH, ON THE CONSTRUCTION DRAWINGS, AND IN THE INDIVIDUAL SECTIONS OF THESE SPECIFICATIONS. SHOULD COMPANY CHOOSE TO ENGAGE ANY THIRD-PARTY TO CONDUCT ADDITIONAL TESTING, THE CONTRACTOR SHALL COOPERATE WITH AND PROVIDE A WORK AREA FOR COMPANY'S TEST AGENCY.

- 2.4 COMPANY FURNISHED MATERIAL AND EQUIPMENT: ALL HANDLING, STORAGE AND INSTALLATION OF COMPANY FURNISHED MATERIAL AND EQUIPMENT SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.
 - A. CONTRACTOR SHALL PROCURE ALL OTHER REQUIRED WORK RELATED MATERIALS NOT PROVIDED BY SPRINT NEXTEL TO SUCCESSFULLY CONSTRUCT A WIRELESS FACILITY.
- 2.5 DIMENSIONS: VERIFY DIMENSIONS INDICATED ON DRAWINGS WITH FIELD DIMENSIONS BEFORE FABRICATION OR ORDERING OF MATERIALS. DO NOT SCALE DRAWINGS.
- 2.6 EXISTING CONDITIONS: NOTIFY THE COMPANY REPRESENTATIVE OF EXISTING CONDITIONS DIFFERING FROM THOSE INDICATED ON THE DRAWINGS. DO NOT REMOVE OR ALTER STRUCTURAL COMPONENTS WITHOUT PRIOR WRITTEN APPROVAL FROM THE ARCHITECT AND ENGINEER.

PART 3 – RECEIPT OF MATERIAL & EQUIPMENT

- 3.1 RECEIPT OF MATERIAL AND EQUIPMENT:
CONTRACTOR IS RESPONSIBLE FOR SPRINT NEXTEL PROVIDED MATERIAL AND EQUIPMENT
AND UPON RECEIPT SHALL:
- A. ACCEPT DELIVERIES AS SHIPPED AND TAKE RECEIPT.
 - B. VERIFY COMPLETENESS AND CONDITION OF ALL DELIVERIES.
 - C. TAKE RESPONSIBILITY FOR EQUIPMENT AND PROVIDE INSURANCE PROTECTION
AS REQUIRED IN AGREEMENT.
 - D. REPORT ANY RECEIVED DAMAGES AND WITHIN TWENTY-FOUR HOURS AFTER
RECEIPT, REPORT TO SPRINT NEXTEL OR ITS DESIGNATED PROJECT
REPRESENTATIVE OF SUCH.
 - E. PROVIDE SECURE AND NECESSARY WEATHER PROTECTED WAREHOUSING.
 - F. COORDINATE SAFE AND SECURE TRANSPORTATION OF MATERIAL AND
EQUIPMENT, DELIVERING AND OFF-LOADING FROM CONTRACTOR'S WAREHOUSE
TO SITE.

PART 4 – GENERAL REQUIREMENTS FOR CONSTRUCTION

- 4.1 CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH, AT THE COMPLETION OF THE WORK. CONTRACTOR SHALL REMOVE FROM THE SITE ALL REMAINING RUBBISH, IMPLEMENTS, TEMPORARY FACILITIES, AND SURPLUS MATERIALS.
- 4.2 EQUIPMENT ROOMS SHALL AT ALL TIMES BE MAINTAINED "BROOM CLEAN" AND CLEAR OF DEBRIS.
- 4.3 CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO DISCOVER AND LOCATE ANY HAZARDOUS CONDITION.
 - A. IN THE EVENT CONTRACTOR ENCOUNTERS ANY HAZARDOUS CONDITION WHICH HAS NOT BEEN ABATED OR OTHERWISE MITIGATED, CONTRACTOR AND ALL OTHER PERSONS SHALL IMMEDIATELY STOP WORK IN THE AFFECTED AREA AND NOTIFY COMPANY IN WRITING. THE WORK IN THE AFFECTED AREA SHALL NOT BE RESUMED EXCEPT BY WRITTEN NOTIFICATION BY COMPANY.
 - B. CONTRACTOR AGREES TO USE CARE WHILE ON THE SITE AND SHALL NOT TAKE ANY ACTION THAT WILL OR MAY RESULT IN OR CAUSE THE HAZARDOUS CONDITION TO BE FURTHER RELEASED IN THE ENVIRONMENT, OR TO FURTHER EXPOSE INDIVIDUALS TO THE HAZARD.
- 4.4 CONTRACTOR'S ACTIVITIES SHALL BE RESTRICTED TO THE PROJECT LIMITS. SHOULD AREAS OUTSIDE THE PROJECT LIMITS BE AFFECTED BY CONTRACTOR'S ACTIVITIES, CONTRACTOR SHALL IMMEDIATELY RETURN THEM TO ORIGINAL CONDITION
- 4.5 CONDUCT TESTING AS REQUIRED HEREIN.

PART 5 – TESTS AND INSPECTIONS

- 5.1 TESTS AND INSPECTIONS:
- A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTS, INSPECTIONS AND PROJECT DOCUMENTATION.
 - B. CONTRACTOR SHALL COORDINATE TEST AND INSPECTION SCHEDULES WITH COMPANY'S REPRESENTATIVE WHO MUST BE ON SITE TO WITNESS SUCH TESTS AND INSPECTIONS.
 - C. WHEN THE USE OF A THIRD PARTY INDEPENDENT TESTING AGENCY IS REQUIRED, THE AGENCY THAT IS SELECTED MUST PERFORM SUCH WORK ON A REGULAR BASIS IN THE STATE WHERE THE PROJECT IS LOCATED AND HAVE A THOROUGH UNDERSTANDING OF LOCAL AVAILABLE MATERIALS, INCLUDING THE SOIL, ROCK, AND GROUNDWATER CONDITIONS.
 - D. THE THIRD PARTY TESTING AGENCY IS TO BE FAMILIAR WITH THE APPLICABLE REQUIREMENTS FOR THE TESTS TO BE DONE, EQUIPMENT TO BE USED, AND ASSOCIATED HEALTH AND SAFETY ISSUES.
 - E. SITE RESISTANCE TO EARTH TESTING PER EXHIBIT: CELL SITE GROUNDING SYSTEM DESIGN.
 - F. ANTENNA AND COAX SWEEP TESTS PER EXHIBIT: ANTENNA TRANSMISSION LINE ACCEPTANCE STANDARDS. HYBERFLEX TESTING NOT LIMITED TO COAX SWEEPS.
 - G. ALL OTHER TESTS REQUIRED BY COMPANY OR JURISDICTION.

PART 6 – TRENCHING AND BACKFILLING

- 6.1 TRENCHING AND BACKFILLING: THE CONTRACTOR SHALL PERFORM ALL EXCAVATION OF EVERY DESCRIPTION AND OF WHATEVER SUBSTANCES ENCOUNTERED, TO THE DEPTHS INDICATED ON THE CONSTRUCTION DRAWINGS OR AS OTHERWISE SPECIFIED.
- A. PROTECTION OF EXISTING UTILITIES: THE CONTRACTOR SHALL CHECK WITH THE LOCAL UTILITIES AND THE RESPECTIVE UTILITY LOCATOR COMPANIES PRIOR TO STARTING EXCAVATION OPERATIONS IN EACH RESPECTIVE AREA TO ASCERTAIN THE LOCATIONS OF KNOWN UTILITY LINES. THE LOCATIONS, NUMBER AND TYPES OF EXISTING UTILITY LINES DETAILED ON THE CONSTRUCTION DRAWINGS ARE APPROXIMATE AND DO NOT REPRESENT EXACT INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ALL LINES DAMAGED DURING EXCAVATION AND ALL ASSOCIATED OPERATIONS. ALL UTILITY LINES UNCOVERED DURING THE EXCAVATION OPERATIONS, SHALL BE PROTECTED FROM DAMAGE DURING EXCAVATION AND ASSOCIATED OPERATIONS. ALL REPAIRS SHALL BE APPROVED BY THE UTILITY COMPANY.
 - B. HAND DIGGING: UNLESS APPROVED IN WRITING OTHERWISE, ALL DIGGING WITHIN AN EXISTING CELL SITE COMPOUND IS TO BE DONE BY HAND.
 - C. DURING EXCAVATION, MATERIAL SUITABLE FOR BACKFILLING SHALL BE STOCKPILED IN AN ORDERLY MANNER A SUFFICIENT DISTANCE FROM THE BANKS OF THE TRENCH TO AVOID OVERLOADING AND TO PREVENT SLIDES OR CAVE-INS. ALL EXCAVATED MATERIALS NOT REQUIRED OR SUITABLE FOR BACKFILL SHALL BE REMOVED AND DISPOSED OF AT THE CONTRACTOR'S EXPENSE.
 - D. GRADING SHALL BE DONE AS MAY BE NECESSARY TO PREVENT SURFACE WATER FROM FLOWING INTO TRENCHES OR OTHER EXCAVATIONS, AND ANY WATER ACCUMULATING THEREIN SHALL BE REMOVED BY PUMPING OR BY OTHER APPROVED METHOD.
 - E. SHEETING AND SHORING SHALL BE DONE AS NECESSARY FOR THE PROTECTION OF THE WORK AND FOR THE SAFETY OF PERSONNEL. UNLESS OTHERWISE INDICATED, EXCAVATION SHALL BE OPEN CUT, EXCEPT THAT SHORT SECTIONS OF A TRENCH MAY BE TUNNELED IF, THE CONDUIT CAN BE SAFELY AND PROPERLY INSTALLED AND BACKFILL CAN BE PROPERLY TAMPED IN SUCH TUNNEL SECTIONS. EARTH EXCAVATION SHALL COMPRISE ALL MATERIALS AND SHALL INCLUDE CLAY, SILT, SAND, MUCK, GRAVEL, HARDPAN, LOOSE SHALE, AND LOOSE STONE.
 - F. TRENCHES SHALL BE OF NECESSARY WIDTH FOR THE PROPER LAYING OF THE CONDUIT OR CABLE, AND THE BANKS SHALL BE AS NEARLY VERTICAL AS PRACTICABLE. THE BOTTOM OF THE TRENCHES SHALL BE ACCURATELY GRADED TO PROVIDE UNIFORM DRAINAGE AND SUPPORT FOR EACH SECTION OF THE CONDUIT OR CABLE ON UNDISTURBED SOIL. AT EVERY POINT ALONG ITS ENTIRE LENGTH, EXCEPT WHERE ROCK IS ENCOUNTERED, CARE SHALL BE TAKEN NOT TO EXCAVATE BELOW THE DEPTHS INDICATED. WHERE ROCK EXCAVATIONS ARE NECESSARY, THE ROCK SHALL BE EXCAVATED TO A MINIMUM OVER DEPTH OF 6 INCHES BELOW THE TRENCH DEPTHS INDICATED ON THE CONSTRUCTION DRAWINGS OR SPECIFIED. OVER DEPTHS IN THE ROCK EXCAVATION AND UNAUTHORIZED OVER DEPTHS SHALL BE THOROUGHLY BACK FILLED AND TAMPED TO THE APPROPRIATE GRADE. WHENEVER MET OR OTHERWISE UNSTABLE SOIL THAT IS INCAPABLE OF PROPERLY SUPPORTING THE CONDUIT OR CABLE IS ENCOUNTERED IN THE BOTTOM OF THE TRENCH, SUCH SOIL SHALL BE REMOVED TO A MINIMUM OVER DEPTH OF 6 INCHES AND THE TRENCH BACKFILLED TO THE PROPER GRADE WITH EARTH OF OTHER SUITABLE MATERIAL, AS HEREINAFTER SPECIFIED.
 - G. BACKFILLING OF TRENCHES. TRENCHES SHALL NOT BE BACKFILLED UNTIL ALL SPECIFIED TESTS HAVE BEEN PERFORMED AND ACCEPTED. WHERE COMPACTED BACKFILL IS NOT INDICATED THE TRENCHES SHALL BE CAREFULLY BACKFILLED WITH SELECT MATERIAL SUCH AS EXCAVATED SOILS THAT ARE FREE OF ROOTS, SOD, RUBBISH OR STONES, DEPOSITED IN 6 INCH LAYERS AND THOROUGHLY AND CAREFULLY RAMMED UNTIL THE CONDUIT OR CABLE HAS A COVER OF NOT LESS THAN 1 FOOT. THE REMAINDER OF THE BACKFILL MATERIAL SHALL BE GRANULAR IN NATURE AND SHALL NOT CONTAIN ROOTS, SOD, RUBBING, OR STONES OF 2-1/2 INCH MAXIMUM DIMENSION. BACKFILL SHALL BE CAREFULLY PLACED IN THE TRENCH AND IN 1 FOOT LAYERS AND EACH LAYER TAMPED. SETTLING THE BACKFILL WITH WATER WILL BE PERMITTED. THE SURFACE SHALL BE GRADED TO A REASONABLE UNIFORMITY AND THE MOUNDING OVER THE TRENCHES LEFT IN A UNIFORM AND NEAT CONDITION.

