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REPORT ON THE PROPOSED AMENDMENT TO THE COMPREHENSIVE PLANS FOR CELLULAR AND PERSONAL COMMUNICATIONS SERVICE (PCS) FACILITIES ON BEHALF OF SPRINT SPECTRUM L.P. AND ITS AFFILIATES FOR WIRELESS COMMUNICATIONS FACILITIES IN THE PINELANDS

October 23, 2013

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I. INTRODUCTION

a. Background

Since 1981, when the Pinelands Comprehensive Management Plan (CMP) went into effect, a 35-foot height limit has prevented the construction of tall structures throughout much of the Pinelands Area. The CMP's height restrictions are intended to prevent the proliferation of structures that significantly detract from the scenic qualities of the Pinelands Area, which federal and state legislation have directed the Pinelands Commission to protect. Of course, there have always been exceptions to the CMP's 35-foot height limit. Within Regional Growth Areas, Pinelands Towns, and portions of Military and Federal Installation Areas, there are no height restrictions at all; and, within the remainder of the Pinelands Area, certain structures are permitted to exceed 35 feet in height.

In 1995, the Pinelands Commission amended the CMP's height restrictions in recognition of what had, at that time, already become a legitimate need: the provision of wireless communications services throughout the United States and within the Pinelands Area. Accordingly, local communications facilities, which provide wireless communication services, were permitted to exceed the 35-foot height limit where a comprehensive plan for the installation of such facilities throughout the entire Pinelands Area has been approved by the Pinelands Commission. The CMP's amended restrictions recognize that well designed and integrated wireless communications networks can greatly reduce the unnecessary proliferation of wireless

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communications structures throughout the Pinelands Area, and, most importantly, in its most conservation-oriented areas.

The Commission approved the Comprehensive Plan for Cellular Telephone Facilities (the Cell Plan) in September 1998. The first amendment to the Cell Plan, entitled the Comprehensive Plan for PCS Communications Facilities in the Pinelands (the PCS Plan), was approved by the Commission in January 2000. In December 2003, the second amendment to the Cell Plan, entitled the Amendment to the Comprehensive Plans for Cellular and Personal Communications Service to include AT&T Wireless PCS of Philadelphia, LLC and its affiliates for Wireless Communications Facilities in the Pinelands (the AT&T Plan), was approved by the Commission.

In 2006, the CMP's height restrictions were again amended, in part, to recognize that altering certain aspects of wireless communications structures themselves can reduce their visual impact upon the scenic resources of the Pinelands Area. The third amendment to the Cell Plan, entitled the Amendment to the Comprehensive Plan for PCS Communications Facilities in the Pinelands on Behalf of T-Mobile Northeast, LLC (Doing Business as T-Mobile) (the T-Mobile Plan), was approved by the Commission under these amended rules in November 2011. The fourth amendment to the Cell Plan, entitled the Comprehensive Public Safety Tower Plan for Pinelands was submitted by the Office of Information Technology (OIT). It too was approved under the amended rules in May 2012. The proposed Amendment to the Comprehensive Plans for Cellular and Personal Communications Service (PCS) Facilities on behalf of Sprint Spectrum L.P. and its Affiliates for Wireless Communications Facilities in the Pinelands (the Sprint Plan) submitted by Sprint Spectrum L.P. and its affiliates (Sprint) is subject to the Commission's review under these amended height restrictions as well.

b. Appendices to this Report

The following documents are attached hereto:

Appendix A – Amendment to the Comprehensive Plans for Cellular and Personal Communications Service (PCS) Facilities on behalf of Sprint Spectrum L.P. and its Affiliates for Wireless Communications Facilities in the Pinelands

Appendix B – Hierarchical policy for siting individual wireless communications facilities;

c. Submission of this Amendment

In January 2013, Sprint first submitted its proposed amendment for the Commission's review. Sprint's Plan is a cumulative plan that, in addition to incorporating portions of each of the Commission's prior approvals, proposes the construction of one new local communications facility. Sprint's Plan was deemed complete for purposes of Commission review on August 27, 2013.¹ A public hearing to receive testimony concerning the consistency of the Sprint Plan with

¹ A completeness determination simply acknowledges that Sprint has provided sufficient information upon which to begin the formal review process. It does not *per se* imply that Sprint's Plan is consistent with the CMP.

the standards and provisions of the CMP was duly advertised, noticed and held on September 10, 2013.

d. Summary of this Amendment's Facility Siting Proposal

Sprint's Plan includes a total of 74 local communications facilities within the Pinelands Area. A local communications facility consists of an antenna or antennas and a support structure together with accessory facilities. For example, a local communications facility might consist of an antenna installed on a lattice tower (its support structure) together with its ground station (typically, small shed-sized buildings or cabinets); an antenna installed on a monopole (its support structure) together with its ground station; or, an antenna installed on a water tower (its support structure) together with its ground station. Of the 74 facilities included within the Sprint Plan, 73 are to be located at sites previously approved by the Commission. Only one of the facilities included in Sprint's Plan is an entirely new site and, if approved, it will require the construction of a new support structure (a tower). This new facility is proposed to be located in a very sparsely populated area along Pasadena Road between Buckingham and Mount Misery Roads. The proposed facility will be in Manchester Township within the Preservation Area District.

To demonstrate whether this new facility could likely be sited consistent with the standards of N.J.A.C. 7:50-5.4(c), Sprint analyzed a one-and-one-half-mile-radius area surrounding the coordinates for the proposed facility. Based on Sprint's analysis and staff's own independent analysis, it does not appear likely that Sprint's proposed new facility can, in fact, be sited consistent with the standards of N.J.A.C. 7:50-5.4(c)4. As a result, at the time an application for development is submitted for the new facility, it will be subject to a second level of review, pursuant to N.J.A.C. 7:50-5.4(c)6, to ensure that the potential visual impacts of the new facility are reduced as greatly as possible. The Commission's staff has attempted to estimate the anticipated visual impact of Sprint's new facility using a GIS-based methodology. Staff's viewshed analysis indicates that the potential visual impact of Sprint's proposed new facility will likely be rather modest. While staff anticipates that the new facility's visual impacts will be relatively minor, Sprint's new facility will, nevertheless, still be subject to an alternatives analysis, the purpose of which will be to demonstrate how the potential visual impacts of this new facility can be avoided or minimized (whether it be through the use of multiple shorter towers, "stealthing," or another method) as greatly as possible.

II. CONFORMANCE WITH THE COMPREHENSIVE MANAGEMENT PLAN

a. Introduction

N.J.A.C. 7:50-5.4 sets forth the standards by which the Sprint Plan must be reviewed. If these standards are met, the Commission must approve Sprint's proposed amendment. If the standards are not met, the Commission may conditionally approve or disapprove Sprint's Plan, depending on the extent and severity of the amendment's deficiencies. The Commission has historically interpreted its regulations to require that, wherever technically feasible, the Sprint Plan incorporate, amend, and expand upon the facility array and all other applicable provisions

contained in the previously approved comprehensive local communications facility siting plan as well as the amendments thereto. Sprint's Plan does just that by expressly incorporating portions of each of the Commission's prior approvals in its proposal to install or construct its own local communications facilities.

For purposes of this report, N.J.A.C. 7:50-5.4's standards have been separated into ten criteria. A discussion of each criterion and the amendment's conformance therewith follows.

b. Standards

1. The amendment must be agreed to and submitted jointly by all providers of the same type of service, where feasible. N.J.A.C. 7:50-5.4(c)6.

This requirement is intended to ensure that the greatest possible degree of coordinated planning occurs so as to minimize the number of new structures within the Pinelands Area. Sprint notified all known providers of wireless communication services of its proposed amendment by way of certified mailing. Moreover, the September 10, 2013 public hearing to receive testimony concerning the consistency of the Sprint Plan with the CMP was duly advertised and noticed by the Commission. Thus, other providers of wireless communication services were given adequate notice of the Sprint Plan. Yet, no other providers of wireless communication services expressed a desire to become a participant in the Sprint Plan. Nor, did any other providers of wireless communication services submit any comments or objections. To deny the proposed amendment based on a lack of greater participation by other wireless communication providers would be inappropriate.

The Executive Director concludes that this standard has been met.

2. The amendment must review alternative technologies that may become available for use in the near future. N.J.A.C. 7:50-5.4(c)6.

The purpose of this standard is to identify other technologies that should, at the very least, be considered as the amendment is reviewed. The Sprint Plan essentially incorporates the treatment of alternate technologies as set forth in the Cell Plan and the amendments thereto and also expressly addresses, at length, a technology known as Distributed Antenna Systems (DAS). DAS employs a series of low-mounted antennas, generally attached to telephone poles and connected by fiber-optic cable, in lieu of tall towers. The proposed amendment concludes that: (1) DAS is not a reliable, responsible, or feasible alternative to the use of antennas mounted on tall structures; and (2) no other viable, and commercially available, alternative technologies exist that could be used instead of antennas mounted on tall structures. Sprint argues further that the Commission lacks the authority to require it to use any particular technology, including DAS. The Commission's staff concurs with Sprint's legal analysis of its ability to require the use of DAS or any other specific technology. However, the Commission reaffirms its right to require plan participants to meet the CMP's height requirements, visual impact requirements, and siting requirements. While it is not the Commission's intent to require the use of any specific technology, the Commission does note that in order to meet the CMP's height requirements,

visual impact requirements, or siting requirements, a plan participant may need to use a technology other than its preferred or customary technology.

The Executive Director concludes that this standard has been met.

3. The amendment must show the approximate location of all proposed facilities. N.J.A.C. 7:50-5.4(c)6.

In order to evaluate the consistency of the Sprint Plan with various CMP standards, the proposed amendment must identify the approximate locations of all facilities identified therein, including those which will utilize existing structures and those which will require new ones. Sprint's proposed amendment provides a narrative for each facility included therein that identifies the county in which each facility will be located; the municipality in which each facility will be located; the management area in which each facility will be located, and whether each facility has been previously approved by the Commission. In addition, the proposed amendment provides precise geographic coordinates (i.e., latitude and longitude coordinates) for each facility included therein as well as maps that depict their locations. Sprint intends to locate each of the facilities in its proposed amendment within a one-mile-radius area surrounding these coordinates.

The Executive Director concludes that this standard has been met.

4. The amendment must include five- and ten-year horizons. N.J.A.C. 7:50-5.4(c)6.

Sprint's Plan states that it intends its coverage within the Pinelands area over time, with the majority of the sites being built in accordance with customer demand.

The Executive Director concludes that this standard has been met.

5. The amendment must demonstrate that it is likely that every facility proposed in the Pinelands Area is necessary to provide adequate service within the Pinelands Area and that it is likely that all such facilities must be located within the Pinelands Area in order to provide adequate service. N.J.A.C. 7:50-5.4(c)1.

To demonstrate the necessity for every local communications facility proposed in the Sprint Plan, Sprint provided signal propagation maps depicting both the existing coverage within the area of its proposed new facility as well as the expected level of coverage post-installation. These signal propagation maps were then reviewed by staff. Staff's review of Sprint's proposed amendment indicates that the single new facility is necessary to provide adequate and reliable wireless communication service to the Pinelands Area. It also does not seem possible to eliminate, combine, or relocate any existing or proposed facilities with Sprint's proposed new facility without negatively affecting coverage.

The Executive Director chose not to retain a radio frequency engineer to examine the signal propagation maps included in Sprint's proposed amendment. The Commission departed from its past practice because the Sprint Plan is atypical. First, as opposed to all prior plans, Sprint's Plan proposes only one new facility location as opposed to a network of new locations. Second, the

single facility proposed in the Sprint Plan is rather remote from all nearby facilities (the nearest existing facility is more than five miles away and the nearest proposed facility is more than three miles away). Third, as a result of the foregoing, the sometimes complex interplay of signal propagation data from existing facilities, approved but un-built facilities, and the proposed facility itself did not play a significant role in the Commission's review of Sprint's signal propagation maps. Finally, after nearly 20 years of experience regulating cellular communications facilities, for the first time, the Commission evaluated the various parameters used by the experts to analyze the signal propagation data included in the five prior plans. The Commission's evaluation revealed remarkably stable ranges for what previously constitutes acceptable coverage under given circumstances. Nevertheless, Sprint's parameters for the range of what constitutes acceptable coverage are broader than any of the prior plans. In other words, the signal strengths Sprint considers acceptable are considerably lower (and, less stringent) than what would have been acceptable under any other prior plan. Thus, it follows that the coverage gaps identified by Sprint would have been far larger using the parameters established under other plans. For all of the foregoing reasons that easily make the "needs" assessment case, the Executive Director determined it was appropriate to forego engaging a signal propagation expert to review Sprint's proposed amendment.

The Executive Director concludes that this standard has been met.

6. The amendment must demonstrate that the facilities to be located in the Preservation Area District, the Forest Area, the Special Agricultural Production Area and 17 specific Pinelands Villages are the least number necessary to provide adequate service, taking into consideration the location of facilities outside the Pinelands. N.J.A.C. 7:50-5.4(c)6.

The purpose of this standard is to provide a heightened level of scrutiny for facilities proposed in conservation-oriented management areas. As was the case with the Commission's previous approvals, Sprint's system of local communications facilities represents a network of facilities, each of which may affect the locations of other facilities in the system. Thus, the location of facilities outside conservation-oriented management areas may be relevant when evaluating the need for new facilities within conservation-oriented management areas. Sprint's Plan notes that it employed a from-the-outside-in approach to designing its network within the Pinelands. In other words, Sprint's design process attempts to provide as much coverage as possible within the Pinelands by using facilities located outside of the Pinelands first. For those areas where it is not possible for Sprint to provide coverage in this manner, it then looks to locations approved under prior plans. Where the locations of already approved sites prove inadequate as well, Sprint next looks at non-conservation-oriented management areas to locate any new facilities. After first reviewing all of these other options, only then does Sprint look to sites in conservation-oriented management areas to provide coverage where there are gaps. Sprint's design process together with Sprint's signal propagation maps adequately demonstrates consistency with this standard. In addition, it seems unlikely that combining or relocating already approved facilities, whether located outside of conservation-oriented management areas or elsewhere, would reduce the overall number of facilities within conservation-oriented management areas.

The Executive Director concludes that this standard has been met.

7. The amendment must demonstrate that it is likely that, to the extent practicable, existing communications or other structures have been used. N.J.A.C. 7:50-5.4(c)3.

The purpose of this standard is to ensure that the fewest possible number of new towers are constructed throughout the Pinelands Area. In this regard, the Sprint Plan notes that it “conducted extensive field research in the vicinity of each proposed location and reviewed the location of [already approved sites] along with lists of existing structures in the Pinelands.” Where suitable structures were found, Sprint designed its network to incorporate such structures. The Sprint Plan explicitly acknowledges that if, and when, an application for development is submitted for any of the facilities proposed in its Plan, Sprint will again have to further address this issue.

The Executive Director concludes that this standard has been met.

8. The amendment must demonstrate, or note the need to demonstrate when the actual siting of facilities is proposed, that, if a new support structure is to be constructed, it can likely be sited consistent with the six criteria in N.J.A.C. 7:50-5.4(c)4. These criteria deal with satisfying technical operating requirements; minimizing visual impacts from public areas, wild and scenic rivers and special scenic corridors, the Pine Plains, the Forked River Mountains and residential areas; and, if proposed in the Preservation Area District, Forest Area, Special Agricultural Area, or Rural Development Area, locating the facility in nonresidential zones, unreserved public lands, mines, first aid or fire stations, and landfills.

The CMP requires, at a minimum, that proposed amendments note the need to demonstrate likely consistency with N.J.A.C. 7:50-5.4(c)4’s criteria. Sprint’s single proposed new facility cannot provide the coverage necessary to fill existing gaps in its service while, at the same time, meeting the strict siting criteria for new facilities within the Preservation Area District (see N.J.A.C. 7:50-5.4(c)4vi). As a result, Sprint has submitted a viewshed map² as part of its proposed Amendment. Sprint’s viewshed map is intended to address the CMP’s requirement that if a new facility: (1) cannot meet the siting criteria of N.J.A.C. 7:50-5.4(c)4vi; (2) cannot meet the minimum environmental standards established in Subchapter 6; or (3) would have a significant visual impact on those uses and resources described in N.J.A.C. 7:50-5.4(c)4ii through v; the plan must specify how the use of alternatives could result in reduced visual impacts (see N.J.A.C. 7:50-5.4(c)6). Using a GIS-based methodology, Sprint’s viewshed map adequately demonstrates that, within a one-and-one-half-mile-radius area surrounding its proposed new facility, its visual impact will be quite modest. According to Sprint’s viewshed map, as well as staff’s own viewshed mapping, the new facility will likely be visible only from the parcel on which the tower itself will be located. Although Sprint’s viewshed map fails to address a wider area of potential, staff’s own viewshed mapping indicates that the proposed new facility will likely have a very modest, if any, visual impact in a wider search area as well.

² A viewshed map depicts all of the areas from which a particular object; e.g., Sprint’s proposed new facility, can likely be seen.

Although it seems unlikely that Sprint's proposed facility can be sited consistent with the standards of N.J.A.C. 7:50-5.4(c)4, the CMP does not require that the proposed amendment be denied as a result. Nor, does it even require that the proposed facility be removed from the proposed amendment. Rather, the CMP requires that, at the time Sprint submits an application for development for its new facility, the facility will be subject to a second level of review, pursuant to N.J.A.C. 7:50-5.4(c)6. To wit, Sprint will be required to specify how the use of alternatives could reduce the anticipated visual impact of its new facility. As previously mentioned, the Commission's staff's GIS-based viewshed analysis for Sprint's new facility indicates that the potential visual impact will be rather modest, at worst. Therefore, it is recommended that, while care should be taken during the application process to ensure that Sprint's alternatives analysis for this new facility is as accurate and robust as possible, Sprint's single new facility need only be subject to an ordinary level of scrutiny. Prior to the Commission's final approval of its application for development for the new facility, Sprint will be required to demonstrate how the potential visual impacts of this facility can be avoided or minimized (whether it be through the use of multiple shorter towers, "stealthing," or another method).

