

Date: Friday, May 28, 2021
To: Richard F. Gosselin, Jr, Chairman; Paul A. Piktelis, Vice Chairman; Terry Burke Dotson, Member; Mathew Ashmankas, Member; Bruce M. Devault, Member; and Millbury Planning Board
From: Steven S. Stearns
Reference: Public Hearing Comments (from a son of the owners and resident of **Map 62 Parcel 98**)
McLaughlin Family Living Trust; John Antaya; and Kathleen (McLaughlin) Mardirosian (the “owners”)
Whitney Street Home Builders, LLC (the “developer”)
17 Rice Road, Millbury, MA (a/k/a Rice Pond Village Project)

Please find attached a noise peer review by Air & Noise Compliance, dated March 31, 2008, for a mixed-use development in Leominster, Massachusetts for noise mitigation for the “southern parcel” of land that abutters power transmission lines and 132 condominium units. The referenced project has similarities to 17 Rice Road (a/k/a Rice Pond Village).

Background —

1. Prior to development of the southern parcel, the land was basically a sandpit with existing trees bordering the property to the west, an electricity power transmission line (300-foot wide), directly abutted by 132-unit condominiums, with 148-unit condominiums nearby. These condominium developments were shielded from traffic noise from Route 190 by a natural noise buffer of trees and vegetation.
2. During the permitting phase of this proposed project, the City of Leominster mandated shielding the 132-unit condominium development from noise and light from the loading docks and operation of a Walmart Super Center. The developer understated the need for any noise mitigation and was dismissive of noise concerns.
3. During construction, the soundproof wall was not in place and noise drastically increased and adversely impacted residents of the 132-unit condominiums generating numerous noise complaints with the City of Leominster shutting down construction several times throughout construction (for operating outside of noise ordinance hours).
4. Post-construction, the soundproof wall has functioned quite well to mitigate the noise from the loading docks, Walmart operations and traffic noise from Route 190.

Similarities —

1. In the proposed Rice Pond Village public hearing, the developer’s engineer attempted to minimize the adverse impact from the removal of the majority of trees from the railroad and the increased traffic noise from Providence Road (Route 122A), stating that it would be “impractical.” In developer-speak this was understood by neighbors to mean “costly” to mitigate and a lack of interest.
2. The topography is similar in that the railroad sits slightly lower than the subject property.
3. The natural noise dampening from existing trees that are proposed to be removed, currently reduces, but does not completely eliminate the existing noise impacts on residences in the neighborhood. Common sense would dictate that the removal of existing trees and vegetation will only increase noise impacts and will not maintain a baseline state or reduce adverse noise impacts.

The Millbury Planning Board should require a qualified noise engineer document baseline noise for a duration not less than 48-hours during a period when the railroad is operating trains on these railroad tracks and develop a mitigation plan to be implemented prior to a majority of the trees and existing vegetation being removed. Additionally, a peer review should be undertaken to validate all of the developer’s noise engineer’s findings and recommendations for mitigation prior to any approval of this proposed project.

31 March 2008

Ms. Kate Griffin-Brooks
Planning Director
City of Leominster
25 West Street
Leominster, MA 01453

RE: New England Development – Lancaster Street Retail Development

Dear Ms. Griffin-Brooks

Air & Noise Compliance, Inc. (ANC) is submitting this letter in response to our assessment of the present conditions, the proposed New England Development (NED) noise mitigation alternative and the permit requirements for the NED retail development on Lancaster Street (Site). The following documents were reviewed during this assessment:

1. Site plan illustration prepared by Liberty Commons – NED Project Concerns – undated;
2. Noise & lighting study prepared by Tech Environmental for NED – dated July 2003;
3. Site plan drawing L-1 submitted by NED – Retail Leominster MA – dated 9 April 2003;
4. Site Plan Review Approval – Leominster Planning Board – dated 24 November 2003;
5. Tech Environmental letter to NED – dated 10 February 2006;
6. Tech Environmental letter to NED – dated 12 July 2006, and
7. Site plan drawings EX-1 and EX-2 submitted by NED – Retail Leominster MA – dated 21 August 2006.

