

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

IN RE:

APPLICATION OF NEW CINGULAR WIRELESS PCS,
LLC (AT&T) FOR A CERTIFICATE OF
ENVIRONMENTAL COMPATIBILITY AND PUBLIC
NEED FOR THE CONSTRUCTION, MAINTENANCE
AND OPERATION OF A TELECOMMUNICATIONS
TOWER FACILITY IN ROXBURY, CONNECTICUT

DOCKET NO. 428

August 16, 2012

RESPONSES TO CSC PRE-HEARING QUESTIONS SET ONE

Q1. Which frequencies are New Cingular Wireless PCS, LLC (AT&T) licensed to utilize in Litchfield County?

A1. The following table provides the applicable AT&T licenses for service in Litchfield County:

Market Code	Market Name	Channel Block	County	State	Lower Band	Upper Band	Total Spectrum
CMA357	Connecticut 1 - Litchfield	B	Litchfield County	CT	835	845	10
CMA357	Connecticut 1 - Litchfield	B	Litchfield County	CT	846.5	849	2.5
CMA357	Connecticut 1 - Litchfield	B	Litchfield County	CT	880	890	10
CMA357	Connecticut 1 - Litchfield	B	Litchfield County	CT	891.5	894	2.5
MTA001	New York	A	Litchfield County	CT	1850	1855	5
MTA001	New York	A	Litchfield County	CT	1930	1935	5
CMA357	Connecticut 1 - Litchfield	C	Litchfield County	CT	710	716	6
CMA357	Connecticut 1 - Litchfield	C	Litchfield County	CT	740	746	6
EAG701	Northeast	D	Litchfield County	CT	716	722	6
BEA010	NYC-Long Is. NY-NJ-CT-PA-MA-VT	E	Litchfield County	CT	722	728	6

Q2. What is the signal strength for which AT&T designs its system? For in-vehicle coverage? For in-building coverage?

A2. *As shown on the plots provided in the Application and here as Attachment A, -74 dBm is AT&T's design criteria for in-building coverage and -82 dBm is AT&T's design criteria for in-car coverage.*

Q3. When was the search ring first initiated for a tower in this area? Provide the size, shape and location of the center of the search ring.

A3. *The search ring was issued on February 26, 2008. The center of the search area was at 41° 31' 45.70"N, 73° 16' 13.10"W. The original search area was approximately 2 miles in diameter.*

- Q4. Of the letters sent to abutting property owners, how many certified mail receipts were received? If any receipts were not returned, which owners did not receive their notice? Were any additional attempts made to contact those property owners?
- A4. *Of the twenty-two letters sent, three (3) return receipts were not returned. Notices were sent by first-class mail to Adam & Maria Waganblas, Ann Van Saun and High Meadow Riding Club. The letter to Ann Van Saun was subsequently returned as undelivered. Another notice was sent to a corrected address available through the Roxbury Tax Assessor's records of 2123 South Britain Road, Southbury, CT 06488.*
- Q5. Would AT&T provide both cellular and PCS service initially or cellular first and PCS in the future? When would LTE service be provided, if applicable? Explain.
- A5. *Initial coverage would be provided on both 1900 and 850 bands. Long Term Evolution (LTE) service at 700 MHz would also likely be launched with the site though it may come after depending on the actual construction timing and commissioning date of the site.*
- Q6. Would AT&T's proposed facility comply with E911 requirements?
- A6. *Yes, AT&T is required to fully comply with all E911 requirements.*
- Q7. Identify the safety standards and/or codes by which equipment, machinery, or technology would be used or operated at the proposed facility.
- A7. *This site would fully comply with ET docket 93-62 and 47 CFR parts 1,2,15,42 and 97 as well as OET Bulletin 65, Edition 97-01 as required by the Telecommunications Act of 1996.*
- Q8. Would the tower (at either site) be designed for EIA/TIA-222 structural standards version F, G, or both? What is the tower design wind speed for this area (Litchfield County)?
- A8. *The current adopted Connecticut code, which is the 2003 International Building Code (IBC) with Connecticut amendments, requires the use of ANSI/TIA-222-F. The basic wind speed for Roxbury is 95 mph. Both towers would be designed to meet these criteria.*