The Executive Director concludes that this standard has been met.

9. The amendment must demonstrate, or note the need to demonstrate when the actual siting of facilities is proposed, that support structures are designed to accommodate the needs of any other local communications provider which has identified a need to locate a facility within an overlapping service area. N.J.A.C. 7:50-5.4(c)2. A closely related CMP standard also requires that the plan must demonstrate, or note the need to demonstrate when the actual siting of facilities is proposed, that the support structure, if initially constructed at a height less than 200 feet, can be increased to 200 feet to accommodate other local communications facilities in the future. N.J.A.C. 7:50-5.4(c)5. Another closely related standard in N.J.A.C. 7:50-5.4(c)6 requires that the plan must provide for joint construction and use of the support structures.

Each of these three standards is intended to facilitate, to the greatest extent practicable, collocation amongst wireless communications providers. The Sprint Plan incorporates the shared services and collocation policies incorporated into the Commission's prior approvals. In so doing, Sprint has agreed to joint construction and use of any support structure built pursuant to its proposed amendment; to accommodate the needs of any other local communications provider which has identified a need to locate a facility within an overlapping service area; and, to design the support structure of its proposed facilities such that, if initially constructed at a height less than 200 feet, they can be increased to 200 feet to accommodate other local communications facilities in the future.

The Executive Director concludes that these standards have been met.

10. If it reduces the number of facilities to be developed, shared service shall be part of the plan unless precluded by federal law. N.J.A.C. 7:50-5.4(c)6.

The purpose of this standard is to encourage wireless communications providers to consider the possibility of single server coverage. Sprint's proposed amendment and the plans previously approved by the Commission note that this standard may be at odds with federal statutes and regulations. Indeed, the Federal Communications Commission itself has indicated that this standard may be inconsistent with its rules. While Sprint has not agreed to "shared services" as originally contemplated by the Commission, Sprint, like each of the previous plan participants, has agreed to a common collocation policy.

The Executive Director concludes that these standards have been met.

III. PUBLIC HEARING AND REVIEW PROCESS

A public hearing to receive testimony on the Sprint Plan was duly advertised, noticed and held on September 10, 2013 at the Richard J. Sullivan Center, 15C Springfield Road, New Lisbon, New Jersey at 9:30 a.m. Mr. Tyshchenko conducted the hearing at which the following testimony was received:

Gregory D. Meese, Esq. of Price, Meese, Shulman & D'Arminio, P.C. appeared on behalf of Sprint. Mr. Meese stated that he and Glenn Pierson had appeared in order to supplement Sprint's proposed Amendment with their testimony. He then began by noting that one of the important purposes of Sprint's proposed new facility is to provide communications services among JCP&L/First Energy personnel in the field, especially in emergency situations, including power outages. He also noted that Sprint had done extensive field observations when selecting its proposed location. Sprint considered all existing facilities in the area as well as all other locations in the area that had been approved under prior plans but not yet built. Sprint nevertheless concluded that even if all of the un-built but approved locations were constructed, a gap in coverage would still exist in the area in question. Accordingly, a need for the proposed new facility exists.

Glenn Pierson, General Manager and Senior Radio Frequency Engineer of PierCon Solutions LLC, also appeared on behalf of Sprint. Mr. Pierson began by displaying and explaining a series of large maps, which are included within the Sprint Plan as Appendix A. Mr. Pierson noted that the nearest existing facilities are several miles away from the location of Sprint's proposed new facility. He noted that Sprint's proposed facility would offer improved coverage in the area but, even after its construction, some gaps in coverage would still exist. He observed that the proposed new facility would be constructed entirely on already disturbed land at a tree farm. He also noted that the proposed new facility is to be located within a sparsely populated area where most of the immediately adjacent land is used only for recreational purposes, including hiking and hunting. Mr. Pierson also observed that the infrastructure necessary to support the proposed new facility is already in the immediate area.

Written comments were accepted through September 13, 2013; however, none were received.

IV. CONCLUSION

The Sprint Plan proposes only one new facility within the Pinelands Area. Based on the preceding analysis, the proposed amendment is consistent with the goals and standards of the CMP. Though consistent, the Sprint Plan is not entirely without potential issues. The proposed new facility is to be located within the most sensitive portion of the Pinelands Area, i.e., the Preservation Area District, and, it does not seem likely that it can be sited consistent with the CMP's siting criteria. As a result, sensitive Pinelands viewsheds may be negatively impacted, although it seems rather unlikely. However, even with these potential issues, Sprint's amendment establishes a framework that, if successfully implemented, will better allow it to provide seamless, reliable, and ubiquitous wireless communications service within the Pinelands Area. Even with approval of this amendment, Sprint's proposed new facility will still have to be approved by the Commission in accordance with the provisions of N.J.A.C. 7:50-5.4 and other applicable CMP standards. In the review of that application, the Commission will be guided by the hierarchical policy for siting individual wireless communications facilities, which is appended to this report as Appendix B.

Accordingly, the Executive Director has concluded that the "Amendment to the Comprehensive Plans for Cellular and Personal Communications Service (PCS) Facilities on behalf of Sprint Spectrum L.P. and its Affiliates for Wireless Communications Facilities in the Pinelands" is consistent with the goals and standards of the Comprehensive Management Plan. Therefore, the Executive Director recommends that the Pinelands Commission approve the "Amendment to the Comprehensive Plans for Cellular and Personal Communications Service (PCS) Facilities on behalf of Sprint Spectrum L.P. and its Affiliates for Wireless Communications Facilities in the Pinelands." The Executive Director further recommends that the Pinelands Commission expressly affirm that the review of any application for development for any facility included within the Sprint Plan shall be done in accordance with this report, including its appendices.

Attachments

**Amendment to the Comprehensive Plans for Cellular and Personal
Communications Service (PCS) Facilities on behalf of**

Sprint Spectrum L.P. and its Affiliates

For Wireless Communications Facilities in the Pinelands

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I. PLAN INTRODUCTION

In 1995, the Pinelands Commission amended N.J.A.C. 7:50-5.4 to permit local communications facilities to exceed the 35 foot height limit if a Comprehensive Plan for the entire Pinelands National Reserve was prepared and approved by the Pinelands Commission. The regulations recognized that: (i) local communications systems rely on a network of facilities to receive and transmit radio signals; and (ii) the location of each antenna facility within this network has an effect on the location of other facilities; and (iii) a well-designed and integrated network can avoid the proliferation of towers throughout the entire Pinelands Area. A comprehensive plan for cellular communications providers was approved in 1998 and was amended in 2000 with the entry of the PCS carriers by the PCS Plan. The Cellular and PCS Plans were amended by the Commission in 2003 at the request of AT&T which operates both cellular and PCS wireless networks. Most recently, the Comprehensive plan was amended in 2012 at the request of T-Mobile. At the time of the adoption of the Comprehensive Plans, Sprint Spectrum L.P. and Nextel of New York, Inc. were two independent companies. Nextel had participated in the Cellular Plan and Sprint Spectrum L.P. participated in the adoption of the PCS Plan. Sprint Spectrum L.P. and Nextel of New York, Inc. merged in 2005. Petitioner, Sprint Spectrum L.P., shall refer to Sprint Spectrum L.P. and its affiliated companies and shall be referred to herein collectively as "Sprint."

Sprint is now improving its wireless PCS communications system in the Pinelands in order to address deficiencies in its coverage to meet the needs of Jersey Central Power & Light Company, a FirstEnergy Company ("JCP&L")(as discussed below), and its other customers, and submits the within amendment to the Cellular and PCS Comprehensive Plans in furtherance thereof. This amendment will be referred to as the "Sprint Amended Plan." The Sprint Amended Plan is not proposed to supersede the prior Comprehensive Plans but is in addition to and incorporates all documents that have been approved by the Pinelands Commission in regard to the Comprehensive Plans.

Sprint has attempted to design its network utilizing existing and approved structures as requested by the Pinelands Commission with a minimum number of proposed new structures. The Sprint Amended Plan is an accurate representation of the facilities necessary for the provision of adequate and reliable wireless service by Sprint throughout the planned build-out area in the Pinelands during the next five (5) to ten (10) years.

The Sprint Amended Plan includes the following:

- Description of the joint use of facilities by Sprint.
- Maps (Attached in Appendix A)
 1. The locations of Pineland Commission approved facilities and the proposed Sprint Amended Plan facility (Qty of 1)
 2. Pinelands Facilities, Proposed Sprint Amended Plan facility (Qty of 1).
Existing Sprint Facilities and Future Sprint Facilities
 3. Sprint reliable in-vehicle coverage from existing facilities, in the FirstEnergy service area
 4. Sprint reliable in-vehicle coverage from existing and future facilities, in the

- FirstEnergy service area
5. Sprint reliable in-vehicle coverage from existing, future and proposed facilities, in the FirstEnergy service area
- Spread sheet identifying Sprint's Proposed Use of Pineland Facilities (Attached in Appendix B)
 - Documentation regarding Fort Dix inquiry for leasing property for a wireless facility (Attached in Appendix C)
 - Documentation regarding Distributed Antenna Systems (DAS) as an alternate technology (Attached on Appendix D)

Sprint presents the Sprint Amended Plan to the Commission in order for it to be able to expand its service within the Pinelands to provide coverage to areas that are currently lacking reliable coverage. Such service is required pursuant to Sprint's FCC license and by its customers. Currently, a significant number of wireless customers reside in the Pinelands and additional customers travel through the region each day. The customers use wireless service for both convenience and out of necessity. As the price of wireless communication service continues to decline, more and more people use wireless services as their only means of accessing the telephone network. More importantly, safety and security are the top reasons listed by customers for purchasing a phone. As with most networks, if service does not exist, calls whether for convenience or necessity, do not go through.

In addition to providing service to Sprint's customer base, the effort to enhance the coverage in the Pinelands is also prompted by a Master Services Agreement between Sprint and FirstEnergy Service Company ("FirstEnergy"). The purpose of the Master Services Agreement is to enhance FirstEnergy's communications infrastructure. FirstEnergy owns ten electric distribution companies in different regions of the United States from Ohio to New Jersey. In New Jersey, the FirstEnergy operating company is known as Jersey Central Power & Light Company, a FirstEnergy Company ("JCP&L"). FirstEnergy is a public utility company regulated by the New Jersey Board of Public Utilities. In an effort to improve its communications network, FirstEnergy solicited the help of Sprint to replace its legacy dispatch radio network with the "push-to-talk" service offered on the Sprint network. FirstEnergy and Sprint agreed to work together to upgrade the Sprint network to eliminate gaps in the network so that FirstEnergy can improve communications among its personnel and better serve the public, especially during weather related and other emergency situations.

The effort to enhance Sprint's service in the Pinelands will provide for important interoperable communications among the personnel of the different FirstEnergy operating companies which is critical during times of weather related or other emergencies when the different companies are called upon to work in the other's region to bring service back on line quickly. The joint network upgrade is targeted to cover each of JCP&L's regional customer operations centers and its entire service area so that a common network of reliable communications utilized by all of the FirstEnergy personnel for all regions can be achieved between the operations centers and the line technicians working in the field.

The New Jersey Pinelands Commission has jurisdiction over one million (1,000,000) acres of property. Currently, certain portions of this area are not covered by Sprint, thereby compromising the safety and security of those customers of Sprint living/working in or traveling through the Pinelands area. It is believed that the Sprint Amended Plan strikes a balance between the growing demand for Sprint's services and the continued

protection and public enjoyment of one of New Jersey's greatest treasures. The Sprint Amended Plan is presented in a form that will facilitate ease of use by the Pinelands Commission staff, emergency service providers, and any future and/or alternate wireless service providers.

II. COMPREHENSIVE MAP SUMMARY

A. SPRINT MAP SUMMARY

The Pinelands Comprehensive Management Plan (CMP) requires any communication company that proposes a communication facility outside of the “unrestricted” area of the Pinelands to prepare a Comprehensive Plan for all of the existing and proposed facilities within the Pinelands in accordance with Section 7:50-5.4(c)6 of the Pinelands CMP. Therefore, Sprint is submitting this Amendment to the Comprehensive Plan in accordance with Section 7:50-5.4(c)6 of the Pinelands CMP. This Sprint Amended Plan outlines Sprint’s development plan for communication facilities within the Pinelands.

The Pinelands CMP effectively divides the New Jersey Pinelands into three regions governing the development of communication facilities. The first region, covering the Regional Growth and Pinelands Town Areas, is, effectively “unrestricted.” This region allows other carriers and Sprint to build facilities with associated structures to any height necessary to meet radio frequency design requirements, with no defined height limit or no limit on the number of structures in the region.

The second region, covering the Agricultural Production Area, Regional Development Area, and Select Villages, is defined as “height restricted.” This region requires the carriers, including Sprint, to meet certain siting criteria for proposed facilities, verify that no existing suitable structure exists within the immediate vicinity of the proposed facility, and to submit a “Comprehensive Plan” of all existing and proposed facilities within the Pinelands for approval by the Commission.

The third region, covering the Preservation Area, Forest Area, Special Agricultural Production Area, and Select Villages, is defined as “height and least number of structures restricted.” This region requires that the above mentioned siting criteria be met, that the other carriers and Sprint demonstrate that the least number of structures in this region is proposed, and that a “Comprehensive Plan of all existing and proposed facilities within the Pinelands be submitted for approval by the Commission.

Map 1

Map 1 identifies all the communication facility locations in the Comprehensive Plans, as amended. It also includes one proposed Sprint facility location. The facilities shown on Map 1 have been divided into five (5) groups having the following designations:

Group 1 denoted by red circles on the map, representing existing approved cellular communication facilities.

Group 2 denoted by blue circles on the map, represents existing approved PCS communication facilities.

Group 3 denoted by purple circles on the map, represents existing approved AT&T Amended Plan communication facilities.

Group 4 denoted by green circles on the map, represents approved T-Mobile Amended Plan communication facilities.

Group 5 denoted by a brown diamond on the map, represents a new tower proposed by Sprint.

Map 2

The second map in Appendix A (Map 2) adds information regarding Sprint's existing and future facilities. The Sprint existing and future facilities have the following designations:

Group 6 denoted by yellow stars, represents Sprint existing (on air) facilities.

Group 7 denoted by pink stars, represents Sprint future facilities.

Group 8 denoted by a single yellow diamond, represents a Sprint location (NY97XC025) that is proposed as a candidate for a site that was approved by the Commission in the T-Mobile Amended Plan (Site PCS-70).

Map 3

The third map (Map 3) is a focused view of the FirstEnergy service area where it intersects the Pinelands. In addition to the site information provided on Map 2, in-vehicle coverage from Sprint's existing facilities has been added.

Map 4

Map 4 is similar to Map 3 in that it is a focused view of the FirstEnergy service area. However, Map 4 includes in-vehicle coverage expected with the additional future facilities utilizing current locations outlined in the Cellular, PCS, AT&T, or T-Mobile plans. Reviewing Map 4 near the proposed Sprint facility (SPRINT- 1), reveals that a gap in reliable in-vehicle coverage exists.

Currently, there are no nearby Pinelands Plan facilities to provide coverage along Pasadena Road and to the electric power distribution network in this portion of the Pinelands. The proposed facility (SPRINT-1) will alleviate this coverage gap which is located between Route 539 and Route 72.

Reviewing the future facilities identified for use by Sprint on Map 4, there are 3 Pinelands Plan locations near the proposed Sprint facility (SPRINT- 1) which are not selected. These are Cell 2, Cell 3 and PCS 64. Analysis of these locations has raised concerns as to the viability of these Pinelands Plan locations. In regard to Cell 2, Sprint has pursued multiple solutions for this location from January 1999 to 2006. Several designs, locations and options have been submitted to the Pinelands Commission, but none of the available options were approved. Therefore Sprint considers Cell 2 as not viable and no coverage for this area has been shown. This location is still needed for coverage and would complement Sprint's current network design.

The Pinelands Plan location Cell 3 (a/k/a PCS 33) is located in an unrestricted area. However, this area is also exclusively residential in nature and is almost completely developed. Constructing a facility at that location would require placing a tower on a small residential parcel. Obtaining a willing landowner and receiving approval from Manchester Township to construct such a facility is, in Sprint's opinion, highly unlikely. Therefore Sprint does not consider Cell 3 a viable location, was not selected as a future

facility and no coverage is shown. However, a facility near Cell 3 is still needed for coverage and would complement Sprint's current network design.

The third facility in the FirstEnergy service area not included as a future facility is PCS 64. This Pinelands Plan location is located in Fort Dix. Sprint has spent many years attempting to gain approval from Fort Dix to place a communications tower on its property. These efforts have been terminated because Fort Dix has denied Sprint's request. A copy of the correspondence from Fort Dix denying Sprint's request to lease property for a communications facility is included in Appendix C. Therefore, Sprint does not consider PCS 64 a viable location and no coverage was shown from PCS 64 on Map 4.

Map 5

Map 5 includes all of the information included on Map 3 and Map 4, and adds the anticipated in-vehicle coverage from the proposed facility (SPRINT- 1). In reviewing Map 5, additional coverage from the SPRINT 1 facility extends reliable in-vehicle coverage west from Route 539 to the Ocean County boundary. Additionally, in-vehicle coverage is shown for Sprint candidate NY97XC025 - representing T-Mobile amended plan site PCS-70.

B. AUTHORIZED CELLULAR COMPREHENSIVE PLAN FACILITIES ON WHICH SPRINT PROPOSES TO LOCATE

Cell Plan

Facility 1:

This facility is located in Ocean County (Manchester Township). It is in the “height and least number of structures restricted” area and is required for coverage.

Cell Plan

Facility 6:

This facility is located on the border of the Preservation Area District and the Special Agricultural Production Area in Burlington County. It is in the “height and least number of restricted” area and is required for coverage.

Cell Plan

Facility 9:

This facility is located in Burlington County (Evesham Township). It is in the “height restricted” area and is required for coverage.