PROJECT INFORMATION

THIS IS AN UNMANNED AND RESTRICTED ACCESS EQUIPMENT FACILITY AND WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNALS FOR THE PURPOSE OF PROVIDING PUBLIC WIRELESS COMMUNICATIONS SERVICE.

NO POTABLE WATER SUPPLY IS TO BE PROVIDED AT THIS LOCATION.

NO WASTE WATER WILL BE GENERATED AT THIS LOCATION.

NO SOLID WASTE WILL BE GENERATED AT THIS LOCATION.

SPRINT MAINTENANCE CREW (TYPICALLY ONE PERSON) WILL MAKE AN AVERAGE OF ONE TRIP PER MONTH AT ONE HOUR PER VISIT.

LEGEND

SYMBOL	DESCRIPTION
	CIRCUIT BREAKER
	NON-FUSIBLE DISCONNECT SWITCH
	FUSIBLE DISCONNECT SWITCH
	SURFACE MOUNTED PANEL BOARD
	TRANSFORMER
	KILOWATT HOUR METER
	JUNCTION BOX
	PULL BOX TO NEC/TELCO STANDARDS
-----	UNDERGROUND UTILITIES
	DENOTES REFERENCE NOTE
●	EXOTHERMIC WELD CONNECTION
■	MECHANICAL CONNECTION (E.G. LUG) C-
	GROUND ROD
	GROUND ROD WITH INSPECTION SLEEVE
	GROUND BAR
	PIN AND SLEEVE RECEPTACLE
	120AC DUPLEX RECEPTACLE
	GROUND CONDUCTOR

	REPRESENTS DETAIL NUMBER
	REF. DRAWING NUMBER

ABBREVIATIONS

CIGBE	COAX ISOLATED GROUND BAR EXTERNAL
MIGB	MASTER ISOLATED GROUND BAR
SST	SELF SUPPORTING TOWER
GPS	GLOBAL POSITIONING SYSTEM
TYP.	TYPICAL
DWG	DRAWING
BCW	BARE COPPER WIRE
BFG	BELOW FINISH GRADE
PVC	POLYVINYL CHLORIDE
CAB	CABINET
C	CONDUIT
SS	STAINLESS STEEL
G	GROUND
AWG	AMERICAN WIRE GAUGE
RGS	RIGID GALVANIZED STEEL
AHJ	AUTHORITY HAVING JURISDICTION
TTLNA	TOWER TOP LOW NOISE AMPLIFIER
UNO	UNLESS NOTED OTHERWISE
EMT	ELECTRICAL METALLIC TUBING
AGL	ABOVE GROUND LEVEL
PVC	POLYVINYL CHLORIDE

A/E Consultant:

infinigy
engineering



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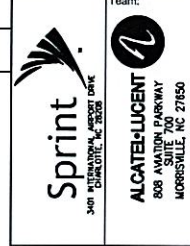
Project Number	286-044
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Project Title

CT33XC513
BETHANY/L&N
COMMUNICATIONS

TALMADGE ROAD
HAMDEN, CT 06518

Client:	Implementation Team:
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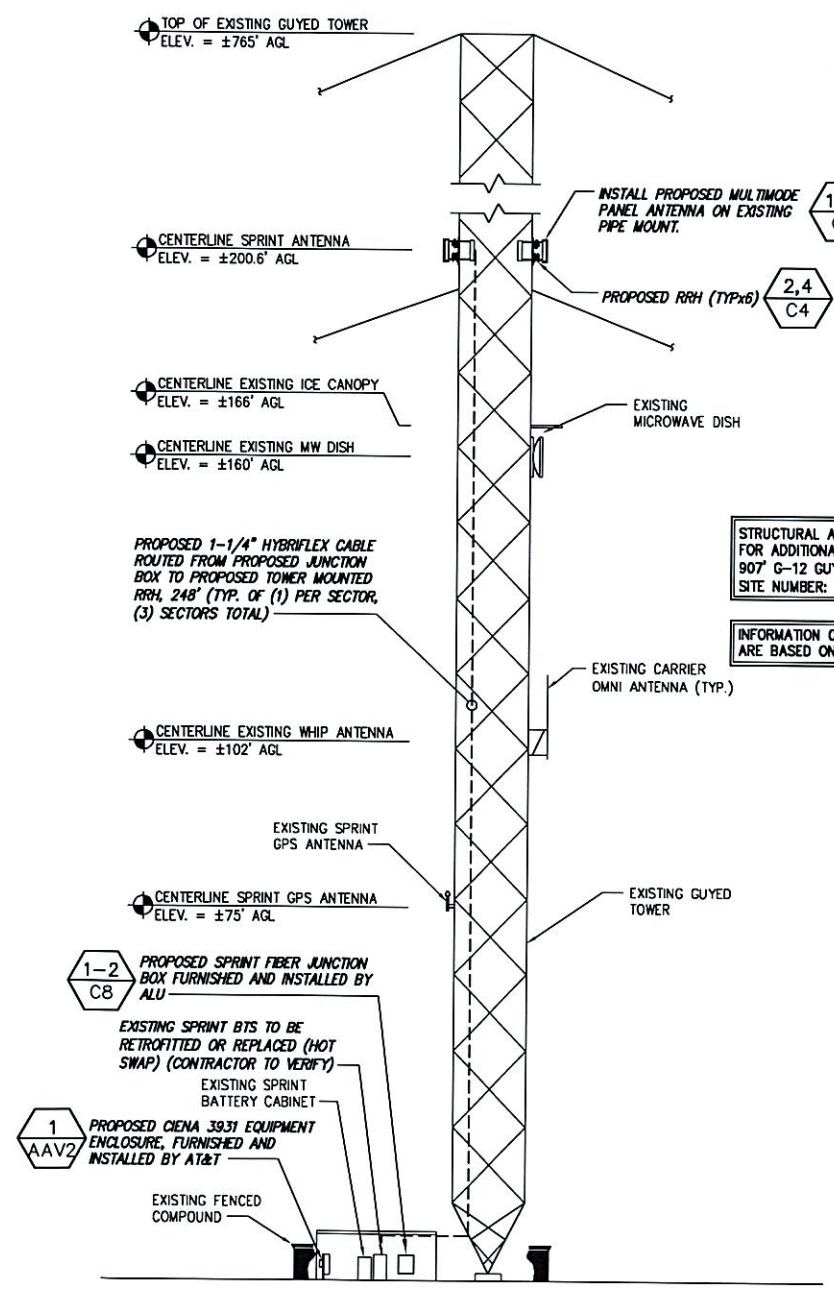
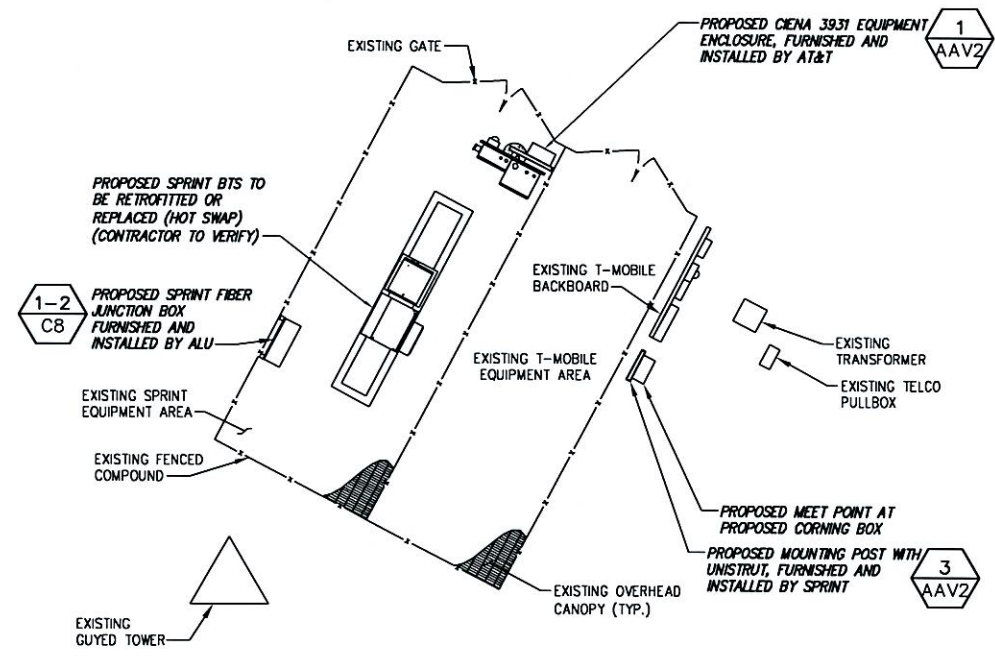
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Drawing Title	

GENERAL NOTES

Drawing Number

C1



2 SITE ELEVATION

NOT TO SCALE

STRUCTURAL ANALYSIS COMPLETED BY STAINLESS, LLC. FOR ADDITIONAL INFORMATION, SEE REPORT: TITLED: 907' G-12 GUYED TOWER NEW HAVEN, CONNECTICUT, SITE NUMBER: CT33XC513 DATED: 4/11/13.