Site A: Tax Assessor Parcel ID #32-008, off Route 67

- Q9. What is the existing signal strength in those areas AT&T is seeking to cover from this site?
- A9. *The existing signal strength in the areas that would be covered by SR1876 range from – 82 dBm and down to less than -100 dBm but does not constitute acceptable coverage for the most part.*
- Q10. Does AT&T have any statistics on dropped calls in the vicinity of the proposed facility? If so, what do they indicate? Does AT&T have any other indicators of substandard service in this area?
- A10. *While dropped calls can be an excellent representation of how effectively existing coverage is being utilized, in an area of very poor coverage such as here dropped call statistics are not a reliable indicator of an inadequate network for various reasons:*

- Many users become familiar with areas of poor coverage or no service and stop making calls in these areas;
- Since mobile communication is a two-way connection, if a cell site cannot hear a mobile unit, it will not register as a failure if that link is problematic; and
- Dropped calls are only a partial indicator of quality - sometimes you can hold a call but the person on the other end cannot hear you.

AT&T currently experiences spotty and unreliable coverage in this area which is not acceptable for users of the AT&T network. Overall, reliable coverage relates directly to the customer experience and AT&T customers are highly mobile, making calls from their vehicles, their places of business and their homes. In addition, many customers are now substituting cell phones for their landline phone service as their only means of voice communications. To properly serve these customers, the service must be reliable, particularly since the service carries 911 calls.

Q11. Would this site be needed for coverage, capacity, or both? Explain.

A11. *This site is needed for coverage.*

Q12. Provide the lengths of the existing coverage gaps on any roads that AT&T seeks to provide coverage to.

A12. *Existing coverage gaps are included on the following table. It should be noted that for purposes of named road, Route 67 goes by both Roxbury Road and Southbury Road.*

Road	Current Coverage Gap (miles)
Roxbury Road	1.60
Flag Swamp Road	1.39
Squire Road	1.37
Southbury Road	1.35
Transylvania Road	1.31
Patriot Road	1.00
Upper Grassy Hill Road	0.86
Carriage Dr	0.81
Ruccum Road	0.61
Charter Oak Road	0.61
Coachman Dr	0.60

Q13. Provide the lengths of the proposed coverage of any roads that AT&T seeks to provide coverage to based on the tower's proposed height, as well as ten and twenty feet shorter.

A13. Lengths of coverage at the proposed height as well as at ten and twenty feet shorter are as follows:

Road	Proposed Coverage by SR1876 Site A (Southbury Road) at 167' (miles)	Proposed Coverage by SR1876 Site A (Southbury Road) at 157' (miles)	Proposed Coverage by SR1876 Site A (Southbury Road) at 147' (miles)
Roxbury Road	1.17	1.17	1.17
Flag Swamp Road	0.36	0.28	0.07
Squire Road	0.00	0.00	0.00
Southbury Road	0.23	0.23	0.23
Transylvania Road	1.31	1.31	1.31
Patriot Road	1.00	1.00	1.00
Upper Grassy Hill Road	0.86	0.86	0.86
Carriage Dr	0.81	0.81	0.81
Ruccum Road	0.61	0.61	0.61
Charter Oak Road	0.61	0.61	0.61
Coachman Dr	0.60	0.60	0.60

Q14. Provide the areas to be covered (in square miles) assuming the tower is at the proposed height and also ten and twenty feet shorter.