Review of Present Conditions

On 15 March 2008 I visited the NED Site and the Liberty Commons condominiums property and reviewed the existing conditions. The nearest noise sensitive receptors are the Liberty Commons condominiums, located northwest of the NED Site. The next closest group of noise sensitive receptors is the condominium development located north of the NED Site. I visited the Liberty Commons condominiums and went onto the rear deck areas of the condominium units located at the southwest end of the cluster and adjacent to the electric transmission corridor. These units have a direct line of sight of the retail building rooftops.

Photographs 1 and 2 show the rooftop views of the NED Site buildings and direct lines of sight to the rooftop mechanical equipment. Photographs 3 and 4 show the relationship between the retail building, the loading docks, the loading dock freestanding walls, the adjacent terrain cut and the elevation of the property line with respect to the NED development. Photographs 3 and 4 clearly show the substantial cut in elevation for the rear building access drive and the inability of the loading dock freestanding walls to block sound more than the terrain cut and retaining wall. Photographs 1, 2, 3 and 4 would also clearly show (visually) the additional blockage that a noise barrier on the property line would provide, if such a structure actually existed.

Photograph - 1



Photograph - 2



Photograph - 3



Photograph - 4



Physical inspection of the loading dock areas noted that a strong echo exists within the walled loading dock area. This is a product of strong reflections between the building and the free standing loading dock walls. This phenomena suggests that these free-standing walls surrounding the loading docks will have little noise reduction benefit for the residences at Liberty Commons since sound will reflect off the wall, the trailers being unloaded and the building and then head towards Liberty Commons. The worst-case scenario would be sound reflections reinforce the loading dock noise and the free-standing walls raise the effective noise source height; both conditions could raise the noise levels at Liberty Commons greater than if the free-standing walls were not there. Although general acoustical theory will state that noise barriers located close to the source are more effective than those located further from the source, given the large elevation gradients between the building grade and the property line, the walls adjacent to the loading dock can only provide noise reduction through energy dissipation of repeated reflections. Our conclusion based on a qualitative assessment is that the free-standing walls are deficient as noise barriers for the Liberty Commons condominium development and are not an effective substitute for a noise barrier wall along the property line.

Predicted DEP Impact Determination

The Noise & lighting study prepared by Tech Environmental for NED, dated July 2003, and the Tech Environmental letters to NED, dated 10 February 2006 and 12 July 2006, state that the NED retail developments will be in “full compliance” with the Massachusetts Department of Environmental Protection (DEP) noise policy. Those documents also suggest that the noise impact criterion is 10 dBA above the 36 dBA L_{90} background sound level Tech Environmental measured during one short-term sample at the Liberty Commons condominium development. This repeated suggestion is misleading and raises concern that the impact determination made by Tech Environmental may not be conservative.

To suggest that the lowest L_{90} sound level for the Liberty Commons condominium complex is the 36 dBA sample they measured during one brief visit is misleading. Lower sound levels were measured nearby at the adjacent condominium development and are likely possible at the Liberty Commons condominiums. The DEP regulations in no way state or imply that if a particular level was measured at one time (or even many times) it can be used to represent any and all times. Our interpretation of DEP regulations is that the threshold of impact is 10 dBA above the measured L_{90} any time (past, present and future) while the noise source is not operating, but could be operating. Our conclusion is that a 45 dBA sound level is a reasonable limit during nighttime for this location; however, the DEP criterion level could in fact be lower than 46 dBA, as suggested by the Tech Environmental measurements at the Wildwood condominium development.

We are very concerned that the predicted compliance with the DEP 10 dBA increase criterion is based on predicted facility sound levels that are less than 46 dBA but possibly greater than 40 dBA. Under real, as-built conditions the facility might in fact be exceeding the DEP criterion. The repeated statements that the facility will not exceed 46 dBA at the Liberty Commons condominium complex suggests to us that Tech Environmental used this 46 dBA value as the design level and it may be too high if additional margins for error do not exist. A prudent design

level to ensure compliance with the DEP criterion might be 40 dBA versus the 46 dBA stated in the impact assessments. Our conclusion is that the noise impact assessment may not be conservative enough and the mitigation designs may not include enough of a margin for variance in background sound levels and as built conditions. The proponent and their agents have repeatedly claimed the development will be in compliance with DEP noise regulations, a responsibility the owners and operators of the retail site will always have. The permit conditions for the site could explicitly include conditions that the facility and use must comply with the DEP noise policy as in effect during the Site permitting and those that exist during the time of use.