Cell Plan

Facility 14:

This facility is located in Atlantic County (Buena Vista Township). It is in the “height restricted” area and is required for coverage.

Cell Plan

Facility 15:

This facility is located in Gloucester County (Monroe Township). It is in the “height restricted” area and is required for coverage.

Cell Plan

Facility 16:

This facility is located in Atlantic County (Mullica Township). It is in the “height and least number of structures restricted” area and is required for coverage.

Cell Plan

Facility 17:

This facility is located in Atlantic County (Hamilton Township). It is in the “height restricted” area and is required for coverage.

Cell Plan

Facility 21:

This facility is located in Cumberland County (Maurice River). It is in the “height and least number of structures restricted” area and is required for coverage.

Cell Plan

Facility 22:

This facility is located in Cumberland County (Maurice River Township). It is in the “height and least number of structures restricted” area and is required for coverage.

Cell Plan

Facility 25:

This facility is located in Burlington County (Washington Township). It is in the “height and least number of structures restricted” area and is required for coverage.

Cell Plan

Facility 28:

This facility is located in Burlington County. It is in the “height restricted” area and is required for coverage.

Cell Plan

Facility 29:

This facility is located in Camden County. It is in the “unrestricted” area and is required for coverage.

Cell Plan

Facility 35:

This facility is located in Atlantic County (Weymouth Township). It is in the “heights and least number of structures restricted” area and is required for coverage.

Cell Plan

Facility 47:

This facility is located in Burlington County (Evesham Township). It is in the “height restricted” area and is required for coverage.

Cell Plan

Facility 51:

This facility is located in Cape May County (Upper Township). It is in the “height restrictive” area and is required for coverage.

Cell Plan

Facility 55:

This facility is located in Atlantic County. It is in the “heights and least number of structures restricted” area and is required for coverage.

C. AUTHORIZED PCS PLAN FACILITIES IN WHICH SPRINT PROPOSES TO LOCATE:

PCS Plan

Facility 13

This facility is located in Atlantic County (Folsom Borough). It is in the “height restricted” area and is required for coverage.

PCS Plan

Facility 21:

This facility is located in Burlington County. It is in the “height and least number of structures restricted” area and is required for coverage.

PCS Plan

Facility 036:

This facility is located in Camden County. It is in the “height restricted” area and is required for coverage.

PCS Plan

Facility 052:

This facility is located in Atlantic County (Hamilton Township). It is in the “height restricted” area and is required for coverage.

PCS Plan

Facility 061:

This facility is located in Ocean County (Barnegat Township). It is in the “unrestricted” area and is required for coverage.

PCS Plan

Facility 062:

This facility is located in Burlington County (Woodland Township). It is in the “height and least number of structures restricted” area and is required for coverage.

PCS Plan

Facility 065:

This facility is located in Ocean County (Little Egg Harbor Township). It is in the “height and least number structures restricted” area and is required for coverage.

D. AUTHORIZED AT&T AMENDMENT FACILITIES ON WHICH SPRINT PROPOSES TO LOCATE:

AT&T Amendment

Facility 302:

This facility is located in Atlantic County (Hamilton Township). It is in the “unrestricted” area and is required for coverage.

AT&T Amendment

Facility 304:

This facility is located in Atlantic County (Egg Harbor Township). It is in the Federal or Military Facility and is required for coverage.

AT&T Amendment

Facility 305:

This facility is located in Atlantic County (Egg Harbor Township). It is in the “unrestricted” area and is required for coverage.

AT&T Amendment

Facility 307:

This facility is located in Atlantic County (Egg Harbor Township). It is in the “unrestricted” area and is required for coverage.

AT&T Amendment

Facility 309:

This facility is located in Atlantic County (Hamilton Township). It is in the “height and least number of structures restricted” area and is required for coverage.

AT&T Amendment

Facility 311:

This facility is located in Atlantic County (Mullica Township). It is in the “height and least number of structures restricted” area and is required for coverage.

AT&T Amendment

Facility 315:

This facility is located in Atlantic County (Galloway Township). It is in the “unrestricted” area and is required for coverage.

AT&T Amendment

Facility 317:

This facility is located in Atlantic County. It is in the Federal or Military Facility and is required for coverage.

AT&T Amendment

Facility 322:

This facility is located in Atlantic County. It is in the “height restricted” area and is required for coverage.

AT&T Amendment

Facility 324:

This facility is located in Atlantic County (Folsom Township). It is in the “height and least number of structures restricted” area and is required for coverage.

AT&T Amendment

Facility 327:

This facility is located in Burlington County (Tabernacle Township). It is in the “unrestricted” area and is required for coverage.

AT&T Amendment

Facility 328:

This facility is located in Burlington County (Pemberton). It is in the “unrestricted” area and is required for coverage.

AT&T Amendment

Facility 336:

This facility is located in Burlington County. It is in the “unrestricted” area and is required for coverage.

AT&T Amendment

Facility 343:

This facility is located in Camden County. It is in the “unrestricted” area and is required for coverage.

AT&T Amendment

Facility 347:

This facility is located in Camden County (Winslow Township). It is in the “height and least number of structures restricted” area and is required for service.

AT&T Amendment

Facility 353:

This facility is located in Cumberland County (Maurice River Township). It is in the “unrestricted” area and is required for coverage.

AT&T Amendment

Facility 355:

This facility is located in Gloucester County (Monroe Township). It is in the “unrestricted” area and is required for coverage.

AT&T Amendment

Facility 357:

This facility is located in Ocean County (Berkeley Township). It is in the “height and least number of structures restricted” area and is required for coverage.

AT&T Amendment

Facility 358:

This facility is located in Ocean County. It is in the “height and least number of structures restricted” area and is required for coverage.

AT&T Amendment

Facility 363:

This facility is located in Atlantic County. It is in the “unrestricted” area and is required for coverage.

AT&T Amendment

Facility 366:

This facility is located in Camden County. It is in the “unrestricted” area and is required for coverage.

AT&T Amendment

Facility 374: This facility is located in Gloucester County (Monroe Township). It is in the “height restricted” area and is required for coverage.

**E. AUTHORIZED T-MOBILE AMENDMENT FACILITIES ON WHICH
SPRINT PROPOSES TO LOCATE:**

(Facilities Referenced as T-Mobile site designations PCS 69 - PCS 111 on maps)

T-Mobile Amendment

Facility 69:

This facility is located in Ocean County (Manchester Township). It is in a Forest Area, and required for coverage.

T-Mobile Amendment

Facility 70:

This facility is located in Ocean County (Manchester Township). It is in the Preservation Area, and required for coverage. **Please see section F for additional information on this approved location.*

T-Mobile Amendment

Facility 71:

This facility is located in Ocean County (Jackson Township). It is in a Rural Development Area, and required for coverage.

T-Mobile Amendment

Facility 72:

This facility is located in Ocean County (Jackson Township). It is in a Forest Area, and required for coverage.

T-Mobile Amendment

Facility 74:

This facility is located in Ocean County (Manchester Township). It is in a Forest Area, and required for coverage.

T-Mobile Amendment

Facility 75:

This facility is located in Ocean County (Barnegat Township). It is in a Regional Growth Area, and required for coverage.

T-Mobile Amendment

Facility 76:

This facility is located in Ocean County (Barnegat Township). It is in a Forest Area, and required for coverage.

T-Mobile Amendment

Facility 77:

This facility is located in Ocean County (Lacey Township). It is in a Preservation Area District, and is required for coverage.

T-Mobile Amendment

Facility 81:

This facility is located in Ocean County (Lacey Township). It is in a Forest Area, and required for coverage.

T-Mobile Amendment

Facility 82:

This facility is located in Ocean County (Stafford Township). It is in a Regional Growth Area, and required for coverage.

T-Mobile Amendment

Facility 83:

This facility is located in Ocean County (Berkeley Township). It is in a Forest Area, and required for coverage.

T-Mobile Amendment

Facility 86:

This facility is located in Ocean County (Stafford Township). It is in a Forest Area, and required for coverage.

T-Mobile Amendment

Facility 88:

This facility is located in Ocean County (Little Egg Harbor Township). It is in a Preservation Area District, and is required for coverage.

T-Mobile Amendment

Facility 90:

This facility is located in Burlington County (Pemberton Township). It is in a Forest Area, and required for coverage.

T-Mobile Amendment

Facility 91:

This facility is located in Atlantic County (Estell Manor). It is in a Forest Area, and required for coverage.

T-Mobile Amendment

Facility 93:

This facility is located in Burlington County (Medford Township) It is located in a Regional Growth Area, and is required for coverage.

T-Mobile Amendment

Facility 94:

This facility is located in Cumberland County (Maurice River Township). It is in a Rural Development Area, and required for coverage.

T-Mobile Amendment

Facility 95:

This facility is located in Cumberland County (Maurice River Township). It is in a Forest Area, and required for coverage.

T-Mobile Amendment

Facility 96:

This facility is located in Cape May County (Dennis Township). It is in a Pinelands Village area, and required for coverage.

T-Mobile Amendment

Facility 97:

This facility is located in Atlantic County (Estell Manor). It is in a Forest Area, and is required for coverage.

T-Mobile Amendment

Facility 99:

This facility is located in Atlantic County (Buena Vista Township). It is in a Rural Development Area, and is required for coverage.

T-Mobile Amendment

Facility 100:

This facility is located in Atlantic County (Hamilton Township). It is in a Regional Growth Area, and is required for coverage.

T-Mobile Amendment

Facility 103:

This facility is located in Atlantic County (Egg Harbor Township). It is in a Regional Growth Area, and is required for coverage.

T-Mobile Amendment

Facility 105:

This facility is located in Gloucester County (Monroe Township). It is in a Rural Development Area, and is required for coverage.

T-Mobile Amendment

Facility 107:

This facility is located in Atlantic County (Estell Manor). It is in a Forest Area, and required for coverage.

T-Mobile Amendment

Facility 108:

This facility is located in Burlington County (Evesham Township). It is in a Rural Development Area, and is required for coverage.

T-Mobile Amendment

Facility 110:

This facility is located in Burlington County (Shamong Township). It is in an Agricultural Production Area, and is required for coverage.

T-Mobile Amendment

Facility 111:

This facility is located in Camden County (Waterford Township). It is in a Rural Development Area, and is required for coverage.

F. PROPOSED RAW LAND SPRINT AMENDMENT FACILITIES:

SPRINT 001

This facility is located in Ocean County (Manchester) along Railroad Avenue. It is in the Preservation Area District which is “height and least number of structures restricted.”

Currently, there are no approved facilities in close proximity to this location. The facility is also located within the First Energy Service Area, and is necessary to extend reliable in-vehicle coverage west from Route 539 to the Ocean County boundary.

T-MOBILE Amended Plan Facility PCS70 (Sprint ID - NY97XC025)

This facility is located in Ocean County (Manchester) along Route 539. It is in the Preservation Area District which is “height and least number of structures restricted.”

Sprint, having joined in the T-Mobile plan amendment and reviewed the most recently approved T-Mobile amended plan, has recognized that the T-Mobile facility PCS-70 is in reasonably close proximity (within ½ mile) to a desired Sprint location.

Since Sprint has already identified a landowner for this facility, it will request that the Pinelands Commission consider this location as a candidate for the PCS-70 facility. The proposed candidate is represented as Sprint ID NY97XC025 on maps 2 through 5, as well in Appendix B.

G. SPRINT SITES ALREADY ON AIR

On Air Site

Cell Plan

Facility 004:

This is an existing facility located in Ocean County. It is in the “height and least number of restricted” area and is required for coverage.

On Air Site

Cell Plan

Facility 007:

This is an existing facility located in Burlington County. It is in the “height and least number of restricted” area and is required for coverage.

On Air Site

Cell Plan

Facility 008

This is an existing facility located in Burlington County. It is in the “unrestricted” area and is required for coverage.

On Air Site

Cell Plan

Facility 010:

This is an existing facility located in Burlington County. It is in the “unrestricted” area and is required for coverage.

On Air Site

Cell Plan

Facility 011:

This is an existing facility located in Burlington County. It is in the “height restricted” area and is required for coverage.

On Air Site

Cell Plan

Facility 012:

This is an existing facility located in Atlantic County. It is in the “height and least number of restricted” area and is required for coverage.

On Air Site

Cell Plan

Facility 019:

This is an existing facility located in Atlantic County. It is in the “unrestricted” area and is required for coverage.

On Air Site

Cell Plan

Facility 020:

This is an existing facility located in Atlantic County. It is in the “height restricted” area and is required for coverage.

On Air Site

Cell Plan

Facility 023:

This is an existing facility located in Cape May County. It is in the “unrestricted” area and is required for coverage.

On Air Site

Cell Plan

Facility 024:

This is an existing facility located in Ocean County. It is in the “unrestricted” area and is required for coverage.

On Air Site

Cell Plan

Facility 027:

This is an existing facility is located in Burlington County. It is in the “unrestricted” area and is required for coverage.

On Air Site

Cell Plan

Facility 030:

This is an existing facility located in Gloucester County. It is in the “unrestricted” area and is required for coverage.

On Air Site

Cell Plan

Facility 031:

This is an existing facility is located in Atlantic County. It is in the “height and least number of restricted” area and is required for coverage.

On Air Site

Cell Plan

Facility 033:

This is an existing facility located in Atlantic County. It is in the “unrestricted” area and required for coverage.

On Air Site

Cell Plan

Facility 034:

This is an existing facility located in Atlantic County. It is in the “height and least number of restricted” area and is required for coverage.

On Air Site
Cell Plan

Facility 036:

This is an existing facility located in Ocean County. It is in the “height and least number of restricted” area and is required for coverage.

On Air Site
Cell Plan

Facility 037:

This is an existing facility located in Ocean County. It is in the “height and least number of restricted” area and is required for coverage.

On Air Site
Cell Plan

Facility 039:

This is an existing facility located in Burlington County. It is in the “unrestricted” area and is required for coverage.

On Air Site
Cell Plan

Facility 041:

This is an existing facility located in Burlington County. It is in the “height and least number of restricted” area and is required for coverage.

On Air Site
Cell Plan

Facility 042:

This is an existing facility located in Ocean County. It is in the “unrestricted” area and is required for coverage.

On Air Site
Cell Plan

Facility 044:

This is an existing facility located in Burlington County. It is in the “height restricted” area and is required for coverage.

On Air Site
Cell Plan

Facility 049:

This is an existing facility located in Atlantic County. It is in the “unrestricted” area and is required for coverage.

On Air Site
Cell Plan

Facility 050:

This is an existing facility located in Atlantic County. It is in the “unrestricted” area and is required for coverage.

On Air Site
Cell Plan

Facility 053:

This is an existing facility located in Atlantic County. It is in the “unrestricted” area and is required for coverage.

On Air Site
Cell Plan

Facility 056:

This is an existing facility located in Atlantic County. It is in the “unrestricted” area and is required for coverage.

On Air Site
PCS Plan

Facility 2:

This is an existing facility located in Camden County. It is in the “height restricted” area and is required for coverage.

On Air Site
PCS Plan

Facility 3:

This is an existing facility located in Camden County. It is in the “height restricted” area and is required for coverage.

On Air Site
PCS Plan

Facility 5:

This is an existing facility located in Atlantic County. It is in the “height restricted” area and is required for coverage.

On Air Site
PCS Plan

Facility 9:

This is an existing facility located in Atlantic County. It is in the “unrestricted” area and is required for coverage.

On Air Site
PCS Plan

Facility 10:

This is an existing facility is located in Atlantic County. It is in the “unrestricted” area and is required for coverage.

On Air Site
PCS Plan

Facility 14:

This is an existing facility is located in Atlantic County. It is in the “height and least number of restricted” area and is required for coverage.

On Air Site
PCS Plan

Facility 15:

This is an existing facility located in Atlantic County. It is in the “height and least number of restricted” area and is required for coverage.

On Air Site
PCS Plan

Facility 17:

This is an existing facility located in Cumberland County. It is in the “height and least number of restricted” area and is required for coverage.

On Air Site
PCS Plan

Facility 19:

This is an existing facility located in Burlington County. It is in the “height restricted” area and is required for coverage.

On Air Site
PCS Plan

Facility 20:

This is an existing facility located in Burlington County. It is in the “height and least number of restricted” area and is required for coverage.

On Air Site
PCS Plan

Facility 24:

This is an existing facility located in Atlantic County. It is in the “height and least number of restricted” area and is required for coverage.

On Air Site
PCS Plan

Facility 37:

This is an existing facility located in Atlantic County. It is in the “unrestricted” area and is required for coverage.

On Air Site
PCS Plan

Facility 40:

This is an existing facility located in Atlantic County. It is in the “height and least number of restricted” area and is required for coverage.

On Air Site
PCS Plan

Facility 43:

This is an existing facility located in Atlantic County. It is in the “height restricted” area and is required for coverage.

On Air Site
PCS Plan

Facility 46:

This is an existing facility located in Gloucester County. It is in the “unrestricted” area and is required for coverage.

On Air Site
PCS Plan

Facility 49:

This is an existing facility located in Camden County. It is in the “height restricted” area and is required for coverage.

On Air Site
PCS Plan

Facility 54:

This is an existing facility located in Atlantic County. It is in the “unrestricted” area and is required for coverage.

On Air Site
PCS Plan

Facility 56:

This is an existing facility located in Atlantic County. It is in the “height restricted” area and is required for coverage.

On Air Site
PCS Plan

Facility 58:

This is an existing facility located in Ocean County. It is in the “unrestricted” area and is required for coverage.

On Air Site
PCS Plan

Facility 63:

This is an existing facility located in Ocean County. It is in the “height and least number of restricted” area and is required for coverage.

On Air Site
AT&T Amendment

Facility 313:

This is an existing facility located in Atlantic County. It is in the “unrestricted” area and is required for coverage.

On Air Site
AT&T Amendment

Facility 318:

This is an existing facility located in Atlantic County. It is physically located between the AT&T Amendment 318 and the Cell Plan Facility 17. It is in the “height and least number of restricted” area and is required for coverage.