A14. The areas to be covered by the proposed candidate towers is included in page 4 of the SAI Radio Frequency Engineering Report included in Application Attachment 1 (See Table 1 "Area of Coverage Analysis"). That table is reproduced here:

Area Coverage (sq mi)							
Proposed Location	Roxbury Total Area	Current Area Covered (=> -82 dBm)	Current Area Uncovered (< -82 dBm)	Proposed Area Covered (=> -82 dBm)	Proposed Area Uncovered (< -82 dBm)	Proposed Area Gain	Proposed Area % Gain
Transylvania	26.27	10.81	15.46	14.21	12.06	3.40	22%
Southbury	26.27	10.81	15.46	12.94	13.33	2.13	14%

Table 1: Area Coverage Analysis

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The data for the Candidate A site (Southbury Road) at ten and twenty feet below the proposed heights is as follows:

Data for SR1876 (Southbury Rd) Candidate, Roxbury, CT at 157ft

Area Coverage (sq mi)						
Roxbury Total Area	Current Area Covered (=> -82 dBm)	Current Area Uncovered (< -82 dBm)	Proposed Area Covered (=> -82 dBm)	Proposed Area Uncovered (< -82 dBm)	Proposed Area Gain	Proposed Area % Gain
26.27	10.81	15.46	12.723	13.547	1.913	12.37%

Data for SR1876 (Southbury Rd) Candidate, Roxbury, CT at 147ft

Area Coverage (sq mi)						
Roxbury Total Area	Current Area Covered (=> -82 dBm)	Current Area Uncovered (< -82 dBm)	Proposed Area Covered (=> -82 dBm)	Proposed Area Uncovered (< -82 dBm)	Proposed Area Gain	Proposed Area % Gain
26.27	10.81	15.46	12.553	13.717	1.743	11.27%

- Q15. Provide separate coverage plots using the same scale provided in the Application assuming the tower is ten and twenty feet shorter.
- A15. *Please see coverage plots included as Attachment A.*
- Q16. What is the minimum antenna centerline height required to meet AT&T's coverage objectives?
- A16. *The minimum centerline height required to meet AT&T's objectives in this area for both sites is 167' AGL.*
- Q17. Would flush-mounted antennas or antennas attached to the tower at the proposed height via T-arms provide the required coverage? Would either configuration result in reduced coverage and/or necessitate greater antenna height with multiple levels of antennas? Explain.
- A17. *Flush mounts would generally only allow three antennas to be mounted at the same level. Therefore, the installation of a full complement of antennas would generally require 3 or even four levels of antennas separated by 10 feet. As a result such configuration would require additional height above what platform or T-arm mounts could provide. T-Arm mounts and platform mounts are similar from an RF perspective.*
- Q18. Provide the distance and direction from the proposed tower site to the existing sites that the proposed tower would interact with. Also include the addresses, tower heights, antenna heights and tower types (e.g. monopole).
- A18. *Please see table included as Attachment C.*
- Q19. Describe the land uses abutting this site.
- A19. *Candidate A is a 96+ acre parcel abutted by a residence and undeveloped, wooded lots to the south; Route 67 to the east; woods and agricultural fields associated with sparse development on Highmeadow Lane to the north; and forested land to the west.*

