



November 21, 2019

Melanie A. Bachman
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Regarding: Notice of Exempt Modification – Antenna Modification
Property Address: 975 Mix Avenue, Hamden, CT 06514 (the “Property”)
Applicant: AT&T Mobility (“AT&T”, Site # CT2035)

Dear Ms. Bachman:

AT&T currently maintains a wireless telecommunications facility on an existing 65-foot Steel Platform at the above-referenced address, latitude 41° 22’ 42.78”, longitude -72° 55’ 4.32”. Said Steel Platform is owned by Chestnut Hill North LLC.

AT&T desires to modify its existing telecommunications facility by Replacing (3) antennas and their associated cabling and ancillary equipment, add (6) remote-radio heads (“RRHs”), Replace (2) diplexers/ Combiners, and add (1) surge arrestor (squid). The centerline height of the existing antennas is and will remain at 61 feet.

Please accept this application as notification pursuant to R.C.S.A. §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16-50j-72 (b)(2). In accordance with R.C.S.A. §16-50j-73, a copy of this letter is being sent to The Honorable Curt B. Leng as Mayor, Town of Hamden, Dan Kops as Town Planner and Zoning of Town of Hamden and Chestnut Hill North LLC the Tower/Property Owner.

The planned modifications to AT&T’s facility fall squarely within those activities explicitly provided for in R.C.S.A. §16-50j-72 (b)(2). Specifically:

1. The planned modification will not result in an increase in the height of the existing structure. The added antennas and accessory equipment along with equipment to be swapped will be installed at the existing height of 61 feet on the 65-foot Steel Platform.
2. The proposed modifications will not involve any changes to ground-mounted equipment, and therefore will not require an extension of the site boundary.
3. The proposed modification will not increase the noise level at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above Federal Communications Commission (FCC) safety standard. An RF emissions calculation (enclosed) for AT&T's modified facility is herein provided.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support AT&T's proposed modifications, please see enclosed structural analysis completed by Vertical Resources Group dated August 21, 2019.

For the foregoing reasons, AT&T respectfully requests that the proposed antennas and remote-radio head installation be allowed within the exempt modifications under R.C.S.A. §16-50j-72 (b)(2).

Sincerely,

Nora Oliver

Nora Oliver
Site Acquisition Manager

Enclosures: Exhibit 1 – Field Card and GIS Map
Exhibit 2 – Construction Drawings
Exhibit 3 – Structural Analysis
Exhibit 4 – RF Emissions Analysis Report Evaluation
Exhibit 5 __ Original Zoning Correspondence.

cc:

The Honorable Curt B. Leng, Mayor, Town of Hamden
Dan Kops, Town Planner and Zoning, Town of Hamden
Chestnut Hill North LLC the Tower/Property Owner.



TOWN OF HAMDEN, CONNECTICUT

GEOGRAPHIC & PROPERTY INFORMATION NETWORK



2750 DIXWELL AVENUE
HAMDEN, CT 06518
203-287-2500
E-MAIL: GENERAL INFORMATION

❖ MAIN MENU

[GIS HOME](#)

➤ GIS PROPERTY MAP SEARCH

[TOWN WIDE MAP GALLERY](#)

[TOWN GRID MAPS](#)

[INTERACTIVE MAPPING](#)

[HELP](#)

❖ SUMMARY PARCEL INFORMATION & MAP DOCUMENTS

Detailed Parcel Information

Parcel No
2628-101-00-0000

Unique ID
100226

Account
100226

Owner
CHESTNUT HILL NORTH LLC

Location
905 MIX AVE

MAILING ADDRESS
1621 STATE STREET
NEW HAVEN CT 06511



PROPERTY INFO DATA UPDATED

Nightly

CURRENT PARCEL COUNT

16,754 +/-

[Scroll Down For Complete Property Detail](#)

Click on the Google logo to go to Google Maps

Parcel Documents

[Create Parcel Map](#)

[Property Summary Card](#)

Full Size Assessor Maps

[Full Assessor Map](#)

Interactive GIS Maps of Property

[GO TO VIRTUAL EARTH BIRDS EYE!](#)

[GO TO INTERACTIVE MAP!](#)

Once in Interactive Map, Select Parcel and enter Abutters distance.

PARCEL VALUATIONS

	Appraised Value	Assessed Value
Buildings	9033700	6323590
Outbuildings	406600	284620
Improvements	9551100	6685770
Extra Features	110800	77560
Land	5845500	4091850
TOTAL:	15396600	10777620

PROPERTY INFORMATION

Land Acres	8.6
Land Use	APT Over 8
Land Class	C
Zoning	R5
Neighborhood	100
Lot Description	Rolling
Lot Setting	Urban
Lot Utilities	All Public
Street Description	Paved

SALE INFORMATION

Sale Date	10/29/2015
Sale Price	0
Book / Page	4265/ 086

BUILDING AREA

Gross Building Area	
Total Living Area	0

CONSTRUCTION DETAILS

Building Style	Apartments
Building Use	Comm/Ind
Number of Rooms	

Number of Bedrooms	
Number of Bathrooms	0
Number of Half Bathrooms	
Kitchen Style	
Stories	3
Roof Style	Flat
Roof Cover	T&G/Rubber
Primary Exterior Wall Type	Brick Veneer
Secondary Exterior Wall Type	
Primary Interior Wall Type	Drywall
Secondary Interior Wall Type	
Primary Floor Type	Carpet
Secondary Floor Type	
Heating Type	Hot Water
Heating Fuel	Gas
Air Conditioning Type	Central
Building Style	Apartments
Building Use	Comm/Ind
Number of Rooms	
Number of Bedrooms	
Number of Bathrooms	0
Number of Half Bathrooms	
Kitchen Style	
Stories	3
Roof Style	Flat
Roof Cover	T&G/Rubber
Primary Exterior Wall Type	Brick Veneer
Secondary Exterior Wall Type	
Primary Interior Wall Type	Drywall
Secondary Interior Wall Type	
Primary Floor Type	Carpet
Secondary Floor Type	
Heating Type	Hot Water
Heating Fuel	Gas
Air Conditioning Type	None
Building Style	Apartments
Building Use	Comm/Ind
Number of Rooms	
Number of Bedrooms	
Number of Bathrooms	0
Number of Half Bathrooms	
Kitchen Style	
Stories	3
Roof Style	Flat
Roof Cover	T&G/Rubber
Primary Exterior Wall Type	Brick Masonry
Secondary Exterior Wall Type	
Primary Interior Wall Type	Drywall
Secondary Interior Wall Type	
Primary Floor Type	Carpet
Secondary Floor Type	
Heating Type	Hot Water
Heating Fuel	Gas
Air Conditioning Type	None

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 Building Use
 All information is intended for your general knowledge only and is not a substitute for contacting the Town Hall or other
 Number of Rooms departments listed at this web site.

You should promptly consult the specific office or department with any questions.
 Use of this web site and any information you find through it is subject to the Disclaimer.

Number of Bedrooms	
Number of Bathrooms	0
Number of Half Bathrooms	
Kitchen Style	
Stories	3
Roof Style	Flat
Roof Cover	T&G/Rubber
Primary Exterior Wall Type	Brick Veneer
Secondary Exterior Wall Type	
Primary Interior Wall Type	Drywall
Secondary Interior Wall Type	
Primary Floor Type	Carpet
Secondary Floor Type	
Heating Type	Hot Water
Heating Fuel	Gas
Air Conditioning Type	Central

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Town of Hamden, Connecticut - Assessment Parcel Map

Parcel: 2628-101-00-0000

Address: 905 MIX AVE



Approximate Scale: 1 inch = 150 feet



Map Produced: March 2018

Disclaimer: This map is for informational purposes only. All information is subject to verification by any user. The Town of Hamden and its mapping contractors assume no legal responsibility for the information contained herein.

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Electronic Rate Approved #038555749

9405 5036 9930 0070 5794 05

USPS TRACKING #

SHIP TO:
CHESTNUT HILL NORTH LLC
975 MIX AVE
HAMDEN CT 06514-5130

Carrier -- Leave if No Response

C008

NORA OLIVER
EMPIRE TELECOM
16 ESQUIRE RD
N BILLERICA MA 01862-2527

Expected Delivery Date: 07/31/19

0006

PRIORITY MAIL 2-DAY™

usps.com 9405 5036 9930 0070 5794 05 0073 5003 0020 6514
\$7.35
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Flat Rate Env

07/29/2019 3 lb 0 oz Mailed from 01862 062S00000000309

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Track Another Package +

Tracking Number: 9405503699300070579405 Remove X

Your item has been delivered to the original sender at 6:15 pm on August 12, 2019 in HAMDEN, CT 06514.



August 12, 2019 at 6:15 pm
Delivered, To Original Sender
HAMDEN, CT 06514

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Tracking History



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Expected Delivery Date: 07/31/19
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NORA OLIVER
EMPIRE TELECOM
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N BILLERICA MA 01862-2527

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SHIP TO:
CURT B LENG
MAYOR, TOWN OF HAMDEN
2750 DIXWELL AVE
HAMDEN CT 06518-3320

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Delivered, In/At Mailbox
HAMDEN, CT 06518

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SHIP TO: DAN KOPS
TOWN PLANNER AND ZONING
2750 DIXWELL AVE
HAMDEN CT 06518-3320

Carrier -- Leave if No Response

Expected Delivery Date: 07/31/19

NORA OLIVER
EMPIRE TELECOM
16 ESQUIRE RD
N BILLERICA MA 01862-2527

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August 2, 2019 at 10:08 am
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GENERAL NOTES

- FOR THE PURPOSES OF CONTRACT DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:
 SUBCONTRACTOR - GENERAL CONTRACTOR (CONTRACTOR)
 OWNER - GENERAL CONTRACTOR MANUFACTURER
 CONTRACTOR - GENERAL CONTRACTOR MANUFACTURER
- FOR THE DISCUSSION OF BIDS, THE BIDDING SUPERVISOR SHALL VISIT THE JOB SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY AGENCY HAVING JURISDICTION REGARDING THE WORK.
- ALL MATERIALS AND APPLICABLE REGULATIONS.
- UNLESS PROVIDED HERE ARE NOT TO SCALE UNLESS OTHERWISE NOTED AND ARE INTENDED TO SHOW OUTLINE ONLY.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPROPRIANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INSTALLED ON THE DRAWINGS.
- ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- THE SCHEDULED DRAINAGE SHALL BE INSTALLED AS SHOWN ON THESE DRAWINGS. THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION APPROVED BY THE CONTRACTOR.
- SUBCONTRACTOR SHALL FURNISH SPECIAL DETAILS OF PENULT, BOXES, AND TIE CABLES, BRACKETS, CABLES AS SHOWN ON THE POWER, GROUNDING, AND TIE-UP PLAN DRAWING. ROUTING OF CONDUIT FOR POWER AND TIE-UP SHALL BE APPROVED BY OWNER ON THE POWER.
- THE SUBCONTRACTOR SHALL PROTECT EXISTING MERIDIAN, PLUMBING, COBES, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
- SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
- SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

SITE WORK GENERAL NOTES

- THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
- ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WERE ENCOUNTERED IN THE WORK SHALL BE PROTECTED AT ALL TIMES. THE SUBCONTRACTOR SHALL PROVIDE SUFFICIENT WARNING AND PROTECTIVE MEASURES TO BE AROUND ALL UTILITIES. THE SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING & EXCAVATION.
- ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
- IF NECESSARY, RUBBER, STUMPS, STEPS, STOPS, STONES, TOP SOIL AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DEPOSED OF LEGALLY.
- ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF CONTRACTOR, OWNER AND/OR LOCAL UTILITIES.
- SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION.
- THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE TRANSMISSION EQUIPMENT AND TOWER BASES. ANY FILL OR EXCAVATION MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EXCAVATION.
- THE SUBGRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION. SEE DETAIL 303.
- THE GRADE OF THE OWNER'S PROPERTY DETERMINED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR INFRASTRUCTURE SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION.
- EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL JURISDICTIONS' GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
- ALL EARTH WORK SHALL BE PERFORMED IN ACCORDANCE WITH TECHNICAL SPECIFICATION FOR CONSTRUCTION OF RADIO ACCESS NETWORK SITES.

STRUCTURAL STEEL NOTES:

- ALL STEEL WORK SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 (HOT-DIP) UNLESS NOTED OTHERWISE. STRUCTURAL STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 (HOT-DIP) UNLESS NOTED OTHERWISE. GALVANIZING SHALL BE PERFORMED IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "MANUAL OF STEEL CONSTRUCTION".
- ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC W8. WELD FILLER METALS SHALL BE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE 6.24 IN THE AISC "MANUAL OF STEEL CONSTRUCTION". PAINTED SURFACES SHALL BE TOUCHED UP.
- BOLTED CONNECTIONS SHALL BE ASTM A325 BEARING TYPE (Q/4) CONNECTIONS AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE. STEEL FASTENER HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 (HOT-DIP).
- NON-STRUCTURAL CONNECTIONS FOR STEEL BRACING MAY USE 5/8" DIA. ASTM A 307 BOLTS UNLESS NOTED OTHERWISE.
- INSTALLATION OF CONCRETE EXPANSION JOINTS SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDATIONS. PROCEDURE FOR THE ANCHOR BOLT DOWN OR BOLT SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH. OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MINIMUM ALLOWABLE LOADS. ALL EXPANSION JOINTS APPROVED EQUAL.
- ALL STRUCTURAL STEEL SHALL BE SUPPLIED IN ACCORDANCE WITH TECHNICAL SPECIFICATION FOR CONSTRUCTION OF RADIO ACCESS NETWORK SITES.