On Air Site
AT&T Amendment

Facility 334:

This is an existing facility located in Burlington County. It is in the “unrestricted” area and is required for coverage.

On Air Site
AT&T Amendment

Facility 348:

This is an existing facility located in Camden County. It is in the “unrestricted” area and is required for coverage.

On Air Site
AT&T Amendment

Facility 364:

This is an existing facility located in Burlington County. It is in the “height restricted” area and is required for coverage.

On Air Site
AT&T Amendment

Facility 373:

This is an existing facility located in Atlantic County. It is in the “height and least number of restricted” area and is required for coverage.

On Air Site
AT&T Amendment

Facility 375:

This is an existing facility located in Ocean County. It is in the “height and least number of restricted” area and is required for coverage.

H. SITES NOT INCLUDED IN PROPOSED OR ADOPTED PLANS

Not Included

Cell Plan

Facility 2:

This facility is located on the border of Burlington County and Ocean County along Route 70. Sprint had pursued approval of a facility in this location from 1999 to 2006. After searching several properties and locations on the properties, as well as alternate technologies, for a communications facility that met the environmental regulations and coverage requirements, Sprint was unable to obtain Pinelands Commission approval. Therefore Sprint considers this a problem area and has deleted this site from its plan. This site is needed by Sprint and other carriers, is located in the “height and least number of structures restricted” area and is required for coverage.

Not Included

Cell Plan

Facility 3:

This facility is located in Ocean County along Route 539 south of Route 70. The facility has been placed in the “unrestricted” Pinelands Town area. However, the entire area is developed with single-family homes on small lots. It is not reasonable to expect to build a 200’ tower on one of these properties. Therefore, Sprint believes the Cell 3 facility is unbuildable in its present location and management area. The non-residential areas near Cell 3 are located in the “height and least number of structures restricted” area. Sprint has deleted this site from its plan; however, this site is needed by Sprint and other carriers and is required for coverage.

Not Included

PCS Plan

Facility 64:

This facility is located in Ocean County on property controlled by Fort Dix. Sprint has attempted to locate a facility in Fort Dix for several years without success. In May, 2011, Fort Dix confirmed that it would not enter into a lease for the construction of a communications facility on its property. Please see the email chain attached in Appendix C. The land adjacent to Fort Dix is classified as Preservation Area District. Therefore, Sprint has deleted this site from its plan.

III. SIGNAL PROPAGATION MAP

This Sprint Amended Plan includes a signal propagation map which demonstrates that in the area of the new wireless facility proposed by Sprint, Sprint has designed its network to utilize the least number of facilities in the Pinelands.

The propagation map depicts a signal strength of -99dBm for Sprint's CDMA 1900 MHz coverage. In-Vehicle coverage is identified as a signal strength of -99dBm (received CDMA Pilot Power), or better, as measured on the street at a height of 5 feet. When a signal passes through any type of material, it loses strength. If a -99dBm signal passes through a window into a vehicle, the resulting signal strength would be in the range of -105dBm to -107dBm . Thus, a customer would be able to receive or make a call in his/her vehicle. Whereas, if -105dBm (received CDMA Pilot Power) were to enter a vehicle, the resulting signal strength in the vehicle would be -111dBm to -113dBm and the likelihood of receiving or initiating a call would be very low. Signal strengths of -107dBm and lower are very weak and service at that level would be unreliable. Sprint has identified -99dBm as reliable In-Vehicle coverage in the Pinelands because the resulting signal inside a vehicle could be reliably received.

IV. CODE COMPLIANCE

PLAN COMPLIANCE WITH CODE – N.J.A.C. 7:50-5.4

Pursuant to N.J.A.C. 7-50 - 5.4, the plan shall include:

1. Five (5) and ten (10) year horizons [N.J.A.C. 7:50-5.4(c)6]

The Sprint Amended Plan, as submitted, does include such horizons as outlined in the Sprint Map Summary Plan. It is Sprint's intent to enhance the coverage in the Pinelands over time, with the majority of the sites being built as dictated by customer demand.

2. A review of alternative technologies that may become available for use in the near future [N.J.A.C. 7:50-5.4(c)6]

The primary alternative to traditional macro cell designs is technology referred to as "Distributed Antenna Systems" or DAS. This system is not considered to be a reliable network design in the Pinelands by Sprint for many reasons. A majority of these reasons were reviewed at a meeting in 2003 held between the Commission staff and all of the wireless carriers. Since then, there have not been any major changes to the technology to overcome these issues. Some of the issues that were discussed include the following:

1) With a DAS deployment, the antennas are placed at a low height on structures very close in proximity (1000-2000 feet apart). The radio frequency coverage is directed along roadways in a small oval shaped pattern. This technology would only cover a roadway and a very small area to the north and south of the roadway, not a complete circular area of approximately a two (2) mile radius covered by a "standard" macro site. In fact, it would take from eight (8) to forty (40) DAS sites to duplicate coverage provided by one (1) macro site depending on the application and the area to be covered.

2) The issue of E911 reliability and the inability for a network using a network-based solution to locate an individual within the required accuracy. This is also an issue when a network is using a GPS based solution and a user is in a poor GPS service area (dense forest for example). Now that most, if not all, Public Safety Answering Points (PSAP) in the Pinelands are accepting E911 Phase 2 location information, this issue is more acute.

3) Many areas of the Pinelands do not have sufficient number and placement of existing structures, such as utility poles, to accommodate a DAS deployment.

4) There are practical difficulties in attempting to provide for backup power to a DAS network, in contrast to a tower site where an emergency generator can be transported onsite and brought into service when needed.

For FirstEnergy, one of the main purposes for using the Sprint network is to have communications when the electric lines strung along the roadways are down. Since DAS relies on the very same utility poles and the electric power that is provided along those poles, if a FirstEnergy technician is dispatched to repair commercial power, the DAS network, by its nature will not be operating. This will leave the FirstEnergy technician without communications.

This also causes unacceptable coverage for public safety reasons. Due to the narrow band of coverage from a DAS deployment (along a roadway), only those customers traveling on the designated roadway would have coverage from a DAS network. The service off the roadway is very limited for those people located or traveling onto minor roads, paths, hiking trails and for homes that are set back a few hundred feet from the main road. In addition, emergency services such as fire, evacuation or search and rescue would experience difficulty communicating in these areas. For more discussion regarding DAS systems, please reference Appendix D

DAS does not provide an acceptable level of coverage and reliability and does not meet Sprint's network requirements for the Pinelands. In addition, Sprint does not believe that there are any other viable, and commercially available, alternative technologies that would allow Sprint to provide reliable voice and data communications to the gaps in coverage located in the Pinelands. Moreover, the Commission does not have the authority to dictate or legislate a preference for the use of a particular technology, including DAS, for the provision of wireless service. *See New York SMSA Limited Partnership v. Town of Clarkstown*, 612 F.3d 97, 105-06 (2d Cir. 2010).

3. The approximate location of all proposed facilities [N.J.A.C. 7:50-5.4(c)6]

The Sprint Amended Plan, as submitted, does include Cellular, PCS, AT&T, and T-Mobile Plan numbers as well as latitude and longitude. (See attached Spread Sheet in Appendix B).

4. Demonstration that the facilities to be located in the Preservation Area District, Forest Area, Special Agricultural Production Area and certain Pinelands Villages are the least number necessary to provide adequate service, taking into consideration the location of facilities outside the Pinelands that may influence the number and location of facilities needed within the Pinelands [N.J.A.C. 7:505.4 (c) (6)].

Sprint divided the Pinelands Radio Frequency (RF) design into two categories. The first category is where the FirstEnergy service area and the Pinelands overlap. The second area is the remaining portions of the Pinelands. The RF design in the FirstEnergy service area carefully considered all site locations in the comprehensive plans to determine the least number of towers necessary within the Preservation Area District, the Forest Area, the Special Agricultural Production Area and Pinelands Villages. Sprint designed its network in the Pinelands region "from the outside in" as requested by the Pinelands Commission. That is, Sprint attempted to design its networks so as to provide coverage for as much of the Pinelands as possible from facilities located outside the Pinelands. Then the design process focused on using designated/approved facilities within the Pinelands to the extent necessary to complete the

network and provide adequate service to the FirstEnergy service area in the Pinelands. After these efforts were exhausted, Sprint then attempted to resolve any remaining coverage gaps with facilities in less restricted areas of the Pinelands. For the one new tower Sprint proposes to be constructed, which is in an area without any nearby Pinelands Plan sites structures, Sprint thoroughly searched the less restricted zones first. Only after that search was exhausted, did Sprint research any facility locations in the Preservation Area District.

For the second design category, Sprint concluded that at this time, the facilities identified in the Cellular, PCS, AT&T, and T-Mobile plans were sufficient for providing adequate service to the remaining portions of the Pinelands. Therefore, for areas in the Pinelands and outside the FirstEnergy service area, Sprint is not proposing any other additional facilities to provide coverage to this section of the Pinelands.

The Sprint Amended Plan represents a network that when completed should provide adequate coverage for those areas within the Pinelands included in the Sprint planned coverage area while keeping the number of new towers in the most sensitive zones of the Pinelands to a minimum. In summary, the Commission can be assured that the “least number” criteria has been met. With this plan amendment, Sprint will not exceed one (1) new facility in the Forest Management, Preservation and Pineland Village Areas.

5. Demonstration of need for the facility to serve the local communication needs of the Pinelands, including those related to public, health and safety, as well as demonstration of the need to locate the facility in the Pinelands in order to provide adequate service to meet those needs [N.J.A.C. 7:50-5.4 (c) (1)]

The proposed facility is needed to provide adequate coverage to the Pinelands pursuant to Sprint’s FCC licenses, Sprint’s current coverage plan and customer requirements (including FirstEnergy). The Telecommunications Act of 1996 (“TCA”) is the federal law which governs the regulation of the placement, construction, and modification of personal wireless service facilities by any State or local government. Specifically, the TCA, 47 U.S.C. § 332(c)(7)(B) provides in part:

- (i) The regulation of the placement, construction, and modification of personal wireless service facilities by any State or local government or instrumentality thereof ;
- (ii) shall not unreasonably discriminate among providers of functionally equivalent services; and
- (iii) shall not prohibit or have the effect of prohibiting the provision of personal wireless services.
- (iv) Any State or local government or instrumentality thereof shall act on any request for authorization to place, construct or modify personal wireless service facilities within a reasonable period of time after the request is duly filed with such government or instrumentality, taking into account the nature and scope of such request.

(v) Any decision by a State or local government or instrumentality thereof to deny a request to place, construct, or modify personal wireless service facilities shall be in writing and supported by substantial evidence contained in a written record.

(vi) No State or local government or instrumentality thereof may regulate the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the Commission's regulations concerning such emissions.

(vii) Any person adversely affected by any final action or failure to act by a State or local government or any instrumentality thereof that is inconsistent with this subparagraph may, within 30 days after such action or failure to act, commence an action in any court of competent jurisdiction. The court shall hear and decide such action on an expedited basis. Any person adversely affected by an act or failure to act by a State or local government or any instrumentality thereof that is inconsistent with clause (iv) may petition the Commission for relief.

The TCA further provides at § 253(a): No State or local statute or regulation, or other State or local legal requirement, may prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service.

The Superior, Appellate and Supreme Courts of New Jersey recognize the need for these types of facilities. The New Jersey Supreme Court recognized the need for wireless service in its seminal decision, *Smart SMR of New York, Inc. v. Bor. of Fair Lawn Bd. of Adjust.*, 152 N.J. 309 (1998). The Court noted that "(In today's world, prompt and reliable information is essential to the public welfare...)" To this end, the Court was satisfied that a proposed "facility, including the monopole, is a necessary part of an increasingly public service." In fact, the Court noted that a Federal Commission (FCC) license "will suffice to establish that the use serves the general welfare." Regarding placement of such facilities, the Court, in agreement with the telecommunications Act of 1996, stated that "municipal boards may not altogether prohibit (mobile communication facilities) from being constructed within the municipality." It went on to say that its "goal in making these suggestions is to facilitate the decision of cases involving the location of telecommunication facilities" (emphasis added).

Further, although enhanced and beneficial to everyone, the fact that wireless service is utilized by emergency medical services, police and fire-fighters greatly increases this need. The federal government has stressed the importance of wireless communications and has made wireless communications a priority. The Congressional mandate set forth in the Telecommunications Act of 1996 was again reiterated in 1999 with the enactment of the Wireless Communications and Public Safety Act, October 26, 1999, P.L. 106-81, § 2, 113 Stat. 1286, amending 47 U.S.C.A. §§ 222 and 251, and appearing in part as 47 U.S.C.A. §§ 615, 615a, and 615b. The stated purpose of the 1999 Act is:

To encourage and facilitate the prompt deployment throughout the United States of a

seamless, ubiquitous, and reliable end-to-end infrastructure for communications, including wireless communications, to meet the Nation's public safety and other communications needs. October 26, 1999, P.L. 106-81, § 2(b), 113 Stat. 1286.

In addressing the important role that wireless telecommunications systems serve, Congress in 2003 specifically directed the FCC to:

[E]ncourage and support efforts by States to deploy comprehensive end-to-end emergency communications infrastructure and programs, . . ., including seamless, ubiquitous, reliable wireless telecommunications networks and enhanced wireless 9-1-1 service. . . . In encouraging and supporting that deployment, the Commission shall consult and cooperate with State and local officials responsible for emergency services and public safety, the telecommunications industry (specifically including the cellular and other wireless telecommunications service providers), . . . 47 U.S.C.A. § 615.

The importance of these wireless networks cannot be overstated.

6. Demonstration that the antenna utilizes an existing communications or other suitable structure to the extent practicable. [N.J.A.C. 7:50-5.4 (e) (3)]

Wherever possible, Sprint has utilized existing structures or sought to site at locations approved under the AT&T, T-Mobile, PCS and CP Plans where the CPs and PCS' carriers will likely be constructing structures in the future. Sprint will further address the use of existing structures at the time that an application for site approval is made to the Pinelands Commission.

It shall be noted that existing structures are not considered practicable for use until and unless:

- There is an agreement in place to use the structure with the land owner and/or the structure owner;
- The property meets the Pinelands Site criteria for the placement of Sprint' equipment; and
- Access and utilities to the site are available.

To ensure that existing structures were indeed utilized to the greatest extent possible, Sprint conducted extensive field research in the vicinity of each proposed location and reviewed the location of Existing AT&T, T-Mobile, CP and PCS Facility Structures along with lists of existing structures in the Pinelands. Sprint reviewed the lists with respect to identifying any existing structures that could be used to site its facilities. Where structures were identified, Sprint designed its network so as to make use of such existing structures.

7. Demonstration, or indication of the need to demonstrate when the actual siting of facilities is proposed, that the supporting structure is designed to accommodate the needs of any other local communications provider which has identified a need to locate a facility within an overlapping service area. [N.J.A.C. 7:50-5.4(e)2]

Sprint acknowledges that all new structures will be constructed so that they can be extended, if need be, to a height of 200 feet for the purposes of co-location. The particular design criteria of each facility will be addressed at the time of application.

8. Demonstration, or indication of the need to demonstrate when the actual siting of facilities is proposed, that, if an existing communications or other suitable structure cannot be utilized, the antennas and any necessary supporting structure is located such that it meets all siting criteria per the code. [N.J.A.C. 7:50-5.4 (c)4]

The applicant has conducted a thorough analysis of the siting criteria contained in N.J.A.C. 7:50-5.4(c)4 and has attached, as Appendix E, a viewshed analysis of the geographic area within the Pinelands where a new tower is required. The analysis included both a one mile radius of potential visibility and a one and one-half mile radius of potential visibility. It specifically addressed potential visibility from recreation facilities and campgrounds (N.J.A.C. 7:50-5.4(c)4ii(1)); publicly dedicated roads and highways (N.J.A.C. 7:50-5.4(c)4ii(2)); wild and scenic rivers and special scenic corridors listed in N.J.A.C. 7:50-6.105(a) (N.J.A.C. 7:50-5.4(c)4iii); the Forked River Mountains (N.J.A.C. 7:50-5.4(c)4iv); existing residential dwellings located on contiguous parcels (N.J.A.C. 7:50-5.4(c)4v); the criteria for existing commercial use (N.J.S.A. 7:50-5.4(c)4vi); and at a location having the least visual impact upon the resources described in N.J.A.C. 7:50-5.4(c)4ii, -5.4(c)4ii, and -5.4(c)v (N.J.S.A. 7:50-5.4(c)4vii).

The viewshed analysis found that within the one-mile and one and one-half-mile radius of the area in which a tower is needed that a 150-foot tall tower would only be visible from a few isolated locations. In addition, the following databases were reviewed but were not found within the search area: low intensive recreation facilities and campgrounds, wild and scenic rivers, pine plains and area necessary to maintain the ecological integrity of the Pine Plains and the Forked River Mountains,

9. Demonstration, or indication of the need to demonstrate when the actual siting of facilities is proposed, that the antenna and any supporting structure does not exceed 200 feet in height, but, if of a lesser height, shall be designed so that the height can be increased to 200 feet if necessary to accommodate other local communications facilities in the future [N.J.A.C. 7:50-5.4 (c)5]

Sprint acknowledges that all new structures will be constructed so that they can be extended, if need be, to a height of 200 feet for the purposes of co-location. The particular design criteria of each facility will be addressed at the time of application.

10. Demonstration that, where more than one entity is providing the same type of service or has a franchise

for the area in questions, the Amended Plan shall be agreed to and submitted by all such providers where feasible, and shall provide for the joint construction and use of the least number of facilities that will provide adequate service by all providers for the local communication system intended. Shared service between entities, unless precluded by Federal law or regulation, shall be part of the Amended Plan when such shared services will reduce the number of facilities to be otherwise developed [N.J.A.C. 7:50-5.4 (c)6]

Sprint is a current party to the Cellular Plan and PCS Plan and continues to provide the same type of service (fully duplexed voice and data service in the 1850-1990 range) as existing. It is licensed by the Federal Communications Commission (FCC) to provide such service throughout southern New Jersey including the New Jersey Pinelands, and is ready, willing and able to participate in preparation of any future plan amendments. The Amended Plan, as submitted, provides for the joint construction and use of the least number of facilities that will provide adequate service under the current build out plan of the signatory provider.