- Q20. Where is the nearest school and the nearest commercial child day care center? Provide the distances and directions from the proposed tower.
- A20. *The nearest school to Candidate A is the Southbury Training School, which is located approximately 1.5 miles to the southwest. The nearest commercial child day care center is Child's World Preschool – Child Care located at 449 Grassy Hill Road in Woodbury, approximately 0.9 mile to the northeast.*
- Q21. Under Tab 3B of the Application, the surveyor's report certifies that the ground elevation at the base of the proposed monopole is 723 feet above mean sea level (AMSL). However, the Federal Communications Commission TOWAIR determination results page uses a site elevation of 52.7 meters or about 173 feet AMSL. Provide a revised TOWAIR determination results page with the correct site elevation.
- A21. *A revised TOWAIR, indicating no registration is needed, is included as Attachment B.*
- Q22. Could the tower be designed with a yield point to ensure that the setback radius remains within the boundaries of the subject property?
- A22. *Yes, the tower could be designed with a yield point.*
- Q23. Calculate the amounts of cut and fill required to develop the proposed tower site and access drive.
- A23. *It is estimated that 410 cubic yards of cut and 385 cubic yards of fill would be required.*
- Q24. What is the fuel source for the backup generator? How many hours of run time would the generator have based on its fuel tank capacity? Has AT&T considered using a fuel cell as a backup power source for the proposed facility? Explain.
- A24. *AT&T's proposed backup generator is a diesel generator. AT&T will also have a battery backup required to prevent the facility from experiencing a "re-boot" condition during the generator start-up delay period. The typical total run time of the backup generator to be used is approximately 48 hours. AT&T is not considering using a fuel cell as a backup power source for the proposed facility.*
- Q25. Does AT&T anticipate the use of the backup generator as a temporary power source until permanent electrical service is provided?
- A25. *No.*
- Q26. Would any blasting be required to develop the site?
- A26. *The presence of ledge is not anticipated but will be confirmed upon completion of a geotechnical investigation. If ledge is encountered, removal by mechanical means is first attempted. If mechanical removal methods are unsuccessful, blasting will be utilized as required to remove the ledge.*
- Q27. Is the proposed site within an "Important Bird Area" as designated by the National Audubon Society?
- A27. *No, proposed Site A is not located within an "Important Bird Area" (IBA) as designated by the National Audubon Society. The nearest IBA to this site is the Good Hill Farm Preserve, located approximately 2.25 miles to the northwest. Please see the Avian Resources Evaluation included in Attachment D for additional information.*

- Q28. Would the proposed facility comply with recommended guidelines of the United States Fish and Wildlife Service for minimizing the potential for telecommunications towers to impact bird species?
- A28. *Yes. Please refer to the Avian Resources Evaluation in Attachment D for detailed information relative to this inquiry.*
- Q29. What, if any, stealth tower design options would be feasible to employ at this site?
- A29. *The proposed facility would not be highly visible as documented in the February 2011 Visual Resource Evaluation Report. Views of the facility would not extend substantially beyond the property limits in the immediate vicinity of Candidate A. A small area at the junction of Route 67 and 172, about one mile to the east, are expected to have some views of the facility above the trees.*

Slim-profile stealth options (such as close-contact arrays/flush-mounting of antennas, or the use of internal arrays within flagpoles, for example) would minimize the horizontal projections from these vantage points, but would significantly limit the ability for AT&T (and, likely other service providers) to achieve the required coverage footprint without using multiple vertical levels of the tower. This could result in the need for raising the height of the structure beyond the proposed 170 feet to accommodate this modification, making the facility much more prominent above the tree canopy and ridgeline, and potentially increasing the overall view shed of the facility. Designing the facility as a mono-pine would provide a stealth option that allows AT&T (and future collocators) sufficient room to install multiple antennas onto a single platform (similar to the proposed monopole design) while camouflaging the antenna arrays. However, from a visual perspective this tower style would be significantly bulkier than that proposed, as faux tree branches could extend up to 30 feet or more away horizontally from the monopole's centerline (and occupy a large percentage of the tower vertically, particularly above the existing canopy) and be more noticeable, particularly from the area identified above.

Site B: 126 Transylvania Road

- Q30. What is the existing signal strength in those areas AT&T is seeking to cover from this site?
- A30. *The existing signal strength in the areas that would be covered by SR1876 range from – 82 dBm and down to less than -100 dBm but does not constitute acceptable coverage for the most part.*
- Q31. Does AT&T have any statistics on dropped calls in the vicinity of the proposed facility? If so, what do they indicate? Does AT&T have any other indicators of substandard service in this area?
- A31. *Please see A10, above.*
- Q32. Would this site be needed for coverage, capacity, or both? Explain.
- A32. *This site is needed for coverage.*
- Q33. Provide the lengths of the existing coverage gaps on any roads that AT&T seeks to provide coverage to.

