OPPOSITION OF DIRECTLY AFFECTED PARTY PETER CRAWFORD TO THE VERIZON 120 BRACKETT RD. CELLULAR FACILITY
Revision D

A. INTRODUCTION

Peter Crawford owns the property at, and resides at, at 171 Brackett Rd., approximately 850 feet south of the proposed location of the Verizon personal wireless service facility ("cellular facility") which is proposed to be located 50 feet from Brackett Rd. Because the tower would be located in the Single Residence District outside of the Wireless Telecommunications Facility District established by voters (Rye Zoning Ordinance ("RZO") §505.3), a variance to the permitted uses in the Single Residence District (RZO 203.1) is being sought. That variance would effectively rewrite the RZO and would be contrary to the spirit and intent of the ordinance. Furthermore, the applicant cannot show unnecessary hardship as there is nothing unique about the 120 Brackett Rd. parcel so justifying.

Any concern that a denial of the variance might amount to effective prohibition under 47 U.S.C. §332(c)(7)(B)(i)(II) (the Telecommunications Act of 1996 ("TCA")) is misplaced, as Verizon has utterly failed to meet its burden to show that this is the only site that could be used to provide service within the alleged "significant geographic gap," or that it has thoroughly explored less intrusive alternatives. Indeed, there is doubt that a legally cognizable gap exists beyond a small number of legally-permitted "dead spots." The data provided by Verizon should be ignored as they have failed to support their methodologies and refuse to answer questions, citing the proprietary nature of their coverage models.

Mr. Crawford, along with most other Rye residents, supports one or more additional cellular facilities in Rye to improve the service, but would not support such a facility located 50 feet from the road anywhere in Rye. Any cellular facilities should be located so as to be as unobtrusive as possible.

The proposed location 50 feet from the road is entirely unnecessary, as demonstrated by the Grove Rd. cellular facility, located 1270 feet from the road, making it largely invisible. The inactive cellular facility in the Congregational Church steeple, the only other one in Rye, is completely invisible. We ask for the ZBA and our fellow citizens to stand with us to avoid setting a precedent. Verizon argues that more cellular facilities will be needed in Rye. While today they seek to put a tower on Brackett Rd., tomorrow it may be 50 feet from a road in some other residential neighborhood in Rye.

Let's make sure that they are all as unobtrusive as possible. We <u>can</u> have our cake and eat it too.

<u>1. The cellular facility would fundamentally alter the character of the neighborhood</u>

The proposed facility would have the greatest impact on the approximately 4100 ft. of Brackett Rd. that stretches from the intersection with Pioneer Rd., just north of a bridge over Berry's Brook, south to Parsons Rd. and the Marsh Rd. pond. This is a pristine and bucolic area, largely forested on both sides of the road. There are many large lots and houses located well off the road along this section of Brackett Rd. The view of the marsh from near the bridge over Berry's Brook is especially appealing. Berry's Brook has received special recognition in the Master Plan as a wildlife corridor and in the zoning ordinance (see RZO 301.8.A.3 expanding the wetlands buffer in the Berry's Brook watershed from 75 to 100 feet). In 2016 the acquisition of the back portion of the

former Rand Lumber parcel was completed for $1.26 million by the Town (with assistance from some grants), acting through the Conservation Commission. One of the key rationales was the proximity of the site to Berry's Brook and the need to preserve wildlife corridors.

To the west of Brackett Rd. lies largely undeveloped pristine land all of the way to Sagamore Rd., including the large Seavey Acres conservation land parcel. To the east lies marshland. Because of the lack of development, many deer occupy the area and frequently cross Brackett Rd. in the area near the proposed site, reminding residents that this area is the epitome of Rye's semi-rural character.

During the winter, skating on the pond is a popular activity. This very pleasant and bucolic road is used by many, throughout the year: for bike riding, jogging, walking and road races. Sound levels, other than from traffic (most prevalent at times during summer days, but minimal at night) are extremely low. One can hear the loudspeaker announcements at Wallis Sands State Beach over 1/2 mile away. On quiet nights, the surf on the surrounding beaches may be heard. When conditions are just right, the soothing bleating of buoy Red 2KR, located approximately three miles away at the entrance to Portsmouth Harbor, may be heard. Needless to say, there are no commercial or industrial facilities anywhere near this stretch of Brackett Rd.

Into this scenic environment, Verizon wants to introduce a large cellular facility, with its 30 ft. by 40 ft. industrial-type commercial compound located just 50 feet from the road. See also the definitions of "Commercial" and "Business" in the RZO. The proposed cellular facility meets the definition of "commercial" because it is a "trade or activity carried on for gain, including goods, services, and facilities offered or furnished

to others for monetary or similar consideration." (emphasis supplied). It is impossible to hide such a facility with such a short buffer, and many of the trees that are there now will need to be cut down (Exhibit 1). The facility cannot be moved further away from the road because of wetlands on the property. Additional variances are already needed due to proximity to the wetlands.

At the April 16, 2018 hearing (page 27), Mr. Fredette said that "[h]e would submit that this proposal, with the outdoor cabinets with a small fan inside, will not be heard." This statement is belied by the 20 kilowatt (Exhibit 1 shows a 30 kilowatt unit) generator planned for the site. The electric power produced by such a generator is the equivalent of 68,240 BTU per hour of heat, about the capacity of a boiler needed to heat a medium-sized house. That is just for one of four possible carriers to be located within the compound. Most of the 20 kW of power (normally coming from the power lines 24/7) would end up being dissipated as heat in the equipment. Either the proposed generator is grossly oversized or the heat from the equipment, especially on a hot summer day, would be way beyond the ability of a "small fan" to handle.

The proposed 120 Brackett Rd. location is not even within Verizon's "search ring" indicating where a cellular facility should be located to fill an alleged "gap" in its coverage (Exhibit 2).

B. THE FIVE VARIANCE CRITERIA

In the interest of brevity, except as indicated, Mr. Crawford will focus his argument on the variances sought pursuant to RZO §§305, 505.3 and 203.1, which according to the agenda, is to "permit a wireless telecommunications facility at a location

within the SR District that is not within the Wireless Telecommunications Facilities Overlay District."

N.H. Rev. Stat. Ann. ("RSA") 674:33, I(b) contains the five criteria for granting a variance. It requires that "[l]iteral enforcement of the provisions of the ordinance would result in unnecessary hardship." It goes on to state that that "means that, owing to special conditions of the property that distinguish it from other properties in the area (i) No fair and substantial relationship exists between the general public purposes of the ordinance provision and the specific application of that provision to the property; and (ii) The proposed use is a reasonable one. Subsection (B) is applicable only when the "property cannot be reasonably used in conformance with the ordinance," and is not applicable in these circumstances as the property can be, and indeed is being, used for a single family residence.

1. Verizon has failed to show unnecessary hardship

In Simplex v. Town of Newington, 145 N.H. 727, 732 (2001)[1], the New Hampshire Supreme Court relaxed the requirements to prove unnecessary hardship and took the approach that demonstrating unnecessary hardship would require proof that "a zoning restriction as applied to their property interferes with their reasonable use of the property, considering the unique setting of the property in its environment." This has effectively been codified in RSA 674:33.

The holding in Simplex was explained in Harrington v. Town of Warner, 152 N.H. 74, 81 (2005). "Simplex requires a determination of whether hardship is a result of

[1] Citations of this form are to the New Hampshire Reports which includes only decisions of the New Hampshire Supreme Court. To the extent that these deal with New Hampshire law, they constitute binding precedents as to the meaning of that law in all other courts in the United States, including federal courts.

the unique setting of the property... This factor requires that the property be burdened by the zoning restriction in a manner that is distinct from other similarly situated property... It does not, however, require that the property be the only such burdened property. Rather, the burden cannot arise as a result of the zoning ordinance's equal burden on all property in the district."

It cannot be said that there is no fair and substantial relationship between the purpose of the single residence district, which is to segregate the land by use and prevent activities inconsistent with the character of the area, and the specific application of the limitation of uses in that district to the 120 Brackett Rd. parcel which accomplishes exactly what the ordinance intends: segregating residential activities from commercial and industrial ones and preserving the aesthetics of residential areas.

Nor is the proposed use a reasonable one. It is breathtaking in scale and inherently unreasonable.

In Daniels v. Town of Londonderry, 157 N.H. 519, 527 (2008) the New Hampshire Supreme Court further defined "unnecessary hardship" in the context of cellular facility applications:

> "When an application to build a wireless telecommunications tower is designed to fill a significant gap in coverage, the suitability of a specific parcel of land for that purpose should be considered for purposes of determining hardship. The fact that a proposed location is centrally located within the gap, has the correct topography, or is of an adequate size to effectively eliminate the gap in coverage, are factors that may make it unique under the umbrella of the TCA. Similarly, that there are no feasible alternatives to the proposed site may also make it unique. Thus, although a parcel of land may be similar to the surrounding properties in terms of its general characteristics, it may still be 'unique' for purposes of hardship when considered in light of the TCA."

Since Daniels was decided, a distinction between use and area variances that had been created by Boccia v. City of Portsmouth, 151 N.H. 85, 94 (2004) was been removed by way of a 2009 amendment to RSA 674:33. Nevertheless, the comment in Harrington about use variances still applies. "Use variances pose a greater threat to the integrity of a zoning scheme because the fundamental premise of zoning laws is the segregation of land according to uses." Id. at 78.

Considering first the situation without giving effect to the Daniels extension, there is nothing unique about the property at 120 Brackett Rd. Like all properties in the single residence district, it is "burdened" by RZO 203.1, limiting the permitted uses to detached dwellings, churches, schools, golf courses and certain uses. None of the enumerated uses, or those allowed by special exception, come close in concept to the industrial-type cellular facility, its noise and blight on the landscape. A cellular carrier is not considered a "utility," such as might make a special exception under RZO 203.2.E available. While Verizon has left open the possibility of seeking a special exception for a "use necessary for the public welfare," under that subsection, that is not before the ZBA at this time. All owners of properties in the single residence district, outside of the overlay zone, are burdened in an identical fashion: None may install cellular facilities on their properties. That is not because of anything unique about those properties, but solely because cellular facilities are not a permitted use.

The extension in Daniels does not help Verizon. The property is actually located outside of Verizon's "search ring," and thus not "centrally located within the [alleged] gap." There is no argument that the topography of 120 Brackett Rd. is in any sense "correct" such that it would be better than many other similar properties in the area. With

the exception of a small 40 foot hill near the intersection of Parsons and Marsh roads, the topography in this area of Rye is gently sloped (Exhibit 3) and the parcel has no topographic advantage. The 120 Brackett Rd. site, at the location where the tower base would be, is only about 10 feet above sea level. There are a number of sites in the area that are slightly higher, including on the Thiel property. The parcels in this section of Rye, other than those near Parsons Rd., are largely an acre or larger and, unless they include wetlands, many could easily accommodate a cellular facility with its 30 by 40 foot compound, even considering the need for a 120 percent "fall zone." (see RZO 505.6.A.1). There are clearly other feasible alternatives, as will be discussed in the section of this document relating to the TCA.

The fact that the owner of the property would presumably not be able to reap the benefit of payments from Verizon (assuming that the lease, which Verizon has refused to disclose, includes some sort of contingency provision) does not affect the decision. The owner is using, and will still be able to use, his property for a single family residence. The variance must be looked at from the perspective of Verizon, the tower developer, which has other feasible alternatives. See Second Generation Properties, L.P. v. Town of Pelham, 313 F.3d 620, 629 n. 7 (1st Cir. 2002).[2]

2. Granting the variance would neither be consistent with the spirit and intent of the ordinance nor in the public interest

These two factors are related. Harborside Associates, L.P. v. Parade Residence Hotel, LLC, 162 N.H. 508, 514 (2011), Chester Rod & Gun Club v. Township of

[2] Since New Hampshire is within the jurisdiction of the United States Court of Appeals for the First Circuit, its precedents would be binding on any decision of the United States District Court for the District of New Hampshire, which would be the proper venue should Verizon decide to pursue its remedies under the TCA. The opinions of other Circuit Courts of Appeal would not be binding within the First Circuit, but may be considered persuasive by a court on issues where the First Circuit has not issued a contrary opinion.

Chester, 152 N.H. 577, 580 (2005). In determining whether "granting a variance is not contrary to the public interest and is consistent with the spirit of an ordinance, we must determine whether to grant the variance would 'unduly, and in a marked degree conflict with the ordinance such that it violates the ordinance's basic zoning objectives." Harborside at 514. It must "violate the ordinance's 'basic zoning objectives.'" Id. One way to determine that is to "examine whether granting the variance would 'alter the essential character of the neighborhood.'" Id. Accord, Chester at 581. Here, installation of the proposed cellular facility, with its industrial-style compound with what appear to be vertical exhaust pipes for the generator protruding above the vinyl fence, equipment cabinets that exceed the height of the fence, large transformer and bollards, is totally inconsistent with the quiet, semi-rural neighborhood. That is particularly the case given that the cellular facility would be located just 50 feet from the road and cannot effectively be hidden by vegetation (See Exhibit 1). Allowing an industrial-type commercial facility in a residential zone clearly violates the ordinance's basic objective of segregating uses, particularly when the RZO has specifically dealt with the issue by establishing an overlay zone for cellular facilities.

A number of courts, including the First Circuit, have recognized that cell towers are inherently aesthetically displeasing. Green Mountain Realty Corp. v. Leonard, 688 F.3d 40, 53 (1st Cir. 2012). Nevertheless, the zoning board's aesthetic judgment must be grounded in the specifics of the case, apparently lest all cell towers be prohibited on aesthetic grounds. Here the location of the cellular facility 50 feet from the road, substantially aggravating the aesthetic intrusion, is just such a specific.

In Chester at 582, it was recognized that the purpose of creating the residential zone was to "'recognize the unique scenic, historic, rural and natural characteristics' of this part of the Town, 'while encouraging development... in a manner which will protect these important characteristics.'" Such is also the case with this section of Brackett Rd. See also the Rye Master Plan on preserving the semi-rural character of Rye.

Verizon will no doubt argue that the proposed cellular facility will serve the public interest by increasing safety through the use of improved cellular communications. However, such an argument fails once it is recognized that that there are other alternatives that would accomplish the same thing, while being far less intrusive. To argue that, if we want improved cellular communications we need a facility 50 feet from the road, is completely illogical. The public interest would be best served by adherence to the RZO (perhaps with an extension to the overlay district) so that we can have improved communications and preserve the semi-rural character of Rye.

The 2017 document, "The Board of Adjustment in New Hampshire," published by the New Hampshire Office of Strategic Initiatives, page II-11, provides additional support. "**The board cannot change the ordinance**," (emphasis in original) and, "[i]f an ordinance prohibits industrial and commercial uses in a residential neighborhood, granting permission for such activities would be of doubtful legality."

3. Substantial justice would not be done if the variance is approved

The substantial justice factor focuses on the premise that "any loss to the individual that is not outweighed by a gain to the general public is an injustice." Harborside at 515. Also, the court looks "at whether the proposed development [is] consistent with the area's present use." Id. Here, the only gain to the public is from

improved cellular service, which may be accomplished in a far better manner on a different site. Harborside describes Daniels as having found that substantial justice was done as the construction of the towers "was the only reasonable way to remedy an existing gap in coverage." Id. at 515-516. Such is not the case here as there are other ways to remedy the alleged gap, if indeed any gap exists.

A second tower in the Brackett Rd. area may even be needed because Verizon's proposed tower will not be high enough to allow the requisite four sets of antennae to be located above the tree line. Rather than requesting a variance to RZO 505.5.A.1, which requires that cell towers be able to support a minimum of four carriers, Verizon is planning to build a tower with one level that is unsuitable for good coverage and may be impossible to lease. Along with Verizon and AT&T, Sprint and T-Mobile are also major carriers and possible co-locators. Four levels are needed, lest one of the four major carriers be left out and have justification to build its own tower in the same area. Technically the tower would be compliant, because it would support the fourth level, but Verizon's plans violate the spirit of the ordinance.

4. The values of surrounding properties would be diminished

This argument is to be made by other directly affected parties and, in the interest of brevity, will not be repeated here (Exhibit 4 of this document will initially be blank, but is reserved for future use by those parties on this issue).

C. TELECOMMUNICATIONS ACT ISSUES

As was recognized Daniels and Second Generation, the TCA looms over all of the discussions regarding granting of the variance. The TCA, 47 U.S.C. §332(c)(7)(A), specifically states that the TCA shall not limit or affect the authority of local governments

"over decisions regarding the placement, construction, and modification of personal wireless service facilities" except as limited by subsection (B). That subsection provides that towns may not unreasonably discriminate among providers, and §332(c)(7)(B)(i)(II) states that town decisions "shall not prohibit or have the effect of prohibiting the provision of personal wireless services." It provides additional procedural safeguards that must be followed, and presumably will be. Aside from the effective prohibition clause, the only other important restriction is that any decision must be supported by "substantial evidence."

