

Washington County Public Safety Radio Communications System
National Park Service/Keep Tryst Site
Monday, November 05, 2007

Attendees:

Joe Kroboth, Director – WC Division of Public Works
Pete Loewenheim, Project Manager, Manager – WC Communications Maintenance
Doug Mullendore, WC Sheriff
Bardona Woods, Communications Chief – WC Emergency Services
Charles Summers, Captain – Hagerstown Police Department
Tina Rupert, Administrative Assistant – WC Division of Public Works
Ray Parker, Project Manager – Motorola
James Jenkins, Project Engineer – Motorola
Dennis Frye – NPS-HF Chief Cultural Res.
Lynne Wigfield - NPS-CHOH Compliance
Bill Hebb – NPS-Harpers Ferry Park Res. Manager
Don Owen, NPS Appalachian Trail
Will Kenyon – NPS-CHOH
David Reus – NPS Appalachian Trail
Scott Bell, NPS-C&O Canal

The meeting began at 1:10 PM.

Joe Kroboth opened by remarking on the amount of work performed by Washington County and their contractor since the last meeting.

PowerPoint Presentation by Joe Kroboth:

Project History – Washington County has been working for one year to try to find a solution for everyone, including performing a balloon test and analyzing other sites. Although not at a critical point yet, the County's project has been delayed.

Review of Last Meeting – Dave McCobin, L.R. Kimball & Associates, reviewed the County's performance objectives; James Jenkins, Motorola, provided an analysis of the National Park Service (NPS) suggested alternate sites; the NPS stated that height was the main concern and the County agreed to analyze varying heights.

A boundary area was created for the predicted coverage by identifying the area significantly covered by the Keep Tryst site. An analysis was performed at 25' intervals, starting at 90', up to 190'. This analysis revealed a 10% loss of coverage at 115', which was the lowest height analyzed for a single tower. The two-tower option is not feasible because the Keep Tryst site is insufficient in size for two towers. Also, 90' does not provide adequate tower loading capacity. The coverage loss was actually less than the County had expected.

The County then analyzed at tower height based on tower loading requirements. The list of antennae intended for the tower was shown. This leaves no opportunity for future

growth at the tower height to be suggested. The County is willing to lower our coverage as much as we physically can, with the tower height constraint based on tower loading. This brings the tower height down to 150'. The County hopes that we have addressed all of the NPS concerns. Joe Kroboth reiterated that the 150' height leaves no opportunity for expansion.

Dennis Frye questioned/asked for clarification that the reason for the suggested tower height is antenna loading rather than coverage and the County would have been willing to go as low as 115' if not for antenna/tower loading. Joe Kroboth confirmed the reasoning, then distributed and discussed the lattice tower loading drawing.

Don Owen stated that normally he would prefer consolidating facilities on one tower, but in this case, he may want to go in the other directions. Mr. Owen asked for confirmation on the fact the County did not own any other sites nearby as reason for not having two towers, and questioned the possibility of having one site outside the view shed of Weverton Cliff. Pete Loewenheim stated that what comes in through the microwave goes out through the antennas, it has never been done separately and this site is too small. If two towers were within the same compound, they could be connected at the equipment building, but ½ mile apart, it would have to be another hop or fiber. This would require system redesign to some extent and duplication of equipment, another full site basically.

Dennis Frye asked if the existing commercial tower taking up space was part of the problem with the site? Joe Kroboth responded that the County could tell them to vacate the site, but there still would not be enough physical separation to make it work. The footprint of a second tower would be much larger than the existing monopole and 100' of separation is required for two 90' towers. Also, two 90' towers is still not sufficient based on the number of antennae and required heights.

Don Owen questioned the minimum parameters for two towers. James Jenkins stated that it depends on the frequencies in use, in theory if there wasn't a frequency concern, maybe 120'? Ray Parker stated that it would be 135' based on starting at 90' and the required antenna separation.

Will Kenyon asked if the County has looked at using different antennas. James Jenkins responded that he had looked at many different antennas. Also, antennas can be any color required – they are fiberglass and can be painted.