INFORMATION CONTAINED WITHIN DRAWINGS ARE BASED ON PROVIDED INFORMATION.

infiniting
engineering

11 Herbert Drive
Latham, NY 12110
(518) 680-0790

Professional Engineer

John S. Steves, Jr.

No. 24705

State of Connecticut

3	FINAL CDS	DM	5/2/13
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Project Title:

CT33XC513
BETHANY/L&N
COMMUNICATIONS

TALMADGE ROAD
HAMDEN, CT 06518

Client:

Implementation Team:

808 PARKWAY
SUITE 700
MORRISTOWN, NJ 07960

Drawing Scale:
AS NOTED

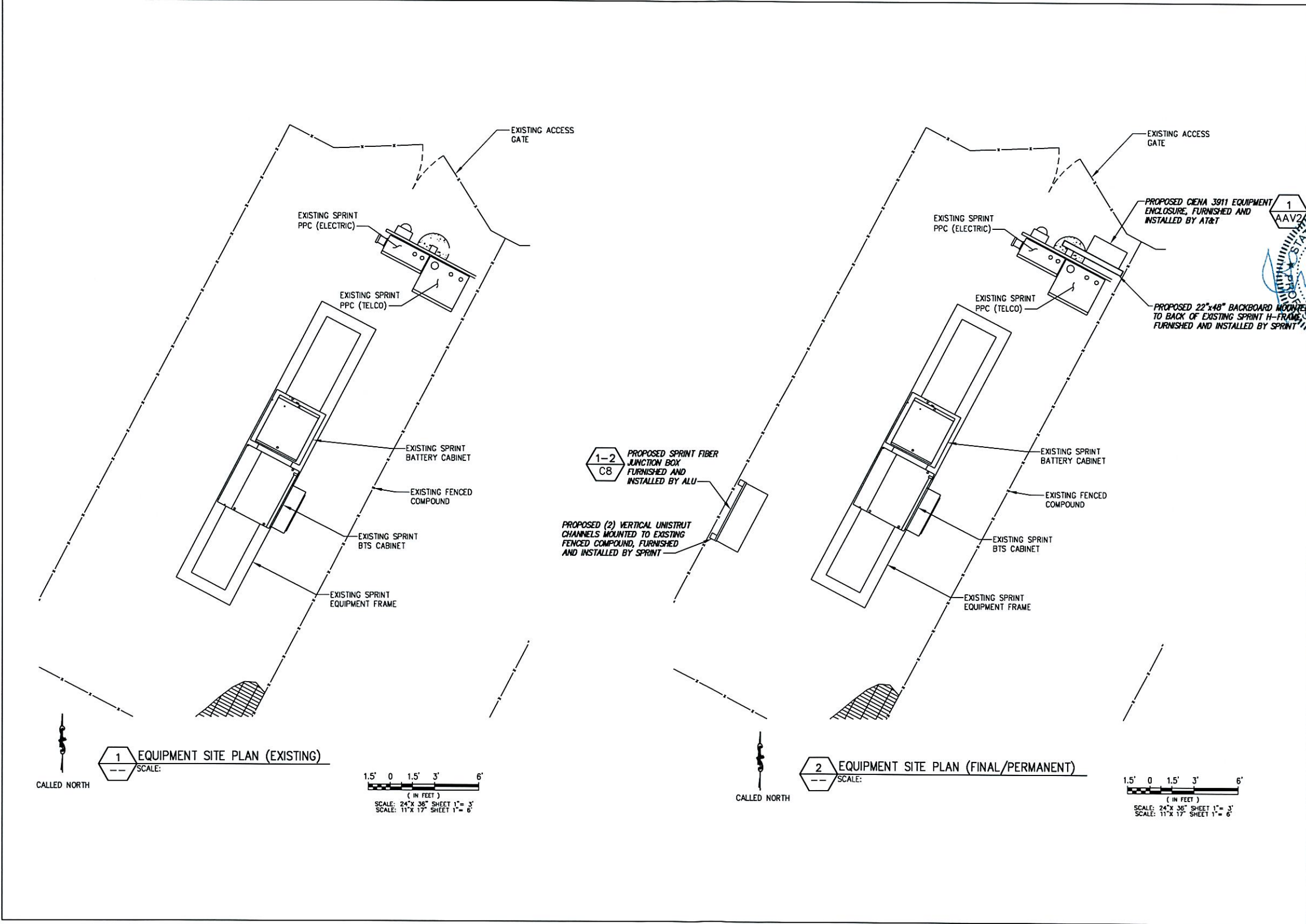
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5/3/13

Drawing Title:

COMPOUND
SITE PLAN

Drawing Number:

C2



A/E Consultant:

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STATE OF CONNECTICUT
No. 24705
LICENSED PROFESSIONAL ENGINEER

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BETHANY/L&N COMMUNICATIONS

TALMADGE ROAD
HAMDEN, CT 06518

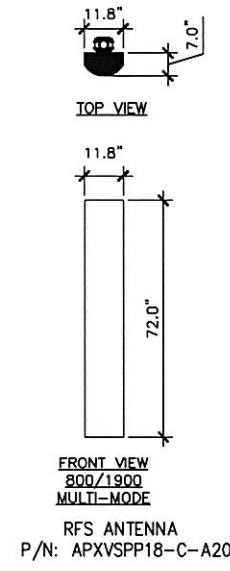
Client: Sprint
Implementation Team: ALCATEL-LUCENT

800 FARMINGTON AVENUE
SUITE 700
MORRISVILLE, NC 27560

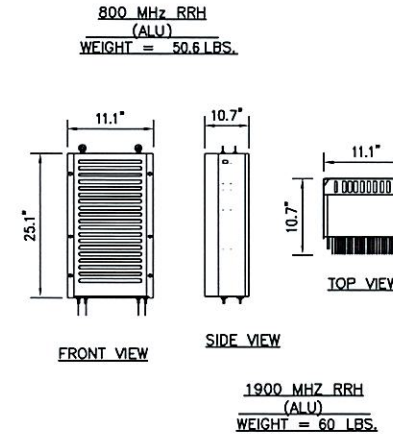
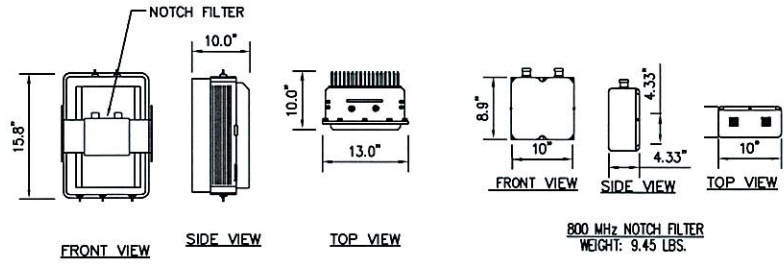
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Date: 5/3/13

Drawing Title: **EQUIPMENT SITE PLANS**

Drawing Number: **C3**

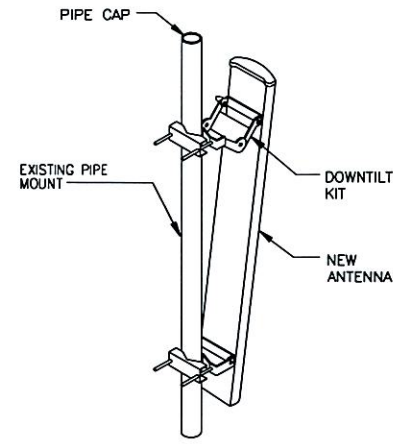


1 ANTENNA DETAILS
-- NOT TO SCALE

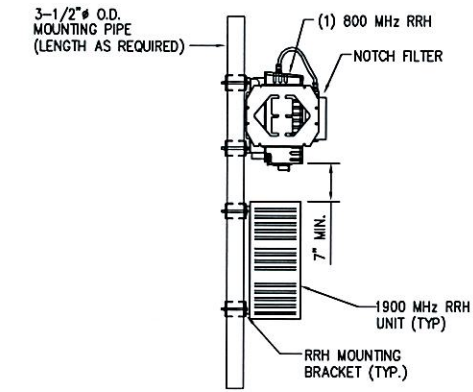
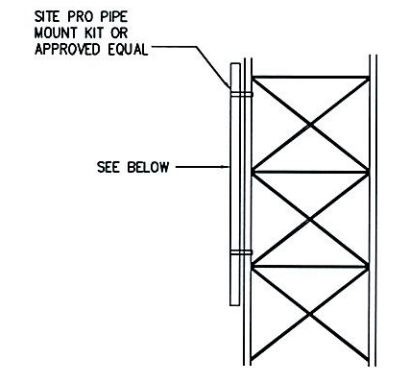


2 RRH EQUIPMENT DETAILS
-- NOT TO SCALE

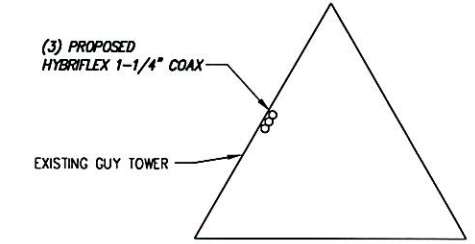
NOTE:
REFER TO R.F. SYSTEM SCHEDULE FOR EXACT RRH
SPECIFICATIONS AND QUANTITIES.



3 PANEL ANTENNA MOUNT DETAIL
-- NOT TO SCALE



4 RRH MOUNTING DETAIL (TYP.)
-- NOT TO SCALE



5 COAX ROUTING DETAIL
-- NOT TO SCALE

NOTE:
1. SUBCONTRACTOR SHALL REFERENCE THE TOWER STRUCTURAL ANALYSIS/DESIGN DRAWINGS FOR DIRECTIONS ON CABLE DISTRIBUTION/ROUTING.