1. Substantial evidence vs. state standards on appeal

The TCA, §332(c)(7)(B)(iii) requires that any decision be "in writing and supported by substantial evidence contained in a written record." "Substantial evidence" is a legal term of art that is less restrictive than it might appear. "Substantial evidence 'does not mean a large or considerable amount of evidence, but rather such evidence as a reasonable mind might accept as adequate to support a conclusion…' The Board's decision will thus 'withstand our scrutiny if it is supported by … more than a scintilla of evidence.'" ATC Realty, LLC v. Town of Kingston, New Hampshire, 303 F.3d 91, 94 (1st Cir. 2002). The term "scintilla" is defined, in this context, by Black's Law Dictionary (8th ed.) as "a spark or trace." The burden of proof, if the ZBA denies one or more variances, would be on Verizon.

In appeals of ZBA decisions to the Superior Court, the burden of proof is "upon the party seeking to set aside any order or decision… [and] [a]ll findings of fact of the zoning board of adjustment… upon all questions of fact properly before the court shall be prima facie lawful and reasonable." The decision may not be set aside or vacated except

for errors of law unless the court is persuaded that the "order or decision is unreasonable." RSA 677:6.

Any difference between the state and TCA standards under these two provisions is small. Whichever applies, the ZBA should be focusing on making sure that there is evidence to support its decision and that its sets forth its factual findings carefully. If it meets the standards that it already should be meeting under state law, there should not be an issue under the TCA.

The deference owed to the factual findings of the ZBA does not extend to the effective prohibition issue, which would be decided de novo under the TCA. Second Generation at 629.

2. The ZBA should deny the variance and ignore any possible cost to the town of defending their denial in court

The more important issue for the directly affected parties is that, because of the deference owed to any ZBA decision on factual issues, a decision adverse to them would, unless there are legal errors, place them in a position of having to overcome the factual findings made by the ZBA, with a prima facie assumption that they are "lawful and reasonable." While the ZBA members are no doubt concerned with the legal costs to the town of defending their decision, they should recognize that Mr. Crawford, and perhaps other directly affected parties, will, if necessary, seek to intervene in the Superior Court and/or Federal Court to support any favorable decision, lowering the cost to the town, as was the case with the ultimately successful litigation over Sanders Poynt access pursued by Bob Jesurum.

Furthermore, it would be an odd sense of justice that might cause ZBA members, after deciding that the facts and the law support denial of the variances, to nevertheless

grant the variances to save the town money. Verizon has stated that it will need more towers. If it turns out that variances are sought for towers close to the streets on which the ZBA members live, they would in that event likely regret their earlier decisions.

3. Effective prohibition

From the very first meeting, Verizon has misstated the applicable standard. Verizon's Attorney (April 16, 2018 minutes, page 15) stated that the law requires that "if there is a gap in an area, and it is proven that this is a feasible spot to cure that gap, the town should grant the request under federal law, regardless of what the local zoning law says."

This sort of overreaching was rejected in Sprint Spectrum, L.P. v. Willoth, 176 F.3d 630, 639 (2nd Cir. 1999). "The essence of Sprint's argument is that it has the right under this provision of the TCA to construct any and all towers that, in its business judgment, it deems necessary to compete effectively with other telecommunications providers... Otherwise, Sprint argues in substance, the effect will be to prohibit the provision of personal wireless services. This untenable position founders on the statutory language."

Contrary to Verizon's suggestions, "the TCA's emphasis is on protecting the interests of consumers and residents rather than those of carriers and developers." Second Generation at 632.

In the First Circuit, while the "TCA's anti-prohibition clause is not restricted to blanket bans...,",the burden on a carrier seeking to apply it to individual zoning decisions "is a heavy one: to show from language or circumstances not just that this application

has been rejected but that further reasonable efforts are so likely to be fruitless that it is a waste of time even to try." Second Generation at 629.

While the TCA does not expressly authorize zoning boards to consider the effective prohibition issue, nothing in New Hampshire law prohibits them from doing so and many boards wisely consider the point as their actions may otherwise be invalidated by a federal court. Second Generation at 630. Daniels at 525.

Federal courts have developed a "significant geographic gap" methodology to determine "whether a coverage problem exists at all. We have concluded that a town's refusal to permit a tower that is needed to fill a 'significant [geographic] gap' in service, where no service at all is offered in the gap, would violate the effective prohibition clause." (emphasis supplied). Second Generation at 631. The court went on to say, however that "[a] n applicant for a zoning permit arguing that there is an effective prohibition must still show that there are no alternative sites which would solve the problem." Second Generation at 635. The court rejected the cellular carrier's suit because "the record shows that Second Generation has not met its burden to show that there are no other potential solutions to the purported problem." Id.

The case law demonstrates that Verizon, rather than only being required to demonstrate that it has proposed a feasible spot to cure the gap, as it argued, must show that there are no alternative sites, an issue on which it has the burden of proof. Any effort to demonstrate effective prohibition on the basis of what would be a single decision by the town to deny an application for a cellular facility would meet a "heavy burden" under Second Generation. There is no record of town boards having rejected any other cellular

facility applications, and they have approved the Grove Rd. and Congregational Church cellular facilities.

Verizon would need to show that further efforts would be fruitless and that there are no feasible alternative sites. Instead, it has largely relied on speculation and its descriptions of various aborted attempts from a decade ago even though even though the principals are now likely different persons. The aborted attempts are blamed on political pressure placed on government entities years ago not to lease and may in no sense be attributed to the town's failure to grant approval under the RZO.

The School Board is now willing to consider a cellular facility. The SAU 50 administration consists of almost entirely new people and at least a majority, if not all, of the School Board members are new. Similarly, state government officials have also changed. The position of Mike Thiel has been clarified following research that he needed to do prior to making a commitment (Exhibit 5).

In Town of Amherst v. Omnipoint Communications Enterprises, Inc., 173 F.3d 9, 14 (1st Cir. 1999), the First Circuit addressed the alternative of a larger number of very short towers, possibly disguised as trees, proposed by opponents. While strongly disputing the feasibility, the applicant admitted that somewhat lower towers were technically feasible. The court said that "[u]ltimately, we are in the realm of trade-offs: on one side are the opportunity for the carrier to save costs, pay more to the town, and reduce the number of towers; on the other are more costs, more towers, but possibly less offensive sites and somewhat shorter towers.... [S]ubject to an outer limit, such choices are just what Congress has reserved for the town."

In this case, Verizon has repeatedly refused to consider other possibilities that, at least in combination, might satisfy its requirements. Instead, it believes that it has a right to: (1) define an alleged gap using its own criteria; (2) define a search ring, as long as it fits somewhere within the alleged gap; (3) ignore any other portions of the alleged gap that might also achieve the goal of enhanced coverage, albeit with the cellular facilities distributed somewhat differently across the alleged gap; and (4) warn the town that unless it agrees to a single cellular facility placed in or near the Verizon-defined search ring that it would be effectively prohibiting cellular service.

The town's consultant, Ivan Pagacik, using data apparently supplied by Verizon (Exhibit 6), has come up with a report indicating that a cellular site behind the soccer field at the Rye Elementary School would fill much of the remaining deficient coverage (i.e. apparently less than -95 dBm[3]) in Rye, except for the largely uninhabited area near Odiorne Point (Exhibit 7). When pressed by the Town Attorney about possibilities to fill that area of deficient coverage using one or more smaller facilities, or an antenna on the Wentworth Hotel, Verizon kept referring back to its own coverage maps and kept alleging that it did not solve the problem that they defined.

In a number of ways, the location on school property would be ideal. It is within the overlay district, would presumably generate revenues for the Rye School District, and the cellular facility could be placed well back from the road. Verizon nevertheless rejects it out of hand, its attorney speculating about opposition from large numbers of parents and conjuring up images of packed auditoriums filled with angry residents.

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[3] The term "dBm" refers to decibels relative to one milliwatt, or one thousandth of a watt, of power. It is a logarithmic scale such that every 10 dB represents a factor of 10 in power, and every 3 dB a factor of two in power. When the figure is negative, it represents less than one milliwatt. The difference between -95 dBm and -118 dBm is 23 dB, a factor of 10x10x2, or 200 times less power.

Yet, the parcel is 3100 feet deep, from Sagamore Rd. to the Portsmouth line. The back 1900 ft. is wetland, according to the town GIS map. Aerial photos accessible via that system indicate that the front 400 ft. is cleared while the rest of the site is forested. If located outside of the wetlands as far as possible from any school building and the field, it would be located in a wooded area, about 500 ft. away from the nearest school building and over 600 ft. from the back of the field. The cellular facility would be well away from any children.

According to Amherst, carriers are not in a position to dictate the ground rules by which towns consider tower placement decisions. That prerogative is preserved for them under the TCA, 47 U.S.C. §332(c)(7)(A). The burden is on Verizon to show that they have exhausted the possibilities, including those proposed by the town, and that the proposed site is the only one that works to fill a "significant gap" in coverage.

In Second Generation, the First Circuit implied that there would need to be "no service" offered in the gap to violate the effective prohibition clause. Second Generation at 631. In Cellular Telephone Company v. Zoning Board of Adjustment of the Borough of Ho-Ho-Kus, 197 F.3d 64, 70 (3rd Cir. 1999), it was held that there was a "'gap' in personal wireless services when a remote user of those services is unable either to connect with the land-based national telephone network or to maintain a connection capable of supporting a reasonably uninterrupted communication." The court, however, refused to define what constituted a "significant gap." See Second Generation at 631 (mentioning "the ability of a large number of users to connect or maintain a connection.")

As Verizon admitted at the July 31, 2018 meeting (page 6), the case law to date has yet to deal with data, as opposed to voice. It is questionable even whether data may

be considered a personal wireless service as it does not involve connection to the circuit switched national telephone network, but rather to the Internet, which is packet switched. Sprint Spectrum, L.P. v. Willoth, 176 F.3d 630, 641-643 (2nd Cir. 1999).

Furthermore, "a significant gap must be 'large enough in terms of physical size and number of users affected' to distinguish it from 'a mere, and statutorily permissible, dead spot.'" Green Mountain at 57-58. Federal regulations contemplate that areas enjoying adequate coverage will still have areas without reliable service. Id.

4. Signal strengths and coverage maps

AT&T is apparently negotiating with Verizon to co-locate on the proposed tower. Both Verizon and AT&T have prepared coverage maps showing alleged LTE signal strengths throughout the area (Exhibits 8 and 9) both with and without the proposed facility. Verizon has argued that the white areas of its maps (which allege a signal strength of less than -95 dBm) indicate that there is a "gap." AT&T also provided a map showing its other towers in the area (Exhibit 10). At the July 31, 2018 meeting, it admitted that there would still be some service within the white areas, but appeared to argue that it considered the entire white area to be a "gap" that it has the right to fill. After being asked by the Town Attorney why it viewed the alleged gap as substantial, Mr. Fredette of Verizon responded that "it is because Verizon can't provide the voice and data connectivity that they would like to provide." (Minutes, page 7) (emphasis supplied). However, Verizon does not set the standard, the courts do, and the First Circuit has implied that there must be no service in the significant gap to invoke the effective prohibition clause. Second Generation at 631.

Many board members and residents, at the July 31, 2018 meeting, and at earlier meetings, repeatedly noted the pessimistic nature of the coverage maps. Mr. Crawford and Kathy McCabe, an abutter of the proposed cellular facility, conducted tests in northern Rye to measure signal strengths and ascertain whether calls could be completed (Exhibit 11). Two cell phones were used: one using Verizon's service, and the other AT&T's. Almost all of northern Rye is white on both the Verizon and AT&T maps (indicating coverage below their standards), but calls were possible from 15 of 16 Verizon locations tested, and 15 of 16 AT&T locations tested. The tests indicate that Verizon's signal strength varied from -94 to -120 dBm, and connections were made even at a signal strength of -120 dBm. AT&T signal strengths, measured at the same 16 locations, were between -79 and -118 dBm.

Recordings were made of the 15 completed Verizon calls. These will be played at the hearing. Of the 15 completed calls, one recording was inaudible, one partly inaudible and one somewhat deficient in quality. The rest showed good quality. No recordings were made of the AT&T calls.

The recordings and test results indicate that Verizon's arbitrary -95 dBm is overly pessimistic. Calls were repeatedly completed at much lower signal strengths. For example, at Odiorne State Park, a call was completed, with good audio quality, notwithstanding a -118 dBm signal strength. That's 200 times weaker than Verizon's minimum[4].

The data indicate that cell phone service in northern Rye, while deficient, does not amount to anything more than dead spots, which are statutorily permitted. When

[4] Decibels are a logarithmic scale, where every 10 dB is a factor of 10 in power, and every 3 dB is a favor of 2 in power. Thus, the 23 dB difference is 10x10x2 = 200 times weaker.

combined with the fact that Verizon has not met its burden to show the unavailability of alternative sites, it is clear that the denial of this variance application would not amount to an effective prohibition.

Further concern exists because Verizon has refused to reveal the assumptions and methodology underlying their coverage maps. Only 8 of Mr. Crawford's 29 questions were allowed even to be presented to Verizon. Many of these were aimed at discovering Verizon's methodology. Typical of the answers was:

> "The coverage plots prepared on behalf of Verizon are based upon the maximum allowable overall path loss defined in Verizon's LTE link budget, which considers among other factors both thermal noise and noise figure assumptions of the base station system and user equipment (UE). The specific details behind these assumptions are considered proprietary."

Noise is important because the signal to noise ratio determines the data rate that may be transmitted in a given bandwidth, a constraint imposed by the Shannon Limit. While voice requires only a limited data rate, web browsing and certain data needs may be far more extensive and require much more power to overcome the noise.

Verizon's coverage charts assume 4G LTE coverage, which is capable of providing high-speed data. As noted in the tests by residents (Exhibit 11), certain of the connections were made in CDMA mode, apparently because the phone determined that LTE service was unavailable. Since the provided charts do not include technologies other than 4G LTE, there is no demonstration that any of the white area lacks coverage using other technologies and no conclusion can be drawn as to the size of any alleged gap in overall service including older technologies that may be more suitable for voice, particularly given that the TCA may not even apply to data.

Of significant concern is that Mr. Pagacik's coverage maps, while more extensive than Verizon's, were constructed using data on effective radiated power that was provided to him by Verizon. Obviously, the more power that is transmitted from the cell tower, the larger will be the circle within which a signal of -95 dBm or greater can be received. In its submission on RF exposure (Exhibit 13), Verizon used a figure of 120 watts of power at the cell tower antenna, and indicated that an antenna with 14.1 dBd[5] of gain would be used. Yet, Verizon provided Mr. Pagacik with an "RSRP ERP"of 33.64 dBm. After subtracting 16.25 dBi of antenna gain, that leaves 17.39 dBm of transmitter power, or 55 milliwatts (55 thousandths of a watt), a vast difference[6].

5. Alternate sites

Verizon has completely failed to demonstrate that even the alternate sites that are within its search ring are not viable (Exhibits 14, 15). While it does not assert that it has approached the state regarding sites in Rye in the past 10 years or so, Verizon continues to allege that attempts to locate a cellular facility on state land would be fruitless. Although the town may ultimately purchase the Pulpit Rock Tower, as authorized by a 2011 warrant article (provided enough private money is raised), the state still owns it and it is possible that the state would now agree to lease it, if asked. While the Town Attorney agrees that the Condon property is inaccessible, a nearby town-owned property, map 23, lot 1, would have access, according to the Town Attorney (Exhibit 16). Verizon's argument that a private road would need to be crossed to access the property is

[5] The term "dBd" refers to gain relative to a dipole, a standard type of antenna. Since a gain figure relative to an isotropic source (dBi) is needed to calculate the received signal strength for a given path loss, 2.15 dB must be added to the 14.1 dBd of gain to arrive at 16.25 dBi of gain.
[6] Some of this difference may be explainable by the fact that RSRP refers to only a portion of the signal. The total transmitter power is divided up among multiple resource elements. However, it appears unlikely that a factor of nearly 2400 can be explained by this.