Noise Barrier Siting

The Site Plan Review Approval document, dated 24 November 2003, states on Page 3, Section 6: “the Petitioner shall construct a fence of an acoustical nature (sound barrier) with a minimum height to be the line of sight as determined by the Leominster Health Director (...) and to be located at the property line between the Southern parcel and New England Power to the edge of Old Mill Road”. This document also recommended this noise barrier be extended along Old Mill Road. The noise barrier, sited adjacent to the property line with New England Power, constitutes the best opportunity to contain (shield) noise created by the site. This barrier will help shield noise from not only the rooftop mechanical equipment but also from retail and loading dock activities. Given the large terrain gradients located on and adjacent to the property, a property line noise barrier will offer the greatest potential to reduce site noise to the Liberty Commons condominium development. Additionally, this barrier will provide visual and light screening for the Liberty Commons development.

The Wildwood condominium development will not receive any substantial noise abatement from a property line noise barrier and that is presumably why Tech Environmental proposed the rooftop parapet along the northern portion of the “Retail A” building, as shown in Figure 1 of their noise & lighting study dated July 2003. A parapet noise barrier, 6-9 feet in height, will shield the Wildwood condominium development from rooftop mechanical equipment noise but is not a necessary design element if low-noise mechanical equipment or other methods are employed.

The site plan drawing L-1 dated 9 April 2003 shows four retail buildings with loading docks located along the northeast property line nearest the Wildwood condominium development. Loading dock activities at these locations could be a nuisance to the Wildwood condominium residents, particularly if these activities occur during evening, night or early morning. A noise barrier located adjacent to the pavement in this area would shield the Wildwood condominium residents from these sources. Separate rooftop noise barrier parapets or low noise mechanical equipment may be necessary to prevent noise impacts to the Wildwood condominium residents.

The Site Plan Review Approval document, dated 24 November 2003 recommended a noise barrier along Old Mill Road. This noise barrier is not necessary to protect the nearby residential developments and the proponents efforts would be better utilized providing the noise abatement discussed in the previous paragraphs herein.

Conclusions

After review of the project site and the project documentation cited herein it is our opinion that the noise barrier specified in the Site Plan Review Approval be included in the NED project. ANC prepared Figure 1 to illustrate the siting of the noise barrier. The noise barrier stipulated in the Site Plan Review Approval along Old Mill Road does not need to be constructed for the benefit of the Liberty Commons development and would only be necessary for shielding any future development on the other side of the street from the NED development. The noise barrier stipulated in the Site Plan Review Approval along the property line with New England Power should be continuous (or overlap three times the distance of the gap between the break in continuity), with the key components of the noise barrier system including the following:

1. Barrier Section 1 - A noise barrier wall 12 feet high, located on or about the property line, extending from Old Mill Road to the steep decrease in elevation. This noise barrier will also help shield the Liberty Commons development from visual impacts and light intrusions associated with the retail development.
2. Barrier Section 2- A noise barrier wall 12 to 13 feet high that transitions from the elevation and property line location of the previous barrier component to the next section.
3. Barrier Section 3 - A noise barrier wall 13 feet high along the rear access/loading dock area, extending beyond both ends of that four-unit retail building.

The permit conditions for the Site should note that implementation of these noise mitigation measures does not exempt current or future owners/occupants of the property from complying with all DEP noise regulations as in effect and that background sound levels will be established at that time or the previously measured values of 34-36 dBA be used at the discretion of the complainant or the City of Leominster.

