

**MINUTES OF THE  
MENDHAM BOROUGH BOARD OF ADJUSTMENT  
May 13, 2009  
Garabrant Center, 4 Wilson Street, Mendham, NJ**

**CALL TO ORDER**

The special meeting of the Board of Adjustment was called to order by Chair Santo at 7:35 p.m. at the Garabrant Center, 4 Wilson Street, Mendham, NJ.

**CHAIRMAN'S ADEQUATE NOTICE STATEMENT**

Notice of this meeting was published in the Observer Tribune and the Daily Record on April 23, 2009 in accordance with the Open Public Meetings Act and was posted on the bulletin board of the Phoenix House.

**ATTENDANCE**

Mr. Palestina – Present  
Mr. Peck – Present  
Mr. Peralta – Present (7:40 p.m.)  
Mr. Schumacher – Present

Mr. Seavey - Present  
Mr. Smith - Present  
Mr. Santo - Present

Also Present:

Mr. MacDonald, Attorney  
Mr. Humbert, Planner  
Dr. Eisenstein, Telecommunications Consultant

**PUBLIC COMMENT**

Chair Santo opened the meeting to public comment or questions on items that were not on the agenda. There being none, the public comment session was closed.

**APPROVAL OF MINUTES**

On motion by Mr. Smith, second by Mr. Schumacher and carried, the minutes of the regular meeting of April 7, 2009 were approved as written.

**HEARINGS**

**Noll, Ken & Nora – Use Variance: Resolution**  
Block 1901, Lot 17, 5 Muirfield Lane

Mr. MacDonald, Esq. presented the following resolution memorializing action taken by the Board at their regular meeting of April 7, 2009:

**RESOLUTION OF FINDINGS AND CONCLUSIONS  
BOARD OF ADJUSTMENT  
BOROUGH OF MENDHAM**

**WHEREAS, KEN NOLL and NORA NOLL** have applied to the Board of Adjustment of the Borough of Mendham for permission to construct certain additions to the single family dwelling located at 5 Muirfield Lane also known as Lot 17 in Block 1901 on the Tax Map of the Borough of Mendham, which premises are in the 1 Acre Residence Zone; and

**WHEREAS**, the Board, after carefully considering the evidence presented by the applicants and after providing the adjoining property owners and the general public with the opportunity to be heard, has made the following factual findings:

1. The applicants are the owners of the subject property which was purchased from Mrs. Noll's mother in August, 2008 according to the Application materials.
2. According to a December 26, 2008 Survey prepared by Canger Engineering Associates, the lot has approximately 50 feet of frontage on the Muirfield Lane cul-de-sac "bulb". The lot is 150 feet in total width and it extends easterly to depth of 201 feet top a rear line width of 148 feet.
3. The total area of the property is 43,565 square feet or 1.0 acre which meets the current minimum lot size requirement of 1.0 acre.
4. Under current zoning standards in the 1 Acre Residence Zone this previously developed property remains conforming as to: the currently required 75 foot front

yard setback from Muirfield Lane; the currently required 25 foot setbacks from the sidelines; and, the currently required 50 foot setback from the rear line.