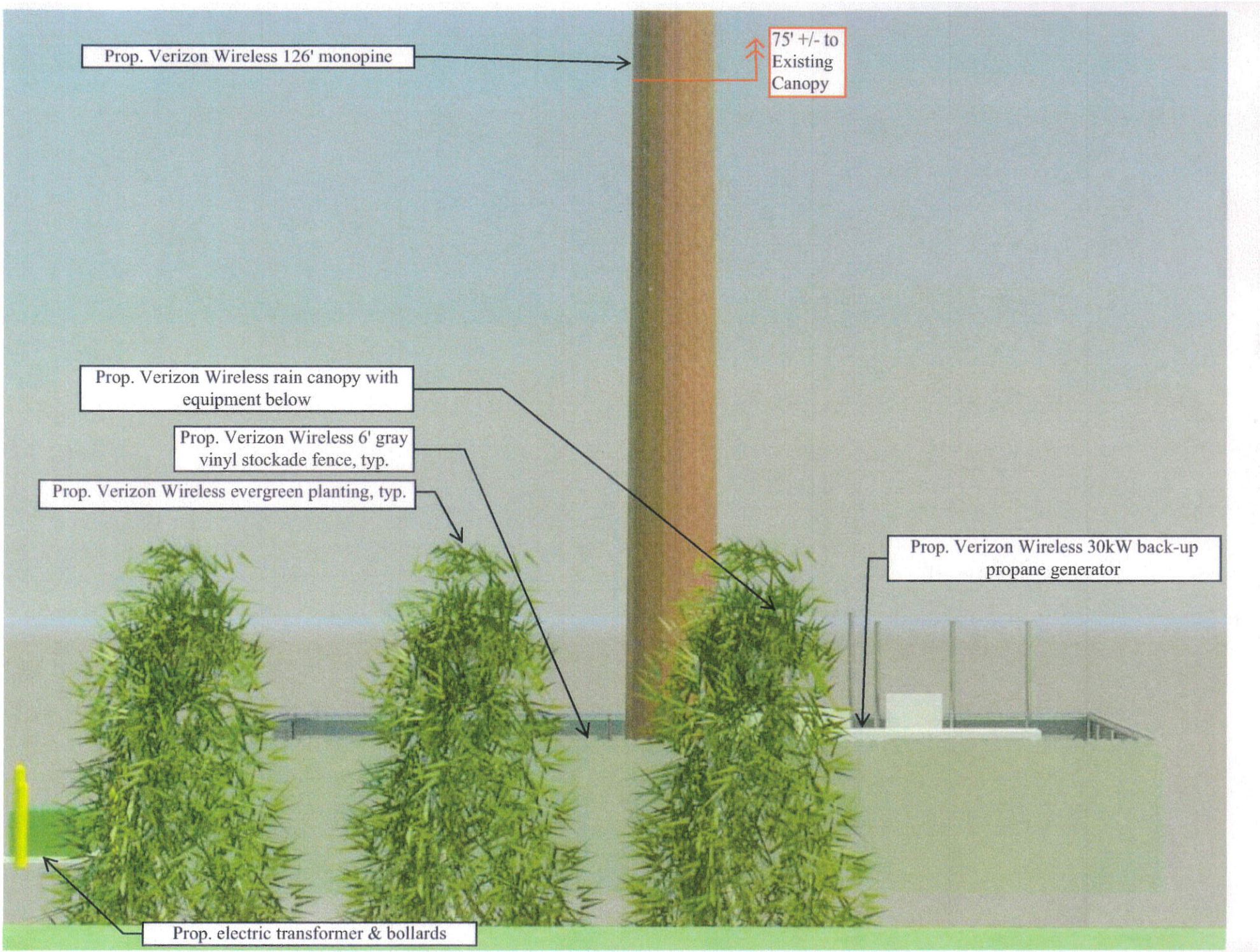
not particularly persuasive, as it does not appear that it has approached the private owner to see if an easement might be obtained. This property is within Verizon's search ring and could potentially provide revenues to the town.

D. CONCLUSION

Verizon has failed to satisfy its burden to demonstrate that it has exhausted all possible alternative sites and shown that the proposed 120 Brackett Rd. location is the sole one that would meet its needs. Under the TCA, the town, not Verizon, controls the placement of cellular facilities, unless an effective prohibition can be shown. Because the proposed site 50 feet from the road in a semi-rural area can be considered as among the worst possible locations from an aesthetic and wetlands impact perspective, the variances should be denied, without any concern that the TCA might be used to preempt the ZBA's decision.

Verizon's intransigence is mystifying. I note, however, that the license that it intends to use for its LTE service expires on June 13, 2019 (Exhibit 17). Perhaps it has not yet met the coverage goals needed to support renewal and it is seeking to demonstrate that the FCC that it has commitments that will enable it to renew its license.

Exhibit 1


Prop. Verizon Wireless 126' monopine
75' +/- to Existing Canopy
Prop. Verizon Wireless rain canopy with equipment below
Prop. Verizon Wireless 6' gray vinyl stockade fence, typ.
Prop. Verizon Wireless evergreen planting, typ.
Prop. Verizon Wireless 30kW back-up propane generator
Prop. electric transformer & bollards

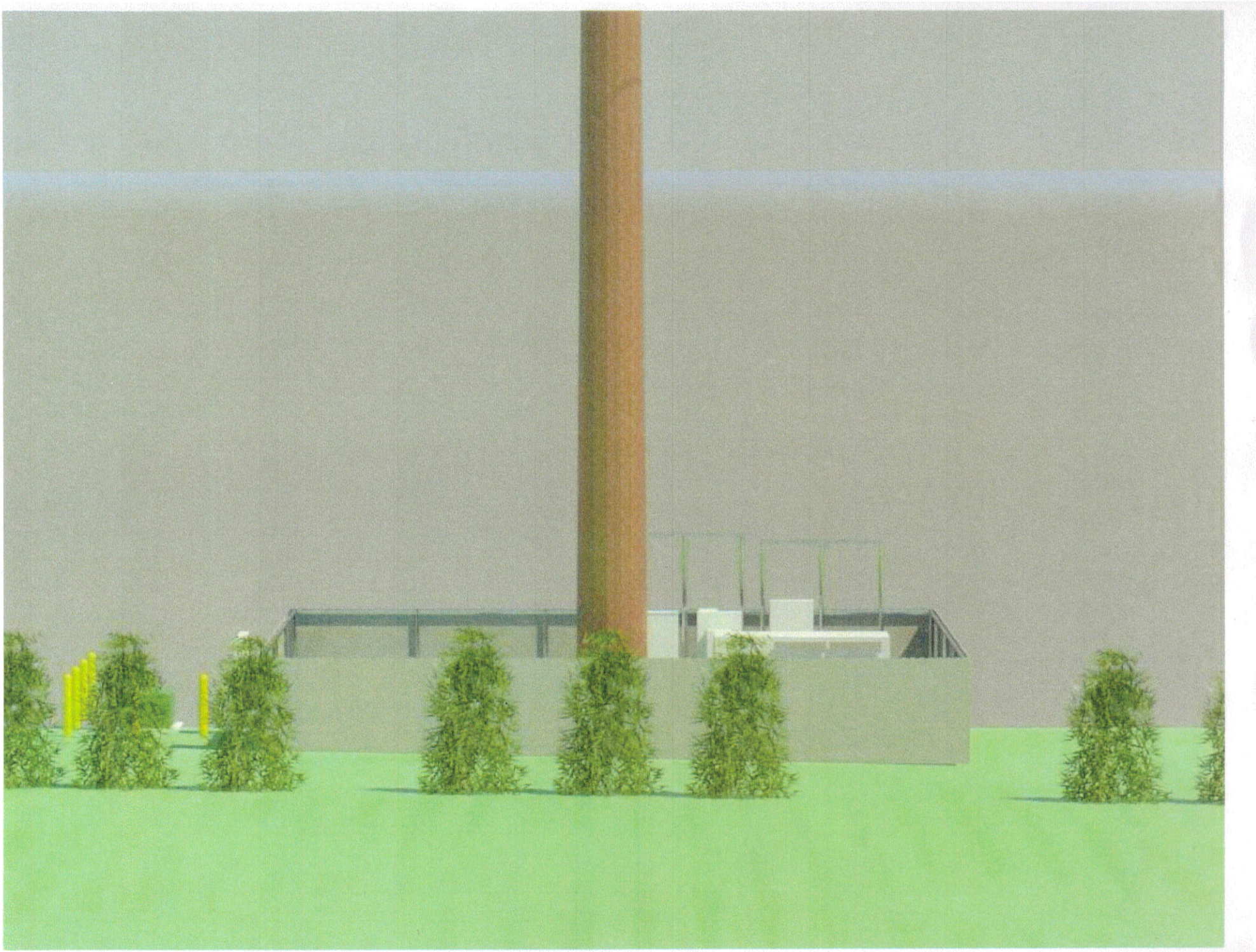


Exhibit 2

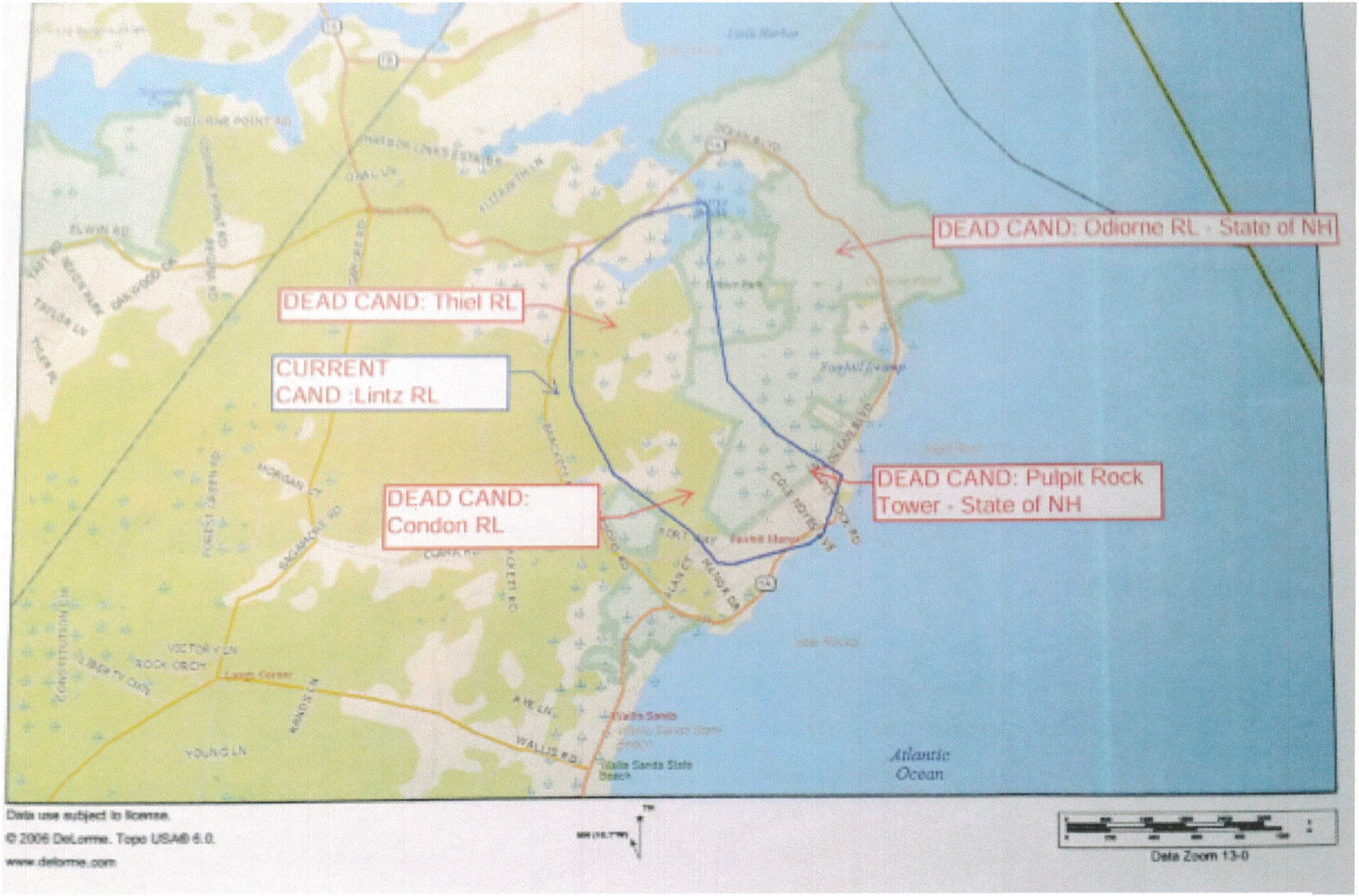

DEAD CAND: Odiorne RL - State of NH
DEAD CAND: Thiel RL
CURRENT
CAND :Lintz RL
DEAD CAND:
Condon RL
DEAD CAND: Pulpit Rock
Tower - State of NH
Atlantic
Ocean
Data use subject to license.
© 2006 DeLorme. Topo USA® 6.0.
www.delorme.com
Data Zoom 13-0

Exhibit 3

Internal Use Only:

Rye Point - Area Terrain Map with Alt. Rye Elementary School & 505 Ocean Blvd.

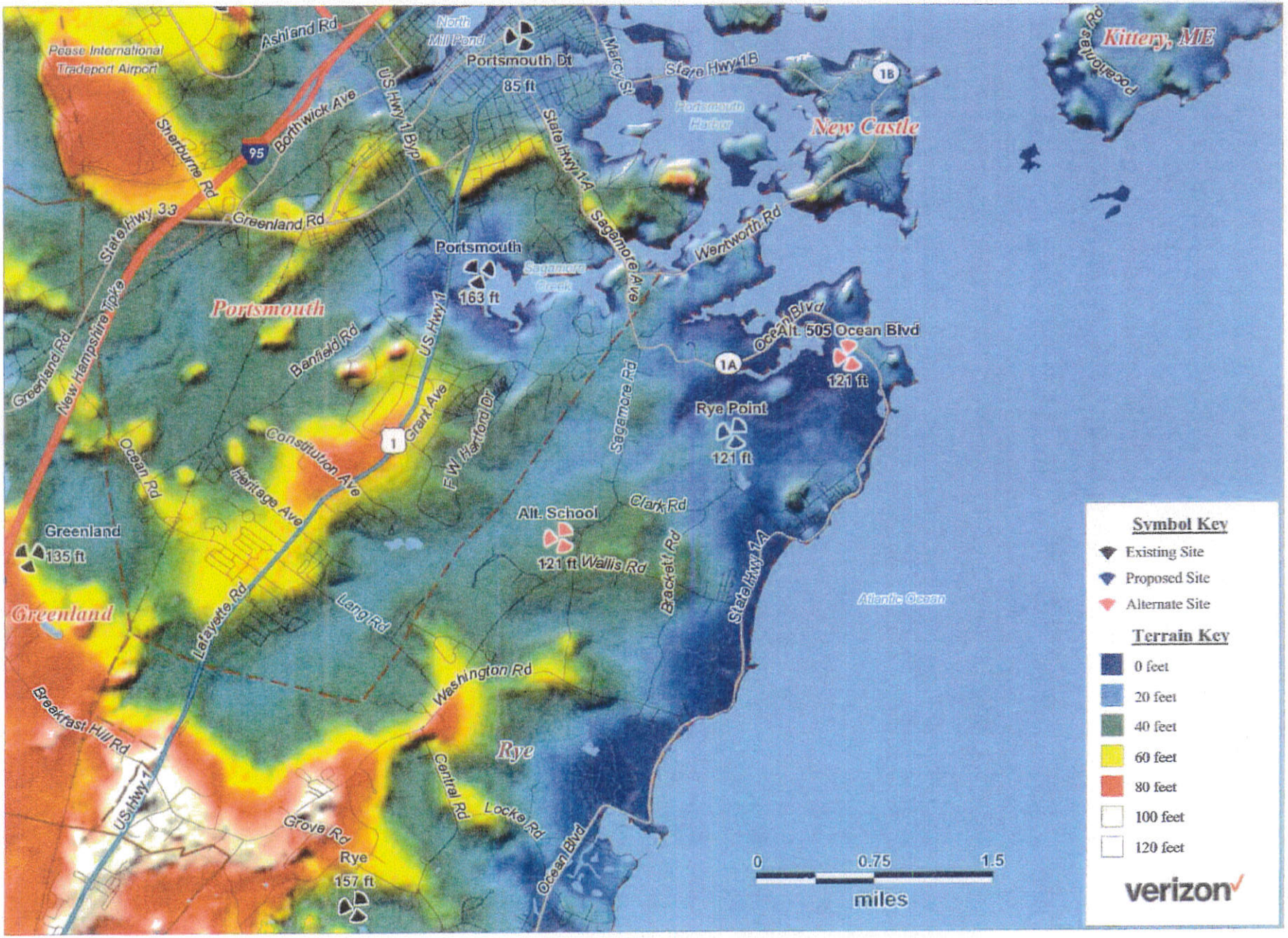


Exhibit 4

Intentionally Omitted

Exhibit 5

Michael Thiel & Gail D. Richard
"ArdnaBerry"
34 Brackett Road
Rye, NH 03870
Tel. 603-436-1343

February 12, 2018

To: Rye Planning Board
Rye Zoning Board of Adjustment
Rye Conservation Commission

Subj.: Verizon Cell Tower proposed for 120 Brackett Rd., Rye NH

Sirs:

I am writing to you as an abutter (34 Brackett Rd., Map 22, Lot 89) to the proposed cell tower at 120 Brackett Rd., and as one who has some history dealing with Verizon regarding a northern Rye located cell tower to: 1) Correct some misinformation in Verizon's application; 2) Provide some perspective on the situation from my dealings with Verizon, and; 3) Raise some issues that you should consider in your evaluation of this proposal and this site for a cell tower.