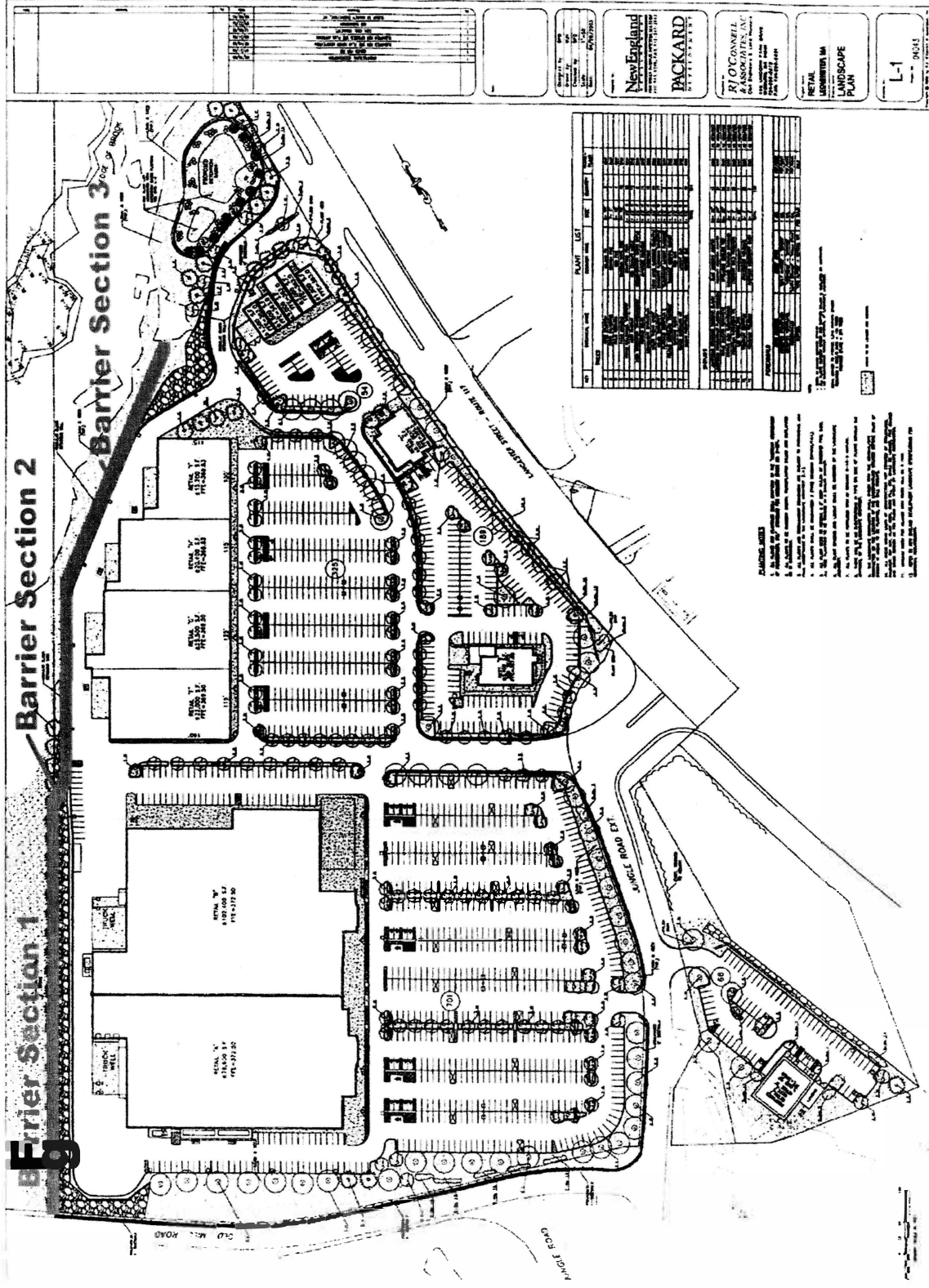
Please contact us if you have any questions. We anticipate meeting with the planning board to discuss our review, recommendations and any questions that arise at that time.