A/E Consultant:
infinigy
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(518) 680-0790



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BETHANY/L&N
COMMUNICATIONS

TALMADGE ROAD
HAMDEN, CT 06518

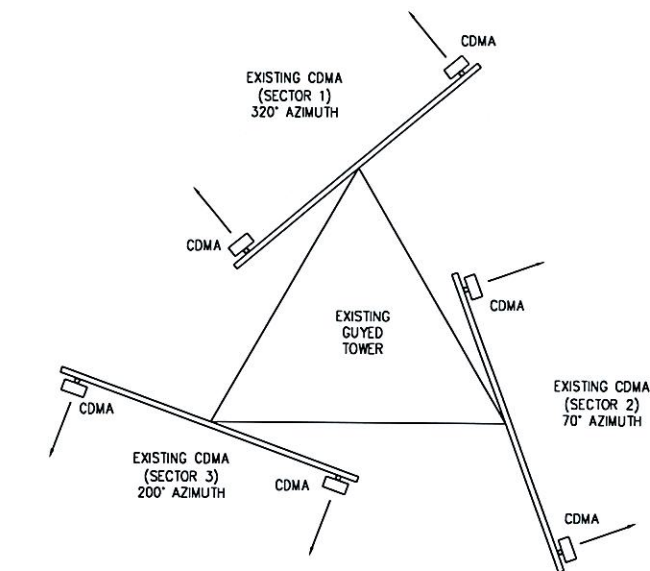
Client: Implementation Team:



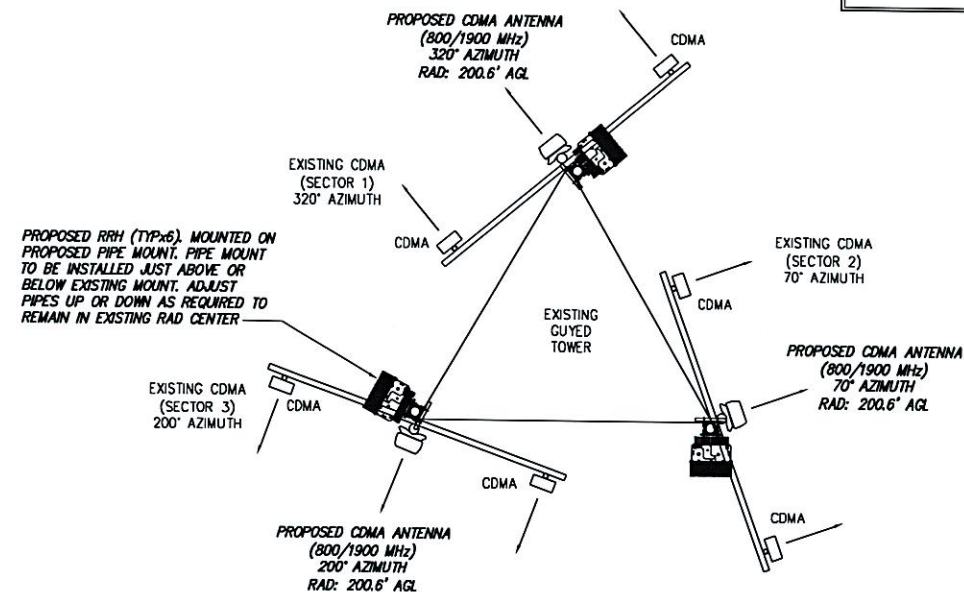
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Drawing Title:
SITE ELEVATION & ANTENNA/RRH DETAILS

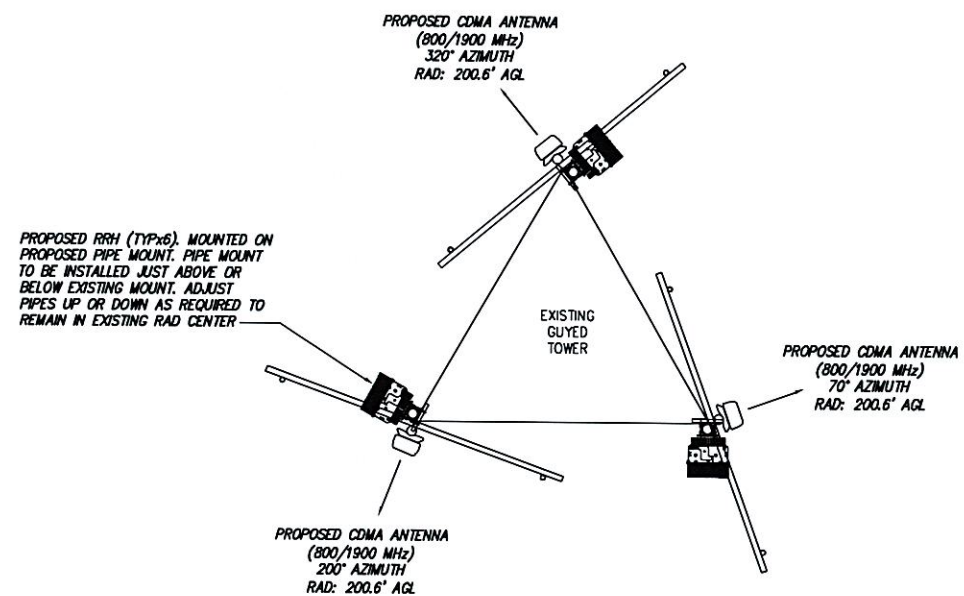
Drawing Number:
C4



1 ANTENNA CONFIGURATION (EXISTING)
NOT TO SCALE



2 ANTENNA CONFIGURATION (INTERIM/TEMPORARY)
NOT TO SCALE



3 ANTENNA CONFIGURATION (FINAL/PERMANENT)
NOT TO SCALE

NOTE:
REQUIRED PIPE MOUNTS TO BE SUPPLIED BY
CONTRACTOR.

NOTES:
EXISTING RF DATA PROVIDED BY SPRINT SIERRA,
CLEARWIRE BUILD APPLICATION - EBTS ANTENNA
CONFIGURATION, DATED 11/23/09.

RRH NOTES:
- SEE PAGE C4 FOR RRH MOUNTING INFORMATION
(TYP. ALL SECTORS).
- REFER TO RF SCHEDULE ON SHEET C7 FOR RRH
UNIT SPECS AND QUANTITIES.

- GENERAL NOTES:**
1. NEW SPRINT PANEL ANTENNAS TO MEET RF DESIGN REQUIREMENTS PER EBTS, PER APPROVED STRUCTURAL ANALYSIS.
 2. CONTRACTOR TO PROVIDE EXISTING ANTENNA VERIFICATION AND TO INCLUDE MOUNTING HEIGHT, RAD CENTER, TOP AND BOTTOM OF ANTENNA AND AZIMUTHS FOR ALL ANTENNAS.
 3. CONTRACTOR SHALL VERIFY NEW PARTS BEFORE ORDERING.
 4. REFER TO SHEET C7 FOR ANTENNAS SPECS.
 5. CONTRACTOR TO USE PROPER TORQUE WHEN INSTALLING AND TIGHTENING CONNECTORS TO INSURE PROPER FIT.
 6. ALL HYBRID CABLES SHALL BE MARKED WITHIN 24" OF THE END OF EACH CABLE WITH 2" WIDE VINYL TAPE. THIS INCLUDES ALL JUMPERS AND MAIN LINE HYBRID CABLE.
 7. CDMA ANTENNAS SHALL NOT BE REMOVED UNTIL ALL NEW MULTI-MODE ANTENNAS ARE INSTALLED AND ON-AIR.

A/E Consultant:

infinigy
engineering
11 Herbert Drive
Latham, NY 12110
(518) 890-0790



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Project Number: 286-044

Project Title:
CT33XC513
BETHANY/L&N
COMMUNICATIONS

TALMADGE ROAD
HAMDEN, CT 06518

Client:

Implementation Team:



Drawing Scale:

AS NOTED

Date:

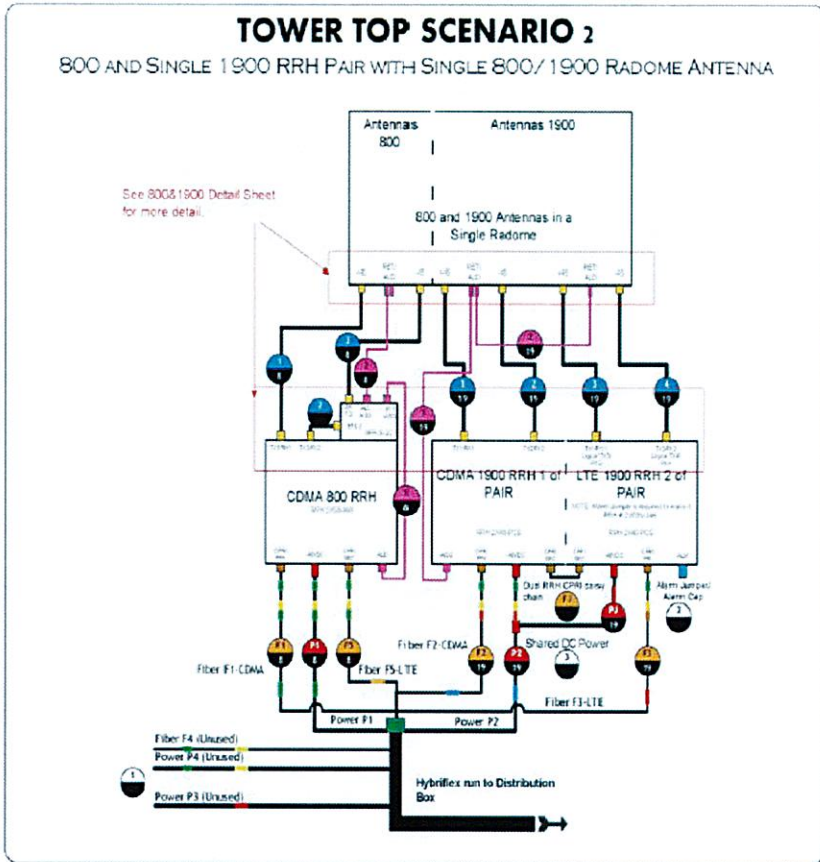
5/2/13

Drawing Title:

**ANTENNA
PLANS**

Drawing Number:

C5



Power Feed Polarity Definition

- Black -48VDC Feed (Battery)
- Black/White Stripes - Return

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

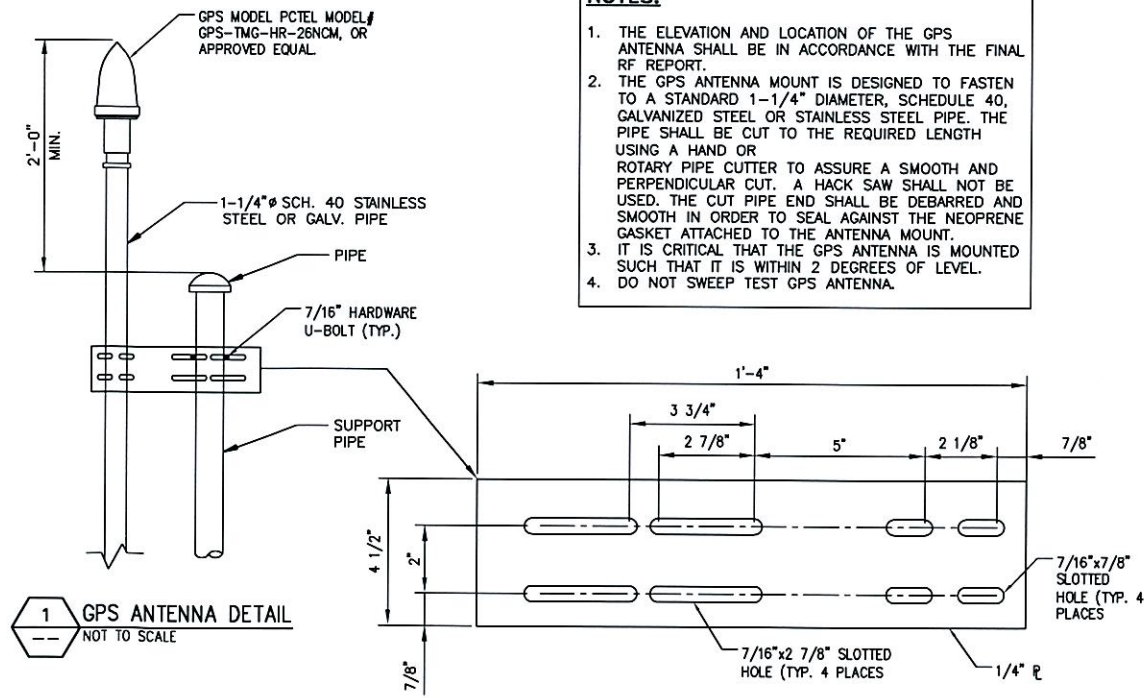
- MM Pair 1 - P1 - Green - P1 (Green)
- MM Pair 2 - P2 - Blue - P2 (Blue)
- MM Pair 3 - P3 - Red - P3 (Red)
- MM Pair 4 - P4 - Yellow - P4 (Yellow)
- MM Pair 5 - P5 - Orange - P5 (Orange)

OEM COLOR CODE

HYBRIFLEX

NOTES:

CONTRACTOR TO FIELD VERIFY GPS LOCATION.



