



Chairman Walker asked if 90% would meet the definition of substantially above the level of mediocrity. Mr. Conroy replied that the E911 Act kind of pushes toward the 95% level.

Mr. Drill asked if the E911 Act was taken out of the equation could they design at a 90% level. Mr. Conroy opined that they could not based on other factors such as the Wireless Communication and Public Safety Act. This Act talks about seamless ubiquitous reliable coverage as identified in Section 2 Findings and Purpose, paragraph No. 6. The citation of the Act is 47 USC 615.

Mr. Petraske asked if it says that a single carrier has to have seamless and ubiquitous coverage. Mr. Conroy said it is not specific to any one carrier. Mr. Petraske said the purpose is to have seamless coverage whether there are multiple towers and carriers versus one carrier providing that to everyone. Mr. Conroy agreed. Mr. Petraske asked if the system meets substantially better than mediocre as defined in Mr. Conroy's report is it at the 95% level. Mr. Conroy responded that the way he views the constructability section of the FCC is really to promote the construction of the facilities that the carriers are licensed to. It doesn't state what design levels that need to be used. Mr. Petraske said that the 95% standard doesn't appear in the IEEE ASTM type standards. It may be what the industry follows as a goal or as its common desirability. He asked if there is a place that identifies it as an industry standard per se. Mr. Conroy replied that TSB88, the Telecommunications Service Bulletin 88, is more aligned toward land mobile radio which is more akin to public safety communications does discuss reliability as a standard and how they use 95%. Mr. Petraske asked if he would disagree if there has been testimony in this matter already that the service that this location would cover is substantially better than mediocre. Mr. Conroy said he would disagree. Mr. Petraske asked if the TIA, TSB 88B document can be submitted to the Board. Mr. Conroy said that it is copyrighted and the Township would have to order it. Mr. Petraske asked through counsel for a copy of the document. Mr. Petraske asked if simulations were run to decide how to achieve the negative 102 level at this site and if this is supposed to tell the Board how tall the tower has to be to obtain that level. Mr. Conroy said he did not and the height of the structure will be relative to the area depending on the type of area, urban, rural or suburban, the type of terrain and the tree line. Coverage is a function of height and power. The higher the facility the further it is going to cover.

Mr. Cheskis asked Mr. Conroy to walk through the calculations in his report. Mr. Conroy explained the calculations in detail.

Mr. Petraske asked if the applicant looked to see whether 95% reliability for E911 is already achieved in the area where this tower is supposed to cover and asked questions about E911 coverage and whether other carriers will pick up the call even if it is not the person's carrier. Mr. Conroy replied that he has not looked to see if the 95% reliability is already achieved.

Mr. Drill asked if the T-Mobile service being proposed is considered narrowband PCS or broadband PCS. Mr. Conroy said it is narrowband, 200 kilohertz.

Chairman Walker questioned Mr. Conroy about the constructability requirements referenced in his report. Chairman Walker asked if they would be able to meet the 95% standard with a lower tower. Mr. Conroy said they would.

Mr. Petraske questioned Mr. Conroy about the propagation program called Asset. Mr. Conroy said T-Mobile uses the program. They have a model called Myriad which is used to generate the propagation plots and do all the analysis. The equations they come up with are based upon a lot of the TIA documents and that gets put in the design tool. The program has had a recent update which Mr. Conroy believes was used in this application.

Chairman Walker asked if the neg 102 dBm that is necessary for receiver sensitivity is a universal lock down level requirement for all handsets regardless of their quality or sensitivity. Mr. Conroy replied that it is not. The minus 102 comes from the Global Standard for Mobile Communications (GSM) standard which is also referred to as the ETSI or the 3GPP standard. There are phones that perform slightly better and some that perform slightly worse. There is also a 3dB noise factor that is recommended in that standard. T-Mobile ignores the 3dB factor because they recognize that some of the received sensitivities are better in some of the phones and they utilize the minus 102 as a flat value. All GSM carriers use the minus 102.

The Board took a recess.

Vice Chairman Gamache asked if a carrier needs to establish a correlation between the requested signal strength and the user's actual ability to access the network. Mr. Conroy replied that they do not.

Mark Rosenstock remains under oath. At the August meeting, Mr. Rosenstock was asked to provide information regarding the search ring for this location and some additional plots. Exhibit A-3 is the search ring exhibit where the search ring is really a search triangle. Mr. Rosenstock said that the search area is from about

2005 or 2006. The teal dots are alternative candidates that were evaluated to fill in the coverage gap. Exhibit A-4 is the coverage of T-Mobile's existing neighboring sites and the possible site at 23 Orchard Road. The propagation for this exhibit is an antenna height of 140'. The coverage from this alternative does not reach north of the Nassau Racquet site. This location would not fill in the gap of service that T-Mobile is looking to fill. He is not sure what the height would have to be to fill in the gap. Exhibit A-5 is a coverage map with existing on-air sites and the possible site at 100 Headquarters Park Drive. The propagation for this exhibit is an antenna height of 120'. It does not fill in the gap of coverage. There was no landlord interest for this property either. Mr. Rosenstock referenced Exhibit A-1 which shows approximately a gap in coverage for about 1 mile going north along Route 206. The gap in coverage on Exhibit A-5 is approximately ½ mile. Exhibit A-6 is coverage of existing on-air sites and a different location on 23 Orchard Road with a tower height of 120'. There is a sufficient gap in coverage to the north. Exhibit A-7 is coverage of existing on-air sites at 1736 Route 206 at a height of 120'. This site is an acceptable alternative although it does not reach as far north as the proposed site. They may need a little greater height. All three of the alternative sites are within the REO-1 zone.