1.) First let me address the issue of misinformation. Verizon's proposal states:

The other sites that were considered prior to the Property include: 1) Pulpit Rock Lookout Tower, 2) Rye Elementary School, 3) Odiorne Point State Park, and 4) two privately owned parcels that ultimately were not feasible due to legal access issues and willingness by the land owners.

As regards point #4 above; My property was one of the "privately owned parcels" that Verizon pursued in its search for a suitable site. While I have not been wildly enthusiastic about having a cell tower on my land, I have not been unwilling to do so. A more correct way of putting it is that I have been resistant to a cell tower on my land without adequate environmental/esthetic protections, as I am very possessive about my land, and somewhat indifferent to it on the financial terms that we were being offered.

My most recent discussions with Verizon date back to the summer of 2017, when we were very close to an agreement. At that time, I asked to put our discussions on hold, pending doing more research on the impact that having a cell tower would have on the valuation of a conservation easement. Over the fall, I had discussions with Society for the Protection of New Hampshire Forests (SPNHF) and Southeast Land Trust (SELT), both of which I am a member of and contributor to. The conclusion I came to is that the impact of having a cell tower (especially as regards tax credits for giving such and easement) is a very complicated topic with no easy answers. However, even with a cell tower on the site, I could still protect the rest of the land—which is my desire. It might just result in a lesser value for tax purposes.

Having come to that conclusion, I attempted to reopen discussions on siting this cell tower on my land in early December of 2017 (See copy of e-mail attached). I did not get a response to that e-mail as, clearly, in the few intervening months, Verizon came up with the cell tower siting solution that they are now proposing.

2.) History of Discussions with Verizon

I believe it would be useful to the boards in evaluating the current proposal to know some of the history of my negotiations with Verizon (on the technical/environmental front). Our discussions took place in three stages over about three years starting in early 2015. I will not bore the boards with all the details, only the salient points that reflect on the current situation and proposal.

When Verizon first approached me, they asked for a site 100′ x 100′. I felt that was way too big and too intrusive on my land, even though we have 41+/- acres. After some discussion they agreed to reduce this to 51′ x 51′ (2,601 s.f.), claiming that this was the minimum they could operate from. Note that they are now proposing a 30′ x 40′ site (1,200 s.f.), less than half the space they asked of me, a point I will address later.

Initially the tower was to be 115′, total height, which given that the tower was to be sited among pine trees that are 75′ to 80′ high, allowed for three antenna arrays (Verizon + 2 others). We mutually agreed on a site on my land, a site that is about the highest point on my parcel also making it about the highest in this part of Rye. I'd estimate the site to be at least 20′ above the current site. The site was surveyed and reviewed for environmental issues, of which there were none.

My memory does not serve me well enough without digging into the stream of e-mails between us as to why discussions fell apart on that first pass, probably because the financial terms they were offering did not "move the needle" and, as it was reported in the Wall Street Journal at the time, Verizon was seemingly interested in getting out of the ownership of towers. I believe they sold off some 700 towers around the country at that time.

In early 2016, at the behest of Verizon, the primary tenant, I was approached by American Tower, confirming the above point that Verizon had changed its tower ownership strategy. Those discussions did not go very far because the financial terms were not improved and, while Verizon was reasonably good about agreeing to most of my requests for protection of our property, American Tower was much less so. American Tower in fact wanted a taller tower, presumably to fit more co-locators on the tower and thus make it more profitable. I would point out that no balloon test had been done to this point, or ever, in spite of my requests for one.

Most importantly, and "the straw that broke the camel's back," was that American Tower wanted all the trees within 80′ of the perimeter of the compound felled, to protect their investment in the event of a serious blow-down. That would have meant a clearing of more than 200′ in diameter. That, for sure, was not going to happen! It even defeated the purpose of locating the tower where we had agreed, a place where it would be surrounded by tall pines and set back on a large property, which would pretty much hide it from all vantage points in the area–except from us.

As related above, Verizon once again approached me in the summer of 2017. We had worked out most of the technical details with some exceptions, and some financial terms remained to be worked out, at the point where I called for a temporary suspension of negotiations. The technical exceptions raise some questions that are pertinent to the current plan being proposed by Verizon.

3.) Considerations for the Boards as Regards the 120 Brackett Rd. Site for a Cell Tower

1. Space Requirement and Use: As indicated above, in its discussions with me, Verizon claimed that the minimum space they could operate from was 51′ x 51′ and we were (to my recollection) discussing having only two (2) other co-locators on the tower. Verizon is now proposing four (4)

antenna arrays yet managing them from a 30′ x 40′ space. For anyone who is mathematically challenged, this is less than ½ of the space they were demanding from me. Had the space they were seeking on my land been smaller, our negotiations might have gone differently.

However, this discrepancy raises the other issue I had with Verizon. Verizon, all along, had suggested my signing separate leases with co-locators, for additional space to accommodate them. That would, presumably, have been beyond the 51′ x 51′. More recently they did indicate that all the co-locators could fit in that compound (presumably we were still talking about 2 co-locators) but that each would have its own separate back-up generator and, presumably separate fuel (LPG) tank. I balked at this insisting that Verizon consolidate support facilities, most importantly back-up power. This was a stumbling block in our discussions this past summer.

So, as regards the current proposal, that leaves the question: 1) With four (4) companies now proposed to be operating from this smaller space (less than ½ the space requested of me), how is the back-up power being handled? Are they planning to provide back-up power to all co-locators from one generator and fuel tank? Or, will there be requests to expand the size of the compound, and for additional variances, coming down the pike?

Note, it is my understanding that back-up generators operate approximately once a week to ensure their functionality, keep batteries charged, etc. That means they regularly generate noise. If there are more of them, that means more noise at random times.

2. Noise/Visibility: I already mentioned noise from generators. My understanding is that the telecom equipment requires cooling, which means air-conditioners running. I've noted that Verizon is now proposing a lower stockade fence, 6′ vs. 8′. That will provide less buffering of noise. It will also mean more of the equipment/shed within the compound will be visible from the street. We had agreed on at least an 8′ fence and a 10′ fence was still under discussion and I think that is also appropriate for the currently proposed site.

3. Landscaping: At the meeting with the Conservation Commission, Verizon indicated that landscaping around the stockade fence would be with arborvitae. My own position was, and still is, that landscaping should, as much as possible, be naturalizing. There is nothing natural about arborvitae in the New England woods. I believe that Verizon should landscape with mountain laurel and rhododendron, or equivalently natural evergreens of an appropriate size in a somewhat random pattern in front of the stockade fence. Such a buffer should also be provided for some distance down their proposed road and around the equipment outside the compound. Another reason for rhododendron/mountain laurel is that they are more deer resistant, so might actually survive. I believe the head of the Conservation Commission in the just-held hearing referred to arborvitae as "deer candy."

4. Access Road: In looking at Verizon's plan, I've noted that they plan on a road surface of "4 inches of compacted reclaimed bituminous concrete." That is an impervious surface, which is probably detrimental to the ecology. Beyond that, the access road loops off of and runs almost parallel to Brackett Rd. for about 150'. Presumably the road and site pad will be built at an elevation above the surrounding land, which itself slopes away from and is lower than Brackett Rd. The effect will be to either block runoff from Brackett Road headed to the wetlands from which Verizon is seeking a setback variance, or to channel it towards the property owner's house. I'm not sure if the property owner has water issues at their house or with their septic system but, if they do, this will no doubt complicate those.

5. Tower height: Verizon indicated that the tower is 120'. However, that is to the centerline of the top antenna array (which will be Verizon's). Antenna arrays are 10' high which makes the functional height of the tower actually 125'. I was told that we would need about 15' of cover to make the tower look like a semi-realistic pine tree, which brings the total height to about 140'. I strongly suggest that the Planning Board insist on a balloon test before making a decision on this application.

SUMMARY

It is not disputed that a cell tower is needed in the northern end of Rye. I do feel that Verizon is shoehorning this tower into a site where it does not belong, having found a property owner that is seemingly pliant environmentally and indifferent to the impact of his actions on his neighbors. I'm sure it is also a very cost-effective solution for them, being so close to a public road.

Verizon, however, is stretching the truth to say that all other appropriate private landowners were "unwilling" to lease it land. We had not ruled out having a cell tower on our 40+ acres were it could be well hidden from view of all neighbors. We were, in fact, close to agreement, though on the terms they had offered to date (technical/environmental/financial), we were still on the fence about it.

As it is, I personally have little issue with Verizon locating its cell tower on the proposed site. Its impact on us, even as abutters, is minimal. I will only see and hear it when I'm driving or biking down Brackett Rd.

The people I feel sorry for are the target property's neighbors. The property owner will be getting whatever financial rewards have influenced him to let Verizon's tower, tower over his land, while some six (6) to ten (10) immediate neighbors along Brackett Rd. will be suffering the diminution in the value of their properties and quality of life. You could also say that the walkers, joggers, bikers, and beach bound folks using Brackett Road, which together with the Route 1A Scenic Byway is a popular loop for these activities, will also be losers if this proposal is accepted.

I trust that the Boards involved will take all the above into consideration in making their decisions about the siting of this cell tower.

Yours sincerely,

Michael F. Thiel

Exhibit 6

Manougian, Victor

From: Manougian, Victor
Sent: Monday, July 16, 2018 11:49 AM
To: Michael Donovan
Cc: Kimberly Reed; Ivan Pagacik; Gifford, Mary
Subject: RE: Verizon Proposal in Rye NH [MCLANE-DB.FID977997]
Attachments: Supplemental_#2_Rye_Point_NH_20180716 - RE_ 505 Ocean Blvd. and Wallis Sands State Park.PDF

Mike-
Below is the table requested by Ivan so that he can run his own analysis.

Site Name	Antenna ID	Lat	Long	Antenna Height (cL AGL)	RSRP ERP (dBm)	An
Alt. 505 Ocean Blvd.	1	43.0454	-70.7209	121	33.64	SBI
Alt. 505 Ocean Blvd.	2	43.0454	-70.7209	121	33.64	SBI
Alt. 505 Ocean Blvd.	3	43.0454	-70.7209	121	33.64	SBI
Alt. Wallis Sands	1	43.0279	-70.7292	121	33.64	SBI
Alt. Wallis Sands	2	43.0279	-70.7292	121	33.64	SBI
Alt. Wallis Sands	3	43.0279	-70.7292	121	33.64	SBI

We have also attached supplemental letter form Keith Vellante addressing 505 Ocean Blvd and Wallis Sands State Park alternate locations. We also obtained feedback from a Verizon RF engineer who stated that Wallis Sands State Park significantly reduces the amount of offload it would provide to our Portsmouth site. Decreased offload means lower priority for Verizon to actually build. So even if the state would consider leasing the land, Verizon would not build here as it doesn't solve the existing issues in Rye Point that 120 Brackett Road addresses as well the lack of offload of our Portsmouth site. Finally, we would think a tower at Wallis Sands State Park will have much more visual jarring than at 120 Brackett Road.

I will send the requisite copies of this email, the supplemental report of Keith Vellante dated 7/16/18 the sample photos of monopines I emailed to you on 7/9/16 via overnight by Wednesday of this week. The cover letter will also acknowledge that Verizon has agree to extend the shot clock to 9/30/18.

I still owe you a variance request for cutting trees in the buffer and the collocation agreement. I'm holding off on both for the moment as we need to see which route the boards select for the access driveway which impacts the number of trees to be removed and the associated variance arguments.

Just a reminder that I'm going to my son's-Captain Michael Manougian's wedding at the Garden of Gods in Colorado Springs, CO this coming Sunday and I will be out from July 19-23 and return to the office on July 24th.

Thanks for your patience.

MCLANE MIDDLETON
PROFESSIONAL ASSOCIATION

Victor Manougian
Attorney
900 Elm Street
Manchester, NH 03101
Direct: (603) 628-1310
Mobile (617) 304-1011

Exhibit 7

IDK
Communications

July 24, 2018

Mr. Michael Donovan
Town of Rye
10 Central Road
Rye, NH 03870

RE: Verizon Wireless Application – 120 Brackett Road

Dear Mr. Donovan,

IDK Communications ("IDK") has been tasked with the following scope pertaining to the above referenced subject.

1.) Review the technical information for existing and proposed sites provided by the applicant along with Verizon's RF Report and coverage maps dated December 4, 2017 and July 16, 2018
2.) Review the application provided by the applicant
3.) Perform an independent coverage analysis with alternatives
4.) Provide a written summary report with outputs

Radio Frequency (RF) Coverage Analysis:

When analyzing a site for radio frequency propagation several factors contribute to the overall performance. Of great importance are factors such as height above average terrain, tree density, building density and construction, frequency and equipment performance specifications.

The following paragraphs identify characteristics of each item used in determining overall performance.

Equipment specifications:

It is important to first determine whether a candidate site is limited by the radio path from the handset in a vehicle or building to the radio base station at the tower or by the radio path from the base station at the tower to the handset in a vehicle. In most cases because of the limited output power of the handset the path from the vehicle or inside a building to the radio base station at the tower is your limiting factor. Once this is known input parameters for both the base station and the handset are used to calculate the overall receive parameter used in the propagation modeling.

Height above average terrain:

Another important factor in determining a site's viability is how high the antennas will be in relation to the surrounding terrain. In the cellular/PCS world being at a maximum height above the average terrain is not necessarily a good thing since the systems are designed to provide handoffs to adjacent sites. Cellular/PCS carriers will re-use frequencies at different sites so it is important not to create interference with themselves. This philosophy differs from that of older wireless paging systems for example where sites were picked for their greater heights above average terrain. Cellular/PCS sites are picked by how they relate to the area that requires coverage. These areas are where the general population lives and commutes. A site that provides for coverage within a geographical area does not need to be on the highest point for that area but rather an area that provides enough clearance above the average terrain.

Tree Density:

Going along with height above average terrain is tree density. This factor is important because where the height of the antennas just clears the overall tree canopy in the surrounding area there may be additional losses associated with foliage. This loss can vary depending on types of trees and the density of the area. These losses are taken into account when determining propagation. It is also important to note that tree losses at the PCS frequencies of 2100 MHz are greater than the cellular frequencies of 700/800 MHz. Verizon's application is for operating in the 700 MHz frequency range.

Building Density and Construction:

Another factor in the determination of propagation is the building density and construction. Buildings can exhibit different types of losses depending on the construction material. Appropriate RF parameters for building density can be used when modeling coverage for areas such as Rye.

Input parameter values are chosen and then used in statistical calculations to determine if a viable signal is available for a particular area. In some cases coverage deficient areas are caused by shadows from particularly high terrain. Elimination of the deficient area may sometimes only be accomplished by increasing antenna height or by selecting an alternative site if the heights become too great.

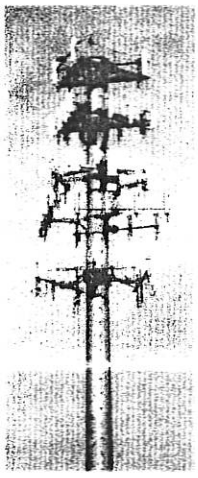
Site Configuration Options

Antenna Support Structures

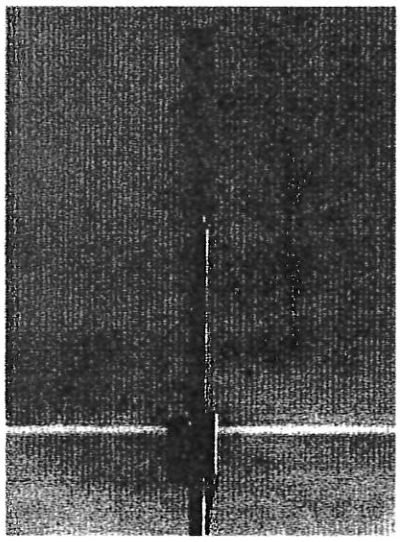
When designing an antenna site there are several options with respect to the structure that supports the antennas. Two of the most basic structures are lattice and monopole towers.

The lattice tower consists of three or four legs with interconnecting braces and is capable of heights in excess of 300 feet. The lattice towers can be either guyed with wires or self-supporting. With structural capacity being equal the self-supporting structures are wider than the guyed counterpart version.

