

ATTACHMENT 1



RADIO FREQUENCY ENGINEERING REPORT

Proposed New Milford, CT Wireless Facility - S4067 - New Milford, CT



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Overview

This document is provided in support of AT&T's proposal to operate a ground mounted, wireless telecommunication facility in New Milford, CT.

This document addresses AT&T's need for the proposed facility and validates that there are no other existing structures that meet AT&T's coverage objective for this area. The proposed facility located at Kent Road (Map 83, Lot 4) in the town of New Milford at a proposed antenna centerline height of 146 feet above ground level will best address the coverage objective and provide the needed interconnectivity to AT&T's existing neighboring sites and surrounding communities.

Introduction

As enabled under its Federal Communications Commission ("FCC") Licenses, AT&T seeks to design its wireless network to provide reliable and adequate wireless services to its customers, whether those customers are on the street, in a vehicle, or in a building. Providing reliable and adequate service to its customers in each context is critical for AT&T to provide the quality of wireless service that customers demand, and to meet objectives of Congress that a robust, competitive and low cost wireless communications capacity be developed to serve the entire nation.

In order to build out its network and meet customer demand for voice and data services, AT&T must have in place a system of low power "cell sites" to serve portable wireless communication handsets and mobile telephones. A typical cell site, such as the one proposed, consists of antenna mounted to a building, tower, church or other structure. The antennas are connected to radio operating equipment housed at or near the structure.

To maintain effective, reliable and uninterrupted service, there must be a continuous series of cell sites located within close proximity to each other so as to overlap in a system comparable to a honeycomb pattern. If there is no cell site available to accept/receive the signal, network service to the mobile telephone/data service will terminate involuntarily. Accordingly, the overlap of coverage is necessary for the signal to transfer from one cell to another cell site seamlessly and without involuntary termination.

A number of factors determine the distance between the cell sites, including, but not limited to, topography, physical obstructions, foliage, antenna height, operating frequency and line-of-site.

Coverage Objective

AT&T currently has a couple of existing facilities in New Milford that serve some parts of the town, with additional coverage provided by AT&T cell sites from neighboring town of Kent.

Map 1, titled, “AT&T Current Coverage at New Milford, CT”, is a propagation plot that depicts current coverage at New Milford and the neighboring towns. In Map 1, the North-West part of New Milford has marginal or very poor coverage and areas where there is no coverage at all.

In the map, “green” (=>-74 dBm) represents “in-building” coverage which allows for signal penetration losses (solid walls, partitions, etc.) of 10 dB. Color “yellow” represents “in-vehicle” (=>-82 dBm) which takes into account 5 to 8 dB of vehicle penetration attenuation.

AT&T determined that significant coverage gaps exist particularly in the following roads:

- Housatonic Pt.
- Pond View Lane
- Long River Road
- Meadowland Drive
- Kent Road
- Grove Road
- Walker Road
- Webatuck Road
- Evans Hill Road
- Carlson Farm Road
- Blackberry Lane
- US Hwy 7

Improving the coverage on above mentioned roads would not only benefit commuters but also provides better signal penetration on houses and other establishments within the area as well. Map 2, titled, “AT&T Proposed Coverage with S4067 at New Milford, CT @ 146’ AGL”, shows the AT&T coverage at New Milford with the proposed facility turned on. Comparing Map 1 and Map 2, clearly shows the roads mentioned above that will have coverage after adding the proposed site. This would mean better quality and uninterrupted service for subscribers travelling between these roads as well as better signal penetration for houses, business establishments, etc. The following tables will show the area and population in this area that will have service from the proposed facility.

Table 1 below shows the area analysis for current and proposed coverage. AT&T currently covers 18.9 square miles of New Milford and the proposed site will cover an additional 1.29 square miles, a gain of 6.83% relative to current coverage which also equates to 2.024% of the total area of New Milford, CT.

| Area Coverage (sq mi) | | | | | |
|------------------------|--|------------------------------|---|--|--------------------|
| New Milford Total Area | Area covered by existing sites (=> -82 dBm) | Area not covered (< -82 dBm) | Area that will be covered with the proposed site (=> -82 dBm) | Remaining Area not covered (< -82 dBm) | Proposed Area Gain |
| 63.72 | 18.9 | 44.82 | 20.19 | 43.53 | 1.29 |

Table 2 below shows the population analysis (2008 Census Block Data) for current and proposed coverage. AT&T currently covers 11,814 of New Milford population and the proposed site will cover an additional 261, a gain of 2.21% relative to population currently covered which also equates to 0.82% of New Milford total population.

| Population Coverage (2008 Census Block Data) | | | | | |
|---|---|--|---|--|---------------------------------|
| New Milford Total Population | Population covered by existing sites (=> -82 dBm) | Population not covered (< -82 dBm) | Population that will be covered with the proposed site (=> -82 dBm) | Remaining Population not covered (< -82 dBm) | Proposed Population Gain |
| 31,859 | 11,814 | 20,045 | 12,075 | 19,784 | 261 |

Table 3 below shows the roads that will be covered by proposed site with average daily traffic data available from CT DOT website.

| Street Name | Average Daily Traffic (2012) |
|-------------------------------|-------------------------------------|
| Kent Rd., New Milford, CT | 6,100 |
| Webatuck Rd., New Milford, CT | 3,200 |
| Walker Rd., New Milford, CT | 50 |

Table 4 below includes AT&T's existing surrounding sites.

| Site ID | Longitude | Latitude | Address | Town | State | Structure Type | Antenna |
|---------|------------|-----------|-----------------------|-------------|-------|-------------------|-----------------|
| | | | | | | | Centerline (ft) |
| CTV1008 | -73.486638 | 41.681631 | 136 BULLS BRIDGE ROAD | SOUTH KENT | CT | MONOPOLE | 180 |
| CTV1288 | -73.474964 | 41.721903 | 38 MAPLE STREET | KENT | CT | MONOPOLE | 140 |
| CTV2001 | -73.437474 | 41.599403 | 33 BOARDMAN ROAD | NEW MILFORD | CT | STEALTH STRUCTURE | 120 |
| CTV2550 | -73.365183 | 41.67 | 6 MOUNTAIN ROAD | WASHINGTON | CT | MONOPOLE | 167 |
| CTV5502 | -73.503799 | 41.612492 | 2 TABER ROAD | SHERMAN | CT | SILO | 70 |

Summary

The significant coverage gap seen on Map 1, demonstrates the need for an additional site within the area. It clearly shows that current coverage does not provide sufficient coverage overlap between the sites within New Milford. In other words, existing sites and facilities will not cover the gap in AT&T's service in this area of New Milford.

Statement of Certification

I certify to the best of my knowledge that the statements in this report are true and accurate.



 Michael Lawton
 SAI Communications

 October 28, 2013

Date

Attachments

Map:2