5. The existing dwelling has an existing rear setback of 151 feet and the proposed additions depicted on the applicants' 4 page Architectural Exhibit, prepared by Byrne Design Associates and dated 1/8/09 and revised through 3/5/09, will be setback approximately 136.8 feet from the rear boundary line, whereas a minimum of 40 feet is currently required, as noted above.
6. The applicants' proposed addition to the northerly side of the house will be approximately 30.7 feet including the porch from the northerly sideline thus, requiring no variances from the current side setback standards.
7. The applicants explained that the additions are intended to provide accommodations for Mrs. Noll's mother who is a Senior Citizens. The design of the additions is intended to provide her with a degree of privacy and independence, while also integrating this senior accommodation suite into the rest of the home both internally and visually from the exterior. The applicants specifically affirmed that they do not intend this structure to be a two family house and the Board has specifically relied upon that representation in granting the relief provided herein.
8. The Board received, reviewed and considered reports and memoranda from the Borough Engineer dated 2/18/09 and 3/30/09, the Borough Health Consultant dated 4/3/09, the Borough Planning Consultant dated 4/3/09, the Borough Police Chief dated 4/1/09 and the 2/17/09 Resolution #44-09 of the Borough Council allowing for continued Municipal Sewer connection and use. The Zoning Officer's Review dated 1/26/09 indicates that Board Review is required to provide a determination regarding the actual use of the renovated structure.
9. The applicants through William P. Byrne, a licensed architect, provided expert testimony regarding the design, proposed use and basis for the renovations. Mr. Byrne also clarified that arrangements would be made to provide a Grading and Soil Control Plan including dry wells, as requested by the Borough Engineer.
10. The applicants explained the intended purpose of providing integrated, yet semi private accommodations for the senior family member. The basic utilities will not be separately supplied or billed.
11. No neighbors elected to comment on the applicants' proposal.

**WHEREAS**, the Board has determined that the use variance relief requested by the applicants for a SENIOR ACCOMMODATION SUITE can be granted without substantial detriment to the public good and without substantially impairing the intent and the purpose of the Zone Plan and Zoning Ordinance of the Borough of Mendham for the following reasons:

1. The Board is satisfied from the Evidence presented at the Public Hearing that the applicants have demonstrated that the proposed additions will advance the purposes of zoning as set forth in the MLUL, especially as regards providing a variety of housing types and particularly housing for senior citizens. The Board finds that the property and the home, as modified, are particularly suitable for the proposed Senior Accommodation Suite use.
2. The Board is satisfied from the Evidence presented at the Public Hearing that the proposed additions will not result in any significant detrimental impact to the surrounding properties, nor to the public good. The Board is satisfied that the proposed use will not result in any detrimental or unusual impact to the value or use of the surrounding homes, in light of the integrated exterior appearance of the Senior Accommodation Suite.
3. The Board is satisfied from the evidence presented at the Public Hearing that the proposed additions will not result in any significant detrimental impact to the Borough Zone Plan for this 1 Acre Residence Zone due to the fact that the proposed additions will comply with the neighborhood characteristics for general house size for this area including the continuance of one driveway and one garage and adherence to all currently required setbacks.

**NOW, THEREFORE, BE IT RESOLVED** by the Board of Adjustment of the Borough of Mendham on this 13th day of may, 2009, that the Use Variance application of KEN NOLL and NORA NOLL, which was approved on April 7, 2009, be memorialized herein, subject however, to the following conditions:

1. The additions shall be constructed in conformance with the Exhibits that were provided to the Board with the application materials and described during the Public Hearing, subject to the additional Grading and Soil Control data referred to above, along with dry wells as deemed necessary by the Borough Engineer.
2. The Board requires the applicants to record a Deed Restriction in a form satisfactory to the Board Attorney to memorialize in the Morris County title records the finding and use description noted above that this

- structure is, and remains, a ONE FAMILY DWELLING and not a Two Family Dwelling, despite the approval of the Senior Accommodation Suite described herein.
3. The approvals herein are subject to all relevant Federal, State, County, and Municipal regulations, including: the submission of a **Foundation Location Survey** prior to commencement of framing; the installation, including retrofitting, of "low flow" appliances and fixtures as referenced in the Borough Sewer Connection Resolution; the informational and data submission requirements set forth above regarding Grading and Soil Control measures.
  4. The variance relief granted herein shall expire if not utilized within one year from the date of this memorializing resolution.

Mr. Peck made a motion to approve the resolution. Mr. Smith seconded.

ROLL CALL: The result of the roll call of eligible voters was 4 to 0 as follows:

In Favor: Peck, Schumacher, Smith, Santo  
Opposed: None  
Abstentions: None

The motion carried. The resolution was approved.