GPS MINIMUM SKY VIEW REQUIREMENTS

NOTES:

- THE ELEVATION AND LOCATION OF THE GPS ANTENNA SHALL BE IN ACCORDANCE WITH THE FINAL RF REPORT.
- THE GPS ANTENNA MOUNT IS DESIGNED TO FASTEN TO A STANDARD 1-1/4" DIAMETER, SCHEDULE 40, GALVANIZED STEEL OR STAINLESS STEEL PIPE. THE PIPE SHALL BE CUT TO THE REQUIRED LENGTH USING A HAND OR ROTARY PIPE CUTTER TO ASSURE A SMOOTH AND PERPENDICULAR CUT. A HACK SAW SHALL NOT BE USED. THE CUT PIPE END SHALL BE DEBARRED AND SMOOTH IN ORDER TO SEAL AGAINST THE NEOPRENE GASKET ATTACHED TO THE ANTENNA MOUNT.
- IT IS CRITICAL THAT THE GPS ANTENNA IS MOUNTED SUCH THAT IT IS WITHIN 2 DEGREES OF LEVEL.
- DO NOT SWEEP TEST GPS ANTENNA.

INSTALLER VERIFY LATEST PLUMBING/WIRING DIAGRAMS, PRIOR TO INSTALLATION.

WEATHERPROOFING CONNECTORS AND GROUND KITS NOTE:

A. ALL CONNECTORS AND GROUND KITS SHALL BE WEATHERPROOFED USING BUTYL RUBBER WEATHERPROOFING AND TAPE, THIS INSTALLATION MUST BE DONE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION OR PER THE FOLLOWING INSTRUCTIONS (WHICHEVER IS GREATER):

- THE COAXIAL CABLE CONNECTION OR GROUND KIT CAN BE ENCOMPASSED INTO COLD SHRINK AND COMPLETELY WRAPPED WITH 2 IN. WIDE ELECTRICAL TAPE OVERLAPPING EACH ROW BY APPROXIMATELY 1/2" AND EXTENDING PAST THE CONNECTION BY TWO INCHES AS DISCUSSED BELOW; OR
- THE COAXIAL CABLE CONNECTION OR GROUND KIT CAN BE WRAPPED WITH LAYERS OF ELECTRICAL/BUTYL RUBBER/ELECTRICAL TAPE AS DISCUSSED BELOW; OR
- THE COAXIAL CABLE CONNECTION OR GROUND KIT CAN BE WRAPPED WITH TWO LAYERS OF 1.5 INCH WIDE SELF-AMALGAMATING TAPE COVERED WITH TWO LAYERS OF ELECTRICAL TAPE.

RRH JUMPERS NOTES:

- FOR DISTANCES BETWEEN RRH'S AND ANTENNAS LESS THAN 10'-0" USE A 1/2" JUMPER.
- FOR DISTANCES BETWEEN RRH'S AND ANTENNAS GREATER THAN 10'-0" USE A 7/8" JUMPER.

A/E Consultant:

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No. 24705
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TALMADGE ROAD
HAMDEN, CT 06518

Client: Sprint

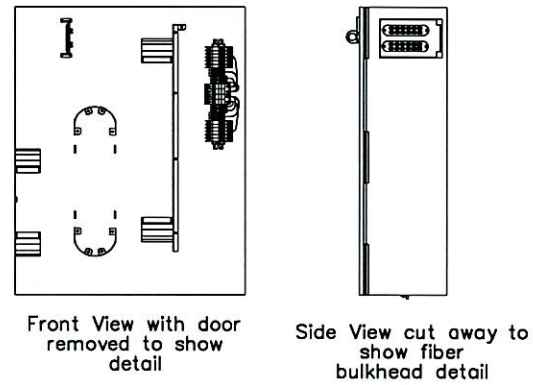
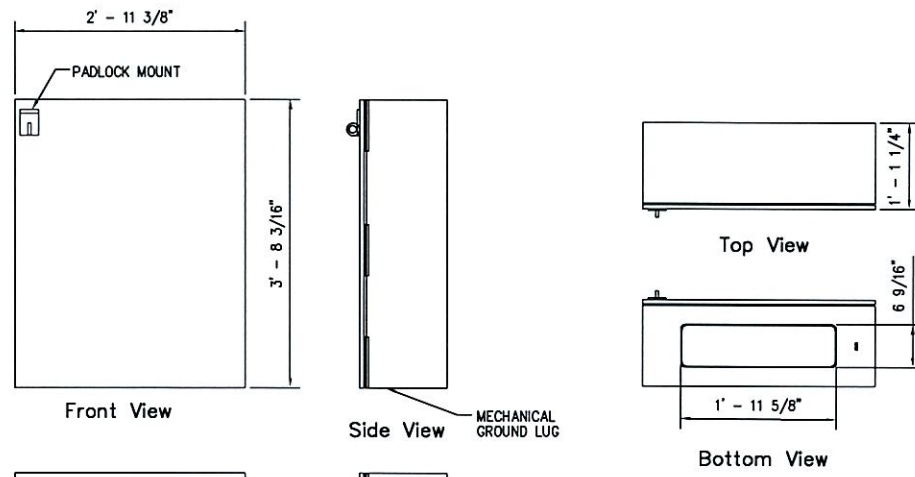
Implementation Team: ALCATEL-LUCENT

808 AVIATION PARKWAY
SUITE 200
MORRISTOWN, NJ 07960

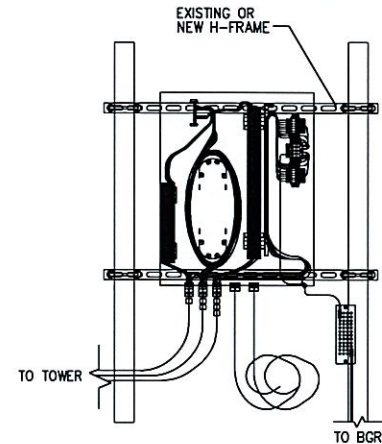
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Drawing Title: **ANTENNA CABLE RISER AND H-FRAME DETAILS**

Drawing Number: **C6**

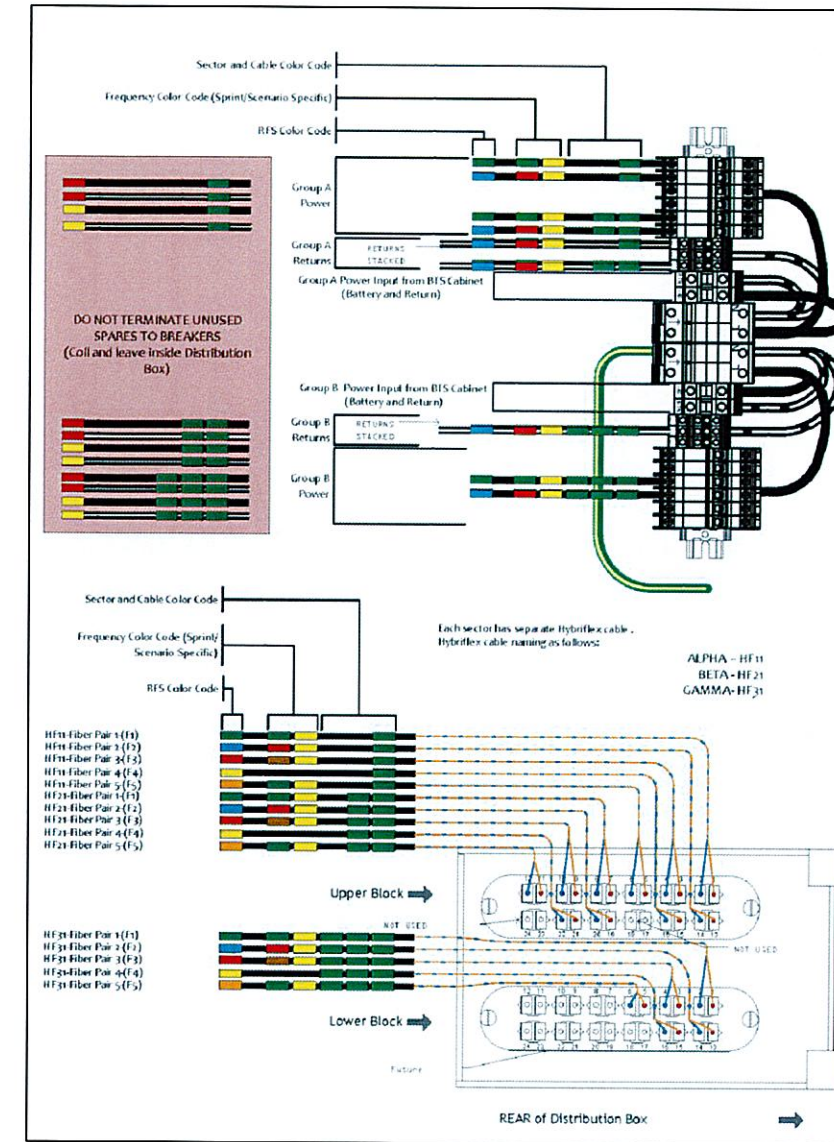


1 DISTRIBUTION BOX DETAIL
-- NOT TO SCALE



2 DISTRIBUTION BOX INSTALL COMPLETE VIEW
-- NOT TO SCALE

- NOTES:**
- DISTRIBUTION BOX IS KITTED WITH 2" LIQUID-TIGHT CONDUIT AND CONNECTORS. THIS SHOULD BE:
 - * SPLIT IN HALF,
 - * TERMINATED TO THE DISTRIBUTION BOX AS SHOWN,
 - * RAN TO AND COILED AS CLOSE TO WHERE THE CABINET IS GOING TO BE MOUNTED AS POSSIBLE.
 - DISTRIBUTION BOX IS KITTED WITH 24AWG, POWER CABLE 27' x 2EA. RUNS RED AND 2EA. RUNS BLACK. THIS SHOULD BE COILED AND LEFT INSIDE DISTRIBUTION BOX.
 - BTS INSTALLATION TEAM WILL TERMINATE LIQUID-TIGHT, RUN THE FIBER JUMPERS AND POWER CABLES FROM BTS CABINET TO DISTRIBUTION BOX.