With respect to “shared services,” Sprint deems this to mean “shared frequencies.” Hence it is Sprint’s position that the FCC regulations, by their intent to create competition among providers, do not provide for the sharing of frequencies. The Telecommunications Act of 1996 was intended, in the words of the Congressional Conference Committee at the time of the adoption of the Act:

to provide for pro-competitive, de-regulatory national policy framework designed to accelerate rapidly private sector deployment of advanced telecommunications and information technologies and services . . . by opening all telecommunications markets to competition . . . H.R. Conf. Rep. No. 104-458, at 206 (1996), reprinted in 1996 USCCAN 124.

In 2009, the Federal Communications Commission (FCC) made clear that each carrier must be able to construct the network facilities needed for it to provide seamless and reliable coverage, without regard to the adequacy of its competitors’ networks. *In re Petition for Declaratory Ruling to Clarify Provisions of Section 332(c)(7)(B)*, WT Docket No. 08-165, 2009 WL 3868811, at 18 (¶ 56) (2009) (“Section 332(c)(7)(B) Ruling”). In the Section 332(c)(7)(B) Ruling, the FCC made no distinction between voice, data, E-911 or other wireless services and held that “the fact that another carrier or carriers provide service to an area is an inadequate defense under a claim that a prohibition exists, and [the FCC] conclude[d] any other interpretation of this provision would be inconsistent with the Telecommunications Act’s pro-competitive purpose.” *Id.* ¶ 56. This is because “Congress contemplated that there be multiple carriers competing to provide services to consumers,” *id.* at ¶ 58 (citation omitted), and “the ‘one provider’ rule prevents customers from having a choice of reliable carriers and thus undermines the Act’s goal to improve wireless service for customers through industry competition,” *id.* at ¶ 61 (citation omitted). Thus, “a State or local government that denies an application for personal wireless service facilities siting solely because one or more carriers serve a given geographic market has engaged in unlawful regulation that ‘prohibits or has the effect of prohibiting the provision of personal wireless services,’ within the meaning of Section 332(c)(7)(B)(i)(II).” *Id.*

V. PUBLIC NEED

Pursuant to N.J.A.C. 7:50-5.4 (c)(1), Sprint must demonstrate the need for the facility to serve the local communication needs of the Pinelands, including those related to public health and safety. The proposed facilities are needed to provide adequate coverage to the Pinelands pursuant to Sprint's FCC licenses, Sprint's current coverage plan and customer requirements (including FirstEnergy) as set forth herein. As previously set forth, the federal government has made wireless communications a priority as evidenced by the enactment of the Telecommunications Act of 1996 and the Wireless Communications and Public Safety Act, October 26, 1999, P.L. 106-81, § 2, 113 Stat. 1286. Reliable coverage is necessary for calls of convenience and, more importantly, calls of necessity. Over 57 million 9-1-1 calls are made each year in the United States from wireless phones. This benefits not only those who have phones, but also other individuals who may be in need and benefit from a wireless customer making a call for them. According to the United States Center for Disease Control's National Health Interview Survey (NHIS) conducted between January-June 2011, the number of American homes with only wireless telephones is on the increase. The survey shows that 31.6% of American homes had only wireless phones, up from 29.7% in the last half of 2010. Moreover, the survey found that 16.4% of the population received all or almost of their calls on wireless telephones even though they have a landline telephone. Here is a link to this survey:
<http://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201112.htm>

VI. CO-LOCATION

In an effort to minimize the impact and quantity of wireless facilities, Sprint has and will continue to promote co-location. To the extent possible, Sprint will design and make all of its owned future structures available for use by other FCC-licensed wireless providers in accordance with the policies set for in this Section. As a threshold matter, Sprint may or may not retain ownership of any tower that it constructs. If ownership of a tower structure is transferred to a third party, the basic principles as set forth below shall be followed to promote collocation on the tower. In addition, Sprint will not be the owner of the underlying land and a lessee can grant no more rights than it has under a lease. The Sprint co-location policies under this Amended Plan are as follows, subject always to this basic limiting principle.

A. Equal Access

- 1 Space on existing and proposed tower structures will be made available to other FCC-licensed wireless carriers in accordance with the process described.
- 2 Request for co-location will be considered in a timely manner.
- 3 No reciprocal agreements (e.g. *quid pro quo* access to another structure owned by the party requesting co-location) will be required to make an application eligible for co-location.
- 4 To facilitate initial and future co-locations, Sprint has signed master agreements with all the major wireless carriers.
- 5 With respect to proposed towers, Sprint will attempt to ensure that the lease allows for co-location by proposing and advocating lease agreement language that permits subleasing.
- 6 Notice of construction of new structures will be provided in accordance with any relevant Pinelands Comprehensive Management Plan regulations.

B. Market Value Pricing

Co-location will be provided at fair market value rental rates. These rates will take into account rates in comparable leases for similar sites, and any site development costs incurred by the structure owner/operator during the site design, approvals, construction and maintenance stages for the site in question.

C. Design of Tower Structures

Tower structures will be designed to allow sufficient room for cable, antennas and equipment of future co-locators and to support the anticipated weight and wind load of their future additional facilities. Space for ground level maintenance, equipment shelter, and switching facilities will be reserved for future co-locators to the extent practical.

The tower structure will be designed so as to easily expandable to a height of 200 feet above ground level.

D. Access and Utilities

Each co-locator will be responsible for independently obtaining and maintaining their respective required electric and telephone utilities services so long as the underlying ground lease allows for the same.

Co-locators, if allowed by the underlying ground lease, will have: (1) a non-exclusive right of access for ingress and egress, seven (7) days a week, twenty four (24) hours a day, for the installation and maintenance of utility wires, poles, cables, conduits and pipes either over or underground, extending from the most appropriate public right of way to the tower structure area, and (2) access privileges to the tower facility area for all authorized personnel of co-locators for the maintenance and operation of their respective facilities.

E. Co-location Procedures

1. Application

When a carrier has identified a need for service in an area where there is an existing or proposed Sprint tower structure, the carrier may contact Sprint and request the exact location, geographical coordinates, heights and available ground space within the structure lease area, etc. Contact information will be provided to the Pinelands Commission when determined.

If the carrier decides to pursue co-location on the structure, a formal application that contains information about the carrier's radio frequency requirements, antenna specification, equipment shelter dimensions, height of antennas, etc. will be provided to Sprint. The application will be reviewed by Sprint, its tower management company or successor in ownership to the tower, for any potential radio frequency interference issues, tower structural conflicts, electrical concerns, security or access issues, space availability, and lease term and regulatory compliance.

2. Approval

The application will be approved if there are no service disruptions or service affecting interference with existing signals, site operations or lease terms, regulatory conditions and lack of structural analysis failure issues. Existing site restrictions and technical incompatibility may not always permit co-location.

Should a structural analysis prove that the tower structure will not hold the additional antennas and equipment requested, the carrier may investigate with Sprint the possibility/feasibility and cost of modifying the tower structure or extending the height up to 200 feet, and relocating all existing users as necessary to accommodate the carrier's needs as well as the existing facilities and possible future co-locators. If the carrier desires to pursue such reconstruction and/or relocation of antennas, and same is feasible, Sprint will allow it provided such action does not cause unreasonable service disruptions or service affecting interference with existing signals, or cause interference with site operations, lease terms, regulatory conditions or future needs of Sprint. Sprint retains all rights previously held, including, but not limited to, those regarding tower ownership, unless otherwise negotiated in the agreement with carrier.

Reasons for any denial of co-location request will be provided to the applicant by the tower structure owner in writing.

3. Contract & Site Development

Once Sprint approves the co-location application, a “co-location package” shall be supplied to the carrier including site plans and tower drawings. Concurrently, a license, sublease or other appropriate agreement, will be prepared and forwarded to the carrier for review and execution.

Once an agreement for the specific site has been executed, site development and design will be coordinated between Sprint and the applicant. Right of Way access will be provided in accordance with the agreement.

The carrier will also contract with a design firm to prepare site plans and construction drawings as required by the carrier and Sprint. The carrier will prepare the application for all required regulatory site plan approvals. When the carrier has secured all permits, a pre-construction meeting will be scheduled with the carrier to ensure that all guidelines are followed in the planning and construction process with an emphasis on safety and security. Once construction is completed, access privileges to the secured lease area will be provided for all authorized personnel of the users of the facility for maintenance and operation in accordance with the agreement.

4. Application Period; Emergency Services; Compliance with Law

Application to co-locate will continue to be accepted by Sprint for that site as long as support structure space and ground space are still available. If sufficient ground space is not available under current lease terms, Sprint will not object to the carrier’s efforts to retain additional ground space. Applications will be accepted on a first come first serve basis until the support structure can no longer hold additional facilities without compromising the service of existing co-locators or the structural integrity of the tower structure.

Co-location opportunities may be provided to emergency service providers utilizing the same procedures outlined in this section.

All carriers must construct and operate their facilities in compliance with all applicable local, state or federal, laws, rules and regulations and lease terms and conditions.

VII. LEVEL OF SERVICE

With regard to the level of service on which this plan is based, N.J.A.C. 7:50-5.4 effectively provides that the Pinelands Commission's goal for the wireless facilities plan is to provide adequate service that serves the local communication needs of the Pinelands. The facilities proposed by Sprint in this plan are indeed those that are needed to provide adequate service to the Pinelands pursuant to Sprint's FCC licenses, the current coverage plan and customer requirements. Currently, areas of the Pinelands receive either inadequate or no wireless voice or data service. These areas are considered gaps in coverage that lead to dropped calls or to a customer's inability initiate or receive a call or carry on a reasonable uninterrupted call. These coverage gaps also represent the inability for a customer to have the ability to utilize data communications. In some cases, the gaps in coverage are rather large geographic areas. Many of the larger gaps in coverage are located in the less populated portions of the Pinelands. Other gaps in coverage are located along highway arteries commercial areas and in residential neighborhoods.

In order to evaluate each coverage gap and the need for enhanced service in these gaps, Sprint has developed a link budget based upon the following:

- Equipment specifications
- Manufacturer recommendations
- Population density
- Morphology
- Expected wireless usage
- Quality of Service (blocked and dropped calls)

The purpose of the link budget is to establish a design criterion for each type of area based on a combination of data obtained from active Sprint networks, specifications and parameters defining the local environment. The design criterion is a threshold values expressed in terms of a minimum signal strength required to provide reliable service to an end user in a particular environment. Generally there are design criterion for three basic environments, in-street, in-vehicle and in-building.

The design criterion applicable for a given area is then applied to the signal strength of the existing network to determine if gaps in coverage exist. The design criterion is applied to either computer generated radio frequency propagation studies or empirical data collected by a team driving the roadways in the area in question. Areas where the propagation studies, or the empirical data, indicate the coverage from existing Sprint facilities do not meet the design criterion are considered gaps in coverage. Due to the many variables with radio wave propagation including tree types, tree heights, interference levels, customer equipment model and condition, seasonal variations, temperature, humidity, rain rates etc., it has been determined that a statistical model based on a link budget, enhanced with empirical data, and generated by a computer is a most accurate method for designing a wireless network. Therefore, Sprint has evaluated its existing coverage in the Pinelands and determined where there are gaps in coverage, and which gaps are significant.

The threshold determined to be required for a majority of the Pinelands is Sprint's in-vehicle threshold of -99 dBm (of Received CDMA Pilot Power) as measured on the street at a height of 5 feet. This is the criterion used to determine the need for the one additional facility proposed within Pinelands and the FirstEnergy operating area.

Sprint firmly believes that the currently proposed facility is needed to provide minimum adequate service under its current coverage plan. Sprint has developed this plan to meet its anticipated service needs for the next several years, however, changes in technical standards, customer usage patterns or land development may require modifications to the coverage plan in the future.

VIII. FUTURE TECHNOLOGY

The Sprint Amended Plan takes into account the forecasted needs of network and its customers in the Pinelands. Other than the one (1) new proposed facility in the Sprint Amended Plan, Sprint's current network design does not anticipate any additional facilities to be required in the Pinelands (above the facilities outlined in the Cellular Plan, the PCS Plan, the AT&T Wireless amendment, and the T-Mobile amendment) to provide coverage for its current and near future needs.

IX. SHARED FREQUENCIES

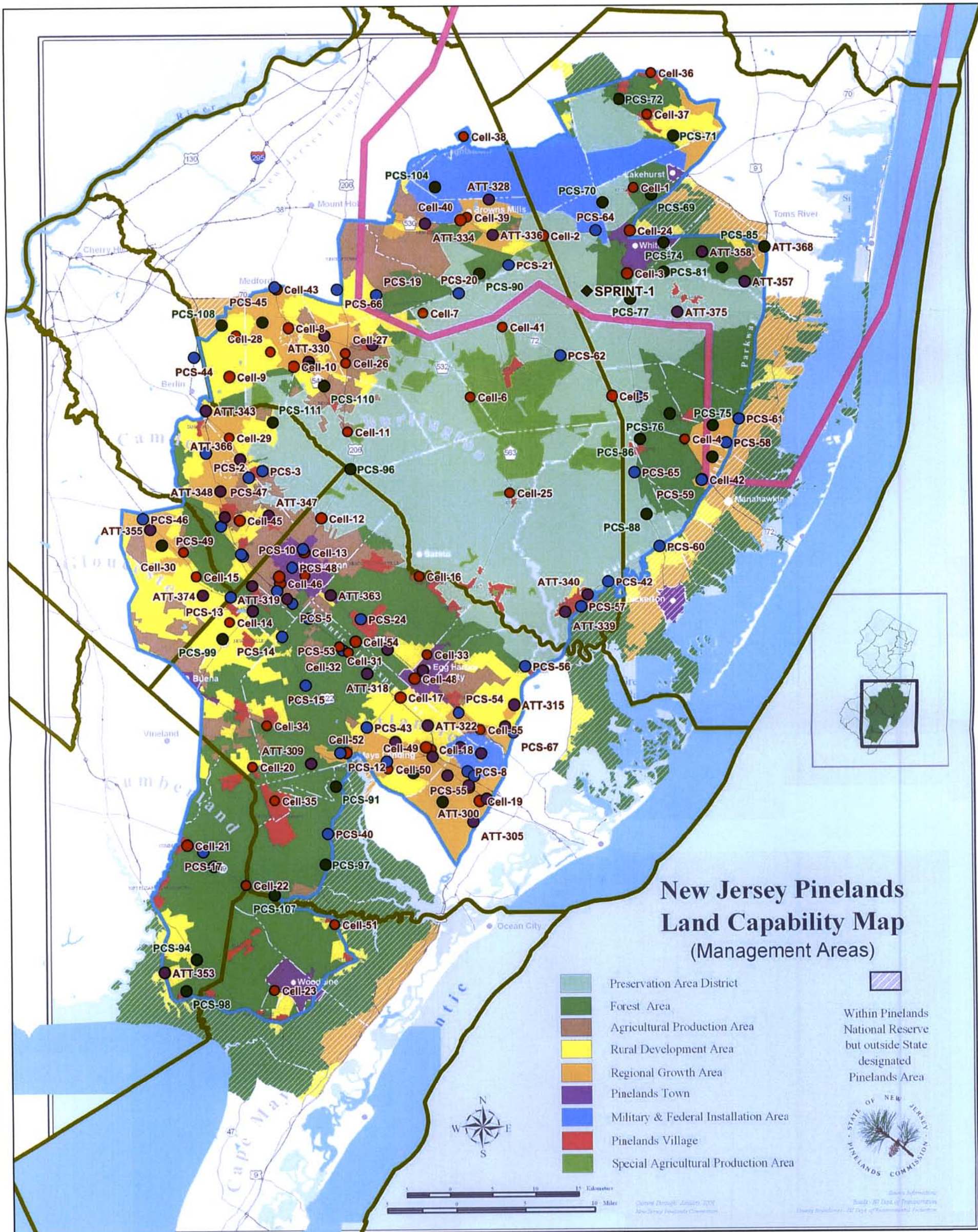
Under Sprint's federal license, it is required to provide services to its customers. Sprint will provide its own service pursuant to its license. In connection with shared frequencies, Sprint does not currently plan to have the Pinelands covered by another carrier's frequency, however, if there is a change, Sprint will notify the Commission.

X. CONCLUSION

In summary, the Sprint Amended Plan constitutes an accurate representation of the existing and proposed wireless facilities necessary to provide adequate, reliable Sprint service to the New Jersey Pinelands region now and for the foreseeable future. Sprint has attempted to design its network in the Pinelands region “from the outside in” as requested by the Pinelands Commission. Sprint has attempted to collocate on all existing facilities and utilize facilities located outside the Pinelands wherever possible. Having exhausted all other possibilities, Sprint has proposed one new facility (SPRINT-1) for approval by the Pinelands Commission. Sprint has also proposed the acceptance of a viable candidate (Sprint ID – NY97XC025) for one of the approved T-Mobile amended plan facilities (site PCS70). The concentrated efforts of the Sprint team has produced a network design that meets the Pinelands goals and objectives by minimizing the number of new structures and where a new structure is needed, focused on minimizing the impact to the Pinelands.

