

11/28/05
11/9/05

Carol Holley
39 Pope Road
Acton, MA 01720

November 9, 2005

Board of Selectmen
Acton, MA
Via email

Re: Sight Line Distance and Tree Removal
Pope & Brabrook Roads

Dear Selectmen & Selectwoman,

I have received and read the following documents:

- Memo from Engineering Dept. to Planning Dept. dated 9/9/05
- Letter from David J. Friend to Planning Board dated 10/7/05
- Letter from Stamski & McNary to Planning Board dated 10/11/05
- Memo from Planning Dept. to Selectmen dated 10/12/05

I have also reviewed an article entitled "Providing drivers with a clear, adequate line of sight" from *Technology News*, an on-line publication of Iowa State University dated January-February, 2005, as well as other articles obtained over the internet that cite AASHTO sight distances (www.ctre.iastate.edu/pubs/tech_news/2005/jan-feb/line_of_sight.htm accessed 10/30/05). I also remember, but do not have a copy of, a figure created by a traffic engineer from VHB who worked on Great Road traffic calming issues with the EAVPC. I have also attended the first hearing regarding tree removal, and read the letters of objection presented at that hearing. A few days ago, I noted changes in signage along Pope Road – there's now a "Thickly Settled" sign across from the intersection with Wingate, which is upgradient from Brabrook, and the speed limit has been reduced from 35 to 30 mph (it is my understanding that I have you folks to thank for that).

Here are the facts as I have gleaned them from the above:

- Pope Road is a designated scenic road and preservation of significant trees is an appropriate activity for this area.
- The oak trees that are the subject of this hearing have been deemed to be significant by the Acton Tree Warden, using his professional judgment and extensive experience.
- The sight line distance from Pope Rd. Southbound toward Brabrook Road per the Engineering Department memo of 9/9 is 260 feet, measuring from a height of 2 feet.

- The sight line distance from Brabrook Road up Pope Road is between 210 and 230 feet (I don't know why there's a range of almost 10% here) per the same memo, also from a height of two feet.
- The "stopping sight distance" of 330 feet at a height of 3.5 feet and a 2-foot taillight height was noted in a Stamski & McNary letter of 10/11/05. This is from Pope looking toward Brabrook.
- The letter from David J. Friend dated 10/7/05 questions the Engineering Dept.'s measurements, stating "it is not known at what distance from the edge of the pavement it was made", which makes a difference, and Mr. Friend expresses some concern about departure sight distance from Brabrook onto Pope given the measured 85% percentile speed.
- The letter from David J. Friend also notes that "an adequate departure sight distance is not typically viewed as critical to the safety of movements at an intersection." Mr. Friend also questioned the 2-foot height and the setback from road's edge used by the Engineering Dept.
- "Uncontrolled intersection minimum sight distances", per the Iowa State publication that quotes AASHTO, are 140 feet for 30 mph, 165 feet for 35 mph, 195 feet for 40 mph, and 220 feet for 45 mph. The observed 85th percentile was noted to be 41 mph.
- Also per Iowa State's "General study information" for sight distance study, "A sighting rod should be 3.5 feet tall to represent driver's eye height", confirming Mr. Friend's methodology. However, the illustrations on Page 4 of my printout indicate a certain unmeasured setback from the intersection labeled "decision point", which leads one to believe that a certain setback, as used by the Engineering Dept., is appropriate and probably determined by the speed of the car on Brabrook, which to the best of my knowledge has no posted speed limit (there has been no need for one until now, it being barely a block long).

Given all this, my conclusions are:

- The trees are significant and irreplaceable and should be saved.
- The numbers from both Mr. Friend and the Engineering Dept. don't match methodology recommended by an authoritative source, although in different ways.
- The result of lowering the speed limit and "Thickly Settled" signage is unknown, but could potentially have a mitigating effect on the 85th percentile speed.

I would also like to add that the VHB traffic engineer's drawing noted above served to indicate how street trees serve to calm traffic; therefore, cutting down these majestic oaks could serve to speed up traffic, making their removal sight line distance a questionable exercise. I could also go on for pages regarding the environmental benefit of trees based on research done for the Environment and Open Space section of the EAV Plan, but won't.

Further, there are the expressed concerns of the Brabrook and Flagg Road residents concerning the danger of this intersection. These statements were made as part of a concerted – and failed – effort to require the access to the Ellsworth Village project be from Great Road instead of Pope Road, thereby eliminating any effect the new housing would have on existing residents' children's enjoyment of Brabrook Rd. as a play area. I confess I was part of this effort because I felt it made more sense from a planning perspective, and the headlights from Brabrook Rd. shine right into my living room. Also, I have lived facing this corner for over 30 years. There has been one accident with vehicle damage and injury over that period of time at this intersection, which makes one wonder how dangerous it really is.

In sum, these trees are precious and irreplaceable. The need to remove them for traffic safety purposes appears to be questionable. Please, preserve these trees!

Sincerely,

Carol Holley

Cc: Roland Bartl, Town Planner
Dean Charter, Tree Warden