CONCRETE AND REINFORCING STEEL NOTES:

- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE AC 301, AC 308, AC 309, AC 316, AC 318, AC 319, AC 320, AC 321, AC 322, AC 323, AC 324, AC 325, AC 326, AC 327, AC 328, AC 329, AC 330, AC 331, AC 332, AC 333, AC 334, AC 335, AC 336, AC 337, AC 338, AC 339, AC 340, AC 341, AC 342, AC 343, AC 344, AC 345, AC 346, AC 347, AC 348, AC 349, AC 350, AC 351, AC 352, AC 353, AC 354, AC 355, AC 356, AC 357, AC 358, AC 359, AC 360, AC 361, AC 362, AC 363, AC 364, AC 365, AC 366, AC 367, AC 368, AC 369, AC 370, AC 371, AC 372, AC 373, AC 374, AC 375, AC 376, AC 377, AC 378, AC 379, AC 380, AC 381, AC 382, AC 383, AC 384, AC 385, AC 386, AC 387, AC 388, AC 389, AC 390, AC 391, AC 392, AC 393, AC 394, AC 395, AC 396, AC 397, AC 398, AC 399, AC 400, AC 401, AC 402, AC 403, AC 404, AC 405, AC 406, AC 407, AC 408, AC 409, AC 410, AC 411, AC 412, AC 413, AC 414, AC 415, AC 416, AC 417, AC 418, AC 419, AC 420, AC 421, AC 422, AC 423, AC 424, AC 425, AC 426, AC 427, AC 428, AC 429, AC 430, AC 431, AC 432, AC 433, AC 434, AC 435, AC 436, AC 437, AC 438, AC 439, AC 440, AC 441, AC 442, AC 443, AC 444, AC 445, AC 446, AC 447, AC 448, AC 449, AC 450, AC 451, AC 452, AC 453, AC 454, AC 455, AC 456, AC 457, AC 458, AC 459, AC 460, AC 461, AC 462, AC 463, AC 464, AC 465, AC 466, AC 467, AC 468, AC 469, AC 470, AC 471, AC 472, AC 473, AC 474, AC 475, AC 476, AC 477, AC 478, AC 479, AC 480, AC 481, AC 482, AC 483, AC 484, AC 485, AC 486, AC 487, AC 488, AC 489, AC 490, AC 491, AC 492, AC 493, AC 494, AC 495, AC 496, AC 497, AC 498, AC 499, AC 500, AC 501, AC 502, AC 503, AC 504, AC 505, AC 506, AC 507, AC 508, AC 509, AC 510, AC 511, AC 512, AC 513, AC 514, AC 515, AC 516, AC 517, AC 518, AC 519, AC 520, AC 521, AC 522, AC 523, AC 524, AC 525, AC 526, AC 527, AC 528, AC 529, AC 530, AC 531, AC 532, AC 533, AC 534, AC 535, AC 536, AC 537, AC 538, AC 539, AC 540, AC 541, AC 542, AC 543, AC 544, AC 545, AC 546, AC 547, AC 548, AC 549, AC 550, AC 551, AC 552, AC 553, AC 554, AC 555, AC 556, AC 557, AC 558, AC 559, AC 560, AC 561, AC 562, AC 563, AC 564, AC 565, AC 566, AC 567, AC 568, AC 569, AC 570, AC 571, AC 572, AC 573, AC 574, AC 575, AC 576, AC 577, AC 578, AC 579, AC 580, AC 581, AC 582, AC 583, AC 584, AC 585, AC 586, AC 587, AC 588, AC 589, AC 590, AC 591, AC 592, AC 593, AC 594, AC 595, AC 596, AC 597, AC 598, AC 599, AC 600, AC 601, AC 602, AC 603, AC 604, AC 605, AC 606, AC 607, AC 608, AC 609, AC 610, AC 611, AC 612, AC 613, AC 614, AC 615, AC 616, AC 617, AC 618, AC 619, AC 620, AC 621, AC 622, AC 623, AC 624, AC 625, AC 626, AC 627, AC 628, AC 629, AC 630, AC 631, AC 632, AC 633, AC 634, AC 635, AC 636, AC 637, AC 638, AC 639, AC 640, AC 641, AC 642, AC 643, AC 644, AC 645, AC 646, AC 647, AC 648, AC 649, AC 650, AC 651, AC 652, AC 653, AC 654, AC 655, AC 656, AC 657, AC 658, AC 659, AC 660, AC 661, AC 662, AC 663, AC 664, AC 665, AC 666, AC 667, AC 668, AC 669, AC 670, AC 671, AC 672, AC 673, AC 674, AC 675, AC 676, AC 677, AC 678, AC 679, AC 680, AC 681, AC 682, AC 683, AC 684, AC 685, AC 686, AC 687, AC 688, AC 689, AC 690, AC 691, AC 692, AC 693, AC 694, AC 695, AC 696, AC 697, AC 698, AC 699, AC 700, AC 701, AC 702, AC 703, AC 704, AC 705, AC 706, AC 707, AC 708, AC 709, AC 710, AC 711, AC 712, AC 713, AC 714, AC 715, AC 716, AC 717, AC 718, AC 719, AC 720, AC 721, AC 722, AC 723, AC 724, AC 725, AC 726, AC 727, AC 728, AC 729, AC 730, AC 731, AC 732, AC 733, AC 734, AC 735, AC 736, AC 737, AC 738, AC 739, AC 740, AC 741, AC 742, AC 743, AC 744, AC 745, AC 746, AC 747, AC 748, AC 749, AC 750, AC 751, AC 752, AC 753, AC 754, AC 755, AC 756, AC 757, AC 758, AC 759, AC 760, AC 761, AC 762, AC 763, AC 764, AC 765, AC 766, AC 767, AC 768, AC 769, AC 770, AC 771, AC 772, AC 773, AC 774, AC 775, AC 776, AC 777, AC 778, AC 779, AC 780, AC 781, AC 782, AC 783, AC 784, AC 785, AC 786, AC 787, AC 788, AC 789, AC 790, AC 791, AC 792, AC 793, AC 794, AC 795, AC 796, AC 797, AC 798, AC 799, AC 800, AC 801, AC 802, AC 803, AC 804, AC 805, AC 806, AC 807, AC 808, AC 809, AC 810, AC 811, AC 812, AC 813, AC 814, AC 815, AC 816, AC 817, AC 818, AC 819, AC 820, AC 821, AC 822, AC 823, AC 824, AC 825, AC 826, AC 827, AC 828, AC 829, AC 830, AC 831, AC 832, AC 833, AC 834, AC 835, AC 836, AC 837, AC 838, AC 839, AC 840, AC 841, AC 842, AC 843, AC 844, AC 845, AC 846, AC 847, AC 848, AC 849, AC 850, AC 851, AC 852, AC 853, AC 854, AC 855, AC 856, AC 857, AC 858, AC 859, AC 860, AC 861, AC 862, AC 863, AC 864, AC 865, AC 866, AC 867, AC 868, AC 869, AC 870, AC 871, AC 872, AC 873, AC 874, AC 875, AC 876, AC 877, AC 878, AC 879, AC 880, AC 881, AC 882, AC 883, AC 884, AC 885, AC 886, AC 887, AC 888, AC 889, AC 890, AC 891, AC 892, AC 893, AC 894, AC 895, AC 896, AC 897, AC 898, AC 899, AC 900, AC 901, AC 902, AC 903, AC 904, AC 905, AC 906, AC 907, AC 908, AC 909, AC 910, AC 911, AC 912, AC 913, AC 914, AC 915, AC 916, AC 917, AC 918, AC 919, AC 920, AC 921, AC 922, AC 923, AC 924, AC 925, AC 926, AC 927, AC 928, AC 929, AC 930, AC 931, AC 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- REINFORCING STEEL SHALL CONFORM TO ASTM A 616, GRADE 60, REBAR, UNLESS NOTED OTHERWISE. UNLESS OTHERWISE SPECIFIED, ALL WORK SHALL CONFORM TO ASTM A 618, RELIEVED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPACES SHALL BE CLASS "B" AND ALL WORKS SHALL BE STANDARD. UNDO.
- THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
 CONCRETE CAST AGAINST EARTH.....1 1/2 IN.
 #6 AND SMALLER.....1 1/2 IN.
 #8 AND LARGER.....2 IN.
 CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:
 SLAB AND WALL.....1 3/4 IN.
 BEAMS AND COLUMNS.....1 1/2 IN.
- A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH AC 301 SECTION 4.2.4.
- INSTALLATION OF CONCRETE EXPANSION/JUNCTION ANCHOR SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR SHALL BE INSTALLED AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION JOINTS APPROVED EQUAL.
- CONCRETE CHAMFER TEST IS NOT REQUIRED FOR SLAB ON GRADE WHEN CHAMFER IS LESS THAN 50 OBLIC YARDS (86' 10.62.2.2) IN THAT EVENT THE FOLLOWING REQUIREMENTS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER:
 (A) RESULTS OF CONCRETE CYLINDER TESTS PERFORMED AT THE SUPPLIER'S PLANT.
 (B) CERTIFICATION OF MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE GRADE SUPPLIED.
 FOR GREATER THAN 50 OBLIC YARDS THE GC SHALL PERFORM THE CONCRETE CYLINDER TEST:
 AS AN ALTERNATIVE TO ITEM B TEST CYLINDERS SHALL BE TAKEN INITIALLY AND THEREAFTER FOR EVERY 50 YARDS OF CONCRETE FROM EACH DIFFERENT BATCH PLAN.
- CONCRETE SHALL BE PLACED AND FINISHED WITHIN SEVEN DAYS AFTER PAID IS POURED, UNLESS IT IS VERIFIED BY TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.
- ALL CONCRETE SHALL BE SUPPLIED IN ACCORDANCE WITH TECHNICAL SPECIFICATION FOR CONSTRUCTION OF RADIO ACCESS NETWORK SITES.

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

- EXCAVATE AS REQUIRED TO REMOVE VEGETATION AND TOPSOIL. EXPOSE UNDISTURBED NATURAL SUBGRADE AND PLACE COMPACTED SUBGRADE AS REQUIRED.
- COMPACTION CERTIFICATION, AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER TO ACCEPTABLE.
- AS AN ALTERNATIVE TO INSPECTION AND WRITTEN CERTIFICATION, THE "UNDISTURBED SOIL" BASE SHALL BE COMPACTED TO A MINIMUM OF 95% RELATIVE COMPACTION. LISTED BELOW, TO AT LEAST FOR EACH 1000 SQ. FT. OF SUBGRADE TO BE COMPACTED PER ASTM D 1557 METHOD:
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- COMPACTION CRITERIA FOR OTHER FILL AREAS ON SITE SHALL MEET THE SAME REQUIREMENTS AS NOTED ABOVE.
- SOIL COMPACTION SHALL BE PERFORMED IN ACCORDANCE WITH TECHNICAL SPECIFICATION FOR CONSTRUCTION OF RADIO ACCESS NETWORK SITES.

COMPACTION EQUIPMENT:

HAND OPERATED DOUBLE DRUM, VIBRATORY ROLLER, VIBRATORY PLATE, COMPACTOR OR JUMPING JACK COMPACTOR.

ELECTRICAL INSTALLATION NOTES

- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.
- CONDUIT ROUTINGS ARE ESSENTIAL. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.
- WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELECOM.
- ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELECOM.
- CABLES SHALL NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNS.
- EACH END OF EVERY POWER, POWER PHASE CONDUCTOR (E., HOTS), GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (M BRAND, 1/2" INCH PLASTIC IDENTIFICATION TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC 6.05(A).
- ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH WRITTEN LABELS ALLOWED.
- POWER, CONTROL, AND EQUIPMENT GROUNDING WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (SIZE 14 AWG OR LARGER), 600V, OIL RESISTANT THIN OR THIN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (NET AND DRY) OPERATION, LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
- POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI-CONDUCTOR, TYPE T CABLE (SIZE 14 AWG OR LARGER), 600V, OIL RESISTANT THIN OR THIN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (NET AND DRY) OPERATION, LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
- SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (SIZE 6 AWG OR LARGER, 600V, OIL RESISTANT THIN OR THIN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (NET AND DRY) OPERATION, LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
- POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI-CONDUCTOR, TYPE T CABLE (SIZE 14 AWG OR LARGER), 600V, OIL RESISTANT THIN OR THIN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (NET AND DRY) OPERATION, LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
- ALL POWER AND POWER GROUNDING CONNECTIONS SHALL BE MADE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.
- RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEC, UL, ANSI/IEEE, AND NEC.

ELECTRICAL INSTALLATION NOTES (cont.)

- ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (RNC) SHALL BE USED FOR ALL ELECTRICAL INSTALLATIONS. ALL RIGID NONMETALLIC CONDUIT SHALL BE USED FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE. SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
- ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RNC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
- GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.
- RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND, DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.
- CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.
- CABINETS, BOXES, AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEC, UL, ANSI/IEEE, AND NEC.
- WIREWAYS SHALL BE EPOXY-COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PAINTDUTY TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
- EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
- METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED, OR NON-CORRODING. SHALL MEET OR EXCEED UL 514A AND NEMA OS 1, AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
- NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2, AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
- THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
- THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.

at&t
 Mobility
 550 COUCHUATE RD
 SUITES 13 & 14
 FRAMMINGHAM, MA 01701

EMPIRE telecom
 EMPIRE TELECOM, LLC
 16 ESQUIRE ROAD
 BILLERICA, MA 01821

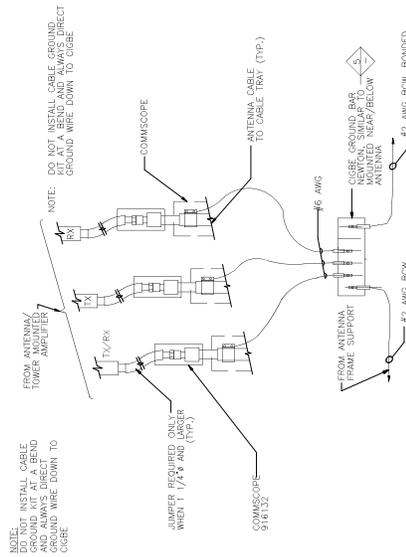
VRG
 VERTICAL RESOURCES GRP.
 489 Washington Street
 Frammingham, MA 01701
 Tel: (508) 981-9590
 Fax: (508) 519-9939
 mrob@verticalresourcesgrp.com

NO.	DATE	REVISION	BY	CHK	APPD
		FOR CONSTRUCTION			
		GENERAL REVISIONS			
	06/10/19		G.A.M.		
	03/29/19		G.A.M.		