#####

Mr. Peralta arrived and recused from the Board.

#####

**Omnipoint Communications, Inc. and New York SMSA Limited Partnership d/b/a Verizon Wireless – Use and Other required variances: Continuation**

Block 801, Lot 20, Kings Shopping Center

Present: Richard Schneider, Esq., Attorney for the Applicant

On Behalf of Mr. Isko:

Robert Simon, Esq., Attorney  
Ronald Graiff, RF Engineer

Exhibits: I-7: Graiff Curriculum Vitae  
I-8: 3/8/01: Mendham Township BOA  
I-9: Engineering Analysis – Mendham Township BOA  
I-10: EMS Wireless Report 11/23/99

Mr. MacDonald, Esq. advised that the applicant had provided proof that certified mailings and newspaper publication was made by the applicant for the special meeting.

At the request of Mr. Simon, Esq., Mr. Graiff referenced I-7 outlining his professional background with both municipalities and companies. As Dr. Eisenstein had had some reservations at the previous hearing, Mr. Simon, Esq. requested that Mr. Graiff now be accepted as an expert witness. After some discussion, Mr. MacDonald, Esq. recommended to the Board that Mr. Graiff had made a *prima facie* case to be qualified to testify in the area of radio frequency engineering. After testimony, the Board still retains the right to question the witness. Board agreed, and Mr. MacDonald, Esq. acknowledged for the record that Mr. Graiff was accepted as an expert witness by the Board.

Mr. Simon, Esq. referred to a letter dated May 6, 2009 from Mr. Schneider, Esq. containing correspondence from PierCon Solutions responding to Mr. Graiff's April 7 testimony. Based on the contents of the letter, Mr. Simon, Esq. stated that he does intend to cross-examine Mr. Pierson regarding the contents of the letter. Mr. Schneider, Esq. did not have any objections.

Mr. Graiff continued his testimony from the previous hearing with reference to the need for coverage. He summarized calculated coverage as from a model that utilized certain parameters of radio frequency propagation, and again referred to the gold standard of drive testing as a verification of the real world activity.

Utilizing Exhibit A-1, the applicant's existing coverage with overlays for Omnipoint at 84 dbm and at Verizon at 97, 120 OPL, Mr. Graiff stated that the carriers used two different calculation models. Referring to the breadth of the coverage, he pointed out an area to the southwest that is unserved by Verizon, but served by Omnipoint. There is also an area to the northwest that is served by Omnipoint, but not served by Verizon. There are no pockets of coverage for Verizon in Brookside. He pointed out that there is a 10 ft. differential in height, yet the testimony of Mr. Person is that 10 feet does not make a difference in the model. The carriers are both PCS carriers in the 1950 megahertz band with significant differences in coverage.

Mr. Graiff pointed out that it was inappropriate to try to use all of the clutter types when there is no "high-density urban" or "airports" in Mendham. There is "residential with few trees". To calculate coverage, terrain is the number one factor. The model looks at the factors and applies reduction to the signal based on the clutter. He continued explaining that there could also be variations of the terrain data being used.

Again referring to the need for real data, he referenced Mr. Pierson's statement in his letter that the model is a "tuned model based on drive test data in a given morphology type for the Mendham area." It is not specifically related to the area in question. He also referred to a table containing various technical aspects for Verizon at St. John's, Conifer and the Shopping Center. Explaining "down tilt" as used to run a signal into the ground or to avoid interference, he summarized that St. Johns and Conifer have massive down tilt and the shopping center site has no down tilt. He questioned why down tilt was being used by the carriers.

