

PLANNING
COMMISSION
EXHIBIT #84

Memo



To: Alliance for Sound Area Planning (ASaP) From: Kermit W. Hua, PE, PTOE
Principal
KWH Enterprise, LLC
277 Reservoir Avenue Ste. 1101
Meriden, CT 06451
(203) 606-3525

File: Date: January 19, 2011

Reference: Traffic Engineering Peer Review, the Preserve, Old Saybrook, Connecticut

This memorandum identifies traffic engineering issues related to the recent application by River Sound Development, LLC to modify the approved Special Exception for Preliminary Open Space Subdivision Plan for "the Preserve" development in Old Saybrook, Essex and Westbrook, Connecticut. The main focus of this memorandum is off-site roadway improvements to address traffic and safety impacts from the development.

A brief summary of the main points of this document:

- This application is a modification to the 2005 approved Special Exception. The basis for evaluating traffic burdens from the project should be the full development of the site, not just the three residential pods.
- Ingham Hill Road and Bokum Road are residential streets with design deficiencies unsuitable to properly and safely handle the traffic from the Preserve project. Any improvement plans for these two roadways, required by the 2005 approval, should address such roadway deficiencies along the whole lengths of the two roadways, not just at site driveways and intersections.
- Currently, there are glaring operational deficiencies and safety concerns for the intersection of Bokum Road and Route 154. River Sound Development, LLC's own traffic consultant concluded in an October 2004 study that in year 2010 this intersection would operate at levels of service (LOS) E and F during peak hours even without the Preserve development. These are the lowest grades on the traffic scale of A through F, indicating excessive traffic congestion at this intersection. If improvement measures are not taken, the Preserve traffic will put additional strain on this problematic intersection.
- The current application for modification does not commit to off-site improvements as required in the 2005 approval. If allowed to proceed without the requisite off-site improvements, the Preserve project will not only worsen



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area traffic congestion, but will represent a clear and significant threat to traffic safety for the driving public as well.

- It is important that the applicant submit a major traffic generator application to the State Traffic Commission (STC) as soon as possible so that improvement plans to the congested and unsafe State intersections along Routes 153 and 154 near the Preserve site can be planned, approved and constructed in a timely manner. River Sound Development, LLC's traffic consultant identified at least seven (7) intersections along Routes 153 and 154 that would operate at levels of service (LOS) E and F in year 2010 even without the Preserve development. Given the potentially significant reconstruction effort required for these State intersections, it is essential to involve area Towns including Old Saybrook early in the process to come up with effective and context-sensitive designs for the intersections.
- Should applicant later decide to submit the development of the three residential pods in a stand-alone application, detailed improvement plans for Ingham Hill Road and Bokum Road will still be needed in light of the existing roadway deficiencies and traffic growth from such a development.

Off-Site Improvements for Ingham Hill Road and Bokum Road

One condition of the 2005 approval of the Special Exception requires "plans for improvements to Ingham Hill Road and Bokum Road to address traffic burdens created by the subdivision." Because this application, which includes three residential pods (13 lots on the Ingham Road parcel, 11 lots on the Westbrook parcel, and 9 lots on the Pianta parcel on Bokum Road), is a modification to the approved Special Exception, the basis for evaluating the "traffic burdens" should be the full development of the site as depicted in the 2005 approval and the portion modified in this application.

This modification application does not detail the developmental program for "the core" of the Preserve site. It is not clear whether in the future the core will substantially conform to the land uses for the 2005 approval, i.e. open-space residential parcels and golf course, or will be other uses with different traffic-generating characteristics. It is recommended that the commission keep open the option of requiring additional off-site improvements if the core of the site should contain more traffic-intensive uses. This way, Old Saybrook and other area towns are protected from the potential financial burden to address additional traffic impact stemmed from a more traffic-intensive development, which should be applicant's responsibility.

I disagree with the applicant's assertion that traffic study and off-site improvements are not required for these three residential pods, a position that is not supported by technical evidences; indeed, technical evidences point to significant traffic impact and safety ramifications from the Preserve development.