INSTALLER VERIFY LATEST PLUMBING/WIRING DIAGRAMS, PRIOR TO INSTALLATION.

3 FIBER & DC CONNECTION DETAILS
-- NOT TO SCALE

A/E Consultant:

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No. 24705
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Project Title: CT33XC513 BETHANY/L&N COMMUNICATIONS

TALMADGE ROAD
HAMDEN, CT 06518

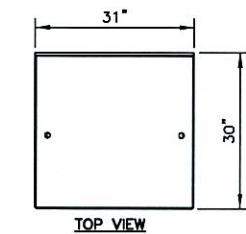
Client: Sprint
Implementation Team: ALCATEL-LUCENT

808 AVATION PARKWAY
MORRISVILLE, NC 27550

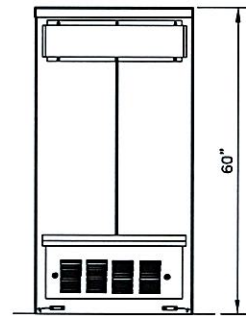
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Drawing Title: JUNCTION BOX DETAILS

Drawing Number: C8

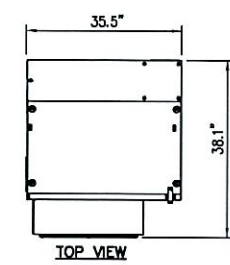


TOP VIEW

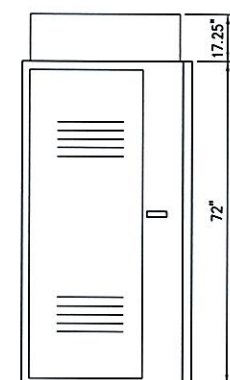


REAR VIEW

1 BATTERY CABINET PROFILE
NOT TO SCALE



TOP VIEW



FRONT VIEW

2 BTS CABINET PROFILE
NOT TO SCALE

DESIGN CRITERIA:	
2009 INTERNATIONAL BUILDING CODE W/ STATE MODIFICATION	
WIND SPEED (ASCE-7-05)	90 MPH
EXPOSURE	B
IMPORTANCE FACTOR	1.0
SEISMIC SITE CLASS	D
$S_s=0.152$	$S_1 = 0.050$
SEISMIC IMPORTANCE FACTOR	1.0
SEISMIC DESIGN CATEGORY	B
CABINET WEIGHT:	
9928 MM BTS CABINET	1625 lbs.
60EC V2 BATTERY CABINET	2830 lbs.
MATERIAL SPECIFICATIONS	
C-, M-, AND ANGLE SHAPES:	ASTM A36
HIGH-STRENGTH BOLTS:	ASTM A325SC OR (A325N
STRUCTURAL WF SHAPES:	ASTM A572-GR50
TUBE STEEL & PIPE COLUMNS:	ASTM A500, GRADE B
WELDING ELECTRODES:	E70XX
W - SHAPES:	ASTM A992, GRADE 50
U-BOLTS:	ASTM A36

A/E Consultant:

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Checked: A.D., Date: 4/29/12

Project Number: 286-044

Project Title:
CT33XC513
BETHANY/L&N
COMMUNICATIONS

TALMADGE ROAD
HAMDEN, CT 06518

Client:	Implementation Team:
 Sprint 3401 TOWN CENTER DRIVE FARMINGTON, CT 06030	 ALCATEL-LUCENT 808 AVANTEN PARKWAY MORRISVILLE, NC 27550

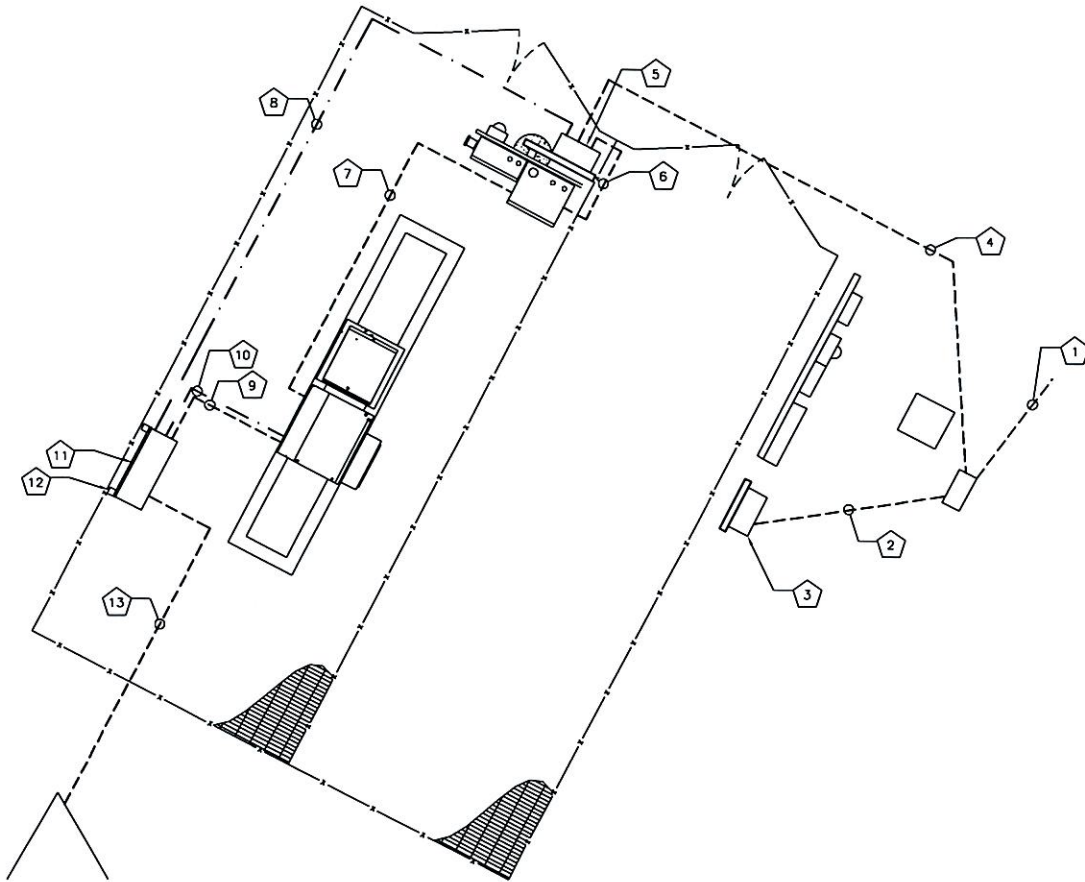
Drawing Scale:
AS NOTED
Date:
5/3/13

Drawing Title:
DETAILS

Drawing Number:
C9

CODED NOTES:

- 1 EXISTING 4" UNDERGROUND CONDUIT FROM EXISTING UTILITY POLE #6880 TO EXISTING TELCO PULLBOX
- 2 PROPOSED 2" UNDERGROUND PVC CONDUIT FROM PROPOSED MEET POINT TO EXISTING TELCO PULLBOX, 17' FURNISHED AND INSTALLED BY SPRINT
- 3 PROPOSED MEET POINT AT PROPOSED CORNER BOX ON PROPOSED MOUNTING POST WITH UNISTRUT
- 4 PROPOSED 2" UNDERGROUND PVC CONDUIT FROM EXISTING TELCO PULLBOX TO PROPOSED CIENA 3911 EQUIPMENT LOCATION, 35' FURNISHED AND INSTALLED BY SPRINT
- 5 PROPOSED CIENA 3931 EQUIPMENT ENCLOSURE, FURNISHED AND INSTALLED BY AT&T
- 6 PROPOSED 1-1/4" ABOVE GROUND LIQUID TIGHT CONDUIT FROM PROPOSED CIENA ENCLOSURE TO EXISTING SPRINT PPC (TELCO), 8' FURNISHED AND INSTALLED BY SPRINT
- 7 PROPOSED CAT5 CABLE ROUTED IN EXISTING 1-1/2" UNDERGROUND GMC CONDUIT FROM EXISTING SPRINT PPC (TELCO) ENCLOSURE TO EXISTING BTS CABINET, 20' FURNISHED AND INSTALLED BY SPRINT
- 8 PROPOSED 1-1/4" GRC ABOVE GROUND CONDUIT WITH FEEDERS FOR DC POWER, FROM PROPOSED CIENA ENCLOSURE TO FIBER JUNCTION BOX, 30', FURNISHED AND INSTALLED BY SPRINT, SPRINT TO PROVIDE PULLSTRING
- 9 PROPOSED 2" LIQUID TIGHT CONDUIT WITH PULL-STRING FOR TELCO FROM FIBER JUNCTION BOX TO LUCENT EQUIPMENT CABINET
- 10 PROPOSED 2" LIQUID TIGHT CONDUIT WITH PULL-STRING FOR DC POWER FROM FIBER JUNCTION BOX TO LUCENT EQUIPMENT CABINET
- 11 PROPOSED SPRINT FIBER JUNCTION BOX FURNISHED AND INSTALLED BY ALU
- 12 PROPOSED (2) VERTICAL UNISTRUT CHANNELS MOUNTED TO EXISTING FENCED COMPOUND, FURNISHED AND INSTALLED BY SPRINT
- 13 PROPOSED 1-1/4" HYBRIFLEX CABLE ROUTED FROM PROPOSED JUNCTION BOX TO PROPOSED TOWER MOUNTED RRH, 248' (TYP. OF (1) PER SECTOR, (3) SECTORS TOTAL)



1
UTILITY SITE PLAN
SCALE:
CALLED NORTH

1.5' 0 1.5' 3' 6'
(IN FEET)
SCALE: 24" X 36" SHEET 1" = 3'
SCALE: 11" X 17" SHEET 1" = 6'

NOTES:

1. CONTRACTOR TO USE EXISTING SPARE CONDUITS, IF AVAILABLE. CONDUIT SIZES MUST BE EQUAL TO OR GREATER THAN THAT ALLOWED BY CODE.
2. EXISTING ALARMS NEED TO BE RE-ROUTED AND VERIFIED IN PROPER WORKING CONDITION WHEN NEW MMBTS EQUIPMENT IS INSTALLED.
3. REMAINING GROUND LEADS FROM REMOVED CABINETS TO BE COILED (NOT ON WALKING SURFACE).
4. REMAINING UNUSED CONDUITS FROM EXISTING CABINETS TO BE COVERED WITH WATERPROOF CAPS (NOT DUCT TAPE).