Mr. Graiff continued explaining calculations of coverage at various wattages. He stated that the standard for Verizon Wireless in NJ is 15 percent of the ERP which is 6.11. Mr. Pierson used 2.5 watts which provides smaller coverage. Describing the angles of the antennae, he stated that the Conifer Drive antennae are turned away from the shopping center area, the shopping center antennae are turned away from Conifer Drive and the antennae at the clock tower are turned south with the exception of the one that hands off to Delbarton. Red flags go up. He reiterated that drive testing is needed to verify calculated coverage and pointed out several other technical areas in the transcripts and in Mr. Pierson's letter. He elaborated on testimony relating to the firehouse site that indicated that the tree height and the density in the area was not known. He also questioned having to be above the trees given new technology such as DAS.

Referring to testimony from a March 8, 2001 hearing that took place in Mendham Township for the Conifer Drive site (Exhibit I-8), and specifically testimony by Ilias Zervos on behalf of Bell Atlantic that is now Verizon, he read transcript indicating that with the Conifer Drive tower and the St. John's tower, coverage would be provided along the stretch of State Highway 24 or Main Street in Mendham. Technology known as 3G would utilize all the existing structures and existing sites. Utilizing I-9, an engineering analysis for the Mendham Township BOA, Mr. Graiff pointed out the coverage maps depicting signal levels of the existing sites of the clock tower at St. Johns and the proposed site at Confier Drive. Verizon without the proposed Mendham facility is a gap. With the proposed Mendham facility there is no gap. The independent engineer has shown that there is seamless coverage in 2001 without the Kings Shopping Center.

Moving to alternative sites as required by the Borough ordinance, Mr. Graiff began outlining the priority order of sites. He noted the consideration for municipal property. Responding to Mr. Peck on whether alternate site testimony was necessary since he was trying to prove a tower was not needed, Mr. Graiff stated that he was providing a critical review of the application and that he offered a report indicating that the tower was not needed. He did not offer an opinion.

Returning to his testimony, Mr. Graiff continued outlining the siting priorities as listed in the ordinance. In terms of municipal properties, he visited the fire department, west of the proposed site and noted the VHF antenna and two low-band antennas. He referenced the Board's request to have emergency service antennae on the wireless facility. There was calculated coverage, but no drive test done from the fire station. He also referred to Dr. Eisenstein's comment that the firehouse was located in the area of coverage for the carrier, and referenced a site on a water tower in Kinnelon where coverage was duplicated as it was a site on their priority list. While there was some discussion for alternate height coverage, analysis it was not pursued.

In discussion on the mounting of antennae, Mr. Graiff submitted I-10, a technical white paper dated 11-23-99 from EMS Wireless, a manufacturer of cellular and PCS antennas. It discussed how far or close antennae can be situated both vertically and horizontally. He noted that the paper stated that antennae can be as close as 6 inches and the interference between the antennae is within acceptable limits. Carriers state that they need to be ten feet apart, but they do not. Towers are built in 25, 50 or 30 foot sections that are stacked on one another. All of the sections are similar. It is convenient from a manufacturing point of view to have all the sections look the same and have the cables come out that connect the antennae to the transmitters all in the same

location. It is convenience, not technical. While the paper is from 1999, antennae have gotten better. If they do not have to be 10 ft. apart there is flexibility in the height of the tower.

Mr. Schneider, Esq. expressed concern on I-10. It was an article, and would need to be a recognized treaty before it could be admitted as evidence. Mr. Graiff could enter his opinion based on the article, but the article was not proof. Responding to Mr. Simon, Esq., Mr. Graiff stated that he used the article to substantiate his practical experience in the field.

Dr. Eisenstein offered his opinion stating that the paper is a non-peer-reviewed article. It is an advertising piece from a company that manufactures antennae. After his own research he could not find a re-issue of the article since 1999 or any peer-reviewed article that came to the same conclusion. The tests were conducted in an anechoic chamber which is not real world as it eliminates any reflections. The antennae operate in close to ideal conditions. It also did not say whether it was running the type of signals that one would use for cell phones. He agreed that the poles are constructed in 10 foot sections, but the 10 ft. is a round number.