- A33. Existing coverage gaps are provided in A12.
- Q34. Provide the lengths of the proposed coverage of any roads that AT&T seeks to provide coverage to based on the tower's proposed height, as well as ten and twenty feet shorter.
- A34. Lengths of coverage at the proposed height as well as at ten and twenty feet shorter are as follows:

Road	Proposed Coverage by S1876 Site B (Transylvania Road) at 167' (miles)	Proposed Coverage by S1876 Site B (Transylvania Road) at 157' (miles)	Proposed Coverage by S1876 Site B (Transylvania Road) at 147' (miles)
Roxbury Road	0.83	0.83	0.83
Flag Swamp Road	0.83	0.72	0.72
Squire Road	1.16	1.12	1.12
Southbury Road	1.35	1.16	1.16
Transylvania Road	1.31	1.31	1.31
Patriot Road	0.50	0.43	0.43
Upper Grassy Hill Road	0.86	0.86	0.86
Carriage Dr	0.77	0.73	0.75
Ruccum Road	0.61	0.61	0.61
Charter Oak Road	0.61	0.61	0.61
Coachman Dr	0.60	0.60	0.60

- Q35. Provide the areas to be covered (in square miles) assuming the tower is at the proposed height and also ten and twenty feet shorter.
- A35. The areas to be covered by the proposed candidate towers is included in page 4 of the SAI Radio Frequency Engineering Report included in Application Attachment 1 (See Table 1 "Area Coverage Analysis"). That table is reproduced here:

Area Coverage (sq mi)							
Proposed Location	Roxbury Total Area	Current Area Covered (=> -82 dBm)	Current Area Uncovered (< -82 dBm)	Proposed Area Covered (=> -82 dBm)	Proposed Area Uncovered (< -82 dBm)	Proposed Area Gain	Proposed Area % Gain
Transylvania	26.27	10.81	15.46	14.21	12.06	3.40	22%
Southbury	26.27	10.81	15.46	12.94	13.33	2.13	14%

Table 1: Area Coverage Analysis

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The data for the Candidate B site (Transylvania Road) at ten and twenty feet below the proposed heights is as follows:

Data for S1876 (Transylvania Rd) Candidate, Roxbury, CT at 157ft

Area Coverage (sq mi)						
Roxbury Total Area	Current Area Covered (=> -82 dBm)	Current Area Uncovered (< -82 dBm)	Proposed Area Covered (=> -82 dBm)	Proposed Area Uncovered (< -82 dBm)	Proposed Area Gain	Proposed Area % Gain
26.27	10.81	15.46	14.127	12.143	3.317	21.46%

Data for S1876 (Transylvania Rd) Candidate, Roxbury, CT at 147ft

Area Coverage (sq mi)						
Roxbury Total Area	Current Area Covered (=> -82 dBm)	Current Area Uncovered (< -82 dBm)	Proposed Area Covered (=> -82 dBm)	Proposed Area Uncovered (< -82 dBm)	Proposed Area Gain	Proposed Area % Gain
26.27	10.81	15.46	14.062	12.208	3.252	21.03%