The monopole structures are possible to heights of 190 feet. As their heights increase so does the complexity of the foundations used to support the structure. Antennas can be either mounted on the exterior of the pole with the transmission lines inside the pole or they can be mounted inside the pole with the transmission lines. Mounting the antennas inside the pole creates a more stealth design and they can also be disguised as flagpoles or trees. Mounting antennas within a pole however will cause the carriers to take up more vertical space and thus the amount of co-location will decrease. If antennas are mounted outside the pole they can be flush mounted to the exterior of the pole to reduce the visual impact. Doing this would also have the same result as mounting the antennas inside with respect to the co-location opportunities. The pictures below offer three types of antenna installations outside of a monopole.



Non-Flush Mount Install



Flush Mount Install

Monopine Stealth

Equipment Powering

Typically a cell/PCS carrier constructs a site with an electrical feed and a backup option in the event of an AC failure. The electrical feed to a site is either supported overhead by utility poles or is trenched underground through conduits.

The backup power option can consist of various options such as a propane or diesel generator, or batteries. Out of all these options the generator would be the loudest when activated. Typically for maintenance purposes the generators are run once a week for a short duration.

Coverage Analysis:

IDK was tasked to validate the radio frequency performance of the Verizon data that was supplied to the Planning Board. Verizon provided proposed and existing system information for its radio sites along with proposed signal level thresholds for providing LTE coverage. The site data together with GIS information for the Town were used in IDK's RF analysis. The output of these analyses is a map or plot that depicts the radio frequency propagation prediction for each site. IDK has presented an analysis using the 700 MHz frequency band currently used by Verizon.

The sites used by IDK in the analysis are as follows:

1.) Existing and planned Verizon radio sites in Rye and adjoining municipalities
2.) Proposed site at 120 Brackett Road
3.) Alternative site at Elementary School
4.) Alternative Site at Ordione State Park
5.) Alternative Site at Lot 66
6.) Alternative Site at 505 Ocean Blvd
7.) Alternative Site at Wallis Sands

Results:

Propagation analysis was performed using the existing and proposed Verizon radio sites. Maps are included at the end of this report that depict the results with the coverage areas for each site in blue. Areas with blue represent reliable LTE coverage. IDK confirms the signal level thresholds used by the applicant in the analysis as typical for the region. Areas with less than reliable coverage are depicted in white. The following paragraphs identify each scenario with the associated results:

FIGURE 1

IDK ran LTE coverage for all existing and planned Verizon sites to determine if a coverage gap existed in the Town of Rye, specifically in the targeted area of Route 1A, Sagamore Road, Brackett Road, Route 1B, Parsons Road, Clark Road, Ordione State Park and the adjoining roads. The results show that indeed there exist gaps in coverage in those areas of the Town.

FIGURE 2

Figure 2 shows the Verizon existing coverage with the proposed site at 125 feet. The site provides coverage to the targeted areas of Route 1A, Sagamore Road, Brackett Road, Route 1B, Parsons Road, Clark Road, Ordione State Park and the adjoining roads. The site provides interconnection to the existing site in Portsmouth.

FIGURE 3

Figure 3 shows the Verizon existing coverage with an alternative at the Elementary School site at 125 feet. The site provides coverage to the targeted areas of Route 1A, Sagamore Road, Clark Road and Brackett Road but not to Route 1B, Parsons Road or Ordione State Park. The site provides interconnection to the existing site in Portsmouth.

FIGURE 4

Figure 4 shows the Verizon existing coverage with an alternative at the Ordione State Park site at 125 feet. The site provides coverage to the targeted areas of Route 1A, Sagamore Road, Brackett Road, Route 1B, Parsons Road, Clark Road, Ordione State Park and the adjoining roads. There are some gaps along Sagamore, Clark and Parsons Road that do not exist with the proposed site. The site provides interconnection to the existing site in Portsmouth.

FIGURE 5

Figure 5 shows the Verizon existing coverage with an alternative at Lot 66 at 125 feet. The site provides similar coverage to the proposed location to the targeted areas. The site provides interconnection to the existing site in Portsmouth.

FIGURE 6

Figure 6 shows the Verizon existing coverage with an alternative at 505 Ocean Blvd at 125 feet. The site provides coverage to the targeted areas of Route 1A, Sagamore Road, Brackett Road, Route 1B, Parsons Road, Clark Road, Ordione State Park and the adjoining roads. The coverage along Sagamore and Parsons Road is not as good as the proposed site. The site provides interconnection to the existing site in Portsmouth.

FIGURE 7

Figure 7 shows the Verizon existing coverage with an alternative at Wallis Sands at 125 feet. The site provides coverage to the targeted areas of Route 1A, Sagamore Road, Brackett Road, Route 1B, Parsons Road, Clark Road, Ordione State Park and the adjoining roads. The coverage along Sagamore and Route 1B as well as the Ordione State Park is not as good as the proposed location. The site provides interconnection to the existing site in Portsmouth.

Coverage Summary

The following summarizes the findings of the coverage scenarios:

- Today there exists LTE coverage gaps in the Town of Rye in the targeted areas of Route 1A, Sagamore Road, Brackett Road, Route 1B, Parsons Road, Clark Road, Ordione State Park and the adjoining roads for Verizon.
- The proposed site at 120 Brackett Road at 125 feet provides coverage to those areas identified to have gaps.
- The alternative location at the Elementary School does not provide the same amount of coverage to the targeted areas as the proposed location.
- The alternative location at Ordionne State Park provides similar coverage to the proposed site except along Sagamore, Clark and Parsons Road.
- The alternative location on Lot 66 provides similar coverage to the proposed location.
- The alternative location at 505 Ocean blvd provides similar coverage to the proposed site except along Sagamore and Parsons Road.
- The alternative location at Wallis Sands provides similar coverage to the proposed location except along Sagamore, Route 1B and Ordione State Park.

IDK has no other additional comments regarding the referenced application and find that standard engineering practice was used in their coverage analysis. If you have any questions please feel free to contact me at (978) 375-7914.