Mr. MacDonald, Esq advised that the paper be admitted and that if Mr. Schneider, Esq., Dr. Eisenstein or a member of the Board wanted to question later, the weight given to the paper can be reviewed at that time.

Continuing with the transcripts of the review of the firehouse, Mr. Graiff referenced the Chair's question on whether the antennae could be directed to the east. Mr. Pierson advised that in a flagpole they could not. Mr. Graiff stated that they could you use one antenna instead of three and direct it to the east. As it would support the signal in the direction it needed to go, it would be good engineering design. He concluded that there was not an alternate site analysis completed for the firehouse.

Mr. Graiff identified another potential municipal site as the police station located 1,300 feet away from the shopping center site. He referred to Exhibit A-4, a May 8, 2008 letter to Ellen Sandman, Borough Administrator from Vogel, Chait, Collins & Schneider indicating that they were looking for properties along route 24 to Cold Hill Road to Halstead Road and in a northerly-southerly direction, 500 ft. from the Shopping Center. It confirmed that the Borough of Mendham had indicated that there are no municipal properties within the described area. Mr. Graiff stated that carriers usually stipulate a one-quarter mile search ring. That would make the police station and the switch center for the electric company potential sites. The switch center already has poles, transformers and lightening rods. The sites should have been propagated by drive by tests.

Mr. Graiff summarized stating that holes in coverage had not been demonstrated. The evidence that was presented to the Boards and the statements made with respect to the alternate technology of closer antenna separation, single site, single-direction antennae, bidirectional antennae had not been shown. There are also alternative technologies such as DAS, distributed antenna systems. Little antennae on short or existing power poles might provide the same coverage and should be investigated.

Discussing the coverage outside of Mendham Borough, Mr. Graiff opined that for T-Mobile, 30 to 35% is outside and for Verizon, 20%. In response to Mr. Simon, Esq., he stated that there is an indeterminate amount of information for him to render a professional opinion as to whether the facility is needed or not. Evidence presented, because of lack of supportiveness, all point to the fact that there is no gap in coverage and that it will work with 3G today. The applicant has not proven that the proposed facility is necessary to avoid prohibiting or having the effect of prohibiting the provision of wireless telecommunications services.

Responding to Mr. Seavey, who indicated that it appeared the only piece of evidence against the gap were the Mendham Township propagations, Mr. Graiff stated that there is no evidence that there is no gap. There's expert opinion that there is no gap, and there is practical experience that there is no gap. He has only analyzed the information that the Board was given.

Dr. Eisenstein began his cross-examination of Mr. Graiff. Referring to Mr. Graiff's participation in the rulemaking and winning of licenses for five cellular radio telephone licenses in the top 30 markets, Dr. Eisenstein reading from a 1977 document written by the Commissioner of the Federal Communications Commission, questioned Mr. Graiff's 1979 involvement when the Commissioner indicated that Dockets 18261 and 18262 were initiated in 1968. There was an 11 year gap in the dates cited. Mr. Graiff responded that dockets 18261 and 18262 dealt with the reallocation of UHF television frequencies to other services. It began before the concept of cellular service. AT&T had requested that part of the spectrum be allocated to cellular. There were also reallocations for paging. LIN Broadcasting began its involvement when AT&T proposed that all 40 megahertz be allocated to them for cellular radio telephone service.

Commissioner Johnson was not a Commissioner of the FCC in 1977-1979. They did most of their work with Commissioner Quello and OPP to get 20 megahertz set aside for non-wireline carriers.

After reading from Mr. Graiff's testimony in which he indicated LIN Broadcasting achieved the licenses and convinced the FCC to have two providers at each business area, Dr. Eisenstein referred to the history of LIN Broadcasting corporation which stated that LIN entered the field of cellular communication in 1982 when it applied for a license from the FCC to operate a cellular mobile radio phone system. Two licenses were granted for each of the markets, one to the local Bell company and one to a "non-wireline" carrier.