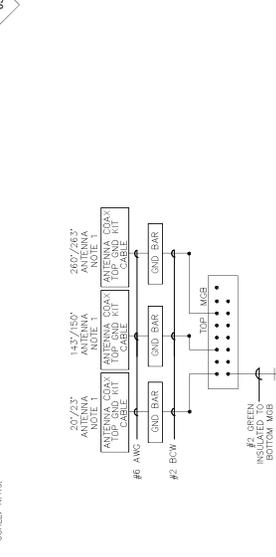
AT&T MOBILITY

NOTES

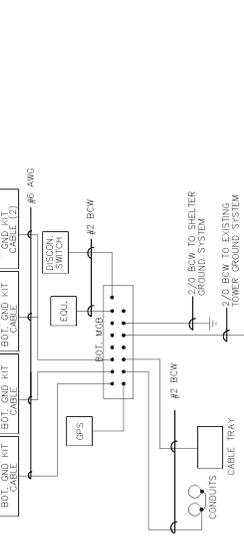
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 DRAWING NUMBER: 02
 REV: 1



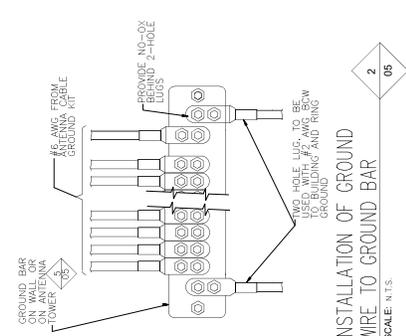
CONNECTION OF GROUND WIRES TO GROUNDING BAR (GIGBE)
SCALE: N.T.S.



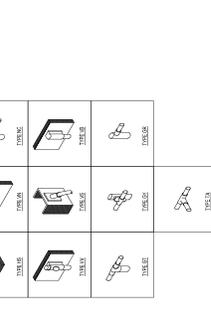
SCHEMATIC GROUNDING DIAGRAM
SCALE: N.T.S.



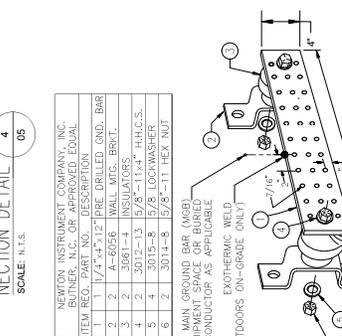
ANTENNA GROUNDING KIT CABLE TO BOTTOM CABLE
SCALE: N.T.S.



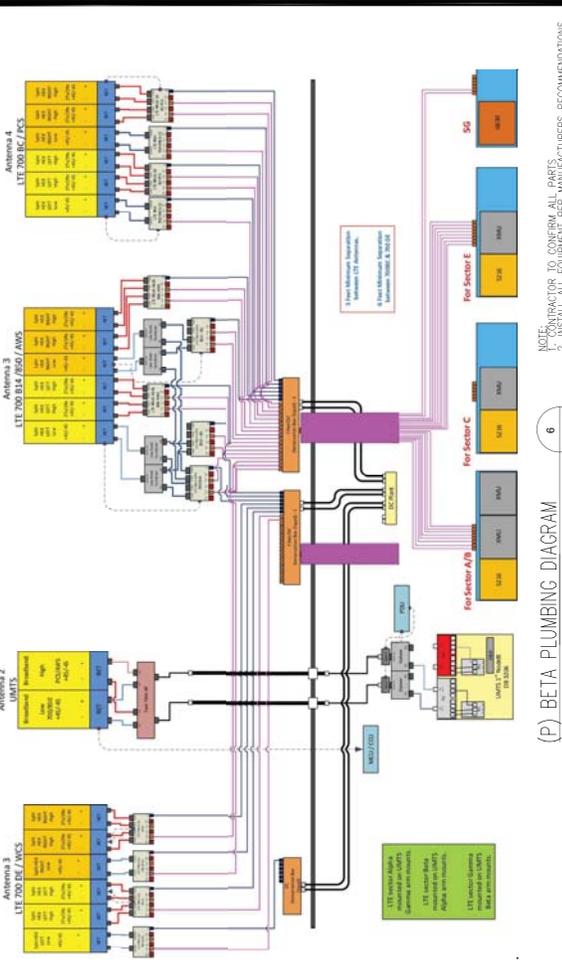
INSTALLATION OF GROUND WIRE TO GROUND BAR
SCALE: N.T.S.



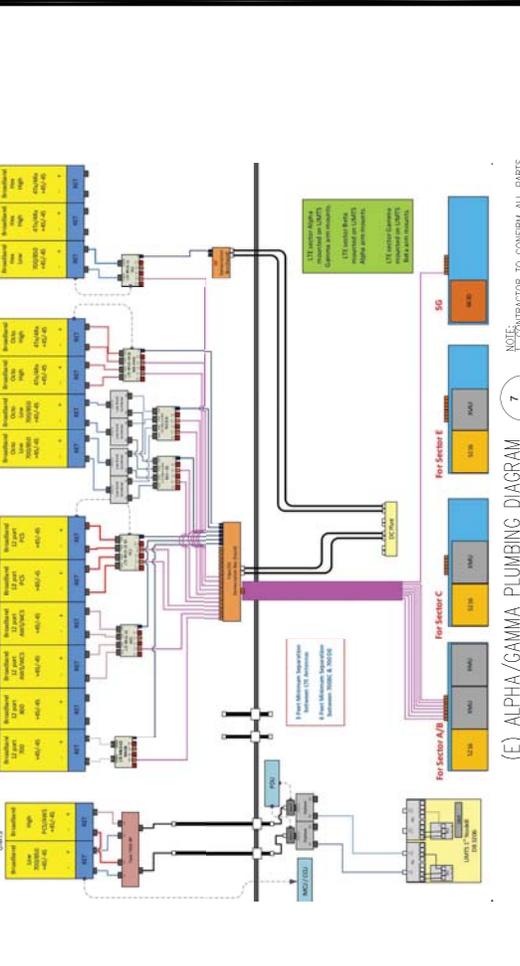
GROUNDING CONNECTION DETAIL
SCALE: N.T.S.



GROUND BAR DETAIL
SCALE: N.T.S.



(P) BETA PLUMBING DIAGRAM
SCALE: N.T.S.



(E) ALPHA/GAMMA PLUMBING DIAGRAM
SCALE: N.T.S.

at&t Mobility
550 COCHITUATE RD
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EMPIRE telecom
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489 Washington Street
Boston, MA 02115
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Fax: (508) 519-8939
mm@verticalresourcesgrp.com

AT&T MOBILITY
GROUNDING DETAILS

DESIGNED BY: MAN. DRAWN BY: G.A.M.
BY: G.A.M.
FOR CONSTRUCTION
REVISION
DATE
NO.

SCALE: N.T.S.

PROJECT: BETA SECTOR SPLIT
SITE NAME: HAMDEN
SITE NUMBER: CT2035
DRAWING NUMBER: 32035-TECH0010
REV: 1

ANALYSIS REPORT

OF

EXISTING BUILDING - ROOF MOUNTED SUPPORT MAST

AT

AT&T SITE #: CT2035

975 MIX AVE.
HAMDEN, CT 06514

FOR



at&t

550 COCHITUATE RD
SUITES 13 & 14
FRAMINGHAM, MA 01701

AND

 **EMPIRE** telecom

DATED
08-21-2019

Prepared By:
Vertical Resources Group, Inc.
489 Washington Street - Auburn, MA 01501

Preface

At the request of Empire Telecom Inc, we have reviewed the existing building's 3rd floor roof antenna mast, located at 975 Mix Ave, Hamden, CT for the proposed AT&T replacement of existing Beta sector (3) panels for new (3) CCI BSAM65RBUUH6k antennas with new (5) radios and (1) new surge arrestor on existing platform.

The report was executed on behalf of a Empire Telecom Inc purchase order dated February 2019.

We trust the analysis and recommendations presented herein will meet your requirements. However, please do not hesitate to contact us if you have any queries, or require any further information regarding this study.

Documents Examined

Site plans	<ul style="list-style-type: none"> • AT&T Construction Drawing site CT2035 dated 06-10-2019 • VRG design visit dated 02-2019
Project layout	<ul style="list-style-type: none"> • Site Plan layout per Centek Engineering Drawings site CT2035 Project LTE6C7C5G dated 11-29-2018.
Equipment Loading	<ul style="list-style-type: none"> • Equipment loading specifications provided by Empire dated March, 2019. Proposed antenna loading provided by AT&T RFDS dated 05-22-2019.

Design Parameters

Design Standard:	Connecticut Building Code 2018, International Building Code 2015, ASCE 7-12, EIA-222-G.
Ref. Wind Speed	125 Mph (CT BC ultimate gust), 97 Mph (nominal 3 sec gust IBC 1609.3.1) 95Mph (EIA-222-G), 3 sec. Gust Speed
Ref. Design Ice thickness	3/4"
Exposure Category:	'C'
Structure Class:	II
Gust Factor G:	1.1
Force Coefficient	Varies
Ground Snow Load Pg	50 psf

Design Assumptions

The present report assumes the following information:

- 1- The structure is in good, undamaged and non-corroded condition
- 2- AT&T Fiber & DC cables will be installed inside roof mounted cable tray and cable ladder.

In the event that any of these assumptions are incorrect we will need to be notified immediately in order to revise the results and recommendation herein.

Analysis Results

The existing building is a Class 2 CMU framed structure with exterior brick walls. Proposed AT&T Mobility radio equipment will be located on an existing ground floor equipment room. Existing/Proposed AT&T Mobility antenna panels are secured atop a 25.5' pipe mast on 3 sided 12' platform.

Alpha/Beta/Gamma antennas on 3 sided 12' platform induced forces resulting from dead & live loads are distributed to a 25.5' long vertical mast supported over two longitudinal W10x100 beams connected to two other W10x100 beams. Each will be resting atop 3rd floor interior support columns. The structure load distribution area generates bearing stresses which remain below design values in conformance with the requirements of Connecticut Building Code, IBC, ASCE 7 Minimum Design Loads for Buildings and other Structures.

- Proposed Building Roof Antenna Loading (appurtenances): install height of ±61'-0" Alpha/Beta/Gamma

(e) 3-Kathrein 800-10121 (UMTS850)	54.5"x10.3"x5.5"	44 Lbs	49 Lbs (ice)
(e) 2-Quintel QS665122 (LTE700de/WCS/PCS)	72.0"x12.0"x9.6"	111 Lbs	88 Lbs (ice)
(e) 2-Kathrein 800-10965 (LTE700b14/AWS/850)	78.7"x20.0"x6.9"	108 Lbs	117 Lbs (ice)
(e) 2-CCI HPA65BUUH6 (LTE700bc/pCS)	72.0"x14.8"x9.0"	51 Lbs	96 Lbs (ice)
(P) 3-CCI BSAM65RBUUH6k (LTE700/850/AWS/PCS)	72.0"x28.5"x9.7"	101 Lbs	155 Lbs (ice)
(e) 3-Powerwave TT1908BP111 (UMTS850)	9.9"x6.7"x5.4"	16 Lbs	9 Lbs (ice)
(e6,P2) Kaelus DBC0061F1V512 (LTE850/700)	8.0"x6.2"x6.4"	18 Lbs	8 Lbs (ice)
(e3,P1) Ericsson RRUS-11 (LTE700bc)	19.7"x17.0"x7.2"	51 Lbs	33 Lbs (ice)
(e3,P1) Ericsson RRUS-E2 (LTE700de)	20.4"x18.5"x6.1"	52 Lbs	33 Lbs (ice)
(e3,P1) Ericsson RRUS-32 (LTEWCS)	27.2"x12.1"x7.0"	53 Lbs	33 Lbs (ice)
(e3,P1) Ericsson RRUS-32b2 (LTEPCS)	27.2"x12.1"x7.0"	53 Lbs	33 Lbs (ice)
(e3,P1) Ericsson RRUS-4426 (LTEAWS)	14.9"x13.1"x5.8"	48 Lbs	19 Lbs (ice)
(e3,P1) Ericsson RRUS-4478b5 (LTE850)	18.1"x13.4"x8.3"	59 Lbs	27 Lbs (ice)
(e3) Ericsson RRUS-4478b14 (LTE700b14)	18.1"x13.4"x8.3"	59 Lbs	27 Lbs (ice)
(e-6,P-1) Raycap DC6-48-60-18-8F	24.0"x10.3"x10.3"	26 Lbs	39 Lbs (ice)
To be removed (e) 1-Quintel QS665122	72.0"x12.0"x9.6"	111Lbs	88 Lbs (ice)
To be removed (e) 1-Kathrein 800-10965	78.7"x20.0"x6.9"	108Lbs	117 Lbs (ice)
To be removed (e) 1-CCI HPA65RBUUH6	72.0"x14.8"x9.0"	51Lbs	96 Lbs (ice)

- Wind load on AT&T roof mounted components:

$$F=(q_z)(G_H)(C_A)(A_A) \quad G_H = 1.1 \text{ (ASCE7-10 26.9)} \quad C_A = \text{Table 2-8 (EIA-222-G 2.6.9.2)}$$

$$q_z=(0.00256)(K_z)(K_{ZT})(K_D)(V^2)(I)$$

$$K_z = 2.01*[61/900]^{2/9.5} = 1.14$$

$$K_D = 0.95 \quad V = 97 \text{ mph}$$

$$K_{ZT} = 1.0 \quad I = 1.0$$

$$q_z = 0.00256(1.14)(1.0)(0.95)(97)^2(1.0) = 26.0\text{Lbs/Ft}^2$$

$$F_B=(q_z)(G_H)(C_A)(A_A) = (26.0\text{Lbs/Ft}^2)(1.1)(C_A)(A_A) = 28.6\text{Lbs/Ft}^2 * C_A * A_A$$

$$F_I=(q_z)(G_H)(C_A)(A_A) = (6.9\text{Lbs/Ft}^2)(1.3)(C_A)(A_A) = 7.6\text{Lbs/Ft}^2 * C_A * A_A$$

Total Effective Projected Area Alpha/Gamma sectors:

$$EPA_A = \Sigma(C_A A_A) = 1.32(3.89'^2) + 1.35(1*6.0'^2) + 1.26(1*10.9'^2) + 1.3(1*7.4'^2) + 1.2(1*0.46'^2) + 1.2(2*0.34'^2) + 1.2(1*2.33'^2) + 1.2(2*2.28'^2) + 1.2(1*2.62'^2) + 1.2(1*1.35'^2) + 1.2(2*1.68'^2) + 1.2(3*2.0'^2)$$

$$EPA_A = \text{Alpha/Gamma } \Sigma(C_A A_A) = 59.8 \text{ SqFt}$$

Total Effective Projected Area Beta sector:

$$EPA_A = \Sigma(C_A A_A) = 1.32(1*3.89'^2) + 1.2(3*14.2'^2) + 1.2(1*0.46'^2) + 1.2(2*0.34'^2) + 1.2(2*2.33'^2) + 1.2(4*2.28'^2) + 1.2(2*2.62'^2) + 1.2(2*1.35'^2) + 1.2(3*1.68'^2) + 1.2(3*2.0'^2)$$

$$EPA_A = \text{Beta } \Sigma(C_A A_A) = 96.9 \text{ SqFt}$$

- Verification of existing building supported 25.5' long mast for AT&T loading:

Total Bare Weight Alpha/Beta/Gamma Sector Appurtenances	= 2790 Lbs
Total Ice Weight Alpha/Beta/Gamma Sector Appurtenances	= 2371 Lbs
Total Bare Weight Alpha/Beta/Gamma 12' 'F3P-12' Platform	= 1840 Lbs
Total Ice Weight Alpha/Beta/Gamma 12' 'F3P-12' Platform	= 2345 Lbs
Total bare weight to be supported by 25.5' long mast	= 4630 Lbs

- Verification of existing building supported 25.5' long mast for AT&T loading:

Applied wind load from antenna panels

$$F_{\text{Bare W 80010121}} = (28.6 \text{ Lbs/Ft}^2)(1.32*11.7'^2) = 441 \text{ Lbs}$$

$$F_{\text{Bare W QS665122}} = (28.6 \text{ Lbs/Ft}^2)(1.35*12.0'^2) = 463 \text{ Lbs}$$

$$F_{\text{Bare W 80010965}} = (28.6 \text{ Lbs/Ft}^2)(1.26*21.8'^2) = 785 \text{ Lbs}$$

$$F_{\text{Bare W HPA65RH6}} = (28.6 \text{ Lbs/Ft}^2)(1.30*14.8'^2) = 550 \text{ Lbs}$$

$$F_{\text{Bare W BSAM65RH6}} = (28.6 \text{ Lbs/Ft}^2)(1.20*42.6'^2) = 1462 \text{ Lbs}$$

Applied wind load from 12' F3P-12 platform

$$F_{\text{Bare W F3P12H10}} = (28.6 \text{ Lbs/Ft}^2)(32.34'^2) = 924 \text{ Lbs}$$

Applied wind load from RRU units and TMA's and surge arrestors

$$F_{\text{Bare W RRU-E2/11}} = (28.6 \text{ Lbs/Ft}^2)(1.20*19.8'^2) = 679 \text{ Lbs}$$

$$F_{\text{Bare W RRU-32b2}} = (28.6 \text{ Lbs/Ft}^2)(1.20*18.2'^2) = 624 \text{ Lbs}$$

$$F_{\text{Bare W RRU-4426}} = (28.6 \text{ Lbs/Ft}^2)(1.20*5.4'^2) = 185 \text{ Lbs}$$

$$F_{\text{Bare W RRU-4478}} = (28.6 \text{ Lbs/Ft}^2)(1.20*11.7'^2) = 401 \text{ Lbs}$$

$$F_{\text{Bare W DC6486018}} = (28.6 \text{ Lbs/Ft}^2)(1.20*10'^2) = 343 \text{ Lbs}$$

$$F_{\text{Bare W TMA/DIPLXR}} = (28.6 \text{ Lbs/Ft}^2)(1.20*4.7'^2) = 151 \text{ Lbs}$$

$$F_{\text{Iced W 80010121}} = (7.6 \text{ Lbs/Ft}^2)(1.32*13.7'^2) = 137 \text{ Lbs}$$

$$F_{\text{Iced W QS665122}} = (7.6 \text{ Lbs/Ft}^2)(1.35*13.7'^2) = 140 \text{ Lbs}$$

$$F_{\text{Iced W 80010965}} = (7.6 \text{ Lbs/Ft}^2)(1.26*23.9'^2) = 228 \text{ Lbs}$$

$$F_{\text{Iced W HPA65RH6}} = (7.6 \text{ Lbs/Ft}^2)(1.3*16.6'^2) = 164 \text{ Lbs}$$

$$F_{\text{Iced W BSAM65RH6}} = (7.6 \text{ Lbs/Ft}^2)(1.20*45.9'^2) = 418 \text{ Lbs}$$

$$F_{\text{Iced W F3P12H10}} = (7.6 \text{ Lbs/Ft}^2)(44.0'^2) = 334 \text{ Lbs}$$

$$F_{\text{Iced W RRU-E2/11}} = (7.6 \text{ Lbs/Ft}^2)(1.20*23.0'^2) = 209 \text{ Lbs}$$

$$F_{\text{Iced W RRU-32b2}} = (7.6 \text{ Lbs/Ft}^2)(1.20*21.6'^2) = 197 \text{ Lbs}$$

$$F_{\text{Iced W RRU-4426}} = (7.6 \text{ Lbs/Ft}^2)(1.20*6.6'^2) = 60 \text{ Lbs}$$

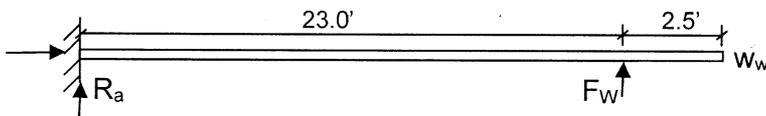
$$F_{\text{Iced W RRU-4478}} = (7.6 \text{ Lbs/Ft}^2)(1.20*14.2'^2) = 130 \text{ Lbs}$$

$$F_{\text{Bare W DC6486018}} = (7.6 \text{ Lbs/Ft}^2)(1.20*12.5'^2) = 114 \text{ Lbs}$$

$$F_{\text{Bare W TMA/DIPLXR}} = (7.6 \text{ Lbs/Ft}^2)(1.20*6.0'^2) = 55 \text{ Lbs}$$

- Verify existing 25'-6" long RHS18"Øx3/8" support mast from wind, ice & dead load:

Considering RHS 18"Øx3/8" mast A = 19.4"² S_x = S_y = 83.8"³ of ASTM A500 Gr C



Max applied moment on ±25'-6" long front RHS18"Øx3/8" from wind, ice & dead load:

$$M_{F \text{ Bare Wind}} = 1.6 * [(wI^2/2)] + 1.6 * [F_{\text{Bare Wind Front}} * I]$$

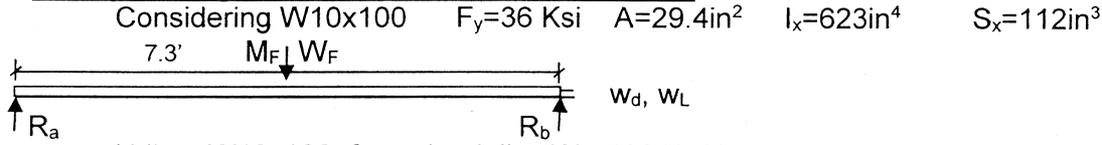
$$M_{F \text{ Bare Wind}} = 1.6 * [(161184 \text{ LbsFt}) + (10436 \text{ LbsFt})] = 274592 \text{ LbsFt}$$

$$M_{R X \ \& \ Y \ \text{AXIS}} = (\text{RHS18"Ø ASTM A500GrC} = \Phi(S_x)(F_y) = (0.9)(83.8^3)(46 \text{ Ksi}) = 289110 \text{ LbsFt}$$

$$M_{R X \ \& \ Y \ \text{AXIS}} = 289110 \text{ LbsFt} > M_{F \text{ Bare Wind}} = 274592 \text{ LbsFt} \quad \text{OK!}$$

Existing building supported 25.5' long mast can support existing & proposed AT&T loads

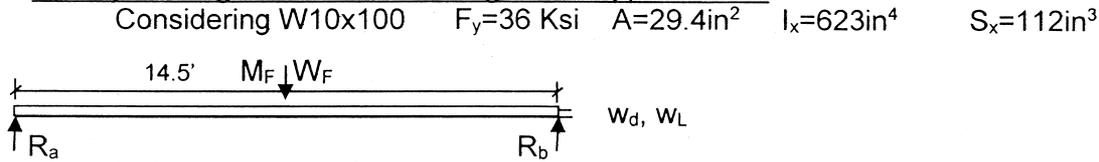
- Verify existing W10x100 7.3' support beams:



Udl on W10x100 from dead, live $W_d=100$ Lbs/Ft $W_L=25$ Lbs/Ft
 $W_{live} = 1.6(25 \text{ Lbs/Ft}) = 40$ Lbs/Ft $W_{dead} = 1.2(100 \text{ Lbs/Ft}) = 120$ Lbs/Ft
 $M_F = 13730$ LbsFt $W_F = 3860$ Lbs
 Reactions at supports $R_a=23525$ Lbs $R_b=23525$ Lbs
 Moment on W10x100 $M_{F_x} = (13730 \text{ LbsFt}) + (71073 \text{ LbsFt}) = 84803$ LbsFt
 Moment capacity of W10x100 beam = $M_r = 0.9 * F_y * S_x = 302400$ Lbs*Ft > $M_F = 84803$ Lbs*Ft OK!
 Verify deflection, max total allowable $\Delta = L/360 = 87.6''/360 = 0.24''$
 total $\Delta = [(5wL^4)/384EI] + [(WL^3)/48EI] = 0.036''$
 total $\Delta = 0.036'' < \text{max } \Delta = 0.24''$ OK!

*Existing AT&T 25'-6" RHS18"Ø mast support frame
 W10x100 can accommodate proposed loads*

- Verify existing W10x100 14.5' long main support beam:



Udl on W10x100 from dead, live $W_d=100$ Lbs/Ft $W_L=25$ Lbs/Ft
 $W_{live} = 1.6(25 \text{ Lbs/Ft}) = 40$ Lbs/Ft $W_{dead} = 1.2(100 \text{ Lbs/Ft}) = 120$ Lbs/Ft
 $W_F = 23525$ Lbs
 Reactions at supports $R_a=12922$ Lbs $R_b=12922$ Lbs
 Moment on W10x100 $M_{F_x} = (79396 \text{ LbsFt}) + (4205 \text{ LbsFt}) = 83806$ LbsFt
 Moment capacity of W10x100 beam = $M_r = 0.9 * F_y * S_x = 302400$ Lbs*Ft > $M_F = 83806$ Lbs*Ft OK!
 Verify deflection, max total allowable $\Delta = L/360 = 174''/360 = 0.48''$
 total $\Delta = [(5wL^4)/384EI] + [(WL^3)/48EI] = 0.16''$
 total $\Delta = 0.16'' < \text{max } \Delta = 0.48''$ OK!

*Existing AT&T 25'-6" RHS18"Ø mast support frame
 W10x100 can accommodate proposed loads*

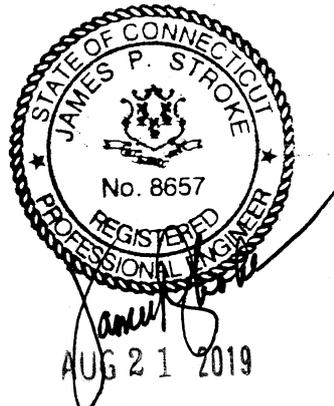
Conclusion

Based on these results, we can confirm that the present ±40' Tall building rooftop frame supported 25.5' tall antenna mast and associated AT&T Mobility mounts at a maximum proposed loading of 94%, can accommodate AT&T existing & proposed loads outlined above in appurtenance loading, is in apparent agreement with the Connecticut State Building Code latest ed., EIA-222-G with respect to individual member capacities and seemingly requires no further action.

We trust the analysis and recommendations presented in this report will meet your requirements. However, please do not hesitate to contact us if you have any queries, or require any further information regarding this study.

Yours very truly,

Miguel Nobre, P.E.



APPENDIX 'A'

STANDARD ENGINEERING CONDITIONS

STANDARD CONDITIONS FOR FURNISHING OF PROFESSIONAL SERVICES ON EXISTING STRUCTURES

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessary limited, to:

- Information supplied by the client regarding the structure itself, its foundations, the soil conditions, the antenna and feed line loading on the structure and its components, or other relevant information.
- Information from fields and/or drawings in the possession of Vertical Resources Group., or generated by field inspections or measurements of the structure.

It is the responsibility of the client to ensure that the information provided to Vertical Resources Group. and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and are in an un-corroded condition and have not deteriorated; and we, therefore, assume that their capacity has not significantly changed from the "as new" condition.

All services will be performed to the codes specified by the client, and we do not imply to meet any other codes or requirements unless explicitly agreed in writing. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of I.B.C. & ASCE 7.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. Vertical Resources Group is not responsible for the conclusions, opinions and recommendations made by others based on upon the information we supply.

Springwich Cellular Limited Partnership
227 Church Street
New Haven, Connecticut 06510
Phone (203) 771-7381



Peter J. Tyrrell
Senior Attorney

December 22, 1993

RECEIVED
DEC 22 1993

Mortimer A. Gelston, Chairman
Connecticut Siting Council
136 Main Street, Suite 401
New Britain, Ct 06051

**CONNECTICUT
SITING COUNCIL**

Dear Chairman Gelston:

Attached please find a Petition for a Declaratory Ruling for the addition of antennas and the installation of associated radio equipment on and within a building located at 975 Mix Avenue in Hamden, Connecticut.

Please record my name as counsel for the Springwich Cellular Limited Partnership in this matter and in all correspondence from the Council.

Thank you for your cooperation.

Very truly yours,

A handwritten signature in cursive script that reads "Peter J. Tyrrell".

Attachment

cc: Honorable Lillian A. Clayman, Mayor, Town of Hamden,
Memorial Town Hall, 2372 Whitney Avenue, Hamden, CT
06518

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

IN RE: A PETITION OF :
SPRINGWICH CELLULAR :
LIMITED PARTNERSHIP :
FOR A DECLARATORY RULING ON THE :
NEED TO OBTAIN A SITING COUNCIL :
CERTIFICATE FOR ANTENNAS TO BE :
INSTALLED ON AN EXISTING TOWER :
ON A BUILDING IN HAMDEN, :
CONNECTICUT. :

December 22, 1993

RECEIVED
DEC 22 1993

**CONNECTICUT
SITING COUNCIL**

PETITION FOR A DECLARATORY RULING:

INSTALLATION HAVING NO SUBSTANTIAL ADVERSE ENVIRONMENTAL EFFECT

I. Introduction

Pursuant to Sections 16-50j-38 and 16-50j-39 of the Regulations of Connecticut State Agencies (RCSA), the Springwiche Cellular Limited Partnership (Springwiche) hereby petitions the Connecticut Siting Council (Council) for a declaratory ruling that no certificate of environmental compatibility and public need is required by Section 16-50k(a) of the C.G.S. for the installation of cellular antennas on an existing telecommunications tower on the roof of a four story building located in Hamden, Connecticut, as further described herein. The equipment associated with this installation will be located on the first floor of the building. The first floor of the building has been constructed of concrete, and will support our cellular equipment.