Yours truly,

Ivan Pagacik

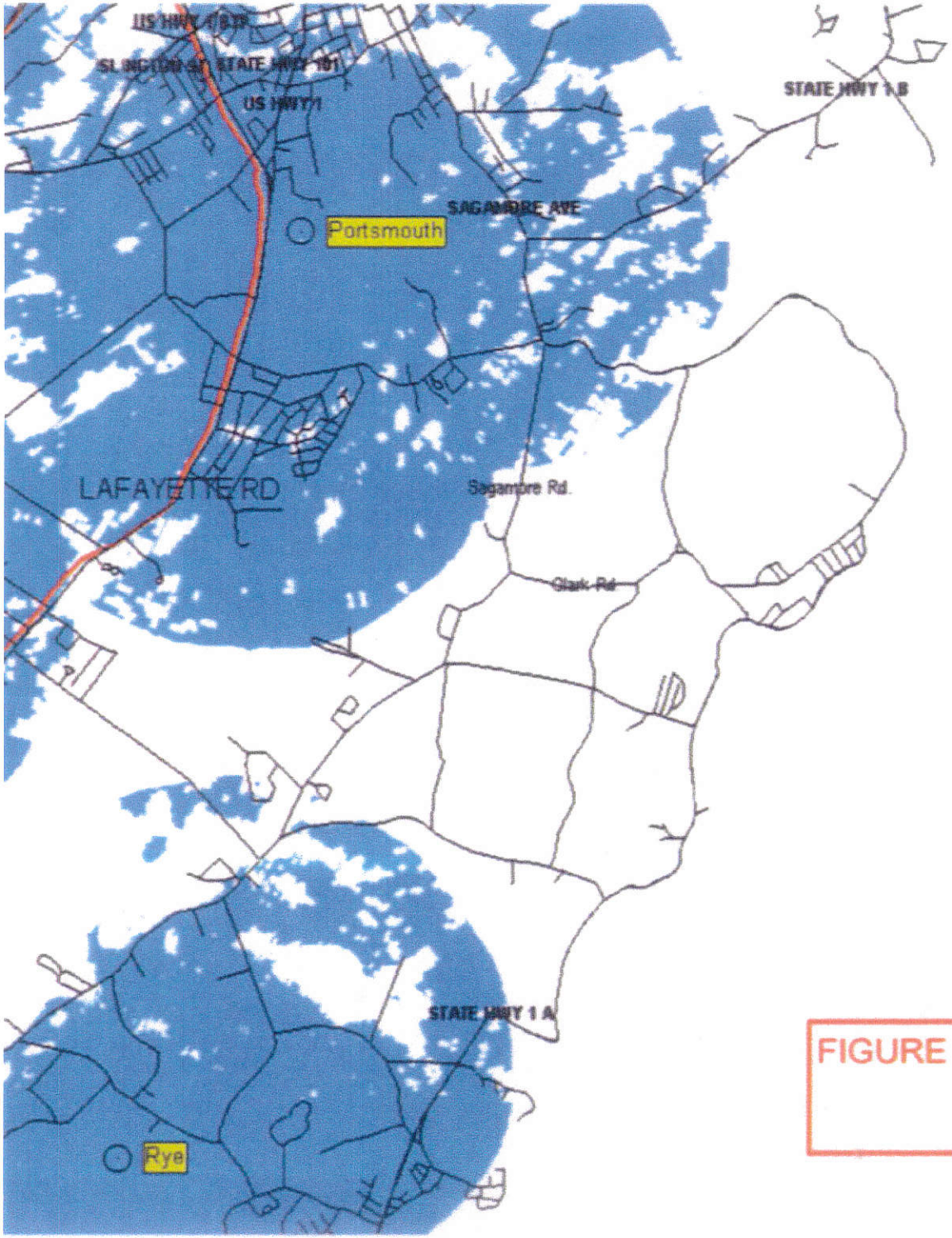


FIGURE 1 - Existing Verizon Coverage

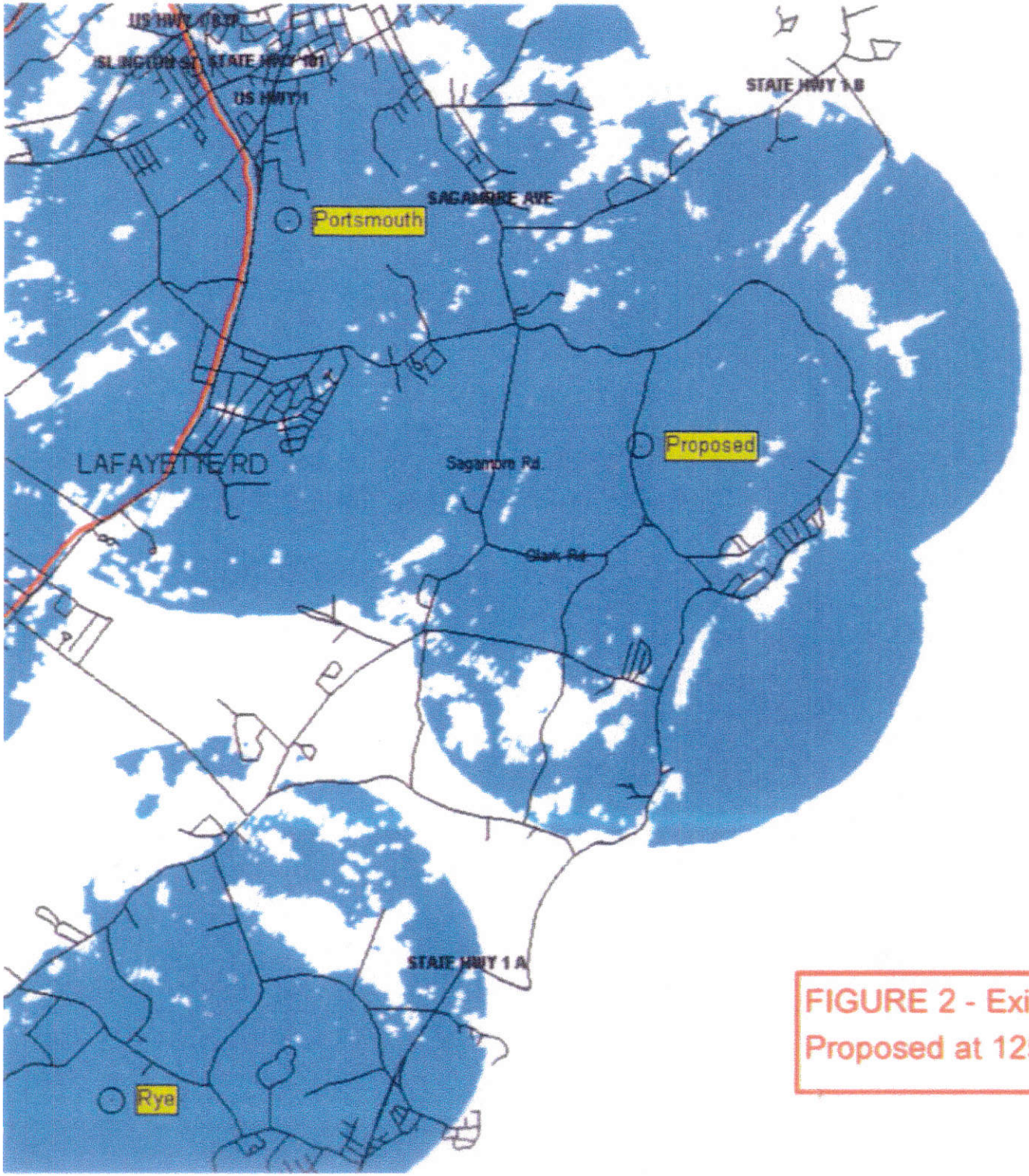


FIGURE 2 - Existing Verizon Coverage with Proposed at 125 Feet

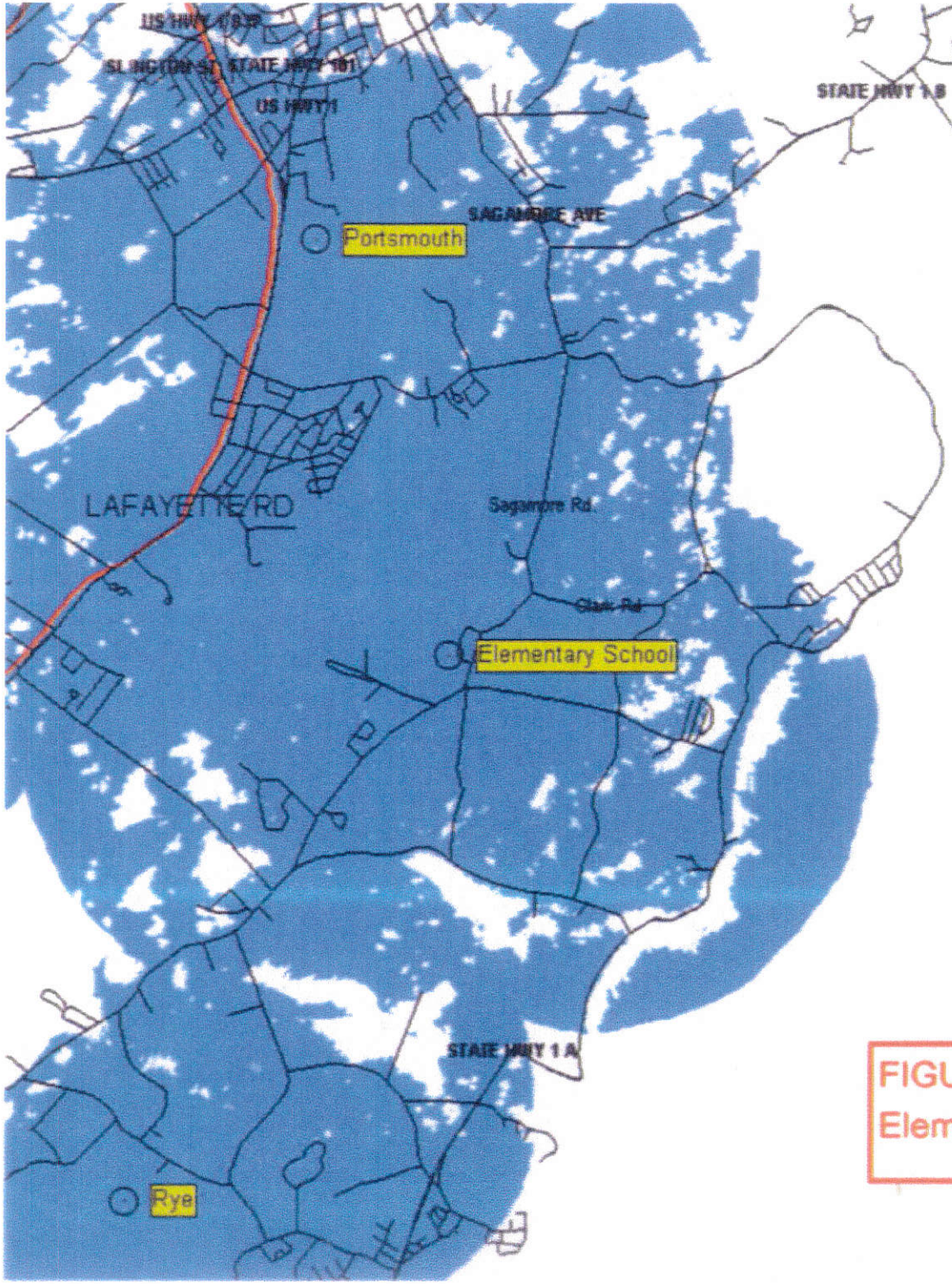


FIGURE 3 - Existing Verizon Coverage with Elementary School at 125 Feet

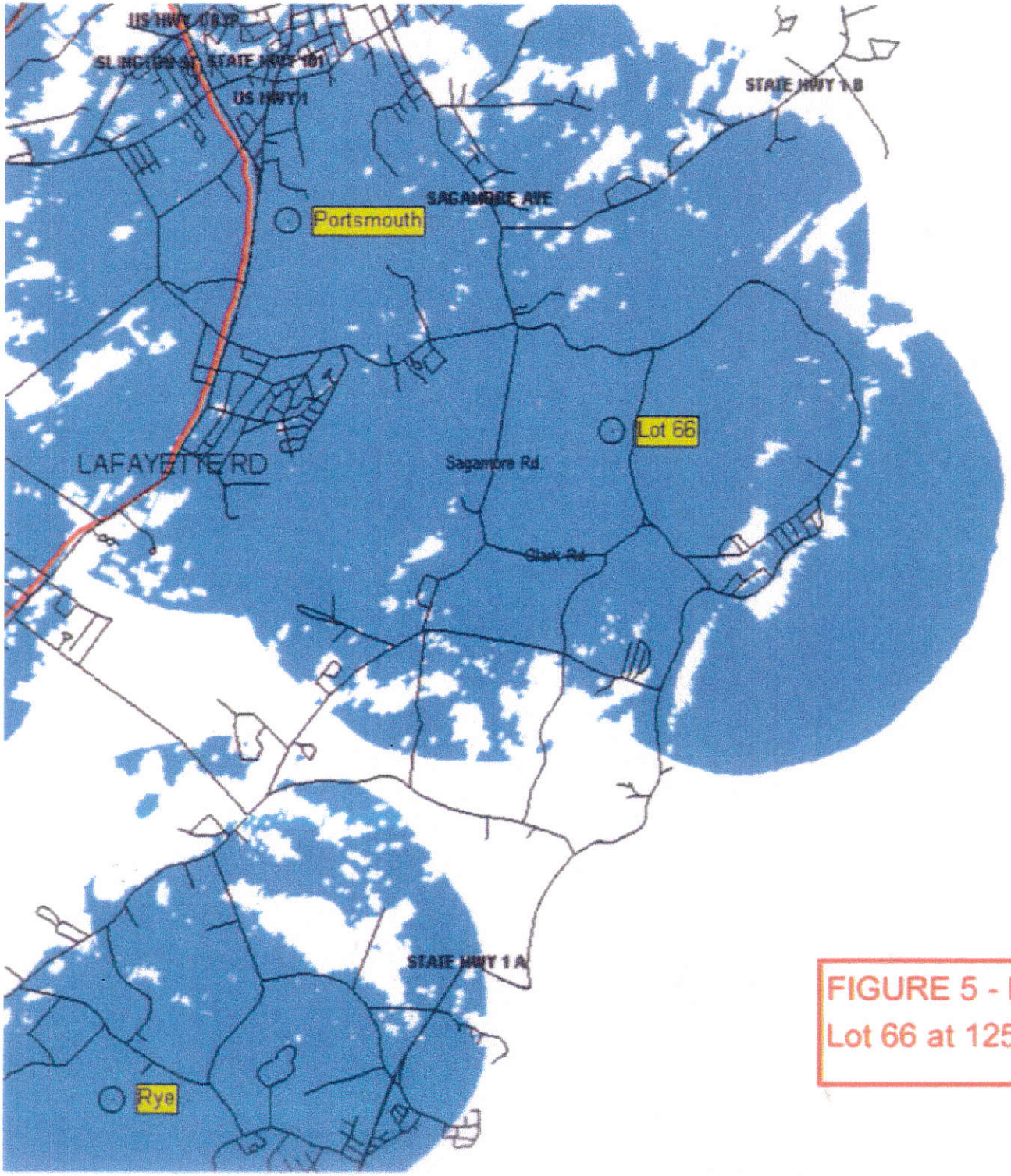


FIGURE 5 - Existing Verizon Coverage with Lot 66 at 125 Feet

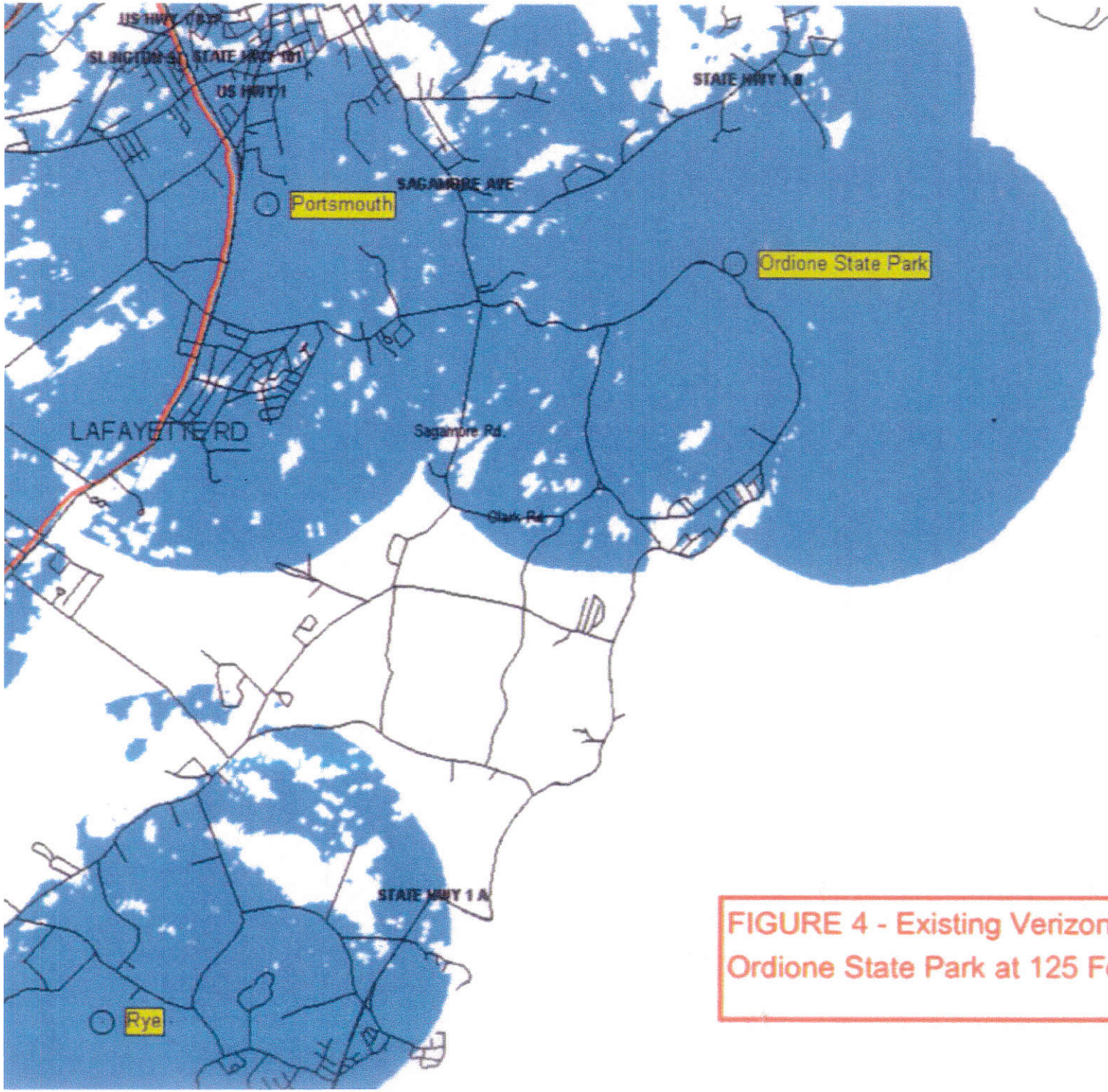


FIGURE 4 - Existing Verizon Coverage with Ordione State Park at 125 Feet

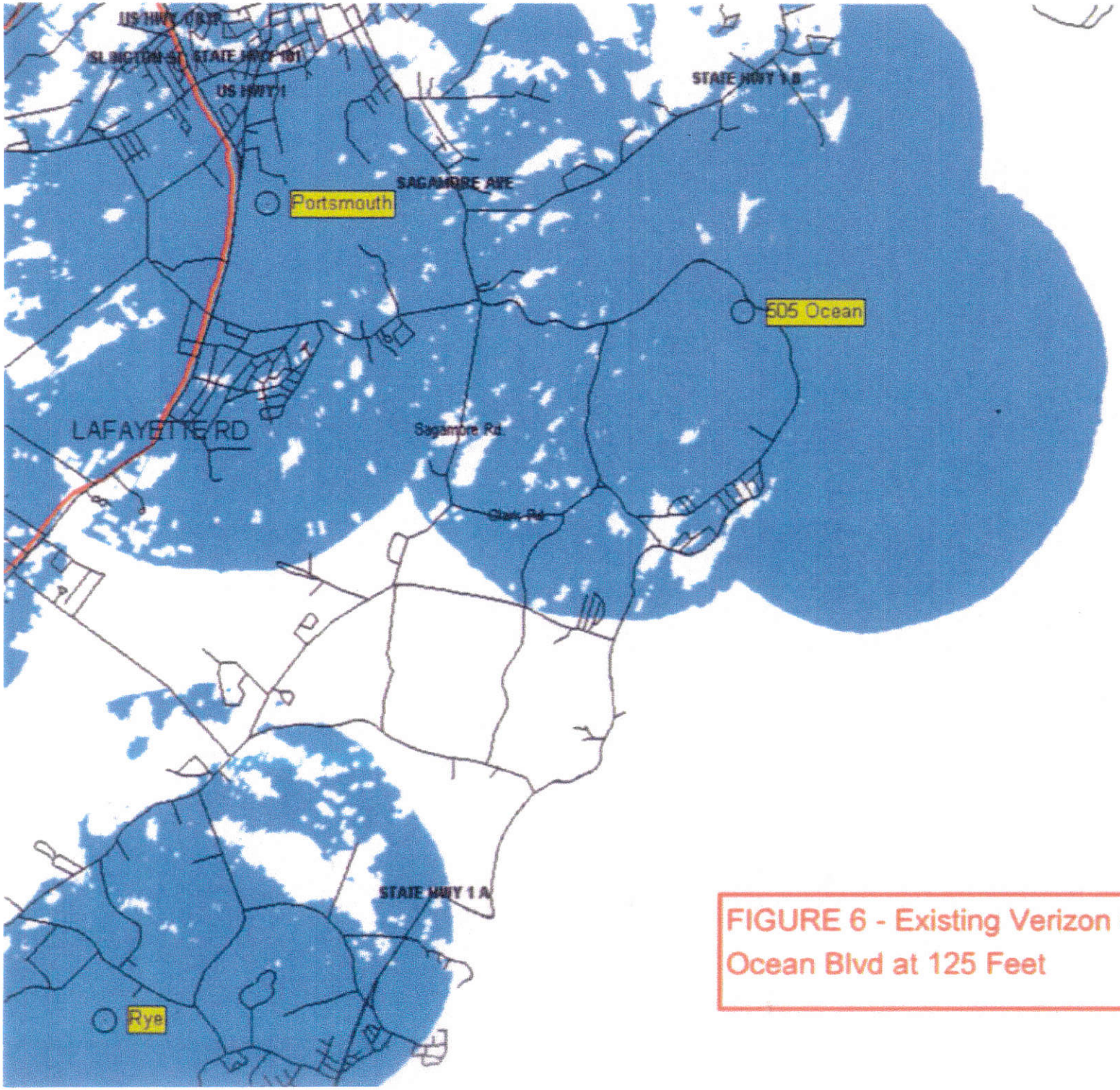


FIGURE 6 - Existing Verizon Coverage with 505 Ocean Blvd at 125 Feet

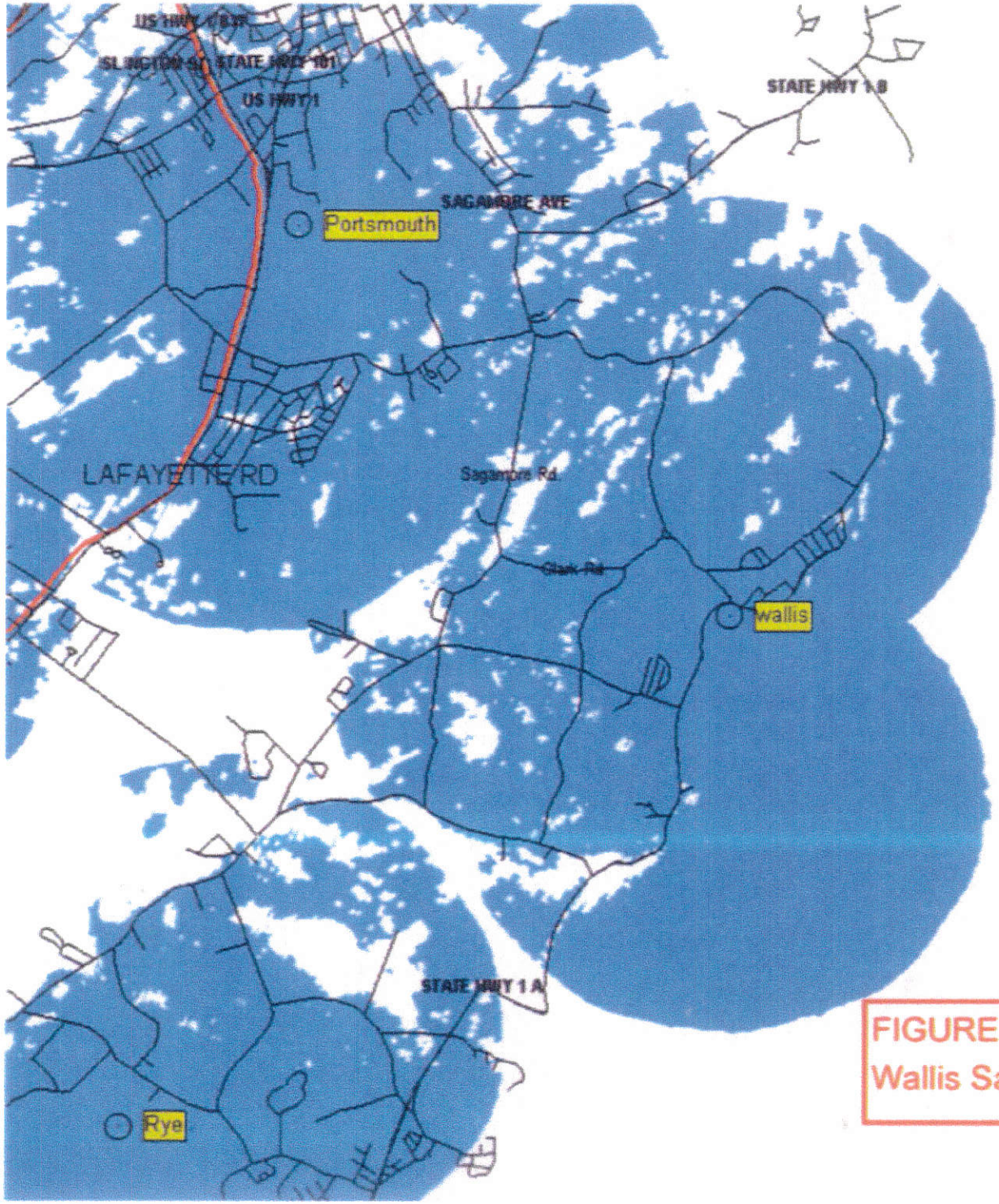
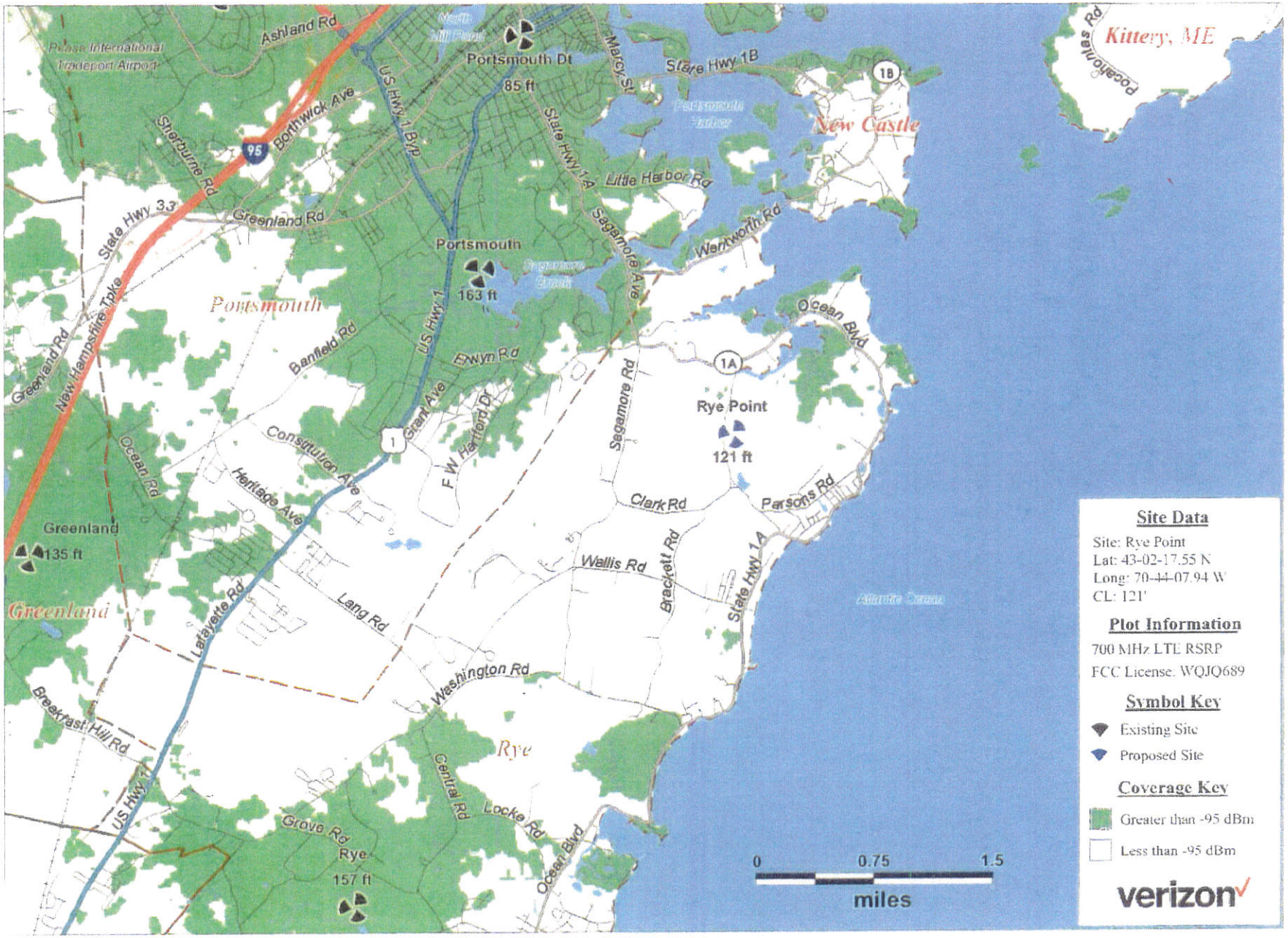