Appendix A

SEE ATTACHED MAP(S)



New Jersey Pinelands Land Capability Map (Management Areas)

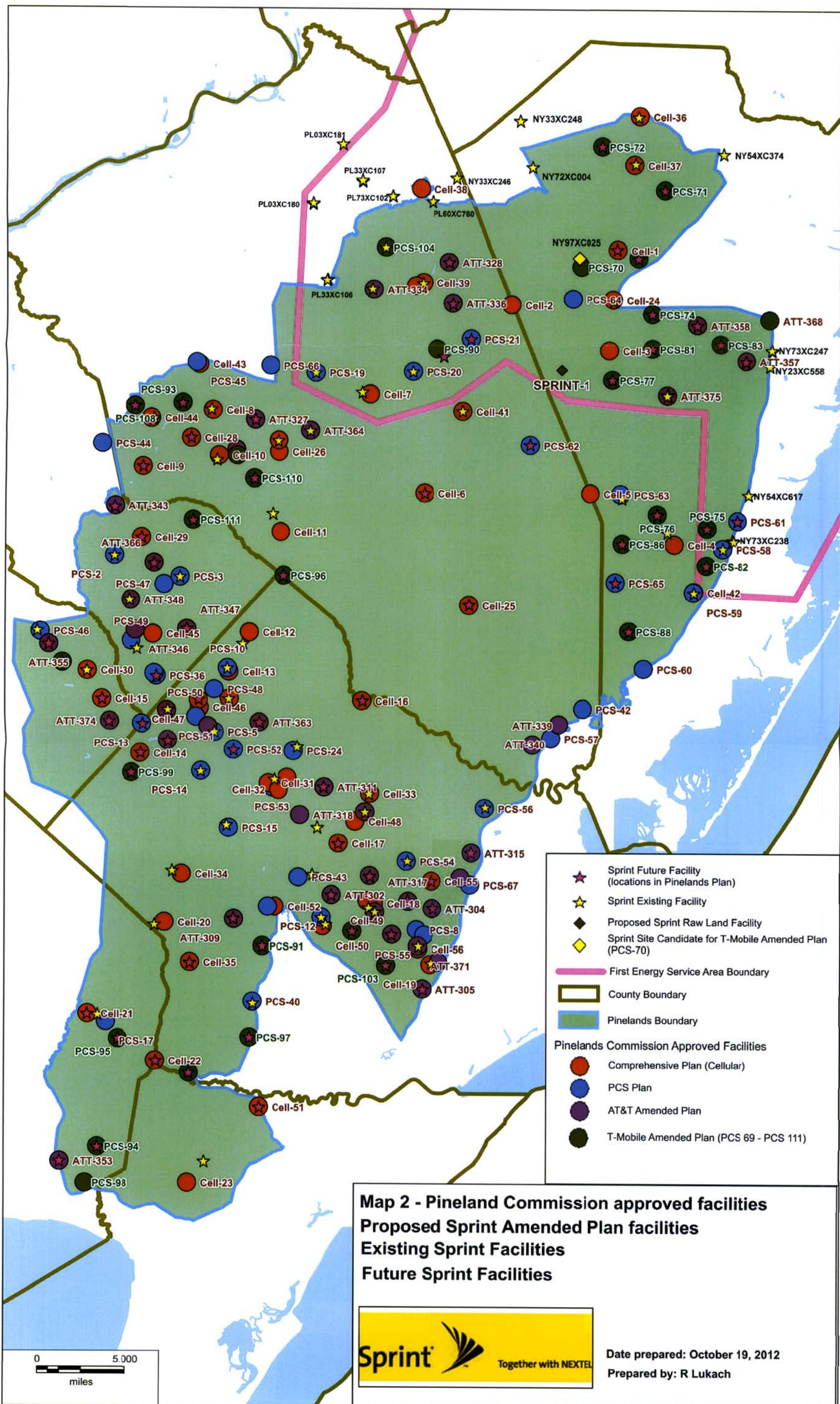
- Preservation Area District
- Forest Area
- Agricultural Production Area
- Rural Development Area
- Regional Growth Area
- Pinelands Town
- Military & Federal Installation Area
- Pinelands Village
- Special Agricultural Production Area
- Within Pinelands National Reserve but outside State designated Pinelands Area

Map 1 - Pineland Commission approved facilities and the proposed Sprint Amended plan facility



Date Prepared: October 19, 2012
Prepared by: R Lukach

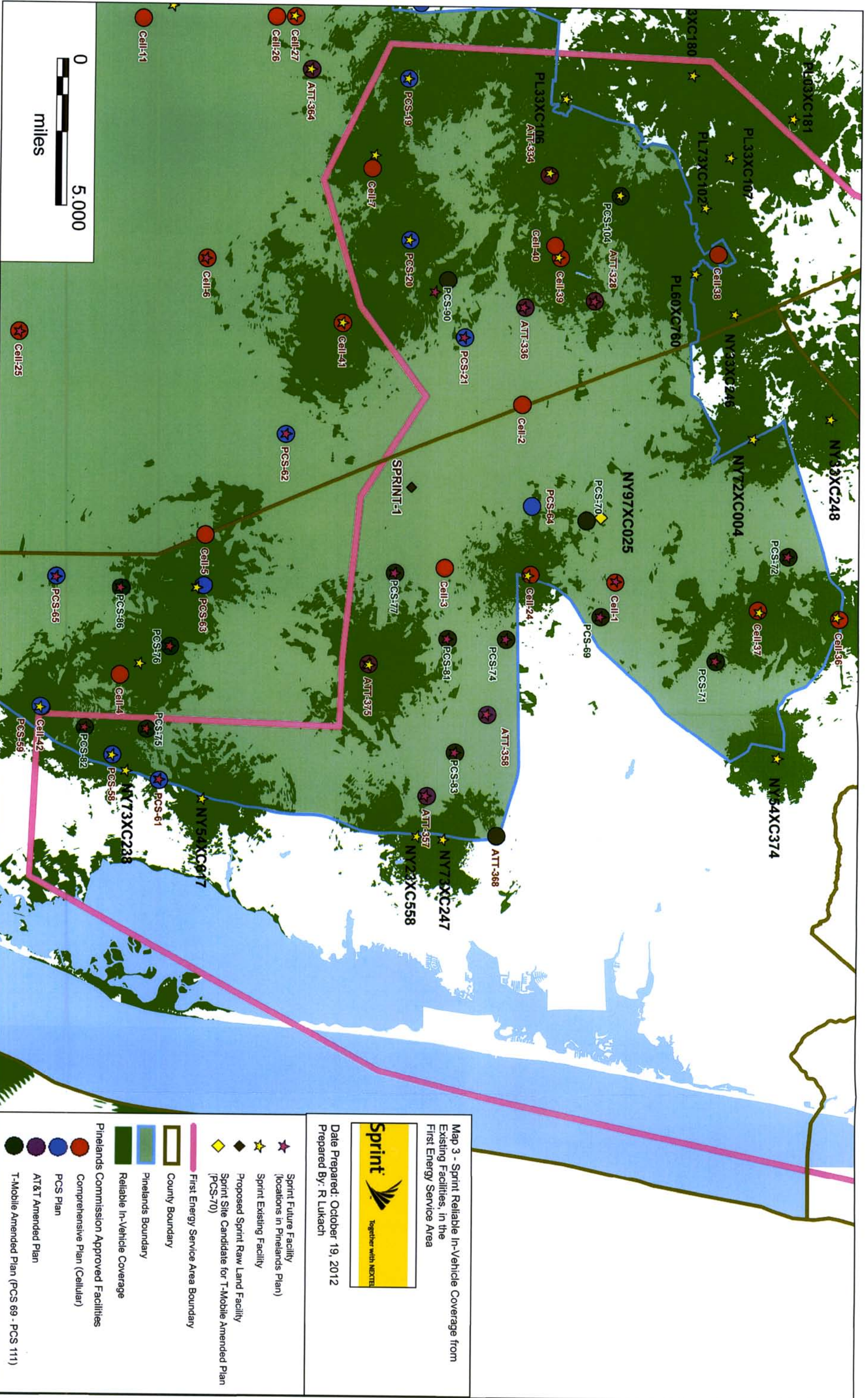
- Proposed Sprint Raw Land Facility
- First Energy Service Area Boundary
- County Boundary
- Pinelands Boundary
- Pinelands Commission Approved Facilities**
- Comprehensive Plan (Cellular)
- PCS Plan
- AT&T Amended Plan
- T-Mobile Amended Plan (PCS 69 - PCS 111)



Map 2 - Pineland Commission approved facilities
Proposed Sprint Amended Plan facilities
Existing Sprint Facilities
Future Sprint Facilities



Date prepared: October 19, 2012
 Prepared by: R Lukach

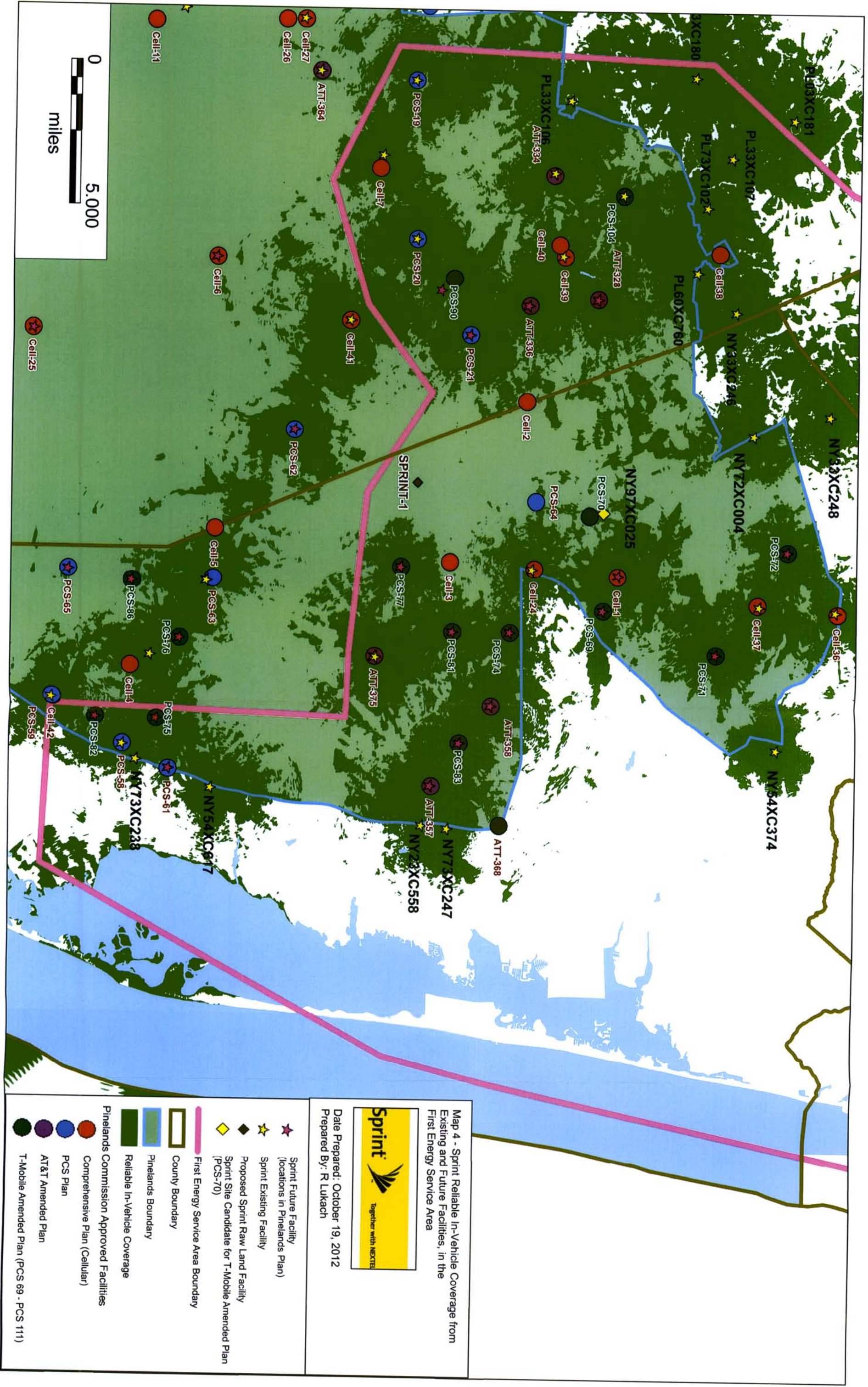


Map 3 - Sprint Reliable In-Vehicle Coverage from Existing Facilities, in the First Energy Service Area



Date Prepared: October 19, 2012
Prepared By: R. Lukach

- ★ Sprint Future Facility (locations in Pinelands Plan)
 - ★ Sprint Existing Facility
 - ◆ Proposed Sprint Raw Land Facility
 - ◆ Sprint Site Candidate for T-Mobile Amended Plan (PCS-70)
 - First Energy Service Area Boundary
 - County Boundary
 - Pinelands Boundary
 - Reliable In-Vehicle Coverage
- Pinelands Commission Approved Facilities
- Comprehensive Plan (Cellular)
 - PCS Plan
 - AT&T Amended Plan
 - T-Mobile Amended Plan (PCS 69 - PCS 111)

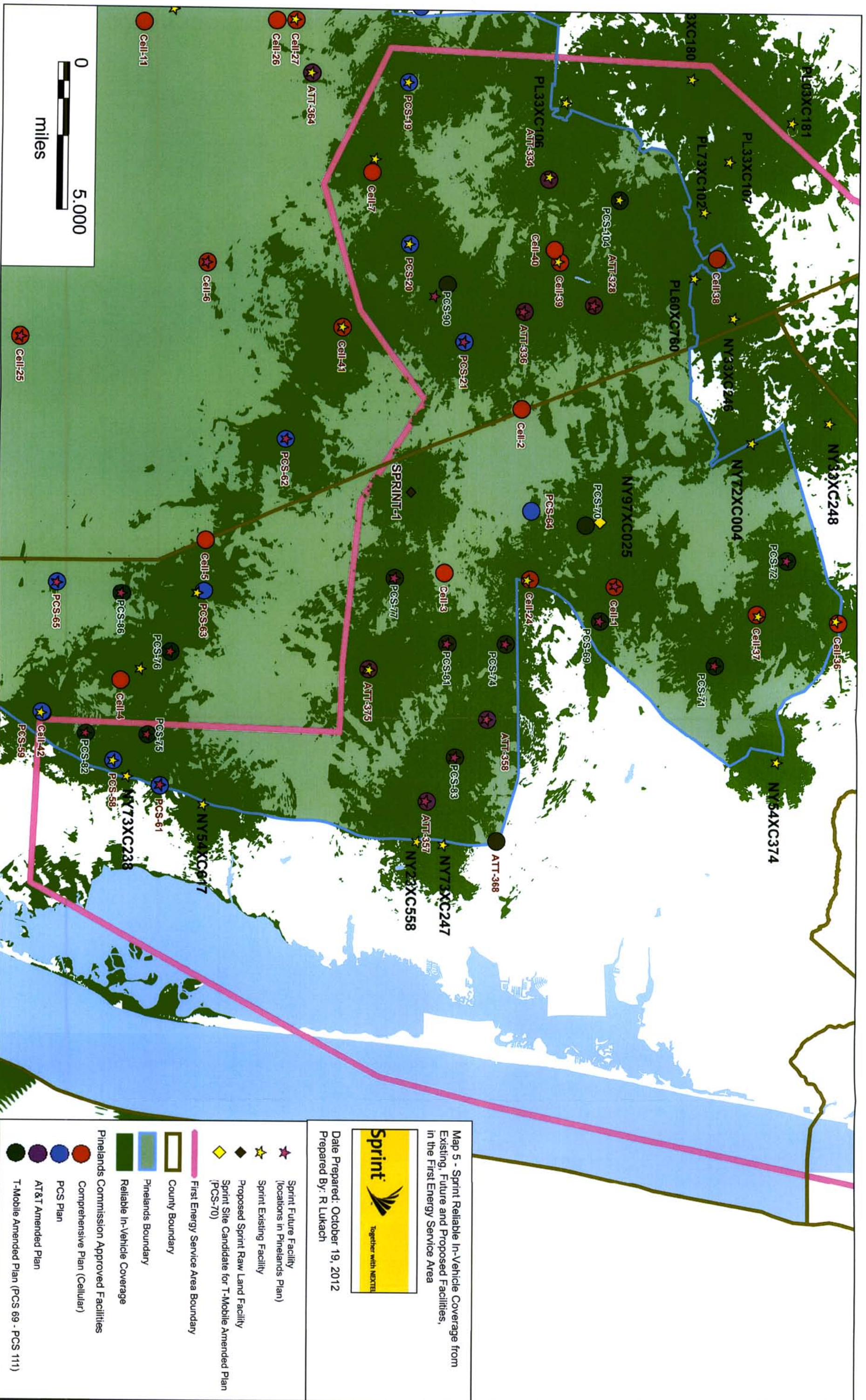


Map 4 - Sprint Reliable In-Vehicle Coverage from Existing and Future Facilities, in the First Energy Service Area

Date Prepared: October 19, 2012
 Prepared By: R Lukach



- ★ Sprint Future Facility (locations in Pinelands Plan)
 - ★ Sprint Existing Facility
 - ◆ Proposed Sprint Raw Land Facility
 - ◆ Sprint Site Candidate for T-Mobile Amended Plan (PCS-70)
 - First Energy Service Area Boundary
 - County Boundary
 - Pinelands Boundary
 - Reliable In-Vehicle Coverage
- Pinelands Commission Approved Facilities
- Comprehensive Plan (Cellular)
 - PCS Plan
 - AT&T Amended Plan
 - T-Mobile Amended Plan (PCS 69 - PCS 111)



Map 5 - Sprint Reliable In-Vehicle Coverage from Existing, Future and Proposed Facilities, in the First Energy Service Area



Date Prepared: October 19, 2012
 Prepared By: R Lukach

- ★ Sprint Future Facility (locations in Pinelands Plan)
 - ★ Sprint Existing Facility
 - ◆ Proposed Sprint Raw Land Facility
 - ◆ Sprint Site Candidate for T-Mobile Amended Plan (PCS-70)
 - First Energy Service Area Boundary
 - County Boundary
 - Pinelands Boundary
 - Reliable In-Vehicle Coverage
- Pinelands Commission Approved Facilities
- Comprehensive Plan (Cellular)
 - PCS Plan
 - AT&T Amended Plan
 - T-Mobile Amended Plan (PCS 69 - PCS 111)