Springwiche respectfully requests that the Council issue a determination that the proposed installation will not have a substantial adverse environmental effect and, therefore, does not require a certificate of environmental compatibility and public need.

II. The Petitioner

The Springwich Cellular Limited Partnership is a Connecticut partnership with its principal place of business at 555 Long Wharf Drive, New Haven, Connecticut 06511. The General and Managing Partner of Springwich is SNET Springwich, Inc. Springwich is requesting this ruling in order to confirm that a certificate is not required prior to installation of the equipment.

III. Factual Background

Springwich proposes to install two-seven foot whip style antennas on an existing 20 foot tower on the top of the building located at 975 Mix Avenue, in Hamden, Connecticut.

The Hamden location presently contains a 20 foot guyed lattice style tower supporting an unused television antenna whose function has been replaced by internal cable television.

The television antenna will be removed and the cellular antennas will be attached to three foot side arms which will be added to the existing tower. The antennas would extend approximately four feet above the height of the existing television antenna. Cabling between the antennas and the radio equipment would be run within an unused chimney to the basement and through a false ceiling to the equipment space. A building permit and Federal approval for this installation will be obtained following a favorable ruling by the Council on this petition. No other approvals are necessary.

IV. Discussion

Sections 16-50g through 16-50z of the C.G.S. constitute the Public Utility Environmental Standards Act. The question presented at this site is whether Springwich's proposed installation, which will have little or no environmental impact, is one which requires a certificate pursuant to Section 16-50K(a) of the C.G.S.

A. Springwich's Proposed Installation Has Not Been Found By the Council to Have a Substantial Adverse Environmental Effect.

The proposed installation in Hamden is not one for which a certificate of environmental compatibility and public need is required since it will not have a substantial adverse environmental effect.

Legislative Finding and Purpose

Section 16-50g of the C.G.S. contains the General Assembly's finding and purpose in enacting the Public Utility Environmental Standards Act, which established the Council and its powers. Section 16-50g establishes that the law is intended to control the design, location, construction, and operation of certain types of facilities with potentially significant adverse impacts on their surrounding. The antennas which Springwich proposes to install on the tower and building in Hamden will have no such impact, based on the following:

1. In relation to the location and size of the building, the addition of the antennas on the existing tower will not add noticeably to the physical characteristics or visual appearance of the building or the surroundings, and will have no effect on the ecology.

2. The nonionizing radio frequency radiation associated with the antennas, as measured for the fourth floor of the building, will be an estimated 0.4386 mW/cm^2 . Thus, the Springwich installation will have a power density below the level allowed under State law, which is 0.5867 mW/cm^2 , and will not pose any significant threat to the public.
3. The proposed installation will not increase the noise level at the site boundary by 6 decibels or more. The proposed installation of antennas will not extend the boundaries of the site, nor increase its height.
4. There is presently an existing tower and antenna located on the roof. Thus, the public is already accustomed to seeing this structure, and the proposed changes will not be obtrusive.

Accordingly, this installation will not cause a significant change or alteration in the physical and environmental characteristics of the site, is not one which the General Assembly intended to regulate through the state siting program and is not required to have a Siting Council certificate under C.G.S. Section 16-50k(a).

B. Section 16-50j-71 of the State Regulations is Consistent With a Conclusion that this Installation is not Covered by Section 16-50k(1).

As discussed above, the statute requires that the Council make findings as to the types of structures and installations which may have a substantial adverse environmental effect. Without such a finding, a structure or installation is not covered by the requirements to obtain a certificate.

Section 16-50j-71 of the R.C.S.A. sets forth the Council's finding with respect to those types of installations addressed in Section 16-50i(5) and (6) of the C.G.S. That section reads as follows:

Pursuant to section 16-50i(a)(5) and (6) of the General Statutes, the council finds that each community antenna television tower or telecommunications tower and its associated equipment except as specified in 16-50j-72(a) may have a substantial environmental effect and therefore is a facility, and any modification, as defined in subsection (1) of section 16-50j-2 of the Regulations of Connecticut State Agencies, to an existing tower site, except as specified in 16-50j-72(b), may have a substantial adverse environmental effect. (emphasis added)

Since the equipment proposed to be installed by Springwich has not been found to have a substantial adverse environmental effect under Section 16-50j-71, it is not subject to the requirement to obtain a certificate under C.G.S. Section 16-50k(a).

C. A Conclusion That The Proposed Installation is not One Which May Have a Substantial Environmental Effect Would Be Consistent with the Council's Precedent.

In previous petitions which are similar to this one, the Council found that no certificate was required for the installation of certain equipment on existing structures. Six such matters were Council Petition No. 307, submitted on June 14, 1993 by Metro Mobile CTS of Hartford, Inc.; Council Petition No. 306, submitted on May 20, 1993 by Metro Mobile CTS of Hartford, Inc; Council Petition No. 298, submitted on January 28, 1993 by the Springwich Cellular Limited Partnership; Council Petition No. 292, submitted on September 9, 1992 by the Springwich Cellular Limited Partnership; Council Petition No. 288 submitted on August 3, 1992 by Metro Mobile CTS of New Haven, Inc.; and Council Petition No. 283, submitted on May 28, 1992 by Metro Mobile CTS of Hartford, Inc.

In its June 14, 1993 petition, Metro Mobile CTS of Hartford, Inc. requested a declaratory ruling (Petition No. 307) on a proposal to install antennas on the cupola of the main building of the American School for the Deaf, located on North Main Street in West Hartford, Connecticut. The proposal included the installation of antennas and the construction of an equipment room within the same building. At its August 23, 1993 meeting, the Council voted to issue a ruling that no Siting Council certificate was required for that installation. This decision was communicated to Metro Mobile by letter dated August 25, 1993.

In its May 20, 1993 petition, Metro Mobile CTS of Hartford, Inc. requested a declaratory ruling (Petition No. 306) on a proposal to install antennas and an equipment cabinet on a barn on Coles Road in Cromwell, Connecticut. At its June 8, 1993 meeting, the Council voted to issue a ruling that no Siting Council certificate was required for that installation. This decision was communicated to Metro Mobile by letter dated June 9, 1993.

In its January 28, 1993 petition, the Springwich Cellular Limited Partnership requested a declaratory ruling (Petition No. 298) on a proposal to install antennas on top of a building on East Center Street in Manchester, Connecticut and the construction of an equipment room within the same building. At its February 10, 1993 meeting, the Council voted to issue a ruling that no Siting Council certificate was required for that installation. This decision was communicated to Springwich by letter dated February 10, 1993.

In its September 9, 1992 petition, the Springwich Cellular Limited Partnership requested a declaratory ruling (Petition No. 292) on a proposal to install antennas on top of a building on Butler Street in Meriden, Connecticut, and the construction of an equipment room within the same building. At its October 14, 1992 meeting, the Council voted to issue a ruling that no Siting Council certificate was required for that installation. This decision was communicated to Springwich by letter dated October 14, 1992.

In its August 3, 1992 petition, Metro Mobile CTS of New Haven, Inc. requested a declaratory ruling (Petition No. 288) on a proposal to install antennas on top of a building on Alexander Drive in Wallingford, Connecticut, and the construction of an equipment room within the same building. At its August 18, 1992 meeting, the Council voted to issue a ruling that no Siting Council certificate was required for that installation. This decision was communicated to Metro Mobile by letter dated August 18, 1992.

In its May 29, 1992 petition, Metro Mobile CTS of Hartford, Inc. requested a declaratory ruling (Petition No. 283) on a proposal to install antennas on top of a building on Myrtle Street in New Britain, Connecticut, and the construction of an equipment room within the same building. At its June 23, 1992 meeting, the Council voted to issue a ruling that no Siting Council certificate was required for that installation. This decision was communicated to Metro Mobile by letter dated June 24, 1992.

Copies of the approvals for the above petitions are attached, and issuance of the ruling requested by Springwich in this petition would be consistent with Council precedent.

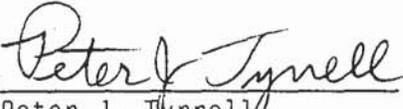
Conclusion

Springwich has attempted to address the foremost goal of the Connecticut Siting Council, which is to avoid additional tower proliferation whenever possible through the use of existing structures, including rooftops. This request fully exhibits the petitioner's desire to assist the Council meeting in its goals.

Based on the above, Springwich requests that the Council issue a determination, in the form of a declaratory ruling, that the proposed installation of antennas and the construction of an equipment room in the building in Hamden is not one which would have a substantial adverse environmental effect and, therefore, a certificate of environmental compatibility and public need is not required.

Respectfully submitted,

SPRINGWICH CELLULAR
LIMITED PARTNERSHIP

By 
Peter J. Tyrrell
Its Attorney



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

136 Main Street, Suite 401
New Britain, Connecticut 06051-4225
Phone: 827-7682

FILE COPY

August 25, 1993

David S. Malko, P.E.
General Manager - Engineering
Bell Atlantic Metro Mobile
20 Alexander Drive
P.O. Box 5029
Wallingford, CT 06492

Re: PETITION NO. 307 - Metro Mobile CTS of Hartford, Inc.,
petition for a declaratory ruling that no Certificate of
Environmental Compatibility and Public Need is required
for the proposed installation of telecommunications
antennas on and an equipment room within an existing
building at the American School for the Deaf located at
139 North Main Street, West Hartford, Connecticut.

Dear Mr. Malko:

At a public meeting on August 23, 1993, the Connecticut Siting Council (Council) considered additional information submitted by Bell Atlantic Metro Mobile (BAM) concerning the installation of cellular telecommunications antennas on the cupola at the American School of the Deaf in West Hartford, Connecticut. The Council ruled that the antennas would not have a substantial adverse effect that would require a Certificate of Environmental Compatibility and Public Need from the Council.

This decision completes all action necessary for this petition.

The Council's staff report for this petition is enclosed for your information.

Please call me if you have any questions concerning the Council's decision.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Joel M. Rinebold".

Joel M. Rinebold
Executive Director

JMR:SMH:mmb
Enclosure: Staff Report

cc: Henry H. Sprague, III, Robinson & Cole

7255E



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

136 Main Street, Suite 401
New Britain, Connecticut 06051-4225
Phone: 827-7682

June 9, 1993

Henry H. Sprague, III
Robinson & Cole
One Commercial Plaza
Hartford, CT 06103-3597

RE: PETITION NO. 306 - Metro Mobile CTS of Hartford, Inc., petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the proposed installation of telecommunications antennas and associated equipment on the sides of an existing building located at 129 Coles Road in Cromwell, Connecticut.

Dear Mr. Sprague:

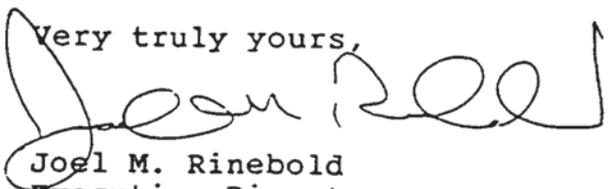
At a public meeting on June 8, 1993, the Connecticut Siting Council (Council) considered this petition and ruled that the attachment of two panel antennas and an equipment cabinet on an existing barn at the site would not have a substantial adverse environmental effect, and therefore, would not require a Certificate of Environmental Compatibility and Public Need.

This decision applies only to Petition No. 306, and is not applicable to any other modifications or construction.

Please notify the Council upon completion of construction.

Enclosed for your information is a copy of the staff report on this project.

Very truly yours,


Joel M. Rinebold
Executive Director

enclosure

cc: David Malko, Metro Mobile

JMR/SMH/ss

7004E



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

136 Main Street, Suite 401
New Britain, Connecticut 06051-4225
Phone: 827-7682

February 16, 1993

Peter J. Tyrrell
Senior Attorney
SNET Cellular, Inc.
227 Church Street
New Haven, CT 06510

RE: PETITION NO. 298 - Springwich Cellular Limited Partnership petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the installation of telecommunications antennas on top of an existing building and the placement of an associated equipment inside the building located at 52 East Center Street, Manchester, Connecticut.

Dear Attorney Tyrrell:

At a public meeting on February 11, 1993, the Connecticut Siting Council (Council) considered and ruled that the proposed installation of an antenna support structure and cellular telecommunications antennas on top of the Southern New England Telephone Company's office building in Manchester and the placement of associated equipment within the building, would not have a substantial environmental effect, and pursuant to the Connecticut General Statutes section 16-50k, would not require a Certificate of Environmental Compatibility and Public Need. The Council's ruling applies only to Petition No. 298 and is not applicable to any other modification or construction.

The petition is to be implemented as specified in the petition dated January 28, 1993.

Please notify the Council upon completion of construction.

For your information, a copy of the Council's staff report for this project is enclosed.

Very truly yours,

A handwritten signature in cursive script that reads "Mortimer A. Gelston".

Mortimer A. Gelston
Chairman

enclosure
cc: Barry F. Burke

6774E-foc



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

136 Main Street, Suite 401
New Britain, Connecticut 06051-4225
Phone: 827-7682

October 22, 1992

Peter J. Tyrrell
Senior Attorney
SNET Cellular, Inc.
227 Church Street
New Haven, CT 06510

RE: PETITION NO. 292 - Springwich Cellular Limited
Partnership petition for a declaratory ruling that no
Certificate of Environmental Compatibility and Public
Need is required for the installation of cellular
telecommunications antennas on top of the Southern New
England Telephone Company building located at 27 Butler
Street, Meriden, Connecticut.

Dear Attorney Tyrrell:

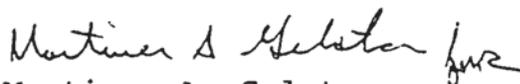
At a public meeting on October 14, 1992, the Connecticut Siting Council (Council) considered and ruled that the proposed installation of cellular telecommunications antennas on top of the Southern New England Telephone Company's office building in Meriden and the placement of associated equipment within the building, would not have a substantial environmental effect, and pursuant to the Connecticut General Statutes section 16-50k, would not require a Certificate of Environmental Compatibility and Public Need. The Council's ruling applies only to Petition No. 292 and is not applicable to any other modification or construction.