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This need for plans to improve Ingham Hill Road and Bokum Road as required in the 2005 approval should be put in the context of the conditions of these two roadways, their current use, and the adjacent neighborhoods. Both are narrow, widening residential roadways with multiple curved segments and significant sight line restrictions. An increase in traffic volumes on the order of the Preserve development will represent a significant increase in traffic volumes when compared with the existing traffic loads on these roadways. With the increases in traffic volumes, the potential for traffic accidents will multiply as well because of the deficient roadway design features that exist. Heavy vehicles carrying construction equipment and servicing the new residential units and the golf course will pose especial safety threat because of the narrow, hilly and winding nature of the roadways, which were not designed to accommodate such large vehicles. At many tight curves along the roadways away from intersections, single-unit trucks or tractor trailers currently have to cross centerlines to proceed; given the deficient roadway geometries and limited sight lines for drivers, this is an invitation to potentially devastating head-on collisions, one of the most serious accident types that oftentimes involve injuries or fatalities.

It should be noted that these roadway deficiencies not only exist at intersections, but along the whole lengths of the two roadways. The Preserve development will only aggravate the conditions. It is recommended that the commission require the applicant prepare improvement plans for the whole lengths of Ingham Hill Road and Bokum Road, not just at site driveway locations and intersections to address these concerns.

One glaringly deficient intersection that operates at unacceptable levels of service (LOS) even without any site development is the intersection of Bokum Road and Route 154. Indeed, an October 2004, traffic impact study prepared for River Sound Development, LLC by its own consultant, BL Companies, indicates that the intersection was projected to operate at LOS E and F in year 2010 for the weekday afternoon and Saturday midday peak hours, respectively. As with traffic safety along Ingham Hill Road and Bokum Road, any increase of traffic volume on the order of the Preserve project will worsen the traffic delay and more troublingly, will increase the potential for traffic accidents at this location. As such, improvement to this intersection is critical before any work is started on the Preserve project.

Traffic Impact for Stand-Alone Development

If the applicant later decides to abandon the framework of the 2005 Special Exception and submits these three residential pods as a stand-alone application, improvement plans for Ingham Hill Road and Bokum Road are still essential to address roadway and safety concerns. This is because of the deficient roadway designs discussed earlier and the fact that traffic from the three pods will still significantly increase the traffic volumes on these two roadways relative to their existing traffic load.



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Additional Improvements to State Roadways

The scope of the Preserve project and its location bordering Route 153 require that a State Traffic Commission (STC) major traffic generator certificate be filed for the site. This will very likely necessitate additional roadway improvements to State roadways beyond what was outlined in the 2005 Town approval conditions for Ingham Hill Road and Bokum Road. During this STC review process, the Town of Old Saybrook will have input to improvements to State intersections through the Town's legal traffic authority.

Many State intersections along Routes 153 and 154 currently operate at very poor conditions. The following is a list of State intersections that were projected to operate at unacceptable traffic levels of service in year 2010 even without any Preserve-related traffic, as highlighted in the 2004 BL Companies traffic report. Traffic levels of service (LOS) are graded from A to F, with F being the worst, denoting significant traffic delays.

Location	Level of Service <u>without the Preserve Development</u>
Route 153 at Route 621 and Route 9 SB On Ramp	F (Weekday AM, PM and Saturday Midday Peaks)
Route 153 at Mares Hill Road	F (Weekday PM Peak)
Route 153 at McVeagh Road	F (Weekday PM Peak)
Route 154 at I-95 NB Off Ramp	F (Weekday AM, PM and Saturday Midday Peaks)
Route 154 at Bokum Road	E (Weekday PM Peak) and F (Saturday Midday Peak)
Route 154 at Route 9 SB Ramps	F (Saturday Midday Peak)
Route 154 at VFW Highway and Route 9 NB On Ramp	E (Weekday AM Peak) and F (Weekday PM and Saturday Midday Peaks)

Except for the Route 154 and Bokum Road intersection, improvements to the rest of these State locations were not included in the 2005 approval conditions. However, for area drivers who travel through these locations every day, operational deficiencies represented by the low levels of service (LOS) are not an abstract concept. Excessive traffic delays and associated traffic safety challenges exist at these locations. The additional traffic from the Preserve site will contribute to the further deterioration of traffic operations at these locations.

It is recommended that a detailed traffic review by the STC be conducted as soon as possible so that remedial measures can be formulated and implemented for these State intersections before the Preserve site is fully developed.



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KWH Enterprise, LLC

A handwritten signature in black ink that reads "Kermit Hua". The signature is written in a cursive, slightly slanted style.

Kermit Hua, PE, PTOE

Principal

kermit.hua@kwhenterprise.com

Cell: (203) 606-3525

Attachment:

Kermit Hua's Resume