Appendix B

SEE ATTACHED SPREAD SHEET

Sprint Amended Plan 2012

Appendix B - All Pinebluffs Plan Facilities Spreadsheet

LAT	LONG	Comprehensive Cellular Plan	PCS Plan	AT&T Amendment	T-Mobile Amendment	Sprint Amendment	Management Area	Site Status	SITE ID	RAD CENTER	ADDRESS	CITY	STRUCTURE
39.723424	-74.375330	-	65	-	-	-	H&N	Future					
39.462885	-74.677627	-	-	-	-	-	U	Future					
39.452352	-74.569110	-	-	-	-	-	H&N	Future					
39.385455	-74.579849	-	-	-	-	-	U	Future					
39.420252	-74.613293	-	-	-	-	-	U	Future					
39.442920	-74.782270	-	-	-	-	-	H&N	Future					
39.552546	-74.686455	-	-	-	-	-	H&N	Future					
39.448900	-74.631100	-	-	-	-	-	U	Existing					
39.408327	-74.528320	-	-	-	-	-	U	Future					
39.458569	-74.598250	-	-	-	-	-	U	Future					
39.519000	-74.692900	-	-	-	-	-	H&N	Future					
39.478167	-74.636754	-	-	-	-	-	H	Existing					
39.590706	-74.854065	-	-	-	-	-	H&N	Future					
39.856752	-74.761619	-	-	-	-	-	U	Future					
39.988923	-74.555045	-	-	-	-	-	U	Future					
39.966300	-74.637200	-	-	-	-	-	U	Existing					
39.954015	-74.550656	-	-	-	-	-	U	Future					
39.784181	-74.912230	-	-	-	-	-	U	Future					
39.683208	-74.833889	-	-	-	-	-	H&N	Future					
39.707200	-74.895130	-	-	-	-	-	U	Existing					
39.241683	-74.967672	-	-	-	-	-	U	Future					
39.670732	-74.981826	-	-	-	-	-	U	Future					
39.860968	-74.236002	-	-	-	-	-	H&N	Future					
39.937043	-74.288908	-	-	-	-	-	H&N	Future					
39.605754	-74.756096	-	-	-	-	-	U	Future					
39.847700	-74.702600	-	-	-	-	-	H	Existing					
39.737558	-74.869265	-	-	-	-	-	H&N	Future					
39.615800	-74.853800	-	-	-	-	-	R	Existing					
39.606304	-74.917397	-	-	-	-	-	R	Existing					
39.878055	-74.320560	-	-	-	-	-	H&N	Existing					
39.992950	-74.352150	-	-	-	-	-	Forest Area	Future					
39.985600	-74.413900	-	-	-	-	-	Preservation Area	Future					
40.050200	-74.324400	-	-	-	-	-	Rural Development Area	Future					
40.085800	-74.992200	-	-	-	-	-	Forest Area	Future					
39.946300	-74.337020	-	-	-	-	-	Forest Area	Future					
39.768500	-74.277500	-	-	-	-	-	Regional Growth Area	Future					
39.779900	-74.339900	-	-	-	-	-	Forest Area	Future					
39.891000	-74.379400	-	-	-	-	-	Preservation Area District	Future					
39.917300	-74.349100	-	-	-	-	-	Forest Area	Future					
39.778000	-74.278200	-	-	-	-	-	Regional Growth Area	Future					
39.921320	-74.264087	-	-	-	-	-	Forest Area	Future					
39.754489	-74.368429	-	-	-	-	-	Forest Area	Future					
39.682876	-74.360821	-	-	-	-	-	Preservation Area District	Future					
39.916110	-74.567700	-	-	-	-	-	Forest Area	Future					
39.420260	-74.751200	-	-	-	-	-	Forest Area	Future					
39.870000	-74.840000	-	44	-	-	-	Regional Growth Area	Future					
39.253570	-74.927600	-	-	-	-	-	Rural Development Area	Future					
39.343070	-74.903800	-	-	-	-	-	Rural Development Area	Future					
39.727840	-74.295000	-	-	-	-	-	Forest Area	Future					
39.344440	-74.765000	-	-	-	-	-	Pinebluff Village	Future					
39.563611	-74.892500	-	-	-	-	-	Forest Area	Future					
39.431056	-74.655278	-	-	-	-	-	Regional Growth Area	Future					
39.404900	-74.619061	-	-	-	-	-	Regional Growth Area	Future					
39.654758	-74.967181	-	-	-	-	-	Regional Growth Area	Future					
39.315090	-74.829700	-	-	-	-	-	Forest Area	Future					
39.867306	-74.891083	-	-	-	-	-	Forest Area	Future					
39.808055	-74.765200	-	-	-	-	-	Rural Development Area	Future					
39.734475	-74.828061	-	-	-	-	-	Agricultural Production Area	Future					
39.992700	-74.416100	-	-	-	-	-	Rural Development Area	Future					
39.898900	-74.434000	-	-	-	-	-	H&N	Proposed					

Appendix C

SEE ATTACHED DOCUMENT(S)

From: Stefula, Evelyn V USA CIV (US) [mailto:evelyn.v.stefula.civ@mail.mil]
Sent: Tuesday, May 24, 2011 2:02 PM
To: Ed Gomez; Warrick, John R USAF CIV (US)
Cc: Eckstein, Richard S USA CIV (US)
Subject: RE: (NJ484V) NY33XC347 Proposed Sprint tower at Route 70 West Mile Mark 35.7

Not at this time.

Evelyn

Evelyn Stefula
US Army Signal Command
Network Enterprise Center (NEC)
Chief, Plans and Business Operations
Building 6530 8th Street
Ft Dix, NJ 08640
609-562-4010 DSN 562-4010
evelyn.stefula@us.army.mil

-----Original Message-----

From: Ed Gomez [mailto:egomez@transcendwireless.com]
Sent: Tuesday, May 24, 2011 1:54 PM
To: Warrick, John R USAF CIV (US)
Cc: Stefula, Evelyn V USA CIV (US)
Subject: RE: (NJ484V) NY33XC347 Proposed Sprint tower at Route 70 West Mile Mark 35.7

John

Thank you for the response. Since I just took over management responsibilities of this site from Sprint/Nextel you were the last point of contact listed, so I figure I would follow up with you on interest.

Evelyn,

Would you be interested in leasing tower space for Sprint Nextel on the tower the Department of Army had constructed?

Ed Gomez
Transcend Wireless, LLC
845-548-2934 (mobile)

201-786-9161 (e-fax)

-----Original Message-----

From: WARRICK, JOHN R GS-11 USAF AMC 87 CES/CEAO
[mailto:john.warrick@us.af.mil]
Sent: Tuesday, May 24, 2011 8:47 AM
To: Ed Gomez
Cc: Stefula, Evelyn V USA CIV (US)
Subject: RE: (NJ484V) NY33XC347 Proposed Sprint tower at Route 70 West Mile Mark 35.7

Ed,

As you probably know by this time my e-mail address changed when Fort Dix became part of Joint Base McGuire-Dix-Lakehurst on 01 Oct 09. Command and control of the former US Army installation transferred to the US Air Force along with all real estate interests and actions.

It has been nearly 5 years since we last heard anything about this area of interest from your firm and in that time the US Army Network Command (NETCOM), Directorate of Information Management (DOIM), has established cellular communications capability to satisfy our present and future requirements. Evelyn Stefula is the DOIM Point of Contact.

Thank you for your interest.

John

-----Original Message-----

From: Ed Gomez [mailto:egomez@transcendwireless.com]
Sent: Monday, May 23, 2011 4:34 PM
To: WARRICK, JOHN R GS-11 USAF AMC 87 CES/CEAO
Subject: FW: (NJ484V) NY33XC347 Proposed Sprint tower at Route 70 West Mile Mark 35.7
Importance: High

Mr Warrick

I am just following up on the voice mails I had left you, in addition to the email chain below. I received your voicemail today regarding the notice letter I had sent you which you must have received this morning.

Kindly call me tomorrow afternoon (5/24) after 1430 hours so we can discuss further.

Thank you

Sincerely,

Ed Gomez
Sr. Site Acquisition Project Manager

Transcend Wireless, LLC

10 Industrial Avenue, Suite 6

Mahwah, NJ 07430

Mobile: 845-548-2934

Fax: 201-786-9161

EGomez@TranscendWireless.com

From: Ed Gomez [mailto:egomez@transcendwireless.com]
Sent: Friday, May 20, 2011 1:36 PM
To: 'john.warrick@dix.army.mil'
Subject: RE: (NJ484V) NY33XC347 Proposed Sprint tower at Route 70 West Mile Mark 35.7

Hi John

Have you had a chance to review with the team to determine if we can proceed

with a lease on "Little Iraq?"

Ed Gomez

Transcend Wireless, LLC

845-548-2934 (mobile)

201-786-9161 (e-fax)

From: Ed Gomez [mailto:egomez@transcendwireless.com]
Sent: Monday, April 18, 2011 9:41 AM
To: 'john.warrick@dix.army.mil'
Cc: 'jwaltner@transcendwireless.com'; 'Jack Gavin'
Subject: FW: (NJ484V) NY33XC347 Proposed Sprint tower at Route 70 West Mile Mark 35.7

Hello John

I know it has been awhile since Sprint had spoken with you regarding this site, but we wanted to reach out to you to see if there is still interest in your end to proceed with a proposed tower with Sprint Nextel.

Please advise.

Thanks.

Sincerely,

Ed Gomez
Sr. Site Acquisition Project Manager

Transcend Wireless, LLC

10 Industrial Avenue, Suite 6

Mahwah, NJ 07430

Mobile: 845-548-2934

Fax: 201-786-9161

EGomez@TranscendWireless.com

----- Original Message -----

From: Warrick,John R <<mailto:john.warrick@dix.army.mil>>

To: 'Jack Gavin' <<mailto:jgavin@transcendwireless.com>>

Sent: Tuesday, October 17, 2006 2:15 PM

Subject: RE: NY33XC347 Proposed Sprint tower at Route 70 West Mile
Mark 35.7

Jack,

Here are the comments:

~~~~~

ENVIRONMENTAL:

1. I think they are going to have a major hurdle to overcome with the Pinelands if this location has not been identified already on the Pinelands approved master plan for communications towers within the Pinelands. I know we went through this before with Verizon or one of the other companies who had a meeting with the Pinelands Commission. And they can't claim immunity because the proposed site is on Federal Lands. It spells it right out in the Pinelands Management Plan they must present a plan for review and approval meeting certain requirements as provided in the PLC Management Plan.

2. They will need to move this site back further. At a minimum if this is considered a scenic corridor through the Pinelands it must be setback 200 feet off the roadway.

3. There is a height restriction of 35 feet, unless it is attached to an existing suitable structure and then it can be no more than 200 ft otherwise they have to go through a lengthy justification process to get approval from the PLC.

4. Also mention is made about electrical power: Your right it would be a concern to us. Currently power comes in from the east on Rte 70, turns up north on Grande Concourse Road and then turns in on one of the side entry roads toward the Tiger Base Site. I'm sure it would be considered a "no, no" to cut across the training site to further supply power to this proposed Communications Tower site, be it either aerial or underground.

~~~~~

NATURAL RESOURCES:

This is my first look at this one. I assume they are doing the Pinelands approvals. Is this in the previously mentioned easement for Route 70? 196 feet, that is really tall. Who is addressing the potential for a wildfire to totally wipe out this facility. It would be nice to see the site map. Their drawing is very local and the mile marker does not mean anything to me. Who is looking at wetlands and endangered species?

~~~~~

DOIM:

The following questions are submitted from the DOIM.

1) After Consulting with Motorola the following requirements will be needed for the LMR Antenna Placement:

2 transmit (the 115' level they indicated would work) as well

1 receive, a minimum of 30' above the transmit (10' antenna plus 20' tip-to-tail for isolation purposes).

2) The Tower Drawing depicts Sprint Antennas at the top with 85 feet empty and then the government's Land Mobile Antennas. What is the minimum separation needed for Sprints equipment? Does Sprint have plans for this 85 feet? I believe they may be planning to sublease that space to other carriers. John, you may want to make sure they understand the rules of any subleasing activity.

3) I don't see any lightening protection or grounding indicated on the drawings. Does a ground field need to be built? We need Sprint to clarify how they will ground the entire facility including the tower to provide adequate protection from Lightning Strikes.

4) Is Sprint hooking up power to the US Army building? Is there any environment control systems (e.g. Air Conditioning) coming with the US Army building?

5) How big a generator is Sprint Installing (e.g., how many kW). Is this generator being sized such that it will support future expansion of the site and support Army requirements in its shelter?

6) Does Sprint have a drawing, which depicts how much space they plan to use in the 12 x 20 shelter? Can the 12 x 20 shelter be caged inside so that other future users can be secured, but all companies have access to the shelter. What I have seen in the past is metal cages put up with locking doors with each users equipment inside.

I am not sure how we handle this as the Army. I am assuming that our approach is that Sprint will build the site and the US Army will own it? I guarantee that once the site is up Ft Dix will be approached by other carriers to lease space on the tower. If I am wrong I will be very surprised. Therefore we should require Sprint to oversize things like generators, buildings, etc. so that we can support other leases.

~~~~~


John

From: Jack Gavin [mailto:jgavin@transcendwireless.com]
Sent: Tuesday, September 19, 2006 9:24 AM
To: Warrick, John R
Subject: NY33XC347 Proposed Sprint tower at Route 70 West Mile Mark

35.7

John,

Attached please find the proposed tower near mile mark 35.7 West off of Route 70.

Sprint's engineer has included the military's antennas and a location for radio equipment within the compound.

Please advise of any comments or proposed revisions. Upon receipt of any comments or your approval on behalf of the military, Sprint will produce full size construction drawings for distribution to the military.

Please contact me with any questions or comments.

Jack Gavin
Transcend Wireless
201-310-7234

Appendix D

SEE ATTACHED DOCUMENT(S)

Discussion of Distributed Antenna Systems (DAS) as an Alternative Technology

General Background

The concept of using a Distributed Antenna System (DAS) to provide coverage in a wireless system is not new. DAS systems, in many forms, have been used to provide coverage to tunnels, inside large buildings, inside shopping malls and in parking decks for over 30 years. In the past 5 years there have been deployments of DAS systems in limited outdoor areas as well.

A DAS wireless network distributes the radio signal from a base station over various antenna locations via cables. The cables can be simple copper wire, antenna transmission line or fiber optic cables. The DAS systems using copper cable (telephone or CAT5 lines) or antenna transmission line (Diameter of 1"-2") are limited in the area that can be served due to the loss of signal per foot associated with these types of cables as well as their size/weight characteristics. These types of systems are generally limited to vehicle/train tunnels where a simple linear application is required, or in a building/parking garage where a network of cables can be affixed to the existing structure. The area of the coverage gaps in the Pinelands is far greater than the area that can be covered by a copper wire or antenna transmission line DAS system. Therefore the copper based DAS systems are not applicable for the Pinelands.

The fiber optic cable based DAS systems are not hindered by the size and weight of the cables required to interconnect the distributed antennas to the base station. The fiber optic cable is relatively lightweight and can commonly be installed along utility poles. It also has a very low loss of signal per foot of cable. A fiber DAS system operations under the concept of converting the base station radio signals to optical signals and distributing the optical signals to various locations via fiber optic cable. Additional electronic and optical equipment (over and above the normal base station equipment) is required to convert the radio signal to light, back to radio frequency, and to amplify the radio signal at the remote end for use over the air. Therefore, each remote location(s) will require cabinets to house the equipment to convert the optical signal back to a radio signal, an amplifier (to amplify the radio signal), an antenna, and a structure to mount the equipment and elevate the antenna. The cabinets range from 1'x1'x1' to 1'x3'x2' depending on manufacturer, frequency bands supported and functions. These remote locations all connect back to one central location where the base station radio equipment is stored. In essence, the wireless system becomes a mesh of wires connecting all the end points or "nodes". Ultimately what started out as a wireless system becomes much more of a "wired" network and the wireless portion is now limited to approximately the last 600 to 900 feet as opposed to the last 1 to 2 miles with a Macro Cell approach. The fiber optic DAS system is also utilized in shopping malls, large office buildings and tunnels to provide coverage internal to these structures. The fiber optic DAS system is the only DAS option for larger areas due to the use of low loss, lightweight fiber optic cables interconnecting the base station and each "node" or remote location.

The facilities normally used for remote DAS equipment are common utility poles. The current regulations in New Jersey limit access to these poles to companies with utility status. The wireless carriers do not have utility status in the State of New Jersey. Therefore, a third party is required to install and maintain the fiber optic cables and remote equipment. The third party would also be responsible for negotiating and executing pole attachment agreements and right-of-way use agreements with the utility companies owning the poles. Agreements may also be required with

local municipalities, counties, or the State of New Jersey, depending on which entity owns the streets. These requirements are necessary for the implementation of a DAS system.