The petition is to be implemented as specified in the petition dated September 9, 1992.

Please notify the Council upon completion of construction.

For your information, a copy of the Council's staff report for this project is enclosed.

Very truly yours,


Mortimer A. Gelston
Chairman

enclosure

cc: Barry F. Burke

6503E



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

136 Main Street, Suite 401
New Britain, Connecticut 06051-4225
Phone: 827-7682

FILE
COPY

August 18, 1992

Mr. Gary N. Schulman
Vice President
Metro Mobile CTS of Hartford, Inc.
20 Alexander Drive
Wallingford, CT 06492

RE: PETITION NO. 288 - Metro Mobile CTS of New Haven, Inc.,
petition for a declaratory ruling that no Certificate of
Environmental Compatibility and Public Need is required
for the installation of telecommunications antennas and
associated equipment to a building at 20 Alexander Drive,
Wallingford, Connecticut.

Dear Mr. Schulman:

At a meeting on August 18, 1992, the Connecticut Siting Council
(Council) considered this petition and ruled that the addition
of cellular equipment and two cellular antennas to an existing
office building at 20 Alexander Drive, Wallingford, Connecticut
would not have a substantial adverse environmental effect, and
therefore would not require a Certificate of Environmental
Compatibility and Public Need. This decision applies only to
Petition 288, and is not applicable to any other modification
or construction.

Please notify the Council upon completion of construction.

Enclosed for your information is a copy of the staff report on
this project.

Very truly yours,

A handwritten signature in cursive script, appearing to read 'Joel M. Rinebold'.

Joel M. Rinebold
Executive Director

JMR/bd

enclosure

6364E



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

136 Main Street, Suite 401
New Britain, Connecticut 06051
Phone: 827-7682

June 24, 1992

Mr. Gary N. Schulman
Vice President
Metro Mobile CTS of Hartford, Inc.
20 Alexander Drive
Wallingford, CT 06492

RE: PETITION NO. 283 - Metro Mobile CTS of Hartford, Inc.,
petition for a declaratory ruling that no Certificate of
Environmental Compatibility and Public Need is required
for the installation of telecommunications antennas and
other equipment on top of an existing building located at
155 Myrtle Street, New Britain, Connecticut.

Dear Mr. Schulman:

At a meeting on June 23, 1992, the Connecticut Siting Council (Council) considered this petition and ruled that the addition of cellular equipment and eight cellular antennas to an existing office building at 155 Myrtle Street, New Britain, Connecticut would not have a substantial adverse environmental effect, and therefore would not require a Certificate of Environmental Compatibility and Public Need. This decision applies only to Petition 283, and is not applicable to any other modification or construction.

Please notify the Council upon completion of construction.

Enclosed for your information is a copy of the staff report on this project.

Very truly yours,

A handwritten signature in dark ink, appearing to read "Joel M. Rinebold".

Joel M. Rinebold
Executive Director

JMR/bd

6195E



Date: November 21, 2019

To: Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Attn: Melanie A. Bachman, Esq.
Executive Director/ Staff Attorney

Re: Council Extension Letter for EM-AT&T-062-190814 (975 Mix Avenue, Hamden)

Good Day,

This letter is to inform you that both AT&T and the Town of Hamden have searched their records and are unable to locate the original facility approval. Specifically, we have confirmed the absence of such records with Holly Masi, zoning enforcement officer in the Town of Hamden.

Attached, please find the four permits that we have been able to pull with the municipality since the original zoning approval: (1) 2010; (2) 2016; (3) 2017; (4) 2019.

A copy of the Petition No. 592 is also attached as further evidence that the original facility was replaced with the facility that is the subject of Petition No. 592 and approved by the Sitting Council.

Thank you,

Nora Oliver

Empire Telecom USA LLC
16 Esquire Road | Billerica, MA 01862
Mobile: 978-808-2111
Email: noliver@empiretelecomm.com
Website: www.EmpireTelecomm.com

**TOWN OF HAMDEN
BUILDING DEPARTMENT
2750 Dixwell Avenue • Hamden, CT 06518 • (203) 287-7160**

BUILDING PERMIT # 62452

JOB LOCATION 905 Mix Ave

OWNER Mix Av. LLC

CONTRACTOR ADDRESS/TEL NEXLINK GLOBAL SER. WINDSOR CT. 203-217-6200

DESCRIPTION OF WORK 3 ANTENNA DEPLOYMENT

Rabot Schick
BUILDING OFFICIAL

**TOWN OF HAMDEN
BUILDING DEPARTMENT
2750 Dixwell Avenue • Hamden, CT 06518 • (203) 287-7160**

BUILDING PERMIT # *68128*

JOB LOCATION *925 MEX AVE*

OWNER

CONTRACTOR ADDRESS/TEL *Site Acquisitions*

DESCRIPTION OF WORK *cell*

Robert Schmitt
BUILDING OFFICIAL



TOWN OF HAMDEN PERMIT TO BUILD

Date: May 16, 2019
Permit #: 7261

This Permit is granted to:
For property located on:
Type of Structure:

Joshua Jones
905 MIX AVE
Telecommunication/no change

Parcel ID: 2628-101-00-0000
Estimated Project Cost 25000

Description of Work:

AT&T an existing tenant on existing cell tower, seeks to update the equipment by adding (3) antennas, add (6) remote radio units, add (6) diplexers and add (3) DC/Fiber Squid surge suppressors with associated cabling. There will be no change to ground space, no breaking of ground and no changes to tower height.

This permit is subject to all existing Building and Zoning Laws of Hamden now in force, or that may hereafter be enacted, and in conformance with the details of the application.

**Please Call the Building Department to schedule inspections
at 203-287-7160**

Robert Labulis
Building Official

**THIS CARD MUST BE DISPLAYED IN A CONSPICUOUS PLACE, ON THE PREMISES,
AND MUST NOT BE REMOVED UNTIL ALL WORK IN THE BUILDING HAS BEEN APPROVED.**

To learn more, scan this barcode or visit [.viewpointcloud.com/#/records/](http://viewpointcloud.com/#/records/)



REQUIRED
ELECTRICAL
PERMIT
V.7
(LICENSE)

TOWN OF HAMDEN
BUILDING DEPARTMENT

2750 Dixwell Avenue • Hamden, CT 06518 • (203) 287-7160

BUILDING PERMIT # 63124.

JOB LOCATION 905 MIX AVE.

OWNER CHESTNUT HILL NORTH LLC

CONTRACTOR ADDRESS/TEL EMPIRE TELECOM USA LLC KING OF PRUSSIA PA

DESCRIPTION OF WORK 3 ANTENNA 3 R.F.U REMOVE OTHER

Robert J. Lullo

BUILDING OFFICIAL

2601.
21971
9/28, 2016

21971
9/28, 2016

RECEIVED OF Empire Telecom USA LLC
of one hundred and sixty three and 50/100 DOLLARS \$ 463.50
TOWN 905 Mix Ave (975 AKF)

DETAIL	ACCOUNT	NOTE	HOW PAID
AMOUNT DUE			CASH
AMOUNT PAID	AKF 4	9150	CHEQUE 463.50
BALANCE DUE			DRAFT MONEY ORDER

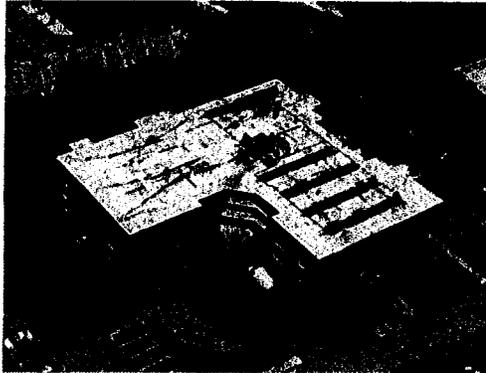
By *J. Lullo*
Thank You



SITESAFE
RF COMPLIANCE EXPERTS

®

8618 Westwood Center Drive, Suite 315, Vienna, VA 22182
703.276.1100 • 703.276.1169 fax
info@sitesafe.com • www.sitesafe.com



**Empire Telecom on behalf of
AT&T Mobility, LLC
Site FA – 10035036
Site ID – CT2035
USID – 61166
Site Name – Hamden
CT Siting Council
975 Mix Avenue
Hamden, CT 06514**

Latitude: N41-22-42.67
Longitude: W72-55-04.50
Structure Type: Rooftop

Report generated date: July 5, 2019
Report by: Nick Kutzke
Customer Contact: - New England Compliance

AT&T Mobility, LLC will be compliant when the remediation recommended in Section 5.2 or other appropriate remediation is implemented.

Sitesafe logo is a registered trademark of Site Safe, LLC. All rights reserved.



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1 General Site Summary

1.1 Report Summary

AT&T Mobility, LLC	Summary
Max Cumulative Simulated RFE Level on the Rooftop	<1% General Public Limit
Max Cumulative Simulated RFE Level on the Rooftop Walking Surface	<1% General Public Limit
Max Cumulative Simulated RFE Level on the Ground	<1% General Public Limit
Compliant per FCC Rules and Regulations?	Will Be Compliant
Compliant per AT&T Mobility, LLC's Policy?	No

The following documents were provided by the client and were utilized to create this report:

RFDS: NEW-ENGLAND_CONNECTICUT_CTV2035_2019-Cell-Site-RF-Modifications_Split-Se...

CD's: 10035036.CT2035.CD.LTESectorSplit.Rev1.06.10.2019

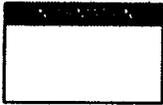
RF Powers Used: NEW-ENGLAND_CONNECTICUT_CTV2035_2019-Cell-Site-RF-Modifications_Split-Se...

1.2 Fall Arrest Anchor Point Summary

Fall Arrest Anchor & Parapet Info	Parapet Available (Y/N)	Parapet Height (Inches)	Fall Arrest Anchor Available (Y/N)
Roof Safety Info	Y	3"	N

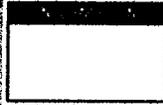
1.3 Signage Summary

a. Pre-Site Visit AT&T Signage (Existing Signage)

AT&T Signage Locations									
	Information 1	Information 2	Notice	Notice 2	Caution	Caution 2	Warning	Warning 2	Barriers
Access Point(s)	1				1				
Base of Pole						1			
Alpha									
Beta									
Gamma									
Delta									
Epsilon									

Note: All existing signage was documented during a previous site visit 08/14/17.

b. Proposed AT&T Signage

AT&T Signage Locations									
	Information 1	Information 2	Notice	Notice 2	Caution	Caution 2	Warning	Warning 2	Barriers
Access Point(s)						1			
Alpha									
Beta									
Gamma									
Delta									
Epsilon									

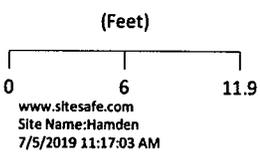
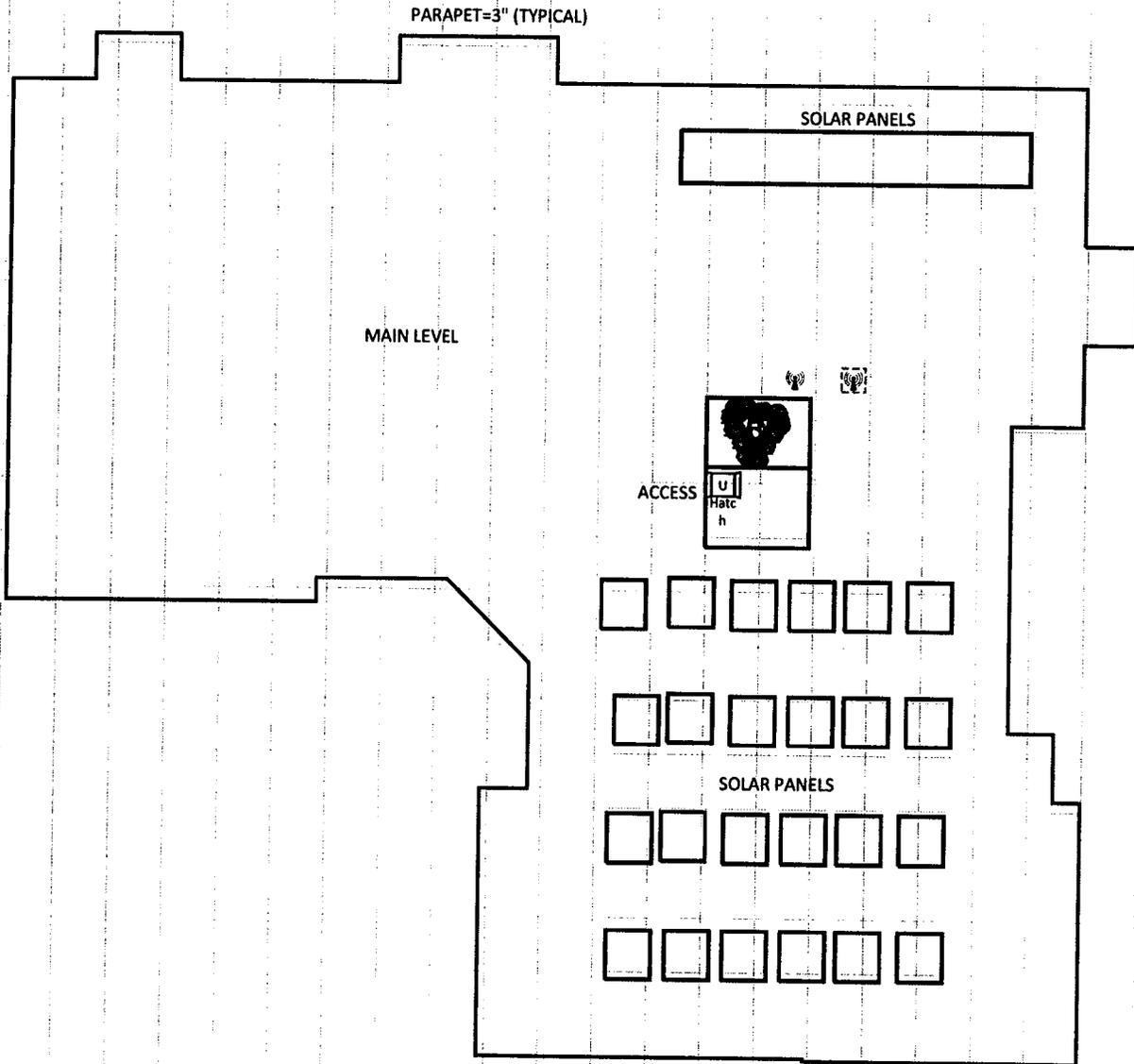