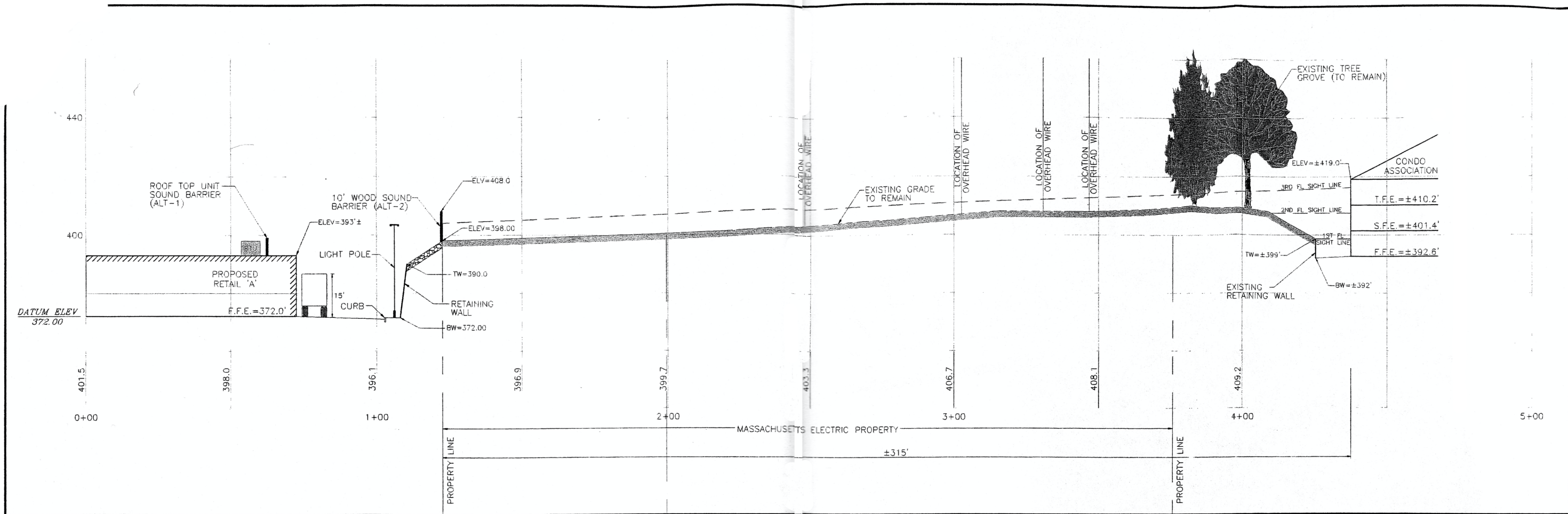
Sincerely,



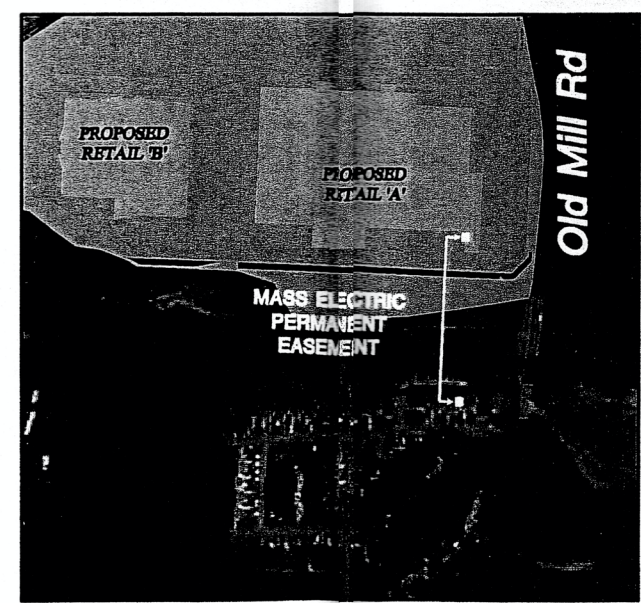
Frank Kuhn
President
Air & Noise Compliance, Inc

Figure 1





SECTION A-A
SCALE: 1"=10'



PLAN VIEW

| No. | Revised | Date | No. | Revised | Date | No. | Revised | Date | No. | Revised | Date |
|-----|---------|------|-----|---------|------|-----|---------|------|-----|---------|------|
| | | | | | | | | | | | |

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SEAL

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DESIGNED BY: [Signature]
 DRAWN BY: [Signature]
 CHECKED BY: [Signature]
 DATE: 08/29/2003

EASEMENT PROFILES AND CROSS SECTIONS

RETAIL
 LEOMINSTER, MASSACHUSETTS

DRAWING NO.
EA-2
 PROJECT NO.
 302552

0 125 250 375 ft

Mustard Seed Faith Fellowship

148 Condominiums

132 Condominiums

Northern Parcel

Southern Parcel

Electricity Power Lines (No Vegetation)

— — • Cross Section Line
— Noise Barrier

New England Development - Mixed Use Project

