

## Pepperell Natural Resources Association

August 22, 2006

Zoning Board of Appeals  
Town Hall  
One Main Street  
Pepperell, MA 01463

RE: Response to Traffic Impact and Access Study for "Bayberry Estates"

Dear Board Members:

These comments are provided by members of the Pepperell Natural Resources Association in response to the "Traffic Impact and Access Study, Bayberry Enterprise Realty Trust Residential Development, Bayberry Road, Pepperell, Massachusetts" by Hajec Associates dated June 12, 2006.

SUMMARY: The traffic study by Hajec Associates is based on insufficient measurement data, has a conclusion which is inconsistent and incomplete with respect to the data presented, recommends insufficient mitigation measures, and, most significantly, fails to address several obvious safety concerns. We urge that a thorough and independent traffic study be performed with particular attention given to the issues discussed below.

### *Accuracy of Present Traffic Volume Counts in Study*

As traffic volumes were counted on just *one* weekday (in April 2006) for each measurement location in the study, there is no way to assess the precision and reliability of the data. For example, there is no meaningful way to calculate a mean value of daily traffic volume or quantify how this volume varies from day to day. Therefore, reported traffic volumes may be very low, very high, or reasonably accurate; it is simply impossible to say. Further, the traffic study failed to consider any weekend traffic whatsoever. Specifically, Saturday traffic along Heald Street near the intersection of Bayberry Road is known by local residents to be particularly heavy.

Furthermore, the study provides only full-day traffic counts for a single location on Bayberry Road, just south of the proposed project drive. For the intersections of Bayberry Road and Chestnut Street, and Bayberry Road and Heald Street, only peak AM and PM commuting-time data is provided.

### *Analysis of Traffic Data Presented in Study*

In addition to the fact that insufficient vehicle-count data is provided, *the study's primary conclusion isn't even consistent or complete with respect to its own data.*

The study finds that, if the project is completed in 2011, it will generate an additional 320 vehicle trips per day on Bayberry Road - an increase of 223%. Sixty-five percent of these vehicles will travel on Bayberry Road south of the project site with 45% of the total new traffic volume - a total of 144 additional vehicles - will travel on Heald Street east of Bayberry Road. Yet, the primary conclusion in the developer-sponsored study is that the additional volume will have "imperceptible and insignificant impact on study area roadways." Will a more than tripling of traffic volume on Bayberry Road really be "imperceptible and insignificant?" Will the additional 144 vehicles per day up and down Heald Street, traveling through the blind intersection with Bayberry Road and winding around the Heald Pond recreational area really be "imperceptible and insignificant?"

The study states that "Heald Street is the most heavily traveled roadway among those considered in the study." It goes on to state that "the section of Bayberry Road between the project driveway and Heald Street should be widened ... to a *safer* and more comfortable width of 24 feet. This roadway section is expected to receive the heaviest amount of project-related traffic and therefore is considered a priority for improvement." If Heald Street is already the most heavily-traveled roadway - and it too will be burdened by the full volume of additional traffic south of the project drive - shouldn't *it* be the safety priority? And how can there simultaneously be a need to improve area roadways for safety while the net effect of the project on traffic is "imperceptible and insignificant?"

The "imperceptible and insignificant impact" conclusion is apparently based solely on present and projected future values of the "Level of Service (LOS)". This is a driver-centric metric which assigns a letter grade to a roadway or intersection based primarily on the level of traffic congestion. Quoting from the study, there will be "no perceptible adverse operational impacts (such as increased congestion and delay)." Was anyone really expecting or concerned about traffic jams on Bayberry Road or at the Heald Street intersection? Local residents are not as concerned about this as they are about safety. *There is practically no mention of safety in the report.*

The study also reports its findings relative to Stopping Sight Distance (SSD) on each side of the Bayberry Road and site drive intersection. According to the report, this area meets AASHTO Stopping Sight Distance criteria. However, as discussed below, the study did not take into consideration the SSD at the Heald Street and Bayberry Road intersection or any other location. Our measurements indicate that the Heald Street and Bayberry Road intersection is far from compliant with AASHTO SSD guidelines.

Finally, the actual traffic volume increases may be substantially greater than predicted in the study. The trip generation data upon which the study estimate is based was compiled from “residential” condominiums/townhouses. We would consider the project area to be “rural” which implies less local services with more frequent need for vehicle travel.

### *Mitigation Measures Proposed in the Study*

The only substantive mitigation measure proposed in the study is that the section of Bayberry Road between the project driveway and Heald Street be widened from 18 to 24 ft. As no details are provided in the study, detailed comments cannot be made. However, shouldn't Bayberry Road also be widened between the project site and Chestnut Street? Even the developer-sponsored study estimates that 35% of the new traffic will travel to or from this direction. Furthermore, in the winter, when Heald Street is impassable between the pond and Bayberry Road, 100% of the project-generated traffic will be on this portion of Bayberry. And what good does it do to widen Bayberry Road to the intersection with Heald Street if Heald Street, the obvious traffic-safety bottleneck, is not also improved?