Mr. Coppola discussed the zoning surrounding 1736 Route 206. It has REO-1 to the south and R-2 to the east, west and north.

Vice Chairman Gamache asked the applicant to provide propagation maps for towers at a lower height for the Nassau Racquet site.

Mr. Cline asked when the drive data is taken. Mr. Rosenstock said it was done in the summer where it gives more accurate data.

Mr. Coppola asked if there was an absolute need that a flag be attached to the pole. Mr. Stamos said there is not. In response to questions raised at prior meetings, the pole could be brown in color but at this time T-Mobile does not know if it will be painted or powder coated. Mr. Conroy said the pole can be designed to be expanded for one or two additional carriers. It is usually 1 carrier per 10' or 20'. The difficulty with expanding is how to figure the fiberglass components.

Mr. Cline asked how many carriers under the current configuration with the existing trees on site could collocate on the 120' pole. Mr. Conroy said the current unipole is designed with five slots. T-Mobile is occupying two slots. If other carriers occupy a single slot there could be three other carriers provided they can demonstrate the elevations would meet their coverage requirements. The lowest elevation would be 75'. The tree line is the operating factor; where their other sites are. The tree line at 75' starts to become the breaking point, the carriers usually want to be at least 20' above the median tree line.

The Board requested the applicant submit the propagation maps using the applicant's design numbers and using Mr. Hecht's design numbers at a height of both 100' and 120'.

Chairman Walker opened the meeting to the public and professionals for questions.

The Board took a five minute recess.

Mr. Stamos said in May the Board had asked if the tower could be moved back closer to the building and if the size of the equipment compound could be minimized. Exhibit A-8 is a drawing that is entitled SK-2. It is a drawing that shows a possible equipment compound location plan and is dated 2/1/12.

Mr. Barile remains under oath. The proposed compound was moved further off Route 206 closer to the building on the Nassau Racquet property. The tower was moved within the confines of the compound so it now has a setback of 144.5' off the edge of pavement of Route 206. The older layout had it at 82.5' off the edge of pavement. The compound is about 25' off the edge of the building and the tower is about 30' off the building where it used to be about 92' from the building. The revised location is pushed back as far as possible to respect the designated steep slopes in the area. The compound is now shown solely for T-Mobile and what the size would be just to house T-Mobile. The compound is 20' x 35'. The possible future collocation and additional carrier space is shown on the plan as a dashed line and would result in a size of 35' x 60'. The new location would result in about 16 trees being removed for the construction of the T-Mobile compound while the previous location would have required 24 to be removed.

Mr. Coppola asked if the steep slope in the area of the compound is manmade. Mr. Barile thought it was. Mr. Coppola said it is not a critical area as deemed in the ordinance because it is manmade. He asked if it served any purpose and if it was possible to move the compound so that it is maybe 10' away from the building. He wondered if the drive could be moved in between existing trees and if the compound area could be narrowed and moved to a location where there are no trees. Mr. Barile responded that the compound could be moved

closer to the building. The access drive could be moved. A longer but skinnier compound could be done but it is not ideal because the tower should be in a central relation to the future carriers for ease of construction. Mr. Barile will try to see if he can design a linear compound with four carriers in a row running north and south and the compound as close to 10' as possible to the building. Mr. Cline said there could be two carriers to the north of the tower and two carriers to the south of the tower.

Mr. Drift asked how deep the footing for the pole would be. Mr. Barile said it has not been designed yet and no soil borings have been done. Mr. Drift said to put a wall there it would need to be on virgin soil and there needs to be quite a bit of soil completely around there. Mr. Drift did the excavating for the building and it was excavated so the water would go around the building and not into the courts. He thought the tower would have to be located on the eastern side of the compound area.

Mr. Cline discussed his report. A sample structural report was submitted with the application and his belief of it being appropriate was based upon how a similar tower had been done in Montgomery previously. At the May hearing there was discussion that a more specific review of the submitted data would be performed. He concluded that the sample calculation was not appropriate for purposes of complying with the ordinance.

Mr. Stamos questioned Mr. Cline. Mr. Cline responded that he has seen this information submitted as a condition of approval in other towns but every town is different. If the soil boring tests and geotechnical reports are not satisfactory building permits would not be issued however, if something structural is being constructed soil borings are an early part of the process.

Mr. Drill asked Mr. Barile how he will be able to see if the compound could be moved closer to the building without doing the soil borings. Mr. Barile said the plan that is being prepared is a conceptual sketch. Mr. Drill noted that the applicant is applying for final site plan approval so the plans and specifications have to be detailed. Mr. Stamos said it could be approved and if the applicant deviates from the approval they would have to come back for an amendment to the approval.

Mr. Stamos said he will recommend to the applicant that the soil borings be done.

Mr. Cline noted that the linear design of the carrier installation and equipment cabinets should be depicted with a maximum number of carriers because a law was just passed that collocation goes straight to building permit.

Mr. Conroy has finished his testimony and was excused.

The application was continued to the March 27, 2012 Zoning Board meeting. No further notice is required.

There being no further business to come before the Board the meeting was adjourned at 10:15 p.m.