2 Scale Maps of Site

The following diagrams are included:

- Site Scale Map
- RF Exposure Diagram

Site Scale Map For: Hamden



Carrier Identification		Sign Legend						RSP RF Safety Plan				
● AT&T MOBILITY LLC	● VERIZON WIRELESS	● T-MOBILE	○ SPRIAT	○ UNKNOWN CARRIER	■ Caution 1	■ Caution 2	■ Notice 2		■ Notice 1	■ Warning	■ Warning 2	■ Info 1
		Barrier		Proposed Barriers/ Signs								



3 Antenna Inventory

The following antenna inventory was obtained by the customer and was utilized to create the site model diagrams:

Ant ID	Operator	Antenna Make & Model	Type	Tx Freq (MHz)	Technology	Az (Deg)	Hor BW (Deg)	Ant Len (ft)	Power	Power Type	Power Unit	Misc Loss	Tx Count	Total ERP (Watts)	Ant Gain (dBD)	Z	MDT	EDT
1	AT&T MOBILITY LLC	Kathrein-Scala 800-10121	Panel	850	UMTS	23	87.6	4.5	40	TPO	Watt	0	1	545.8	11.35	23.2'	1°	6°
2	AT&T MOBILITY LLC	Quintel Q566512-2	Panel	2300	LTE	20	64	6	100	TPO	Watt	0	1	2857.6	14.56	22.5'	0°	3°
2	AT&T MOBILITY LLC	Quintel Q566512-2	Panel	722	LTE	20	69	6	80	TPO	Watt	0	1	1119.7	11.46	22.5'	0°	3°
2	AT&T MOBILITY LLC	Quintel Q566512-2	Panel	1900	LTE	20	68	6	160	TPO	Watt	0	1	4169.8	14.16	22.5'	0°	3°
3	AT&T MOBILITY LLC	Kathrein-Scala 800-10965	Panel	850	LTE	20	61.7	6.6	80	TPO	Watt	0	1	1841.2	13.62	22.2'	0°	5°
3	AT&T MOBILITY LLC	Kathrein-Scala 800-10965	Panel	737	LTE	20	63.9	6.6	160	TPO	Watt	0	1	2845.2	12.5	22.2'	0°	5°
3	AT&T MOBILITY LLC	Kathrein-Scala 800-10965	Panel	2100	LTE	20	65.2	6.6	240	TPO	Watt	0	1	10671.2	16.48	22.2'	0°	3°
3	AT&T MOBILITY LLC	Kathrein-Scala 800-10965	Panel	850	5G	20	61.7	6.6	80	TPO	Watt	0	1	1841.2	13.62	22.2'	0°	5°
4	AT&T MOBILITY LLC	Cci Antennas HPA-65R-BUU-H6	Panel	737	LTE	20	66.2	6	60	TPO	Watt	0	1	883.4	11.68	22.5'	0°	5°
5	AT&T MOBILITY LLC (Proposed)	Cci Antennas BSA-M65R-BUU-H6 (R-Beam)	Panel	722	LTE	150	33.8	6	80	TPO	Watt	0	1	2128.6	14.25	22.5'	0°	3°
5	AT&T MOBILITY LLC (Proposed)	Cci Antennas BSA-M65R-BUU-H6 (R-Beam)	Panel	2300	LTE	150	25.5	6	100	TPO	Watt	0	1	3845.9	15.85	22.5'	0°	3°
5	AT&T MOBILITY LLC (Proposed)	Cci Antennas BSA-M65R-BUU-H6 (L-Beam)	Panel	722	LTE	150	36.3	6	80	TPO	Watt	0	1	2128.6	14.25	22.5'	0°	3°
5	AT&T MOBILITY LLC (Proposed)	Cci Antennas BSA-M65R-BUU-H6 (L-Beam)	Panel	2300	LTE	150	23.6	6	100	TPO	Watt	0	1	3845.9	15.85	22.5'	0°	3°
6	AT&T MOBILITY LLC	Kathrein-Scala 800-10121	Panel	850	UMTS	150	87.6	4.5	40	TPO	Watt	0	1	545.8	11.35	23.2'	1°	6°
7	AT&T MOBILITY LLC (Proposed)	Cci Antennas BSA-M65R-BUU-H6 (R-Beam)	Panel	850	LTE	150	31.8	6	80	TPO	Watt	0	1	2618.7	15.15	22.5'	0°	2°



Ant ID	Operator	Antenna Make & Model	Type	TX Freq (MHz)	Technology	Az (Deg)	Hor BW (Deg)	Ant Len (ft)	Power	Power Type	Power Unit	Misc Loss	TX Count	Total ERP (Watts)	Ant Gain (dBd)	Z	MDT	EDT
7	AT&T MOBILITY LLC (Proposed)	Cci Antennas BSA-M65R-BUU-H6 (R-Beam)	Panel	763	LTE	150	33.8	6	160	TPO	Watt	0	1	4257.2	14.25	22.5	0°	2°
7	AT&T MOBILITY LLC (Proposed)	Cci Antennas BSA-M65R-BUU-H6 (R-Beam)	Panel	2100	LTE	150	27.1	6	240	TPO	Watt	0	1	10120.7	16.25	22.5	0°	3°
7	AT&T MOBILITY LLC (Proposed)	Cci Antennas BSA-M65R-BUU-H6 (R-Beam)	Panel	850	5G	150	31.8	6	80	TPO	Watt	0	1	2618.7	15.15	22.5	0°	2°
7	AT&T MOBILITY LLC (Proposed)	Cci Antennas BSA-M65R-BUU-H6 (L-Beam)	Panel	850	LTE	150	31.9	6	80	TPO	Watt	0	1	2618.7	15.15	22.5	0°	2°
7	AT&T MOBILITY LLC (Proposed)	Cci Antennas BSA-M65R-BUU-H6 (L-Beam)	Panel	763	LTE	150	36.3	6	160	TPO	Watt	0	1	4257.2	14.25	22.5	0°	2°
7	AT&T MOBILITY LLC (Proposed)	Cci Antennas BSA-M65R-BUU-H6 (L-Beam)	Panel	2100	LTE	150	27.9	6	240	TPO	Watt	0	1	10120.7	16.25	22.5	0°	3°
7	AT&T MOBILITY LLC (Proposed)	Cci Antennas BSA-M65R-BUU-H6 (L-Beam)	Panel	850	GSM	150	31.9	6	80	TPO	Watt	0	1	2618.7	15.15	22.5	0°	2°
8	AT&T MOBILITY LLC (Proposed)	CCI Antennas BSA-M65R-BUU-H6 (R-Beam)	Panel	1900	LTE	150	33.9	6	160	TPO	Watt	0	1	6153.5	15.85	22.5	0°	2°
8	AT&T MOBILITY LLC (Proposed)	CCI Antennas BSA-M65R-BUU-H6 (R-Beam)	Panel	737	LTE	150	33.8	6	60	TPO	Watt	0	1	1596.4	14.25	22.5	0°	2°
8	AT&T MOBILITY LLC (Proposed)	CCI Antennas BSA-M65R-BUU-H6 (L-Beam)	Panel	1900	LTE	150	32.3	6	160	TPO	Watt	0	1	6139.3	15.84	22.5	0°	2°
8	AT&T MOBILITY LLC (Proposed)	CCI Antennas BSA-M65R-BUU-H6 (L-Beam)	Panel	737	LTE	150	36.3	6	60	TPO	Watt	0	1	1596.4	14.25	22.5	0°	2°
9	AT&T MOBILITY LLC	Kathrein-Scala 800-10121	Panel	850	UMTS	263	87.6	4.5	40	TPO	Watt	0	1	545.8	11.35	23.2	1°	6°
10	AT&T MOBILITY LLC	Quintel QS66512-2	Panel	722	LTE	260	69	6	80	TPO	Watt	0	1	1119.7	11.46	22.5	0°	3°
10	AT&T MOBILITY LLC	Quintel QS66512-2	Panel	1900	LTE	260	68	6	160	TPO	Watt	0	1	4169.8	14.16	22.5	0°	2°



Ant ID	Operator	Antenna Make & Model	Type	TX Freq (MHz)	Technology	Az (Deg)	Hor BW (Deg)	Ant Len (ft)	Power	Power Type	Power Unit	Misc Loss	TX Count	Total ERP (Watts)	Ant Gain (dBd)	Z	MDT	EDT
10	AT&T MOBILITY LLC	Quintel QS66512-2	Panel	2300	LTE	260	64	6	100	TPO	Watt	0	1	2857.6	14.56	22.5'	0°	2°
11	AT&T MOBILITY LLC	Kathrein-Scala 800-10965	Panel	850	LTE	260	61.7	6.6	80	TPO	Watt	0	1	1841.2	13.62	22.2'	0°	10°
11	AT&T MOBILITY LLC	Kathrein-Scala 800-10965	Panel	763	LTE	260	63.9	6.6	160	TPO	Watt	0	1	2845.2	12.5	22.2'	0°	10°
11	AT&T MOBILITY LLC	Kathrein-Scala 800-10965	Panel	2100	LTE	260	65.2	6.6	240	TPO	Watt	0	1	10671.2	16.48	22.2'	0°	10°
11	AT&T MOBILITY LLC	Kathrein-Scala 800-10965	Panel	850	5G	260	61.7	6.6	160	TPO	Watt	0	1	3682.3	13.62	22.2'	0°	6°
12	AT&T MOBILITY LLC	CCI Antennas HPA-65R-BUU-H6	Panel	737	LTE	260	66.2	6	30	TPO	Watt	0	1	441.7	11.68	22.5'	0°	10°

Note: The Z reference indicates the bottom of the antenna height above the main site level unless otherwise indicated. Effective Radiated Power (ERP) is provided by the operator or based on Sitesafe experience. The values used in the modeling may be greater than are currently deployed. For other operators at this site the use of "Generic" as an antenna model or "Unknown" for a wireless operator means the information with regard to operator, their FCC license and/or antenna information was not available nor could it be secured while on site. Other operator's equipment, antenna models and powers used for modeling are based on obtained information or Sitesafe experience.

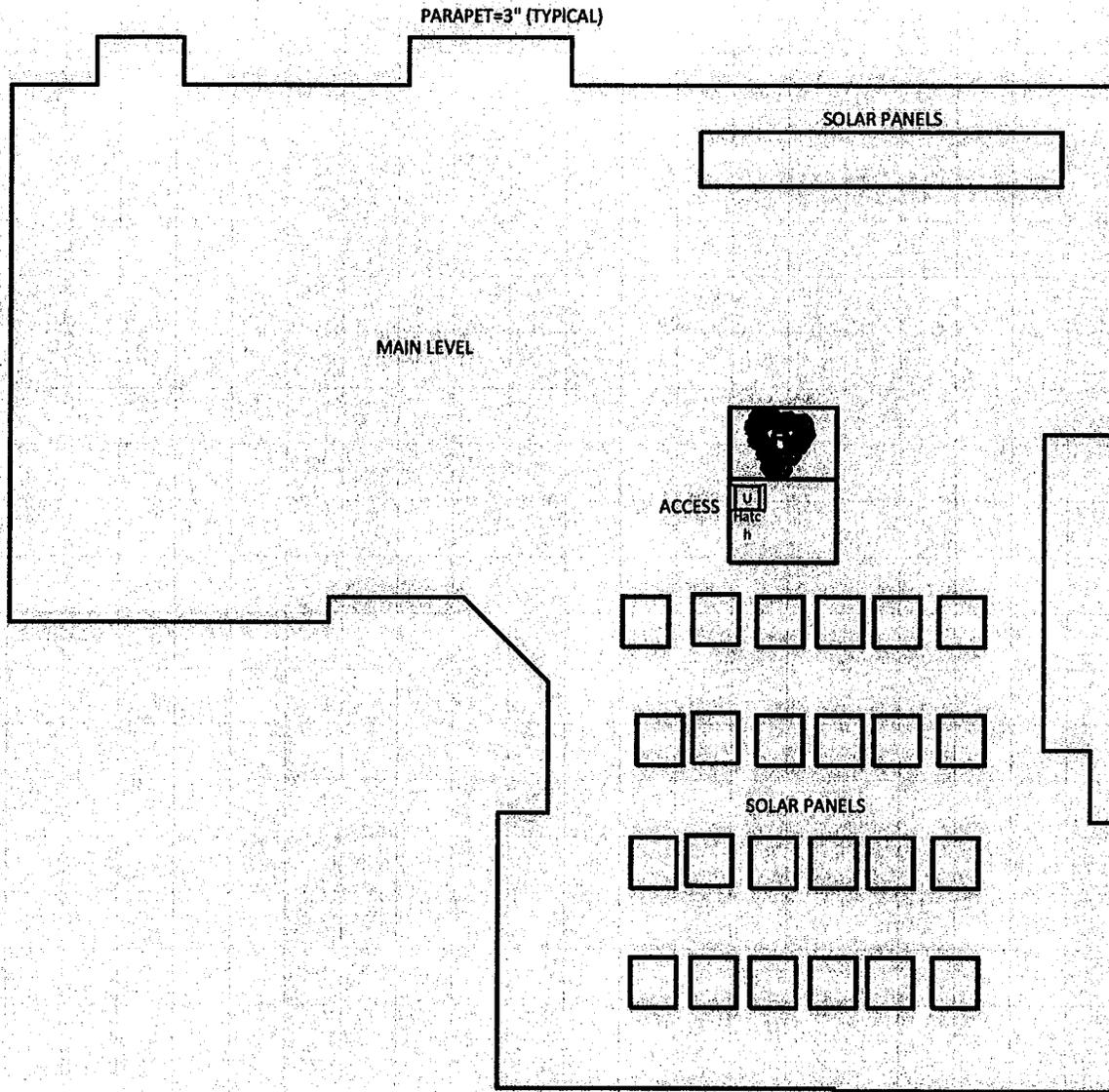
4 Emission Predictions

In the RF Exposure Simulations below all heights are reflected with respect to main site level. In most rooftop cases this is the height of the main rooftop and in other cases this can be ground level. Each different height area, rooftop, or platform level is labeled with its height relative to the main site level. Emissions are calculated appropriately based on the relative height and location of that area to all antennas. The total analyzed elevations in the below RF Exposure Simulations are listed below.

