

An Assessment of the Potential Noise Impacts from the Proposed Warehouse Adjacent to the Greenbelt Highway and South of the Residences Along Maravian Drive

Background

Mitchell Green was contacted by Michael Gross, of LDG Development, LLC to provide noise consultation regarding the proposed warehouse adjacent to KY 1934 (Greenbelt Highway). Mr. Green has been an environmental planning consultant employed by HMB Professional Engineers, Inc. for over 18 years and has performed numerous highway traffic noise impact studies for the Kentucky Transportation Cabinet and other Departments of Transportation throughout the south. Mr. Green has modeled, located and sized several structural noise barriers, including several in Jefferson County, with the most recent being the noise along I-64 to mitigate noise levels for residences along Hogarth Drive and Hogarth Court, adjacent to the Blairwood Tennis, Swim and Fitness Club. Mr. Green has worked with LDG to identify measures that would minimize the noise intrusion on the residences located to the north of the proposed facility.

Project Setting and the Noise Environment

The residences adjacent to the proposed development are currently situated adjacent to the Greenbelt Highway. For the residences within approximately 500 feet of this roadway (homes along Santa Fe Trail and those located along Maravian Drive up to mid-way between Santa Fe Drive and Crockett Drive) the dominant noise source contributing to the existing noise level would be the traffic along the Greenbelt Highway. Kentucky Transportation Cabinet (KYTC) traffic count data shows that over 19,000 vehicles per day, with 6% trucks, travel this section of the Greenbelt Highway (See Figure 1). While there is a fence, its construction method with gaps limits its effectiveness for sound attenuation.

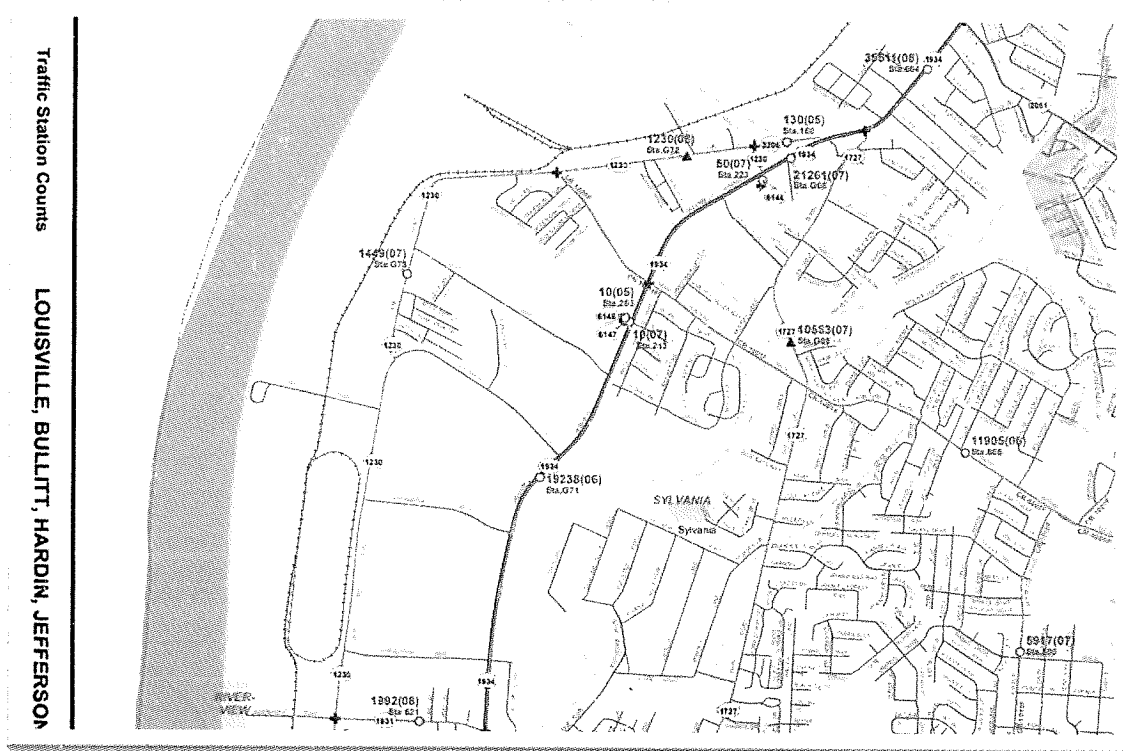


Figure 1 – KYTC Traffic Counts for KY 1934 (Greenbelt Highway)

Due to the fact that the majority of the current noise environment for the residential properties located along the northern border of this proposed facility is generated by the highway traffic along the Greenbelt Highway it is not likely that the low speed traffic circulating through this development would appreciably increase the absolute noise levels (dB(A)) for these properties, though a conclusive finding would require highway traffic noise modeling to determine the distance and number of homes where the Greenbelt Highway is the dominant noise source.

The second noise type that might be experienced by the residences to the north don't involve increases in absolute sound levels, but rather the introduction of new noise types generated by a facility of this type. Heavy truck idling and acceleration can introduce undesired noise types to the residential properties.

In assessing the development of the property, the LDG team developed minimization strategies for the noise and the potential for undesired noise types. Mr. Green consulted with LDG to refine the strategies for minimizing potential noise intrusion to the residential properties.

Minimization Measures

The project development team has developed the following minimization measures for the development:

- 1) Limits on the truck ingress and egress to the facility by primarily using the southern entrance, which is approximately 1000' from the residential properties;
- 2) Restrictions on hours of truck operations to the facility;
- 3) No idling and slow acceleration signage;
- 4) Plantings of fast growing coniferous trees along the northern property line, adjacent to the residences;
- 5) Solid fencing along the northern property line, adjacent to the residences, that turns 90 degrees and continues south, near the loading docks.

The undesired noise types that are generated by truck idling, circulation and acceleration would be minimized by measures 1-3 above.

The fencing and tree plantings would provide a visual screen for the residential properties and the fence may provide some noise attenuation of the facility at the residences, though quantification of this fact has not been performed.

Conclusion

LDG Development has solicited the input of a noise professional to assess the potential noise intrusion on the adjacent residential properties and has developed practical minimization measures in an attempt to lessen any potential noise related impacts from the warehouse project.