After discussion that the history was taken from a website, Mr. Graiff stated that he did not know who wrote the article. There was reference to McCaw Cellular that affected a hostile takeover of LIN Broadcasting in 1990. He stated that LIN did enter cellular in 1982, but they did not apply for an FCC license at that time. They began the application process and rulemaking proceeding with the Commissioners in 1979. He stated that he made the first revenue call on the LIN system in 1983. Mr. Graiff continued that his name was not on documents as his work was done on behalf of LIN Broadcasting. As Vice President of Engineering his name will be on applications and in the direct testimony before the FCC.

Continuing with the cross-examination, Dr. Eisenstein asked Mr. Graiff to explain how Professor Hata, referenced in his testimony, developed the model he referred to. When he did not know, Dr. Eisenstein posed the same question related to Professor Okumura. Mr. Graiff responded that Okumura did measurement in Japan to begin the genesis. He and Hata then teamed up. In terms of methodology, they used free space loss, terrain and clutter.

Dr. Eisenstein stated that the Hata model is one of the most widely used, and that Mr. Graiff did not know the methodology, yet he was looking for a higher standard. Mr. Graiff responded that the real world is the higher standard as a model is someone's observation and calculation. Dr. Eisenstein stated that Hata used real world data. He continued that Mr. Graiff could not know if the drive test is a higher standard if he did not know how the model was formulated. The same is true for Okumura.

Addressing Mr. Graiff's comment that one could be through a 50 meter gap in six milliseconds if driving down the road, Dr. Eisenstein stated that one would need to be going 18,000 miles per hour to do that. He challenged Mr. Graiff's statement in opposition to the 50 meter bin size used by the models. Continuing with Mr. Graiff's reference to clutter types, Dr. Eisenstein stated that they are not "picked". They are in the model if the area under propagation contains the factors.

Referring to Mr. Graiff's testimony on the drive test, Dr. Eisenstein questioned during what months one would drive test, January or July. Mr. Graiff responded July due to leaf attenuation. He would do it three times a day, morning, afternoon and evening and in the rain or snow. Dr. Eisenstein summarized that he questioned how the information would be integrated given so many factors. He stated that the drive test would provide a snapshot in time, and considered drive tests inaccurate unless they are used in conjunction with computer prediction data. Mr. Graiff countered by questioning why applicants use drive test data to verify their models if the data is so bad.

Dr. Eisenstein continued by questioning how the drive test was done, by making a call or using an antennae for measurement. Mr. Graiff responded that CW would be a continuous wave drive test which would be used in a proposed location to determine whether there is a gap. It is done with antennae and servers that exist in the system today. The center of radiation for the antennae that would be hung would be the same as the height being proposed for the facility antennae. Continuing to question the drive test as a gold standard, it was Dr. Eisenstein's opinion that a carrier coming in for a new tower would need to run a propagation model first and then hang an antennae at a predicted height to do a drive test.

Responding to Dr. Eisenstein on required drive test speeds, Mr. Graiff stated that variable drive speeds are best. They should not exceed speed limits. Dr. Eisenstein continued by challenging Mr. Graiff's answer to how he would do a drive test with a spread spectrum signal. A technical discussion followed dealing with the type of carriers and signals.

Upon conclusion of Dr. Eisenstein's cross-examination for the evening, Chair announced it would be continued at the June 3 meeting. Mr. Schneider, Esq. announced that the applicant grants an extension of time. Mr. MacDonald, Esq. announced that there would be no further notice to the public and the meeting will be continued on Wednesday, June 3.

**ADJOURNMENT**

There being no additional business to come before the Board, on motion duly made, seconded and carried, Chair Santo adjourned the meeting at 10:45 p.m.. The next regular meeting of the Board of Adjustment is Wednesday, June 3, 2009 at 7:30 p.m. at the Garabrant Center, 4 Wilson Street, Mendham, NJ.

Respectfully submitted,

Diana Callahan  
Recording Secretary