FIGURE 7 - Existing Verizon Coverage with Wallis Sands at 125 Feet

Exhibit 8

Attachment A:
Rye Point - Existing 700 MHz LTE Coverage



Attachment B:
Rye Point - 700 MHz LTE Coverage with Proposed Site

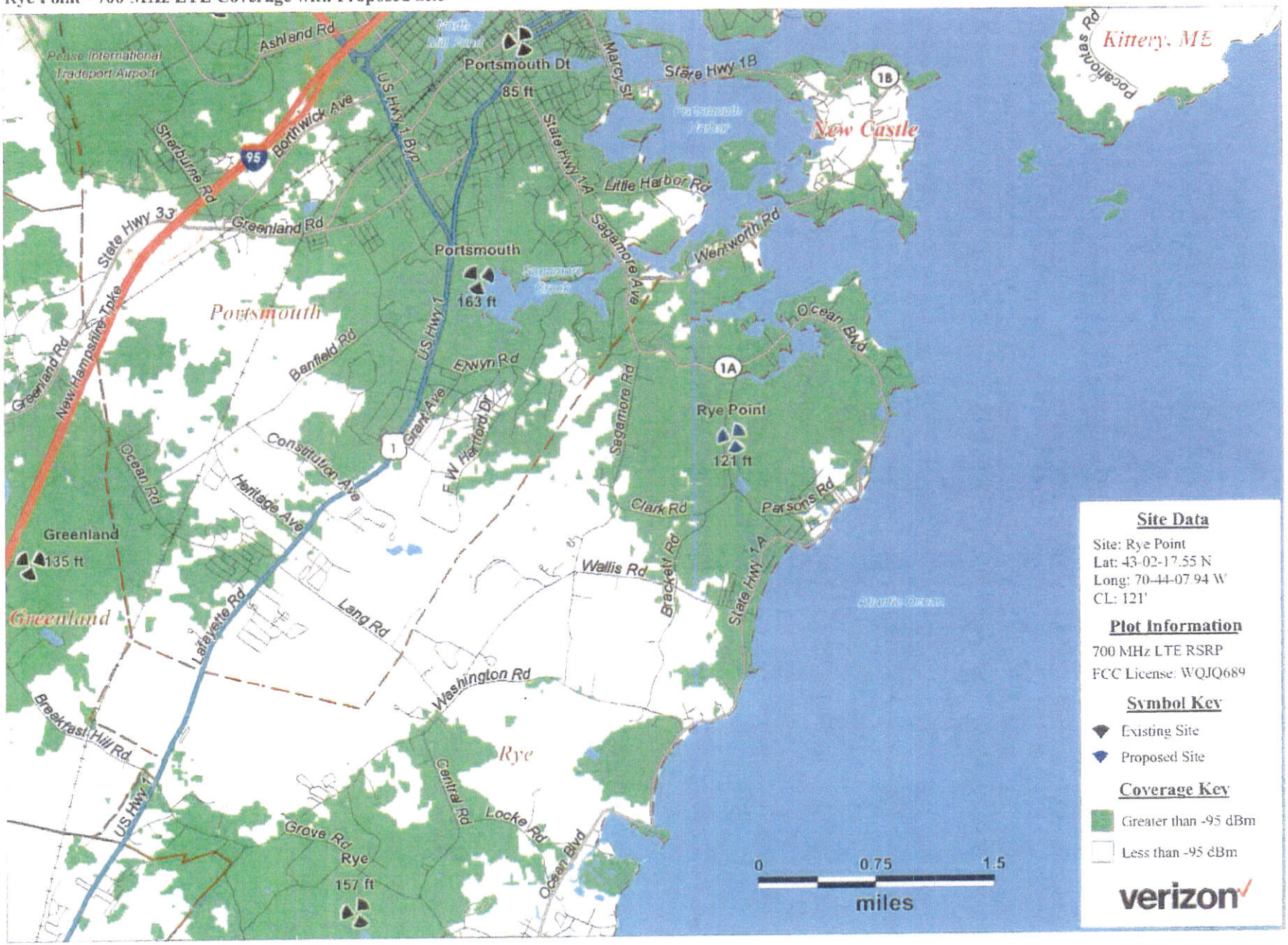
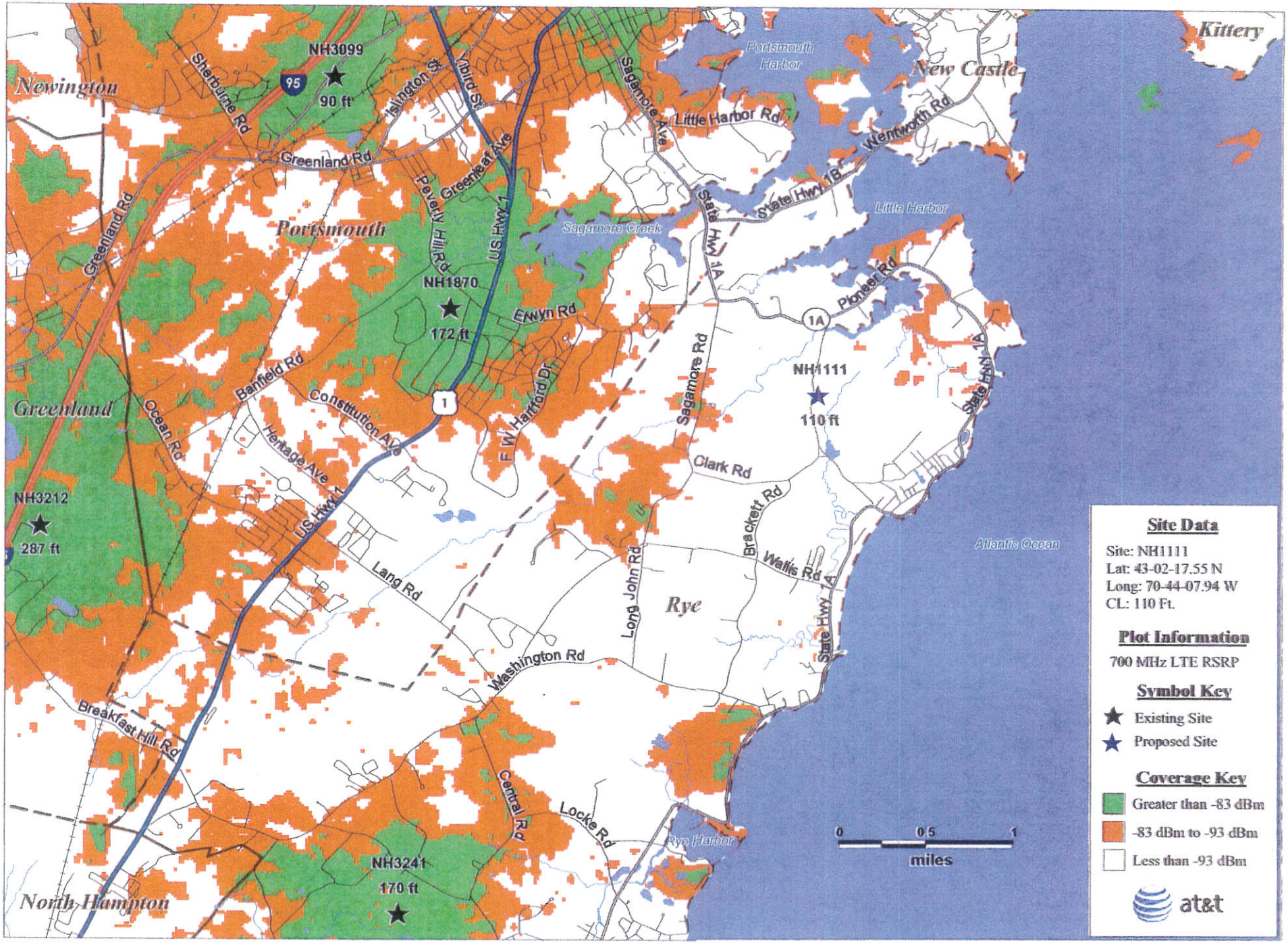


Exhibit 9

NH1111 - Existing 700 MHz LTE Coverage



NH1111 - 700 MHz LTE Coverage with Proposed Site

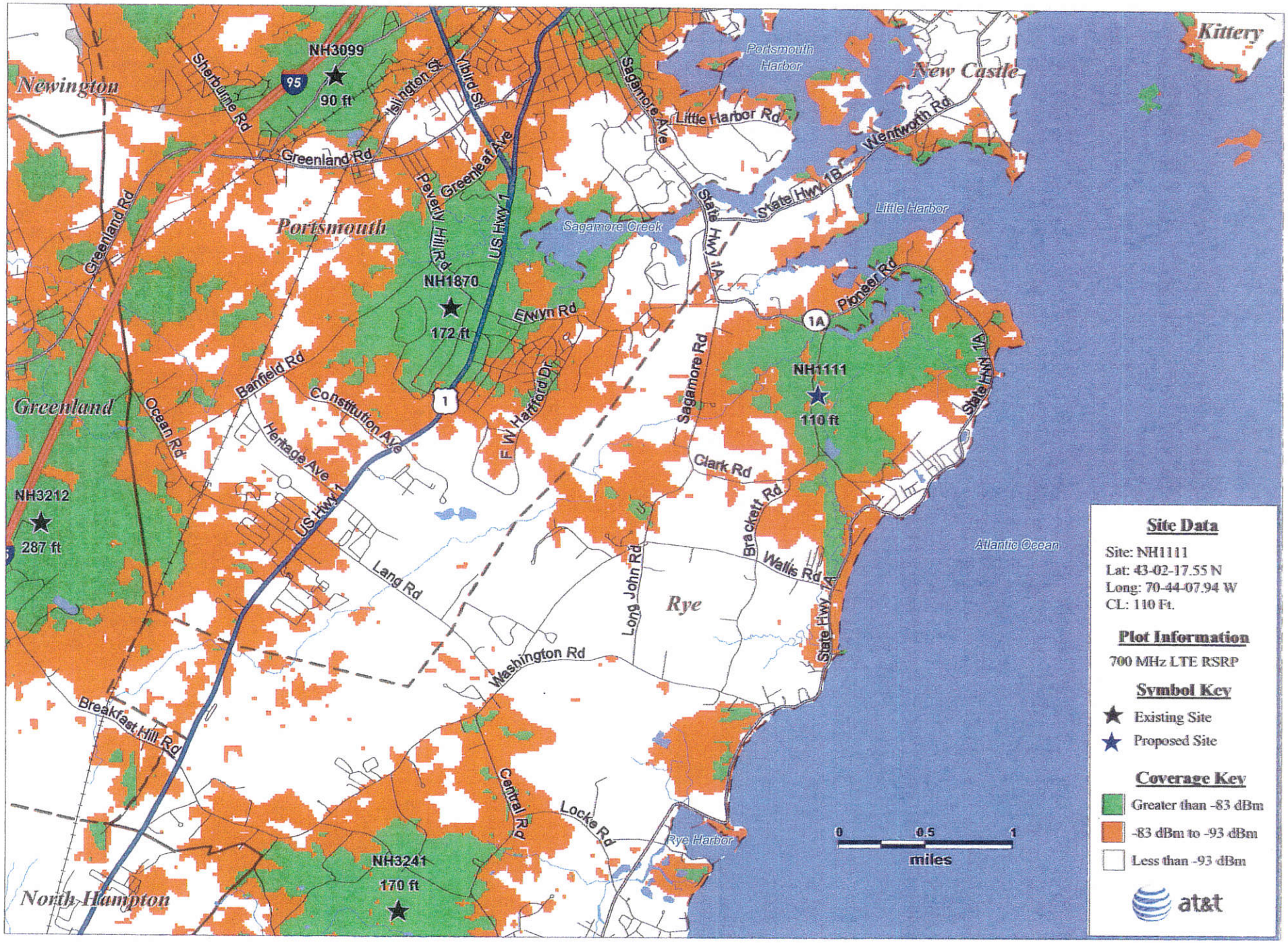


Exhibit 10

NH1111 - Neighbor Sites & Radial Distances

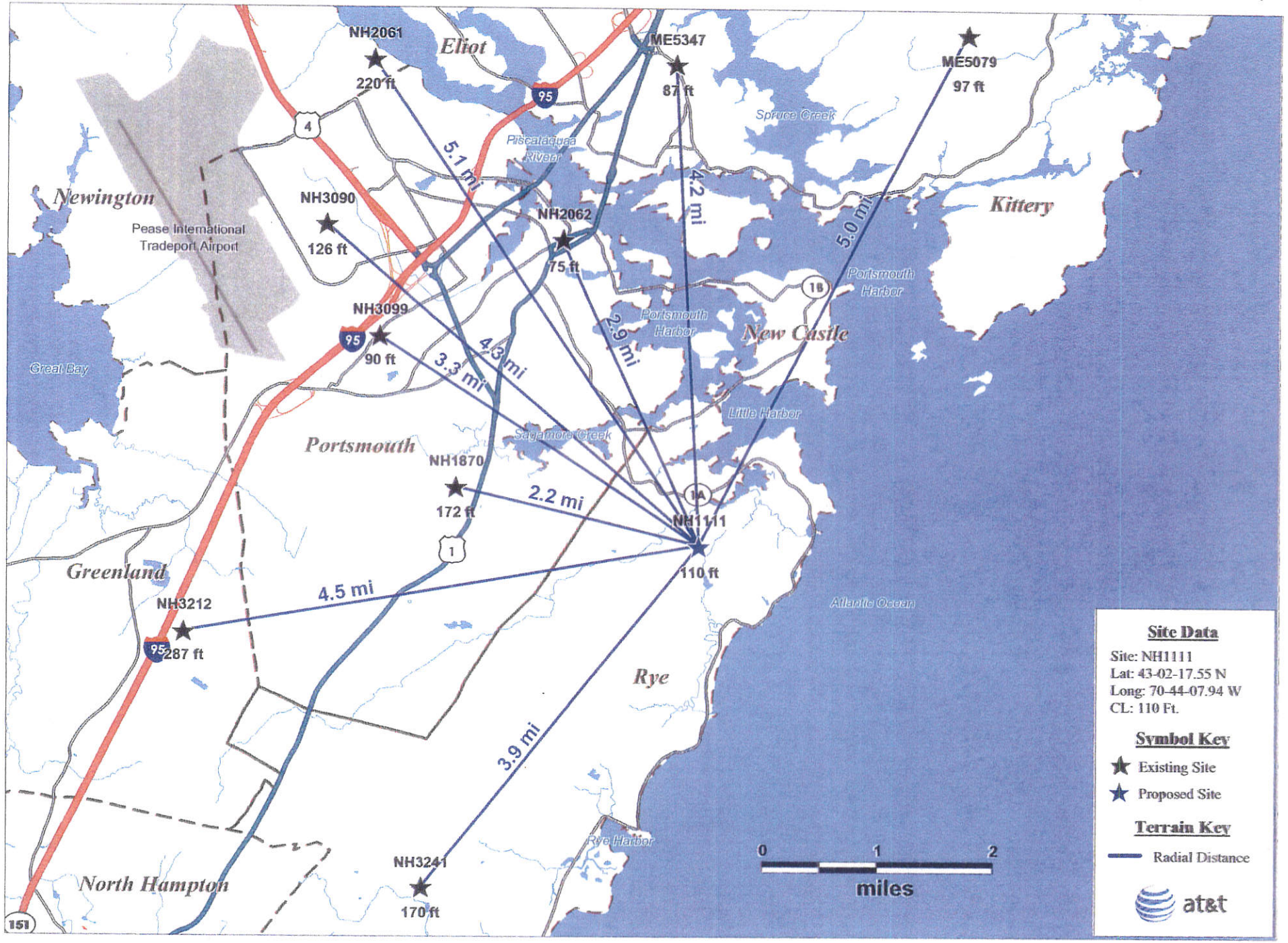


Exhibit 11

Northern Rye cell phone signal strengths

Based on observations by Peter Crawford and Kathy McCabe 8/30/18. All AT&T connections are 3G due to limitations of the phone. Verizon connections are as indicated. Some AT&T call results are from 8/22, but all signal strengths and Verizon call results are from 8/30. Rev. C. Verizon quality based on listening to recorded voice mails.