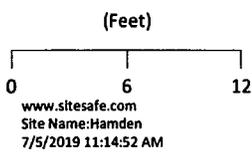
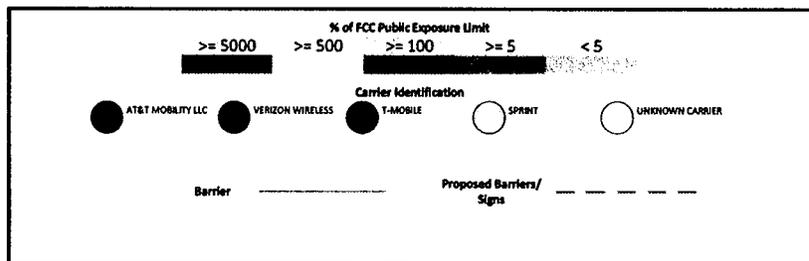
- MAIN LEVEL = 0'

The Antenna Inventory heights are referenced to the same level.

RF Exposure Simulation For: Hamden



% of FCC Public Exposure Limit
Spatial average 0' - 6'



Sitesafe OET-65 Model
Near Field Boundary:
1.5 * Aperture
Reflection Factor: 1
Spatially Averaged



5 Site Compliance

5.1 Site Compliance Statement

Upon evaluation of the cumulative RF emission levels from all operators at this site, RF hazard signage and antenna locations, Sitesafe has determined that:

AT&T Mobility, LLC will be compliant when the remediation recommended in Section 5.2 or other appropriate remediation is implemented.

The compliance determination is based on General Public RFE levels derived from theoretical modeling, RF signage placement, proposed antenna inventory and the level of restricted access to the antennas at the site. Any deviation from the AT&T Mobility, LLC's proposed deployment plan could result in the site being rendered non-compliant.

Modeling is used for determining compliance and the percentage of MPE contribution.

5.2 Actions for Site Compliance

Based on FCC regulations, common industry practice, and our understanding of AT&T Mobility, LLC RF Safety Policy requirements, this section provides a statement of recommendations for site compliance. Recommendations have been proposed based on our understanding of existing access restrictions, signage, and an analysis of predicted RFE levels.

AT&T Mobility, LLC will be made compliant if the following changes are implemented:

Base of Pole Location

(1) Yellow Caution 2B sign(s) required.

Recommended per AT&T Mobility, LLC's Policy:

Site Access Location

Sitesafe recommends that all AT&T Mobility, LLC signage be removed from all access points, as they are not required by AT&T Mobility, LLC's signage policy.

Base of Pole Location

Remove the existing Caution 2 sign(s) from this sector.

Notes:

- Any additional existing signage that conflicts with the proposed signage in this report should be removed per AT&T Signage Posting Rules.



6 Reviewer Certification

The reviewer whose signature appears below hereby certifies and affirms:

That I am an employee of Site Safe, LLC, in Vienna, Virginia, at which place the staff and I provide RF compliance services to clients in the wireless communications industry; and

That I am thoroughly familiar with the Rules and Regulations of the Federal Communications Commission (FCC) as well as the regulations of the Occupational Safety and Health Administration (OSHA), both in general and specifically as they apply to the FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields; and

That I have thoroughly reviewed this Site Compliance Report and believe it to be true and accurate to the best of my knowledge as assembled by and attested to by Nick Kutzke.

July 5, 2019

A handwritten signature in black ink, appearing to read "Young Min Kim", written in a cursive style.

Young Min Kim



Appendix A – Statement of Limiting Conditions

Sitesafe has provided computer generated model(s) in this Site Compliance Report to show approximate dimensions of the site, and the model is included to assist the reader of the compliance report to visualize the site area, and to provide supporting documentation for Sitesafe's recommendations.

Sitesafe may note in the Site Compliance Report any adverse physical conditions, such as needed repairs, that Sitesafe became aware of during the normal research involved in creating this report. Sitesafe will not be responsible for any such conditions that do exist or for any engineering or testing that might be required to discover whether such conditions exist. Because Sitesafe is not an expert in the field of mechanical engineering or building maintenance, the Site Compliance Report must not be considered a structural or physical engineering report.

Sitesafe obtained information used in this Site Compliance Report from sources that Sitesafe considers reliable and believes them to be true and correct. Sitesafe does not assume any responsibility for the accuracy of such items that were furnished by other parties. When conflicts in information occur between data collected by Sitesafe provided by a second party and data collected by Sitesafe, the data will be used.

Appendix B – Regulatory Background Information

FCC Rules and Regulations

In 1996, the Federal Communications Commission (FCC) adopted regulations for the evaluating of the effects of RF emissions in 47 CFR § 1.1307 and 1.1310. The guideline from the FCC Office of Engineering and Technology is Bulletin 65 ("OET Bulletin 65"), *Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields*, Edition 97-01, published August 1997. Since 1996 the FCC periodically reviews these rules and regulations as per their congressional mandate.

FCC regulations define two separate tiers of exposure limits: Occupational or "Controlled environment" and General Public or "Uncontrolled environment". The General Public limits are generally five times more conservative or restrictive than the Occupational limit. These limits apply to accessible areas where workers or the general public may be exposed to Radio Frequency (RF) electromagnetic fields.

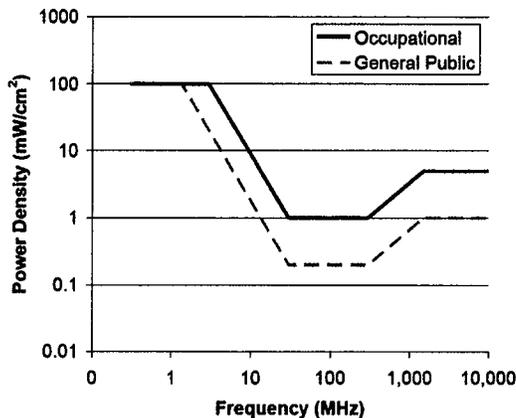
Occupational or Controlled limits apply in situations in which persons are exposed as a consequence of their employment and where those persons exposed have been made fully aware of the potential for exposure and can exercise control over their exposure.

An area is considered a Controlled environment when access is limited to these aware personnel. Typical criteria are restricted access (i.e. locked or alarmed doors, barriers, etc.) to the areas where antennas are located coupled with proper RF warning signage. A site with Controlled environments is evaluated with Occupational limits.

All other areas are considered Uncontrolled environments. If a site has no access controls or no RF warning signage it is evaluated with General Public limits.

The theoretical modeling of the RF electromagnetic fields has been performed in accordance with OET Bulletin 65. The Maximum Permissible Exposure (MPE) limits utilized in this analysis are outlined in the following diagram:

FCC Limits for Maximum Permissible Exposure (MPE)
Plane-wave Equivalent Power Density





Limits for Occupational/Controlled Exposure (MPE)

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

Limits for General Population/Uncontrolled Exposure (MPE)

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

f = frequency in MHz *Plane-wave equivalent power density

OSHA Statement

The General Duty clause of the OSHA Act (Section 5) outlines the occupational safety and health responsibilities of the employer and employee. The General Duty clause in Section 5 states:

- (a) Each employer –
 - (1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;
 - (2) shall comply with occupational safety and health standards promulgated under this Act.

- (b) Each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct.

OSHA has defined Radiofrequency and Microwave Radiation safety standards for workers who may enter hazardous RF areas. Regulation Standards 29 CFR § 1910.147 identify a generic Lockout/Tagout procedure aimed to control the unexpected energization or startup of machines when maintenance or service is being performed.



Appendix C – Safety Plan and Procedures

The following items are general safety recommendations that should be administered on a site by site basis as needed by the carrier.

General Maintenance Work: Any maintenance personnel required to work immediately in front of antennas and / or in areas indicated as above 100% of the Occupational MPE limits should coordinate with the wireless operators to disable transmitters during their work activities.

Training and Qualification Verification: All personnel accessing areas indicated as exceeding the General Population MPE limits should have a basic understanding of EME awareness and RF Safety procedures when working around transmitting antennas. Awareness training increases a worker's understanding to potential RF exposure scenarios. Awareness can be achieved in a number of ways (e.g. videos, formal classroom lecture or internet-based courses).

Physical Access Control: Access restrictions to transmitting antennas locations is the primary element in a site safety plan. Examples of access restrictions are as follows:

- Locked door or gate
- Alarmed door
- Locked ladder access
- Restrictive Barrier at antenna (e.g. Chain link with posted RF Sign)

RF Signage: Everyone should obey all posted signs at all times. RF signs play an important role in properly warning a worker prior to entering into a potential RF Exposure area.

Assume all antennas are active: Due to the nature of telecommunications transmissions, an antenna transmits intermittently. Always assume an antenna is transmitting. Never stop in front of an antenna. If you have to pass by an antenna, move through as quickly and safely as possible thereby reducing any exposure to a minimum.

Maintain a 3 foot clearance from all antennas: There is a direct correlation between the strength of an EME field and the distance from the transmitting antenna. The further away from an antenna, the lower the corresponding EME field is.

Site RF Emissions Diagram: Section 4 of this report contains an RF Diagram that outlines various theoretical Maximum Permissible Exposure (MPE) areas at the site. The modeling is a worst-case scenario assuming a duty cycle of 100% for each transmitting antenna at full power. This analysis is based on one of two access control criteria: General Public criteria means the access to the site is uncontrolled and anyone can gain access. Occupational criteria means the access is restricted and only properly trained individuals can gain access to the antenna locations.



Appendix D – RF Emissions

The RF Emissions Simulation(s) in this report display theoretical spatially averaged percentage of the Maximum Permissible Exposure for all systems at the site unless otherwise noted. These diagrams use modeling as prescribed in OET Bulletin 65 and assumptions detailed in Appendix E.

The key at the bottom of each RF Emissions Simulation indicates percentages displayed referenced to FCC General Public Maximum Permissible Exposure (MPE) limits. Color coding on the diagram is as follows:

- Areas indicated as Gray are predicted to be below 5% of the MPE limits. Gray represents areas more than 20 times below the most conservative exposure limit. **Gray areas are accessible to anyone.**
- Green represents areas are predicted to be between 5% and 100% of the MPE limits. **Green areas are accessible to anyone.**
- Blue represents areas predicted to exceed the General Public MPE limits but are less than Occupational limits. **Blue areas should be accessible only to RF trained workers.**
- Yellow represents areas predicted to exceed Occupational MPE limits. **Yellow areas should be accessible only to RF trained workers able to assess current exposure levels.**
- Red represents areas predicted to have exposure more than 10 times the Occupational MPE limits. **Red indicates that the RF levels must be reduced prior to access.** An RF Safety Plan is required which outlines how to reduce the RF energy in these areas prior to access.

If trained occupational personnel require access to areas that are delineated as above 100% of the limit, Sitesafe recommends that they utilize the proper personal protection equipment (RF monitors), coordinate with the carriers to reduce or shutdown power, or make real-time power density measurements with the appropriate power density meter to determine real-time MPE levels. This will allow the personnel to ensure that their work area is within exposure limits.



Appendix E – Assumptions and Definitions

General Model Assumptions

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

The modeling is based on recommendations from the FCC's OET-65 bulletin with the following variances per AT&T guidance. Reflection has not been considered in the modeling, i.e. the reflection factor is 1.0. The near / far field boundary has been set to 1.5 times the aperture height of the antenna and modeling beyond that point is the lesser of the near field cylindrical model and the far field model taking into account the gain of the antenna.

The site has been modeled with these assumptions to show the maximum RF energy density. Areas modeled with exposure greater than 100% of the General Public MPE level may not actually occur but are shown as a prediction that could be realized. Sitesafe believes these areas to be safe for entry by occupationally trained personnel utilizing appropriate personal protective equipment (in most cases, a personal monitor).

Use of Generic Antennas

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

Where the frequency is unknown, Sitesafe uses the closest frequency in the antenna's range that corresponds to the highest Maximum Permissible Exposure (MPE), resulting in a conservative analysis.



Appendix F – Definitions

5% Rule – The rules adopted by the FCC specify that, in general, at multiple transmitter sites actions necessary to bring the area into compliance with the guidelines are the shared responsibility of all licensees whose transmitters produce field strengths or power density levels at the area in question in excess of 5% of the exposure limits. In other words, any wireless operator that contributes 5% or greater of the MPE limit in an area that is identified to be greater than 100% of the MPE limit is responsible for taking corrective actions to bring the site into compliance.

Compliance – The determination of whether a site complies with FCC standards with regards to Human Exposure to Radio Frequency Electromagnetic Fields from transmitting antennas.

Decibel (dB) – A unit for measuring power or strength of a signal.

Duty Cycle – The percent of pulse duration to the pulse period of a periodic pulse train. Also, may be a measure of the temporal transmission characteristic of an intermittently transmitting RF source such as a paging antenna by dividing average transmission duration by the average period for transmission. A duty cycle of 100% corresponds to continuous operation.

Effective (or Equivalent) Isotropic Radiated Power (EIRP) – The product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna.

Effective Radiated Power (ERP) – The product of the power supplied to the antenna and the antenna gain in a given direction relative to a half-wave dipole antenna.

Gain (of an antenna) – The ratio of the maximum power in a given direction to the maximum power in the same direction from an isotropic radiator. Gain is a measure of the relative efficiency of a directional antenna as compared to an omnidirectional antenna.

General Population/Uncontrolled Environment – Defined by the FCC as an area where RF exposure may occur to persons who are **unaware** of the potential for exposure and who have no control over their exposure. General Population is also referenced as General Public.

Generic Antenna – For the purposes of this report, the use of "Generic" as an antenna model means the antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use its industry specific knowledge of antenna models to select a worst-case scenario antenna to model the site.

Isotropic Antenna – An antenna that is completely non-directional. In other words, an antenna that radiates energy equally in all directions.

Maximum Measurement – This measurement represents the single largest measurement recorded when performing a spatial average measurement.

Maximum Permissible Exposure (MPE) – The rms and peak electric and magnetic field strength, their squares, or the plane-wave equivalent power densities associated with these fields to which a person may be exposed without harmful effect and with acceptable safety factor.