- Q36. Provide separate coverage plots using the same scale provided in the Application assuming the tower is ten and twenty feet shorter.
- A36. *Please see coverage plots included in Attachment B.*
- Q37. What is the minimum antenna centerline height required to meet AT&T's coverage objectives?
- A37. *The minimum centerline height required to meet AT&T's objectives in this area for both sites is 167' AGL.*
- Q38. Would flush-mounted antennas or antennas attached to the tower at the proposed height via T-arms provide the required coverage? Would either configuration result in reduced coverage and/or necessitate greater antenna height with multiple levels of antennas? Explain.
- A38. *Please see A17, above.*
- Q39. Provide the distance and direction from the proposed tower site to the existing sites that the proposed tower would interact with. Also include the addresses, tower heights, antenna heights and tower types (e.g. monopole).
- A39. *Please see table included as Attachment C.*
- Q40. Describe the land uses abutting this site.
- A40. *Candidate B is surrounded by sparsely spaced rural residential development and forested land.*
- Q41. Where is the nearest school and the nearest commercial child day care center? Provide the distances and directions from the proposed tower.
- A41. *The nearest school to Candidate B is the Southbury Training School, which is located approximately 2.5 miles to the south-southwest. The nearest commercial child day care center is Child's World Preschool – Child Care located at 449 Grassy Hill Road in Woodbury, approximately 1.2 miles to the southeast.*
- Q42. Calculate the amounts of cut and fill required to develop the proposed tower site and access drive.

A42. *It is estimated that 68 cubic yards of cut and 78 cubic yards of fill would be required.*

Q43. What is the fuel source for the backup generator? How many hours of run time would the generator have based on its fuel tank capacity? Has AT&T considered using a fuel cell as a backup power source for the proposed facility? Explain.

A43. *AT&T's proposed backup generator is a diesel generator. AT&T will also have a battery backup required to prevent the facility from experiencing a "re-boot" condition during the generator start-up delay period. The typical total run time of the backup generator to be used is approximately 48 hours. AT&T is not considering using a fuel cell as a backup power source for the proposed facility.*

Q44. Does AT&T anticipate the use of the backup generator as a temporary power source until permanent electrical service is provided?

A44. *No.*

Q45. Would any blasting be required to develop the site?

A45. *The presence of ledge is not anticipated but will be confirmed upon completion of a geotechnical investigation. If ledge is encountered, removal by mechanical means is first attempted. If mechanical removal methods are unsuccessful, blasting will be utilized as required to remove the ledge.*

Q46. Is the proposed site within an "Important Bird Area" as designated by the National Audubon Society?

A46. *No, proposed Site B is not located within an "Important Bird Area" (IBA) as designated by the National Audubon Society. The nearest IBA to this site is the Good Hill Farm Preserve, located approximately 1.25 miles to the northwest. Please see the Avian Resources Evaluation included as Attachment D for additional information.*

Q47. Would the proposed facility comply with recommended guidelines of the United States Fish and Wildlife Service for minimizing the potential for telecommunications towers to impact bird species?

A47. *Yes. Please see Avian Resources Evaluation included as Attachment D for additional information.*

Q48. What, if any, stealth tower design options would be feasible to employ at this site?

A48. *The proposed facility would not be highly visible as documented in the August 2009 Visual Resource Evaluation Report. Views of the facility do not extend substantially off-site in the immediate vicinity of Candidate B. Views of the facility above the trees are limited to distant areas approaching a mile and beyond away.*

Slim-profile stealth options (such as close-contact arrays/flush-mounting of antennas, or the use of internal arrays within flagpoles, for example) would minimize the horizontal projections from these vantage points, but would significantly limit the ability for AT&T (and, likely other service providers) to achieve the required coverage footprint without occupying multiple, vertical levels of the tower. This could result in the need for raising the height of the structure beyond the proposed 170 feet to accommodate this design modification, making the facility much more prominent above the tree canopy and ridgeline, and potentially increasing the overall view shed of the facility. Designing the facility as a mono-pine would provide a stealth option that allows AT&T (and future

collocators) sufficient room to install multiple antennas onto a single platform (similar to the proposed monopole design) while camouflaging the antenna arrays. However, from a visual perspective this tower style would be significantly bulkier than that proposed, as faux tree branches could extend up to 30 feet or more away horizontally from the monopole's centerline (and occupy a large percentage of the tower vertically, particularly above the existing canopy) and be more noticeable from the locations mentioned above.

CERTIFICATE OF SERVICE

I hereby certify that on this day, a copy of the foregoing was sent electronically and by overnight mail to the Connecticut Siting Council with copy to:

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