Location	AT&T Signal str.(dBm)	AT&T Results	Verizon Signal str.(dBm)	Verizon Connection	Verizon Results
Brackett & Pioneer	-93	Connected	-104	LTE	Connected
147 Clark (near Wallis)	-90	Connected	-106	LTE	Rang, but dropped
Foyes Corner	-106	Connected	-103	LTE	Connected
Brackett & Clark	-94	Connected	-118	LTE	Connected
Brackett & Wallis	-95	Connected	-119	LTE	Connected
Langs Corner	-94	Connected	-112	LTE	Connected
Long John & Washington	-102	Connected	-120	LTE	Connected
Colbourn & Washington	-113	Connected	-102	CDMA	Connected
Ocean & Washington	-100	Connected	-94	CDMA	Connected
Rye Elementary School entr. Dway.	-97	Connected	-109	LTE	Connected
171 Brackett (near Clark)	-109	Connected	-114	LTE	Connected
Ocean & Witch Crk. (State ramp)	-79	Connected	-96	LTE	Connected
Ocean & Odiorne SP entr.	-109	Call failed display	-118	LTE	Connected
Ocean & Pollock	-118	Connected	-101	CDMA	Connected
Call terminated due to noisy lawnmower in vicinity					
Ocean & Marsh	-95	Connected	-110	LTE	Connected
Ocean & Wallis	-106	Connected	-105	CDMA	Connected

Exhibit 12

Intentionally Omitted

Exhibit 13

4. Proposed Antenna Inventory

Table 1 below outlines Verizon Wireless' proposed antenna configuration at this site. The associated data sheets and antenna patterns for these specific antenna models are included in Attachments C.

Operator	Sector	TX Freq (MHz)	Power at Antenna (Watts)	Ant Gain (dBd)	Power ERP (Watts)	Antenna Model	Beam Width	Length (ft)	Antenna Centerline Height (ft)
Verizon	Alpha	751	120	14.1	3084	SBNHH-1D65C-8	66	8.1	121.0
		2100	180	16.4	7857	SBNHH-1D65C-5	63	8.1	121.0
		Receive Only / Future				SBNHH-1D65C	66	8.1	121.0
		Receive Only / Future				SBNHH-1D65C	63	8.1	121.0
	Beta	751	120	14.1	3084	SBNHH-1D65C-8	66	8.1	121.0
		2100	180	16.4	7857	SBNHH-1D65C-3	63	8.1	121.0
		Receive Only / Future				SBNHH-1D65C	66	8.1	121.0
		Receive Only / Future				SBNHH-1D65C	63	8.1	121.0
	Gamma	751	120	14.1	3084	SBNHH-1D65C-5	66	8.1	121.0
		2100	180	16.4	7857	SBNHH-1D65C-2	63	8.1	121.0
		Receive Only / Future				SBNHH-1D65C	66	8.1	121.0
		Receive Only / Future				SBNHH-1D65C	63	8.1	121.0

Table 1: Proposed Antenna Inventory[1] [2]

[1] Transmit power assumes 0 dB of cable loss.

[2] Antenna height of Verizon Wireless is in reference to the Chappell Engineering Associates, LLC, Zoning Drawings dated December 7, 2017.

Exhibit 14

MICHAEL DONOVAN LAW, P.L.L.C

RECEIVED 6/18/18

Michael L. Donovan
Attorney and Counselor at Law
52 Church Street
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Fax: send a pdf
mdonovanlaw62@gmail.com

MEMORANDUM

TO: Rye Board of Adjustment
Rye Planning Board

RE: Verizon Cell Tower Proposal/Alternate Sites

DATE: June 14, 2018

Dear Board Members:

This follows-up on my May 10, 2018 Memorandum in which I recommended the following 5 alternative sites be reviewed by wireless engineering services consultant Ivan Pagacik.

1. The town owned 14 acre parcel at 0 Port Way (TM 23, Lot 1) as well as the portion of the state owned Wallis Sands State Park parcel at the end of Port Way. (TM 23, Lot 4).

2. The Rye Elementary School 30 acre parcel which is part of the Wireless Telecommunications Overlay District. TM 18, Lot 34.

3. The state owned land (61 acres) at 505 Ocean Boulevard (former Ralph Brown property). Tax Map 25, Lot 1.

4. The more westerly part of Ordione State Park, away from the Seacoast Science Center part of the park. Tax Map 25, Lot 11. The entire park is 137 acres in size.

5. The Thiel property at 34 Brackett Rd. (TM 22, Lot 89).

On May 17, 2018 I received an e-mail from Attorney Manougian (attached) in which he states that Verizon is willing to stipulate that 0 Port Way and the Theil property were not rejected by Verizon on the basis of their RF performance characteristics. Verizon believes these sites are not feasible for other reasons. If this means that these sites are technically feasible alternatives to the proposal for 120 Brackett Road, then there is no need for Consultant Pagacik to review them (i.e. 0 Port Way and Theil).

Rye Elementary School. Town Administrator Magnant and I met recently with the Rye School Board to discuss the possibility of a cell tower on the 30 acre parcel next to the Rye

Elementary School. The school board authorized us to have consultant Pagacik review the feasibility of a cell tower on that site. According to Attorney Manougian's May 17, 2018 e-mail, Verizon has no problem with that. Hence, I recommend that Consultant Pagacik review that site.

2. Odiorne Point. Apparently in 2009-2010 a proposal to put a 110 ft. monopine just off the edge of the main parking area at Odiorne State Park was dropped by Verizon. Verizon states that this tower would have addressed the coverage gap which the 120 Brackett Road tower is intended to address.

Odiorne Point State Park covers 137 acres. There may be other feasible sites at Odiorne which might not be as objectionable as the site adjacent to the main parking area. Unless Verizon is willing to stipulate to that, I recommend that Consultant Pagacik look at other parts of the state park.

3. 505 Ocean Boulevard. Attorney Manougian's May 17, 2018 email suggested that Verizon should have the first opportunity to evaluate this site (rather than having Consultant Pagacik review it). Then Consultant Pagacik can review Verizon's findings if necessary. That seems like a reasonable request.

If there are other potential sites board members would like to review, they should be added to the list. Mr. Pagacik should be provided the final list as soon after the June 21 joint hearing as possible.

Please do not hesitate to contact me if you have any questions.

Very truly yours,

MLD

Michael L. Donovan

Attached: Atty. Manougian May 17, 2018 E-Mail

Cc (By E-Mail)
Ivan Pagacik
Victor Manougian, Esq.
Michael J. Magnant

Exhibit 15

Verizon Wireless: 120 Brackett Road – Dolores and Rodney Lintz
Alternate Site Analysis

In an effort to provide additional detail on Verizon's alternate site analysis, we would like to submit the following summary. It is key to note that in order to fill this gap in coverage, the prospective site candidate needs to be within the area in which Verizon is trying to serve. In this case, northern Rye to improve deficient service areas along Route 1A (Ocean Boulevard/Pioneer Road), Sagamore Road, Brackett Road, Route 1B (Wentworth Road), and the surrounding roads, neighborhoods, and business/retail/community areas in the proximity of the proposed site.

2007-08: Stealth Collocation/Pulpit Rock Lookout Tower – **State of NH Fish & Game**

At the southern edge of the search area, stands an 86' tall concrete tower built by the Navy in 1943 at the beginning of WWII. This candidate was the one and only existing structure of any height in the search area. Verizon proposed to attach its antennas to a replacement railing encircling the top of the tower. The antennas would have then been covered with a stealth façade, painted to match the tower. A copy of Verizon's plans for this site are attached as Exhibit 1. The attached article from the May 27, 2008, Portsmouth Herald (Exhibit 2) reports that the "Friends of Pulpit Rock Tower," persuaded NH Fish & Game to abandon efforts to lease space on the tower to Verizon in favor of finding an alternative re-use of the abandoned structure.

2009-10: monopine/Odiorne State Park - State of NH DRED

In the Spring of 2009, at the suggestion of the then-Town Administrator, Mike Farrell, Verizon re-approached the State of New Hampshire, this time through the Department of Resources and Economic Development[1], to discuss the possibility of a wireless communications facility at Odiorne State Park. Over the course of more than one year, Verizon devoted considerable efforts in pursuit of this proposal. Negotiations with NH DRED and the NH AG's office proposed a final lease that was executed by Verizon on June 23, 2010. The agreed upon proposal called for a 105' monopine just off the edge of the main parking area. A copy of the Lease Exhibit depicting the proposed facility is attached as Exhibit 3. Verizon began the process of permitting the site with an application to the Rye Zoning Board on July 8, 2010. Verizon's due diligence included: a Phase I Environmental Site Assessment; balloon test; photo simulations; conceptual meeting with the Zoning Board; design reconfiguration to support future expansion of the parking area; winning the support and endorsement of the Executive Director of the Seacoast Science Center; among other things. Over the course of the summer and into the fall, several monthly Zoning Board meetings were skipped for want of a quorum. At the same time, opponents, led by John Stephenson, organized around a now defunct web site: www.saveodiornepoint.org, were bringing political pressure to bear on the State not to sign the lease with Verizon. It is our understanding that the State did not want to incur further public opposition, and also that the agency was not willing to complete the historical research necessary to confirm which prior parcels that make up the park were purchased with federal grants that may have required federal approval for the project. In light of the State's lack of commitment to the project, Verizon withdrew its zoning application. Attached as Exhibit 4 is a copy of the September 11, 2010, Seacoast Online article reporting on the withdrawal.

[1] n/k/a Department of Natural and Cultural Resources.

Verizon Wireless: 120 Brackett Road – Dolores and Rodney Lintz
Alternate Site Analysis

2015-17: raw land monopine/Mike Thiel and Gail Richard – 34 Brackett Road

On 3-3-15, Verizon sent a proposal to Mike Thiel and Gail Richard. For the next 2 1/2 years, Verizon attempted to both negotiate a lease and design a site that was satisfactory to the landowner. On 8-11-17, Mr. Thiel sent Verizon an email that opened with: *"I recognize that it is almost always a long time between each baby step we take towards working together and my/our situation is probably most to blame for that..."* Mr. Thiel continued with an explanation as to why they thought it might make more financial sense to encumber their property with a conservation easement and with no guarantees, a decision one way or the other might come by the end of the year. I also note they mentioned a genuine interest in leaving the property in its natural state; a respectable position to take with an especially unique property. Mr. Thiel concluded his note by saying: *"In the meantime, if VZ wants/needs to move on to other prospective lease prospects that meet their needs for coverage in this area, I certainly understand."* And *"I apologize if it seems like we have been stringing you along all this time. It's just that I have a lot of 'balls in the air'."*

2017: raw land monopine/Condon – off Port Way "Oliver's Neck"

Seeing the "writing on the wall" with regard to Thiel, Verizon contacted the Condon family in August of 2017 about the possibility of leasing ground space for a new monopine facility. The Condons alerted Verizon to the fact that they did not have legal access or utilities rights to the property; both necessary elements to any cell site. After walking the property with the owner and reviewing Title, our attorneys agreed that access was described only as "cart path" rights and would not support Verizon's use.

Exhibit 16

MICHAEL DONOVAN LAW, P.L.L.C

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Attorney and Counselor at Law
52 Church Street
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Concord, NH 03302-2169

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Fax: send a pdf
mdonovanlaw62@gmail.com

MEMORANDUM

TO: Rye Planning Board
Rye Board of Adjustment

RE: Verizon Cell Tower Proposal/0 Port Way

DATE: August 28, 2018

Dear Board Members:

Verizon asserts that the town owned parcel at 0 Port Way (Tax Map 23/Parcel 1), while technically capable of providing coverage to its gap, is not feasible due to access problems. At one of the work sessions I indicated that I would review this assertion.

Town tax maps show Map 23/Parcel 1 as being bounded by Port Way. Holland Drive connects Port Way to Parsons Road. Port Way and Holland Drive were platted as part of the June 1921 Fair Hill Estates plan. The section of Port Way adjacent to 0 Port Way is either a private street or a paper street. It is not a town road. Because 0 Port Way was not part of the land platted as Fair Hill Estates, it probably does not have an implied access easement arising from the Fair Hill Estates plan.

I have reviewed some title research provided by Attorney Manougian and records in my archives from the circa 1995 when the Condons tried to build on Tax Map 23/Lot 2. The ZBA denied their application due to a lack of access. The Condrons appealed to court but eventually dropped the appeal, conceding a lack of access.

A 1975 deed in the chain of title to 0 Port Way indicates that the parcel has "a right to pass through the same [back field] over the usual cart path to Odiorne Neck and to other parts of the Wallis Farm so-called." RCRD B2266/P1875. This right of passage runs back to an 1845 deed. RCRD B314/P265. Part of the former Wallis Farm is now Tax Map 20.2/Lot 21 on Parsons Road. Affidavit of Urban A. Beane, 9/21/1995. It appears that the June 1921 platting of Fair Hill Estates may have platted Holland Drive and several lots over the area covered by the above quoted right of passage.

In my opinion it would take a Quiet Title Action in court to re-establish the access rights to 0 Port Way, which most likely would be re-established over Holland Drive. Alternatively, the town could pursue having the board of selectmen layout an access pursuant to RSA 231:8 *et. seq.* or RSA 231:28, *et. seq.*

Please do not hesitate to contact me if you have any questions.

Very truly yours,

Michael L. Donovan

Cc: Victor Manougian, Esq. (By Email)

Exhibit 17

REFERENCE COPY

This is not an official FCC license. It is a record of public information contained in the FCC's licensing database on the date that this reference copy was generated. In cases where FCC rules require the presentation, posting, or display of an FCC license, this document may not be used in place of an official FCC license.

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
1120 SANCTUARY PKWY, #150 GASA5REG
ALPHARETTA, GA 30009-7630

Call Sign	File Number
WQJQ689	
Radio Service: WU - 700 MHz Upper Band (Block C)	

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
11-26-2008	05-28-2014	06-13-2019	

Market Number	Channel Block	Sub-Market Designator
REA001	C	0

Market Name
Northeast

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
06-13-2013	06-13-2019		

Waivers/Conditions:

If the facilities authorized herein are used to provide broadcast operations, whether exclusively or in combination with other services, the licensee must seek renewal of the license either within eight years from the commencement of the broadcast service or within the term of the license had the broadcast service not been provided, whichever period is shorter in length. See 47 CFR §27.13(b).

This authorization is conditioned upon compliance with section 27.16 of the Commission's rules

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select "License Search". Follow the instructions on how to search for license information.

FCC 601-MB
April 2009