Pete Loewenheim stated that it is a huge compromise for mobile data to be at 90' at 900 MHz if the County did lower the tower height to 150'. The coverage does not meet the County's performance requirements at 150', but the County went to the lowest level possible to meet NPS concerns and we have no room for growth.

Don Owen stated that he was not sure we could take this any further. There are performance objectives in managing the Appalachian Trail and no net loss in protecting views in one of those objectives. Mr. Owen does not see any way around this. Joe Kroboth questioned whether that was the official stand from the Appalachian Trail? Don Owen will check with his supervisor, but believes that is the bottom line. Joe Kroboth asked if there would be any value in the County preparing a photo rendition of an actual lattice tower? Don Owen stated that the NPS could do it in house with a photo and a good visual rendition of the tower. Mr. Owen added that another

difficulty is other individuals at the Appalachian Trail Conservancy and Potomac Trail Club; he does not speak for those groups.

Dennis Frye agreed with Don Owen that a 150' tower is still too high. For the Harpers Ferry Park point of view, he was hoping for 115'. Reducing the tower by 40' still makes it noticeable. Mr. Frye could have lived with 115' tower.

Sheriff Mullendore conveyed his disappointment for the officers out there looking for an armed suspect. Not having coverage is of grave concern. Dennis Frye stated that he understood and agreed, but the NPS is just trying to figure alternatives and still give the coverage needed. Sheriff Mullendore stated that his concern is that there really isn't any alternative. Should the County do without a tower and hope that someone doesn't get killed? How can we all achieve our goals?

Joe Kroboth questioned whether the photo rendition should be done; what will it accomplish if 150' is unacceptable? The crane stood out because of its mass and color. Dennis Frye still believes the photo simulation should be done. Don Owen agreed that the crane was more visible than the tower will be. Mr. Owen will let the County know exactly what he needs for the simulation. Pete Loewenheim requested knowing the preferred color if there is one other than steel gray. Don Owen stated that steel gray is the preferred color.

John Latimer stated that he agreed with the Sheriff's concerns. At the last meeting it was the height and 130' was mentioned, now it's what you can see. Is it more the height or what you can see? Don Owen stated that it is what you can see. Mr. Latimer asked who decides if it's okay if we get to a point that it looks okay on paper? Mr. Owen stated that it's a judgment call by negotiator.

The photo that has been viewed before appears to be zoomed in, the simulation should truly represent what the human eye can see. Dennis Frye requested that Don Owen have simulations done for sites from Harper's Ferry Park also.

Multiple cameras were used the day of the balloon test. The request was for 50 mm lens, which is closed to what the human sees, but that is not what was used on all cameras.

Don Owen asked if the County had room for growth at Keep Tryst site? The County does not have room for growth. The site is bounded on two sides by roads and the adjacent landowner is not agreeable. The NPS requested a copy of the site diagram. The site is $\frac{3}{4}$ of an acre; the adjoining property is 24 acres.

The NPS requested today's PowerPoint presentation, the coverage area maps, GPS coordinates of the tower, a copy of the site plan and Don Owen will let us know what he needs for a photo simulation.

It will take a couple of weeks to do a simulation if new photos need to be taken, a couple of days if existing photos are used.

Will Kenyon suggested a receive only site? This will not work for coverage in that area, the system requires transmit also.

Dennis Frye thanked the County for doing everything possible in trying to address the NPS concerns, for the pleasant meetings, and stated that we are closer because the tower height is down.

Joe Kroboth thanked James Jenkins and the Motorola team for getting us where we are and stated that all were in favor of spending time in engineering to try to make everyone happy.

The next meeting will be held Wednesday, November 28, 2007 at the Chesapeake and Ohio Canal National Historical Park HQ, 1850 Dual Highway, Suite 100 Hagerstown, MD 21740 @12:30 PM. Everyone should bring his or her own lunch.

The meeting adjourned at 3:00 PM.