Purpose of the Proposing a New Communications Facility

Commonly, a wireless service provider proposes a new communications facility to resolve a lack of reliable wireless service to an area of the Pinelands Reliable service being defined as "To encourage and facilitate the prompt deployment throughout the United States of a seamless, ubiquitous, and reliable end to end infrastructure for communications, including wireless communications, to meet the Nation's public safety and other communications needs" as stated in the Wireless Communication and Public Safety Act, (October 26, 1999, P.L. 106-81, 2, 113 Stat. 1286, amending 47 U.S.C.A. 222 and 251, and appearing in part as 47 U.S.C.A. 615, 615a, and 615b). Common macro cell facilities provide this level of reliable service via:

- Battery back-up (and in some cases generator back-up)
- Base station equipment designed to be fault tolerant
- Redundant power supplies
- Gated and locked base station equipment, telephone service and power service.
- Diverse routing and/or alternate methods of interconnect lines from the base station to the central mobile switching office in case of failure.
- Dedicated, protected and shielded transmission lines connecting the base stations to the antennas
- Exclusive access and control of the equipment by authorized personnel for the respective wireless provider
- E911 location capability via triangulation of the antennas/sectors of the proposed facility as well as triangulation from surrounding wireless facilities enabled by the large coverage footprints and coverage overlap between sectors and Macro Cells
- Sectorized antennas with the ability to tilt or pan the antennas to optimize the network

The above attributes of the proposed wireless telecommunication facility enable a wireless provider to provide:

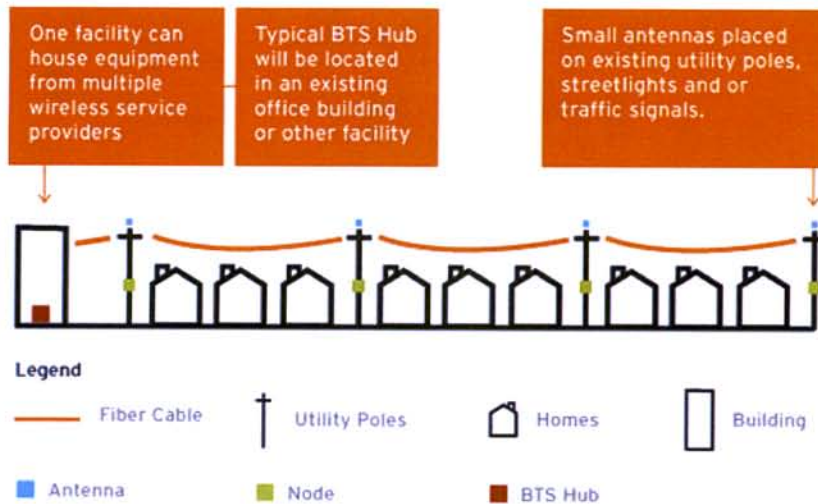
- Better than 98% grade of service and availability.
- 911 caller location information to First Responders that meet the FCC requirements.
- A network that is relied upon when commercial power and other wired commercial services are interrupted, sometimes for days.
- A network that has the ability to optimize the antenna system to reduce and/or eliminate dropped calls.

Alternate Fiber Optic Distributed Antenna Systems

As with any solution, there are regulations, constraints, advantages and disadvantages as compared to other solutions. The science of converting a radio signal to light, transmitting that signal along a fiber optic cable, converting it back to a radio signal and amplifying it to a usable level is commonly known as a fiber optic Distributed Antenna System. DAS is becoming an alternate method of providing radio signals in areas where traditional methods are not feasible. However, each specific implementation of a Fiber optic DAS system must be analyzed to determine if it can provide not only RF signal at the remote location(s) but reliable service as defined by Congress, the FCC, industry and subscribers of the service.

The implementation of a DAS system for the Pinelands would consist of eliminating a proposed 200' communications structure and replacing it with several remote antennas, or nodes fed via new fiber optic cables, throughout the gap in coverage. The antennas are omnidirectional in nature (whip antenna) and are usually less than 3 foot in length. Below is a simplistic view of a DAS system.

A Typical Outdoor Distributed Antenna System Network



Analysis of a DAS system for the Pinelands has many steps. Each step is outlined below.

1. Determine if there is an existing infrastructure of utility poles through the coverage gap.
2. Determine the owners of the utility poles (phone and power companies) and determine any specific restrictions that may exist. Reference the National Electrical Safety Code for basic requirements for locating communications equipment on utility poles.
 - a. Generally there is a limit of 1 communication cabinet per pole due to space constraints.
 - b. Each pole must be evaluated by the owner to determine if a DAS node would be allowed based on present and planned uses on the particular pole. Therefore if Verizon or the cable company have an existing cabinet (or have plans for a cabinet) on a pole, that pole is most likely not a candidate for a DAS node.
 - c. For power companies, it is generally required that a disconnect switch must be installed at each node so a technician can turn off the DAS node while working on the pole. Also, many power companies do not allow battery back-up of DAS nodes because if battery back-up was employed, turning off the disconnect switch would not shut down the DAS node. (NOTE: *PierCon Solutions has performed testing on transmitters in the Cellular and PCS frequency bands on transmitters which have similar output power as the standard DAS node (20w). It was found that the FCC RF Exposure guidelines are exceeded when a worker is less than 3' from the front of the transmitting antenna. Therefore if a technician needs to work on the utility pole near the antenna, the DAS node must be shut down*)
3. Determine if the area to be covered will be E911 Compliant.
 - a. This analysis consists of an assessment of the area to determine if there will be difficulty in determining the location of a user. One looks to determine if the area is open with no large buildings or tall dense trees that could possibly reduce the coverage overlap between nodes. The overlap is used to triangulate the user's position. If the nodes are mounted below the tree canopy or behind large buildings, overlap is minimal and triangulation is not possible. Also, if there are areas of dense forest, the GPS location capability of some

- phones will not provide adequate location information. In these situations, location must rely on the network triangulation method. In this case, the network may only be able to determine which node the user is communicating with (using additional specialized location equipment) and possibly how far from the node. Unfortunately, since the node antenna is omnidirectional, the direction from the node would be unknown and if there is no triangular available, a latitude and longitude for the user can not be determined. In this case only the latitude and longitude of the active node is known.
4. Determine how many wireless providers have coverage gaps in the area of concern.
 5. Assess the reliability of the utility poles and associated lines.
 - a. In each area when a DAS system is proposed, one should review the area to identify the risk of the system being shut down due to failures related to the utility lines. It is desirable to utilize poles in open areas which have little risk of damage from falling trees and branches. In some cases there may be an intersection prone to accidents that often damage certain utility poles, these poles should be avoided.
 6. Assess the areas to be covered by the DAS system and determine if there are any concerns with interference using the DAS omni-directional antennas or if there is any fast moving traffic which result in dropped calls due to the minimal coverage overlap and small coverage footprint of each node does not allow time for the handoff process.
 - a. The Pinelands includes several highways which would create dropped calls due to handoff issues.
 7. Determine the number of frequency bands required for each carrier and the equipment required to meet these requirements. The requirements for the top 4 carriers are summarized below.
 - a. Sprint/Nextel Licenses – Sprint/Nextel is licensed to operate in the 800, 1900 and 2500 MHz frequency bands using multiple technologies. This creates a requirement for the use of a shared amplifier which operates at significantly lower power (requiring more DAS nodes, cost & logistical issues) or the use of multiple single amplifiers which increases the bulk and mass attached to each utility pole. Therefore it is not likely that a single small cabinet and one antenna on a utility pole is an accurate representation of what a node installation would consist of.
 - b. Verizon Wireless and AT&T Licenses – These carriers are licensed to operate in the 700, 850, 1700, 1900 and 2100 MHz bands using multiple technologies. This creates a requirement for the use of a shared amplifier which operates at significantly lower power (requiring more DAS nodes, cost & logistical issues) or the use of multiple single amplifiers which increases the bulk and mass attached to each utility pole. This also more than triples the cost of the amplifier requirements. Therefore it is not likely that a single small cabinet and one antenna on a utility pole is an accurate representation of what a node installation would consist of.
 - c. T-Mobile is licensed to operate in the 1900 and 1700 / 2100 MHz bands using two technologies, GSM and UMTS. The multiple technology and frequency nature of T-Mobile's network translates into the need for separate DAS amplifiers. Therefore, two (2) separate repeater amplifiers shall be required per node for this purpose.

Preliminary Design

Once an analysis of the area where a DAS system may be proposed, a preliminary design is then created. Engineers need to survey the intended coverage areas searching for appropriate structures to locate DAS nodes. Many times the coverage areas have to be surveyed with representatives of the utility companies to determine what utility poles may be available.

Once the available poles are determined, an engineer reviews the list to determine if there are a sufficient number of utility poles in the proper locations to create a network producing seamless coverage. Often replacement and additional of utility poles are required in order to design a DAS network with continue wireless service.

The number of wireless providers that the DAS network will support is also a major factor. If carrier specific nodes are required, then each carrier would need their own utility pole at each DAS node location. This is the most common deployment used for outdoor systems. If common DAS nodes are designed which will support all providers, then the power output for each provider is drastically reduced, reducing the coverage footprint from each DAS node. The result is many more DAS nodes are needed to provide seamless coverage.

Once a preliminary design has been completed, one can access the visual impacts and estimate the reliability of the DAS design to determine, on a case by case basis, if it would provide the degree of coverage and reliability required for the given area

Summary

A review of the purpose and a general DAS analysis for the Pinelands has uncovered several differences between a Macro Cell design and a fiber optic DAS design. The main differences are as follows:

- Availability and Feasibility to Construct
 - The Macro Cell can be constructed pending the approval from the local municipality and the Pinelands.
 - The DAS system must be able to identify and secure approximately poles for each wireless provider. The Pinelands regulations encourage any proposed application be constructed to accommodate multiple providers. In keeping with this philosophy, a multiplication factor of at least 4 is required (given each carrier requires their own cabinet and only 1 communications cabinet is allowed per pole) to determine the total number of DAS nodes.
- Reliability and Outages
 - The Macro Cell network has proven to have a 98% or better level of reliability over the past several decades.
 - The DAS system has several issues regarding reliability. They are:
 - Battery Back-up power restrictions for nodes
 - Shutdown of nodes during Power, Phone and Cable service technician visits
 - The DAS node disconnect switches, equipment boxes and antennas are not gated and secured. The disconnect switches cannot be locked and are accessible to vandalism.
 - The DAS nodes will go out of service when commercial power is lost, a time when wireless service is needed the most
 - Damage from storms and falling trees can damage the fiber optic cables and create outages for portions, or all, of the DAS network depending on the location of the damage.
 - The DAS network must be installed and maintained by a third party utility company and not the wireless telecommunications provider.
 - The DAS system adds more active components to the wireless network, creating more points of equipment failure.
- E911 Compliance
 - The Macro Cell network has been designed to meet the FCC E911 requirements and can locate users with latitude and longitude coordinates, as required by the FCC, within 50m 67% of the time and 150m 95% of the time with GPS based solutions. The requirement for network based solutions is 100m 67% of the time 300m 95% of the time.
 - The DAS systems have been challenged in meeting these requirements. Recently additional hardware has been developed to assist in E911 location services. However, since there is normally very little overlap between nodes and the nodes use omnidirectional antennas, most often the system can only tell the First Responders which node the user is on and how far from the node the user is located. If the node has a 750' coverage radius, and the location information states which node and how far from the node, there is no practical way to determine in which direction or the latitude and longitude of the user.

Conclusion

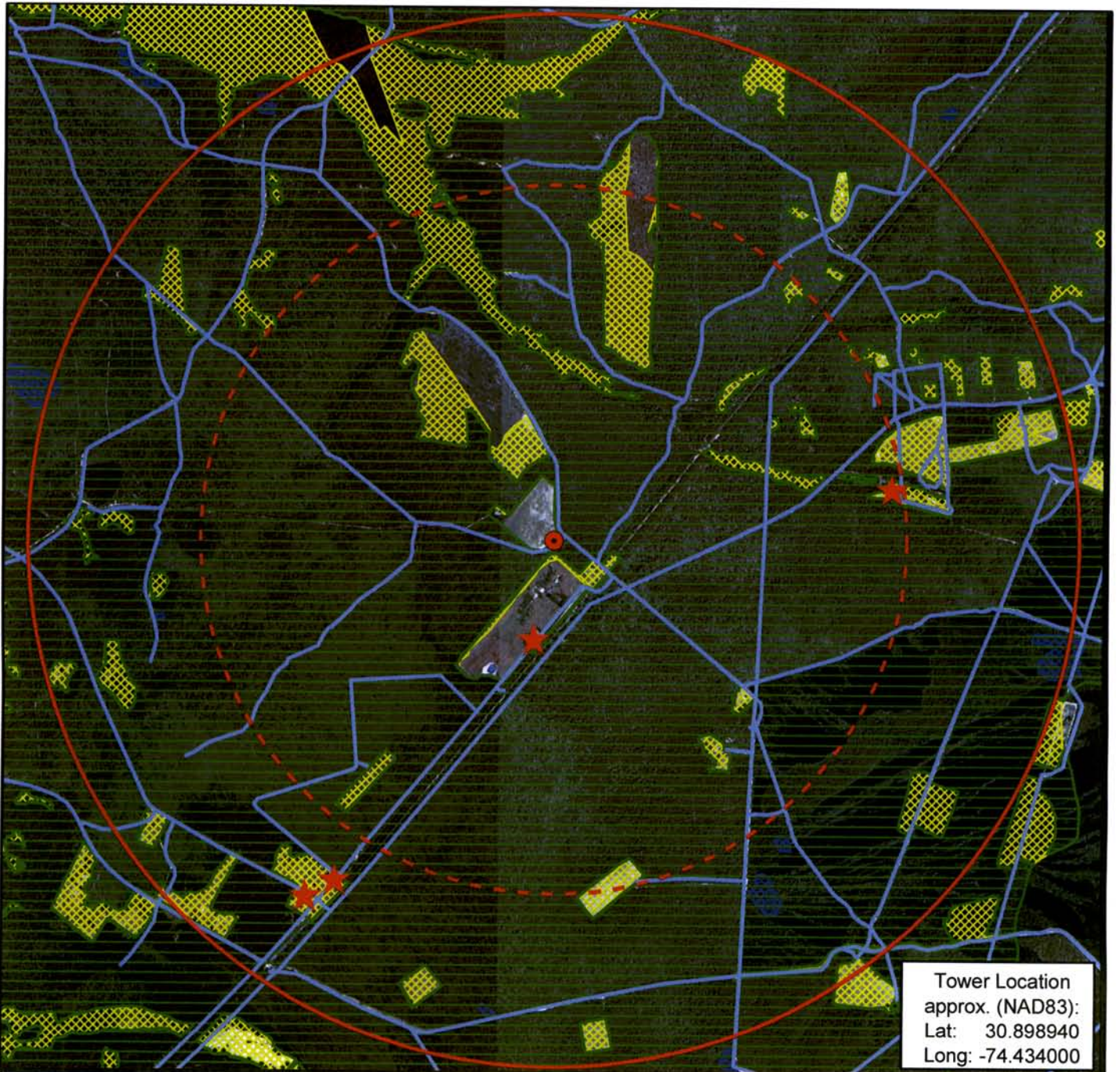
In my expert opinion, in most cases, the use of a DAS system to provide coverage to the Pinelands is not a reliable or responsible solution. The gaps in coverage are usually significant in size and many are in remote areas.. The battery back-up restrictions and E911 compliance issues do not allow the DAS system to meet the intent of the Wireless Communication and Public Safety Act and does not meet the requirements of the top ranked wireless service providers in the country. Please feel free to contact me if you have any questions or if you need any additional information.

Regards,



Date: September 9th, 2011

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Office-(973)-628-9330 ext. 206
Mobile-(201)-572-6206



Tower Location
approx. (NAD83):
Lat: 30.898940
Long: -74.434000

- | | | |
|--|----------------------|--|
| Proposed Tower | Residential Dwelling | The following datasets have been reviewed, but are not found within the above map extent:
- Low Intensive Recreation Facilities and Campgrounds
- Wild and Scenic Rivers
- Pine Plains and area necessary to maintain the ecological integrity of the Pine Plains
- Forked River Mountains |
| Forested Areas | 1-Mile Radius APE | |
| Non-Forested Areas - Not Visible due to Forested Areas | 1.5-Mile Radius APE | |
| Topographically Not-Visible | Public Roadways | |

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Rockaway, NJ 07866



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SOURCE: THIS MAP WAS DEVELOPED USING NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION GEOGRAPHIC INFORMATION SYSTEM DIGITAL DATA, BUT THIS SECONDARY PRODUCT HAS NOT BEEN VERIFIED BY NJDEP AND IS NOT STATE AUTHORIZED.

Appendix B – Hierarchical Policy for Siting Individual Wireless Communications Facilities

The Plan incorporates a one-mile radius around every proposed facility's approximate location. To properly apply the CMP's standards within the context of this Plan, if approved, the following procedure will be used when the companies seek to finalize these approximate locations.

1. Except as otherwise specifically noted in this report, there will be a general presumption that a facility's final location will be within the immediate area of the location proposed in this Plan, i.e., the Pinelands management area group and municipality described in the Plan as further defined using the geographic coordinates prepared by the Commission's staff. If it proves to be infeasible to site the facility on an existing, suitable structure (i.e., one that does not require a change in mass or height which significantly alters its appearance), the use of other structures or, as appropriate, eligible sites which meet the standards in N.J.A.C. 7:50-5.4(c)4 will be considered. The company's feasibility assessment will need to include confirmation from other parties to this Plan who are slated to share the facility that the selected site meets their needs.
2. If siting of the facility within the immediate area of the Plan location is infeasible, the company will broaden its search area consistent with the service need for the facility and in conformity with other appropriate technical considerations, but in no case will that area extend beyond a one-mile radius. This will require consultation with other parties to this Plan who are slated to share the facility to ensure that any new location meets their needs.
3. Within that broader search area, consideration will first be given to locating the needed antenna on an existing, suitable structure if that structure does not require a change in mass or height that significantly alters its appearance.
4. Failing that, the use of other existing structures that may require a significant change in mass or height (if appropriate in view of the CMP's standards, including those related to visual impacts) or sites for a new structure within the search area will be evaluated. Only those structures or sites which meet the requirements of N.J.A.C. 7:50-5.4(c)4 and other applicable CMP standards will be selected. If that broader search area crosses the boundaries of the Pinelands Area or its management areas, the company will seek to site the facility in the following order of preference:
 - a. Outside of the Pinelands;
 - b. Pinelands Regional Growth Areas, Pinelands Towns and the developed portions of Military and Federal Installation Areas;
 - c. Pinelands Rural Development Areas, Agricultural Production Areas, undeveloped portions of Military and Federal Installation Areas and Pinelands Villages other than those expressly identified in N.J.A.C. 7:50-5.4(c)6; and,
 - d. Pinelands Preservation Area District, Special Agricultural Production Areas, Forest Areas and the Pinelands Villages expressly identified in N.J.A.C. 7:50-5.5(c)6.

5. If no feasible structures or sites are found, the company should reexamine the surrounding facility network and propose an amendment to this Plan which conforms to CMP standards. Of course, the company retains its right to seek a waiver of strict compliance from the standards of the CMP, although the Executive Director notes that the tests will be difficult to meet.