UNDERGROUND
SERVICE ALERT
CALL TOLL FREE
1-800-922-4455

THREE WORKING DAYS BEFORE YOU DIG

ELECTRICAL NOTES:

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (N.E.C.), AND APPLICABLE LOCAL CODES.
2. GROUNDING SHALL COMPLY WITH ARTICLE 250 OF NATIONAL ELECTRICAL CODE.
3. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED.
4. ALL WIRES SHALL BE AWG MIN #12 THIN COPPER UNLESS NOTED.
5. CONDUCTORS SHALL BE INSTALLED IN SCHEDULE 40 PVC CONDUIT UNLESS NOTED OTHERWISE.
6. LABEL SPRINT SERVICE DISCONNECT SWITCH AND PPC CABINET WITH ENGRAVED LAMACOID LABELS, LETTERS 1" IN HEIGHT.
7. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE. BEND GROUNDING LEADS WITH A MINIMUM 8" RADIUS.
8. ENGAGE AN INDEPENDENT TESTING FIRM TO TEST AND VERIFY THAT RESISTANCE DOES NOT EXCEED 5 OHMS TO GROUND. TEST GROUND RING RESISTANCE PRIOR TO MAKING FINAL GROUND CONNECTIONS TO INFRASTRUCTURE AND EQUIPMENT. GROUNDING AND OTHER OPERATIONAL TESTING SHALL BE WITNESSED BY SPRINTS REPRESENTATIVE.
9. PROVIDE PULL BOXES AND JUNCTION BOXES WHERE REQUIRED SO THAT CONDUIT BENDS DO NOT EXCEED 360°.
10. OBTAIN PERMITS AND PAY FEES RELATED TO ELECTRICAL WORK PERFORMED ON THIS PROJECT. DELIVER COPIES OF ALL PERMITS TO SPRINT REPRESENTATIVE.
11. SCHEDULE AND ATTEND INSPECTIONS RELATED TO ELECTRICAL WORK REQUIRED BY JURISDICTION HAVING AUTHORITY. CORRECT AND PAY FOR ANY WORK REQUIRED TO PASS ANY FAILED INSPECTION.
12. REDLINED AS-BUILTS ARE TO BE DELIVERED TO SPRINT REPRESENTATIVE.
13. PROVIDE TWO COPIES OF OPERATION AND MAINTENANCE MANUALS IN THREE-RING BINDER.
14. FURNISH AND INSTALL THE COMPLETE ELECTRICAL SERVICE, TELCO CONDUIT, AND THE COMPLETE GROUNDING SYSTEM.
15. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE BUILDING CODES AND LOCAL ORDINANCES, INSTALLED IN A NEAT MANNER, AND SHALL BE SUBJECT TO APPROVAL BY SPRINT REPRESENTATIVE.
16. CONDUCT A PRE-CONSTRUCTION SITE VISIT AND VERIFY EXISTING SITE CONDITIONS AFFECTING THIS WORK. REPORT ANY OMISSIONS OR DISCREPANCIES FOR CLARIFICATION PRIOR TO THE START OF CONSTRUCTION.
17. PROTECT ADJACENT STRUCTURES AND FINISHES FROM DAMAGE. REPAIR TO ORIGINAL CONDITION ANY DAMAGED AREA.
18. REMOVE DEBRIS ON A DAILY BASIS. DEBRIS NOT REMOVED IN A TIMELY FASHION WILL BE REMOVED BY OTHERS AND THE RESPONSIBLE SUBCONTRACTOR SHALL BE CHARGED ACCORDINGLY. REMOVAL OF DEBRIS SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE. DEBRIS SHALL BE REMOVED FROM THE PROPERTY AND DISPOSED OF LEGALLY.
19. UPON COMPLETION OF WORK, THE SITE SHALL BE CLEAN AND FREE OF DUST AND FINGERPRINTS.
20. PRIOR TO ANY TRENCHING, CONTACT LOCAL UTILITY TO VERIFY LOCATION OF ANY EXISTING BURIED SERVICE CONDUITS.
21. DOCUMENT GROUND RING INSTALLATION AND CONNECTIONS TO IT WITH PHOTOGRAPHS PRIOR TO BACKFILLING SITE. PRESENT PHOTO ARCHIVE AT SITE "PUNCH LIST" WALK TO SPRINT'S REPRESENTATIVE.
22. ALL ABOVE GRADE CONDUIT TO BE RIGID METALLIC.

A/E Consultant:

infinigy
engineering
11 Herbert Drive
Latham, NY 12110
(518) 688-0790



PROHIBITED ALTERATION OR ADDITION
OF ANY PORTION OF THIS DRAWING
WITHOUT THE WRITTEN APPROVAL OF
APPLICABLE STATE AND/OR LOCAL LAWS

3	FINAL CD'S	DNM	5/3/13
2	REVISED PER COMMENTS	DNM	5/23/12
1	REVISED PER COMMENTS	DNM	5/24/12
0	ISSUED FOR REVIEW	DNM	4/28/12
Rev	Submitted / Revision	App'd	Date

Drawn: DNM Date: 4/28/12
Designed: DNM Date: 4/28/12
Checked: A.D. Date: 4/28/12

Project Number
786-044

Project Title
CT33XC513
BETHANY/L&N
COMMUNICATIONS

TALMADGE ROAD
HAMDEN, CT 06518

Client:



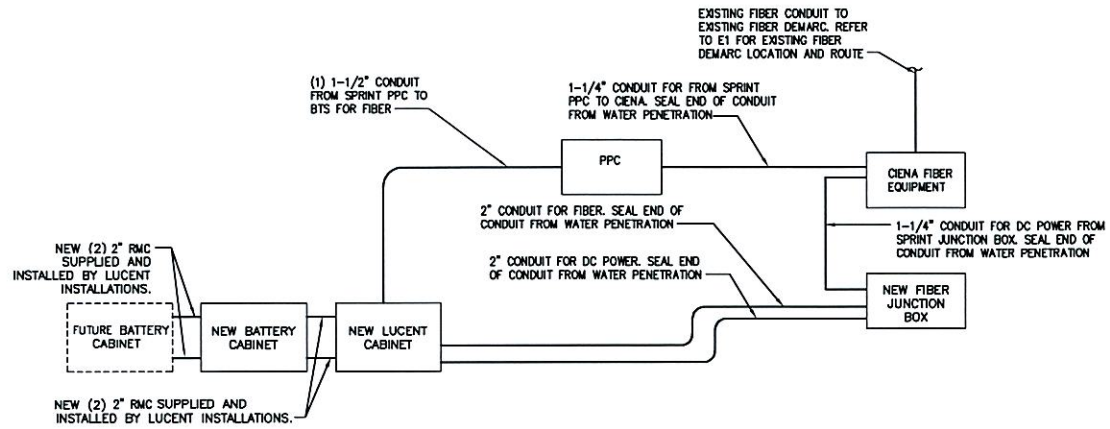
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Date:
5/3/13

Drawing Title
UTILITY
SITE PLAN

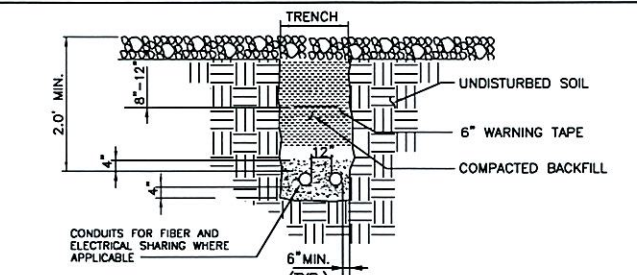
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E1

GROUNDING NOTE:
IN ADDITION TO POWER SERVICE GROUNDING AS REQUIRED BY NEC, CONTRACTOR SHALL BE RESPONSIBLE TO COORD AND INSTALL ALL SURGE AND LIGHTING PROTECTION GROUNDING AS REQUIRED AND SPECIFIED BY SPRINT

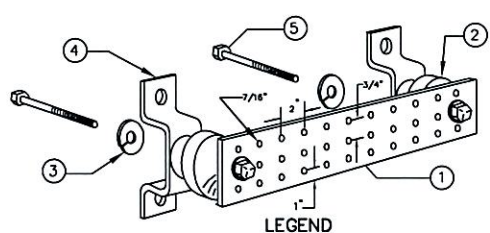


1 ONE-LINE DIAGRAM
NOT TO SCALE



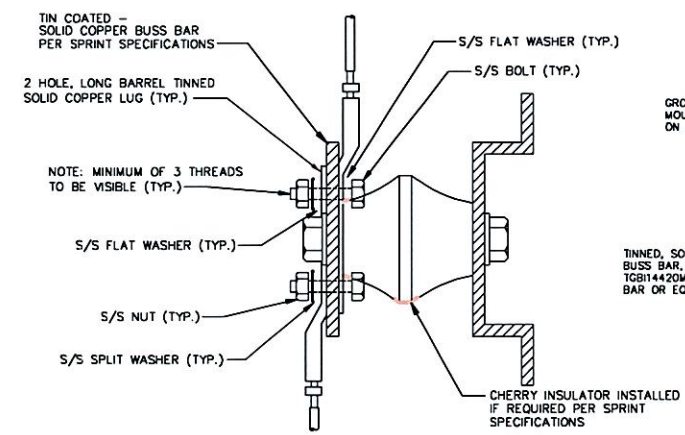
SEPARATION DIMENSIONS MUST BE VERIFIED WITH LOCAL UTILITY CO. REQUIREMENTS.
*HAND DIG INSIDE COMPOUND

2 UTILITY TRENCH DETAIL
NOT TO SCALE



- LEGEND**
1. TINNED COPPER GROUND BAR, 1" x 4" x 20", NEWTON INSTRUMENT Co., HARGER TGB14420M, OR EQUIVALENT. HOLE CENTERS TO MATCH
 2. NEMA DOUBLE LUG CONFIGURATION
 3. INSULATORS, NEWTON INSTRUMENT Co. CAT. NO. 3061-4 OR HARGER EQUIVALENT
 4. EQUIVALENT
 5. 5/8" LOCKWASHERS, NEWTON INSTRUMENT Co. CAT. NO. 3015-8 OR EQUIVALENT
- WALL MOUNTING BRACKET, NEWTON INSTRUMENT Co. CAT. NO. A-6056 OR HARGER EQUIVALENT.
5/8-11 x 1" H.H.C.S. BOLTS, NEWTON INSTRUMENT Co. CAT. NO. 3012-1 OR HARGER EQUIVALENT.
- NOTE:**
1) ALL MOUNTING HARDWARE CAN ALSO BE USED ON 6", 12", 18", ETC. GROUND BARS.
2) ENTIRE ASSEMBLY AVAILABLE FROM NEWTON INSTRUMENT Co. CAT. NO. 2106060010 OR AS HARGER TGB14420M.

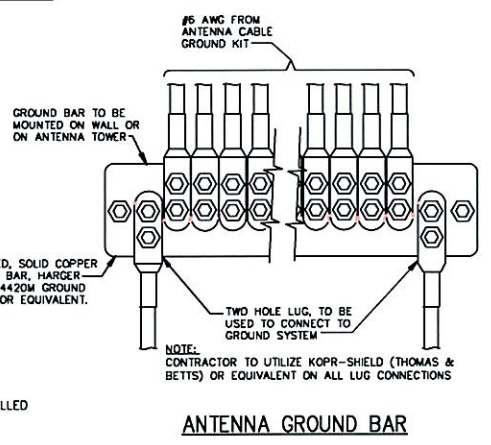
GROUND BAR



- NOTES:**
1) ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING SPLIT WASHERS.
2) COAT WIRE END WITH ANTI-OXIDATION COMPOUND PRIOR TO INSERTION INTO LUG BARREL AND CRIMPING.
3) APPLY ANTI-OXIDATION COMPOUND BETWEEN ALL LUGS AND BUSS BARS PRIOR TO MATING AND BOLTING.