Finally, the study recommends that the limited widening of Bayberry which is proposed be completed *prior to project occupancy*. This is unacceptable. All widening and improvements to area roadways must be completed *prior to any housing construction*.

### *Sight Stopping Distances and the Heald Pond Area*

As discussed, although the study predicts that 65% of the new project-related traffic will be routed through the Bayberry Road and Heald Street intersection, no mention is made of sight stopping distances at this intersection. It is common knowledge that this intersection is particularly blind; in fact, the actual measured unobstructed viewing distance for a driver making a left turn onto Heald Street from Bayberry Road is just 75 ft whereas the AASHTO recommended safe stopping distance is 200 ft at the 30 MPH speed limit. For some additional perspective, a driver making this turn would first see the roof of a Toyota Camry only when it approaches to within 135 ft. Of course, the Camry driver would still need to travel further up the hill before spotting the turning vehicle. A left turn onto Bayberry Road from Heald Street is just as blind and a right turn onto Heald Street from Bayberry Road is only marginally better. This is not the only location near the proposed project area with poor sight distances. There are many other blind spots and hazards along project-area roadways including Chestnut Street and Oak Hill Road. Pepperell police records show that there have been 20 reported accidents on Heald Street from 2003 to the present; 79% of these accidents were in the winter. Photos in Appendix A provide additional context for

the measurements noted above and illustrate many hazardous sections along Heald Street and, in particular, in the Heald Pond area.

The Heald Pond area offers many recreational opportunities including walking trails, boating, and fishing. The Heald Pond Dam, less than one third of a mile from the proposed project drive, is the principal access site for these activities and many local residents walk or bike along Heald Street to get there. The proposed project will not only substantially increase the vehicle traffic in this area but also the pedestrian and bike traffic. This hilly, winding section of Heald Street between Bayberry Road and the pond is particularly treacherous for pedestrians. The very narrow road (a mere 17.5 ft at its narrowest point) has either high banks or steep drop-offs which leave few escape paths. This is a frightening walk for anyone not to mention parents with strollers, kids, dog walkers, or equestrians. Neighbors living in this area have experienced accidents and near misses first-hand. We are certain that even a modest increase in traffic will inevitably lead to accidents with property damage, injuries, and even fatalities.

Pepperell's Highway Department does an outstanding job maintaining our roadways throughout all seasons and in all types of weather. They have a tough assignment in this part of town where the roads are especially narrow, winding, and hilly. They have inherited a maze of rural roads which have grown from paths serving isolated farms and homes and are suitable only for limited amounts of traffic. Short of a massive and financially impossible "Big-Dig" effort, the roads in this part of town will never be capable of safely handling any significant increase in vehicle and pedestrian traffic.

#### *Other Concerns*

- Recent and 1988 studies concluded that the Heald Pond Dam is in poor condition and may be unsafe for construction vehicle traffic.
- The safety concerns discussed above are in the context of only the proposed 44 unit development (occupying only about 19 acres of the total 60 acre parcel). Although the developer has denied having additional plans for the project site, recent drainage calculations submitted were labeled as "Phase I". The potential for substantially larger traffic increases is alarming.

#### *Conclusions*

In summary, the Pepperell Natural Resources Association concludes that the developer-sponsored traffic study:

- is insufficient as it lacks breadth and depth,
- is inconsistent and contradictory,
- suggests mitigation measures which are vastly insufficient, and
- fails to discuss the obvious safety concerns expressed not only by this association but also in several town board reports in response to the applicant's proposal.

To that end, we strongly urge the Board to consider the following two recommendations as it proceeds with these hearings:

1) Initiate an independent, thorough, and comprehensive traffic study which will substantiate the numerous safety concerns cited in this report.

Short of a massive highway project to widen and improve the sight distances of local roadways, in particular Heald Street, the increased vehicle and pedestrian traffic associated with the proposed project will significantly increase the opportunities for accidents involving property damage, injuries, and possible fatalities. These are risks that far outweigh any benefit from the construction of the proposed 40B development.

This leads us to our second and final recommendation:

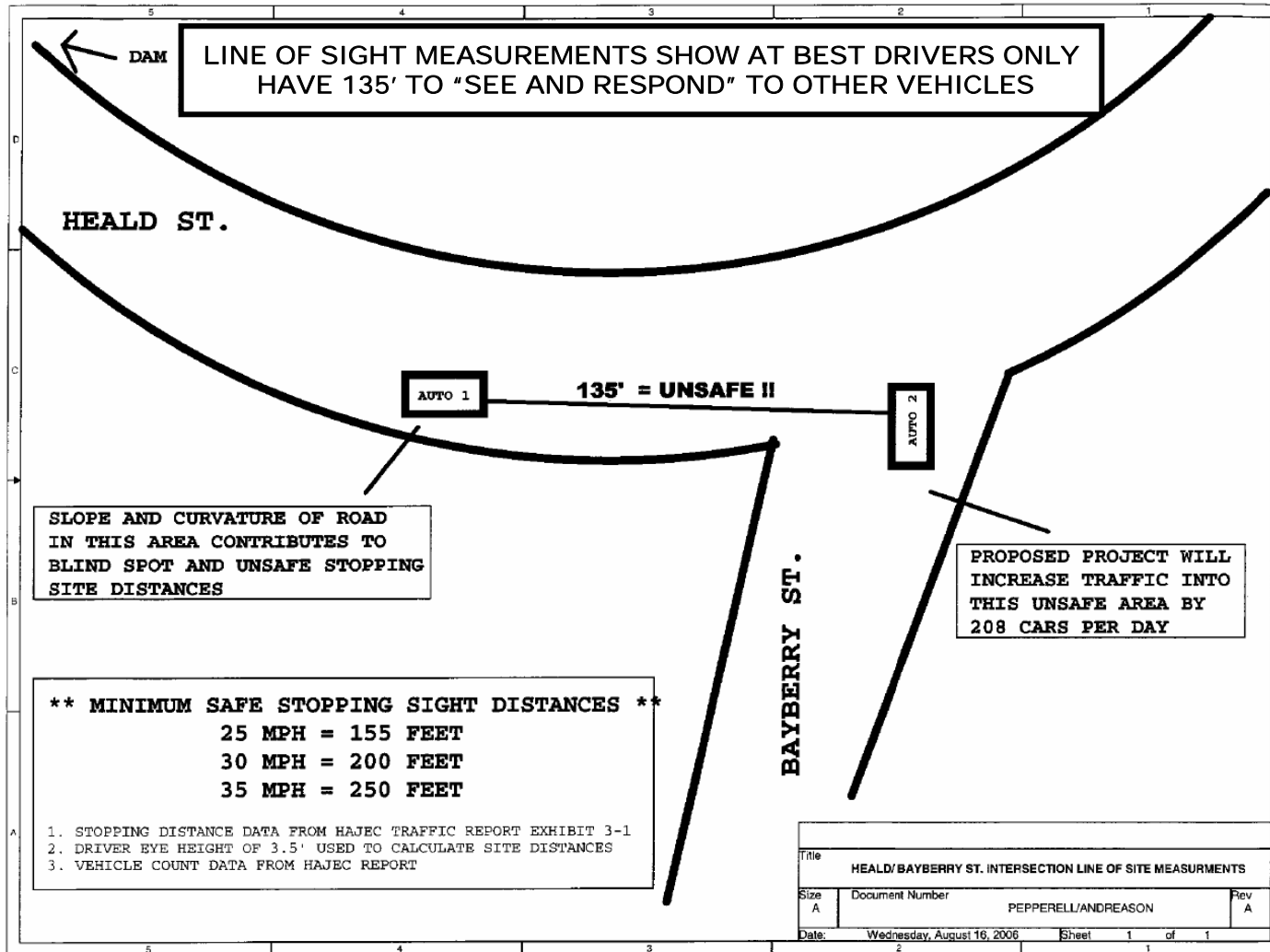
2) Based on these safety issues alone expressed in this formal response, we strongly urge that you, our Zoning Board of Appeals, deny this application for a comprehensive building permit.

Sincerely,

James W. VanGilder, P.E.  
Richard K. Elmer  
Michael Andreason  
Richard G. Potts  
David M. Pease

# Appendix A

## Schematic of Bayberry Road and Heald Street Intersection



# Appendix A

## Bayberry Road and Heald Street Intersection



Views of Bayberry Rd and Heald St intersection showing blind spots 1) at top of hill for drivers on Heald St and 2) for drivers exiting Bayberry Rd onto Heald St



Driver's view when own vehicle's roof becomes visible to driver turning left from Bayberry Rd onto Heald St (You can't even see Bayberry Road Street Sign).



Sight distance measurement at intersection of Bayberry Rd and Heald St



Drivers view turning left from Bayberry Rd onto Heald St

# Appendix A

## Heald Pond Area



Views showing sharp and blind corner near Heald Pond Dam. Recently installed guard rail was struck by vehicle within its first few weeks of existence.



Views of hill between pond and Bayberry Road. Narrowest section is only 17.5 ft wide. Note the steep banks and drop offs on either side that make this section particularly dangerous for pedestrians.

# Appendix A

## Heald Pond Area



View of Heald Pond Dam and recreational area. This is a location of numerous documented traffic accidents.



Views of corner between Clark's residence and Heald Pond. There have been numerous documented accidents at this blind corner.



View of Heald St taken from Bayberry Rd and Heald intersection. This blind spot has been the location of numerous documented accidents. Note the "blind drive" traffic sign.



Blind spot at the top of hill on Heald St facing Bayberry Rd.



View of Heald St near entrance to Shipley Hills development. This area, which includes blind spots at the crown of the hill and Shipley Hills entrance, has been the location of multiple documented traffic accidents.

# Appendix A

## Heald Street Near Aubin and Reese Residents



Blind spots in both directions along Heald Street near Aubin residence and town apple orchard recreational area.



Blind corner near Reese residence on Heald Street in direction towards Heald Pond.