GROUND LUG

3 GROUND BAR DETAILS
NOT TO SCALE



ANTENNA GROUND BAR



REVISIONS			
NO.	DESCRIPTION	DATE	BY
3	FINAL CTS	5/3/13	DM
2	REVISED PER COMMENTS	5/23/12	DM
1	REVISED PER COMMENTS	5/24/12	DM
0	ISSUED FOR REVIEW	4/28/12	DM
Rev.	Submitted / Revision	App'd	Date

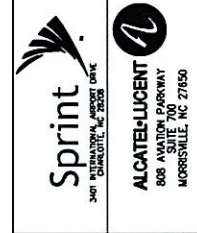
Drawn: DM Date: 4/28/12
Designed: DM Date: 4/28/12
Checked: AD Date: 4/28/12

Project Number: 286-044

Project Title: CT33XC513 BETHANY/L&N COMMUNICATIONS

TALMADGE ROAD
HAMDEN, CT 06518

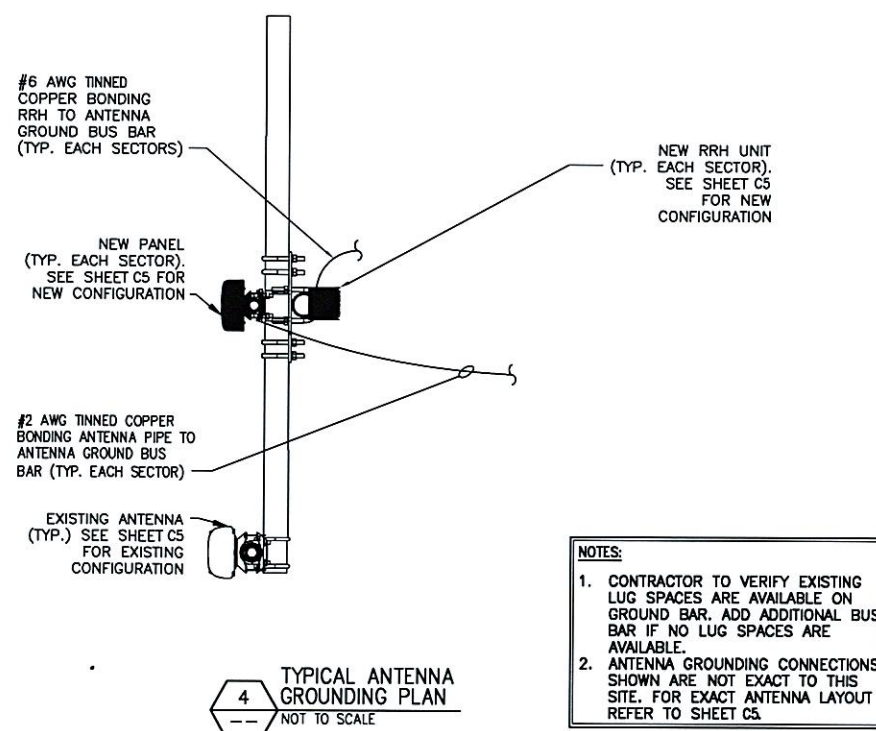
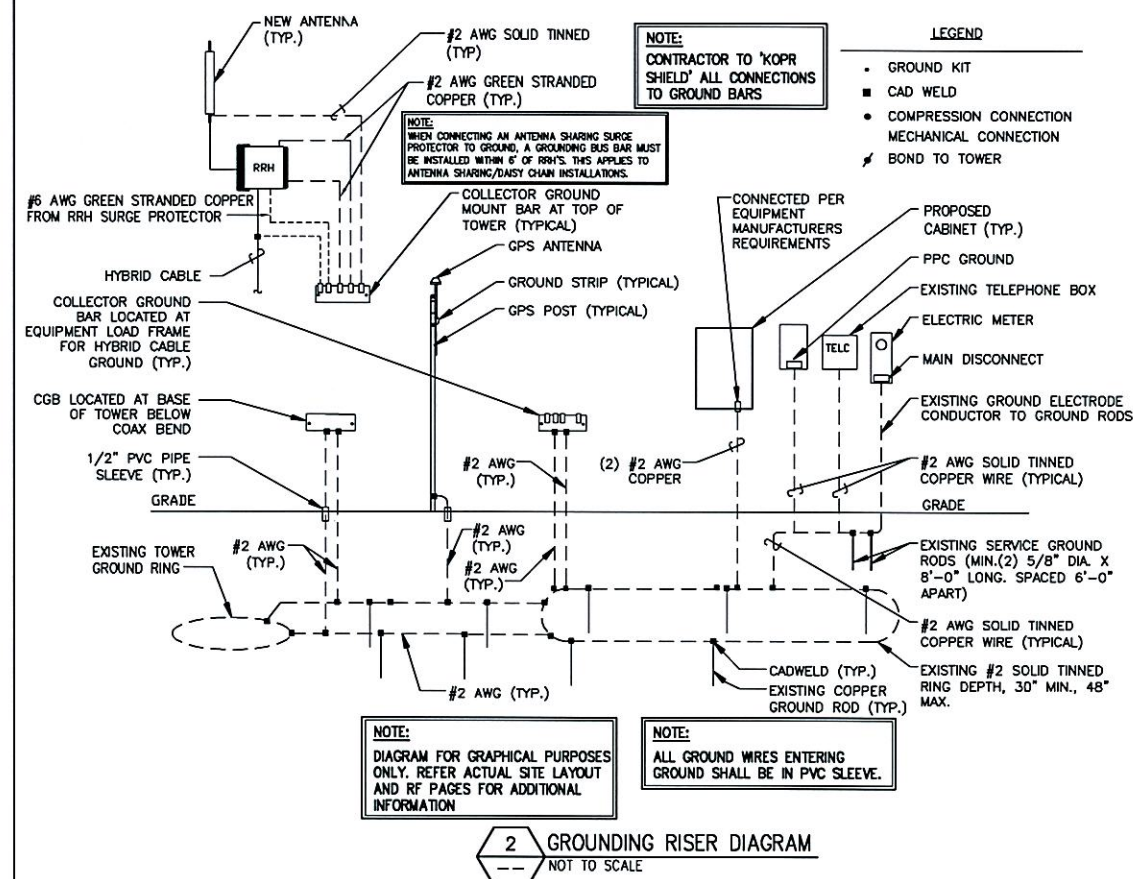
Client: Implementation Team:



Drawing Scale: AS NOTED
Date: 5/3/13

Drawing Title: **ONE-LINE DIAGRAM AND DETAILS**

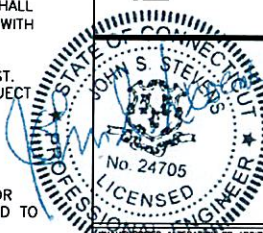
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1. ALL DOWN CONDUCTORS AND GROUND RING CONDUCTOR SHALL BE #2 AWG, SOLID, BARE, TINNED COPPER, UNO. ALL CONNECTIONS TO GROUND RING SHALL BE EXOTHERMICALLY WELDED. CONDUCTOR SHALL BE A MINIMUM DEPTH BELOW GRADE OF 30 INCHES OR TO THE LEDGE. MINIMUM BEND RADIUS SHALL BE 8 INCHES. CONDUCTOR SHALL BE AT LEAST 24 INCHES FROM ANY FOUNDATION, UNO.
2. WHERE MECHANICAL CONDUCTOR CONNECTIONS ARE SPECIFIED, BOLTED, COMPRESSION-TYPE CLAMPS OR SPLIT-BOLT TYPE CONNECTORS SHALL BE USED.
3. GRIND OFF GALVANIZING IN AFFECTED AREA. EXOTHERMICALLY WELD #2 CONDUCTOR AT 6 INCHES ABOVE GRADE OR FOUNDATION, WHICHEVER IS HIGHER. COLD-GALV AFTER. EXOTHERMICALLY WELD OTHER END TO GROUND.
4. GROUND CONDUCTORS ON EXTERIOR WALL OF SHELTER SHALL BE ENCASED IN 3/4" PVC CONDUIT TO GRADE. MOUNT PVC WITH GALVANIZED "C" CLAMPS. SEAL TOP ENDS.
5. FOLLOWING COMPLETION OF WORK, CONDUCT GROUND TEST. SUBMIT WRITTEN TEST TO CONSTRUCTION MANAGER AND PROJECT MANAGER.
6. ALL GROUNDING WORK SHALL COMPLY WITH CARRIER(S) STANDARDS.
7. GROUNDING REQUIREMENTS SHOWN ON THIS PLAN ARE FOR ITEMS THAT ARE LOCATED NEAR GRADE LEVEL AND THAT NEED TO BE TIED TO THE BELOW GRADE GROUND RING.
8. UNLESS NOTED OTHERWISE, ALL GROUNDING SHALL BE IN ACCORDANCE WITH SPRINT'S SSEO DOCUMENTS 3.018.02.004 "BONDING, GROUNDING AND TRANSIENT PROTECTION FOR CELL SITES", AND 3.018.10.002 "SITE RESISTANCE TO EARTH TESTING". ALL GROUNDING SHALL ALSO COMPLY WITH ALL STATE AND LOCAL CODES, AND THE NATIONAL ELECTRICAL CODE (NEC).
9. UNLESS NOTED OTHERWISE, ALL GROUNDING CONNECTIONS SHALL BE MADE BY AN EXOTHERMIC WELD.
10. RESISTANCE TO EARTH TESTING IS REQUIRED PER SPRINT STANDARDS ON ALL NEW SITES.

nfinity
engineering

11 Herbert Drive
Latham, NY 12110
(518) 690-0790



3	FINAL COT'S	DOM	5/23/12		
2	REVISED PIR COMMENTS	DOM	5/23/12		
1	REVISED PIR COMMENTS	DOM	5/04/12		
0	ISSUED FOR REVIEW	DOM	4/28/12		
NA	Submittal / Revision	App't	Date		

Drawn: DOM Date: 4/26/12
 Designed: DOM Date: 4/26/12
 Checked: AW Date: 4/26/12

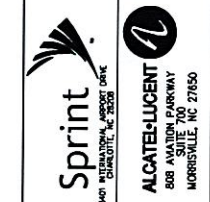
Project Number 286-04

Project Title

CT33XC513
BETHANY/L&N
COMMUNICATIONS

TALMADGE ROAD
HAMDEN, CT 06518

Client:	Implementation Team:
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Drawing Scale:
AS NOTED

Date:
5/3/13

	Drawing Title
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GROUNDING PLAN AND DETAILS

Drawing Number

E3