TECH environmental
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April 21, 2022

Mr. Art Mahassel
UGPG RE Sutton LLC
223 Worcester Providence Turnpike
Sutton, MA 01590

Re: 40 &42 Unified Parkway, Sutton, MA Sound Study Ref 4679

Dear Art:

Tech Environmental, Inc. (Tech) is pleased to provide this letter report examining the potential changes in sound from the development of the first two potential warehouse at 40 and 42 Unified Parkway, Sutton, Massachusetts. Per your permitting approach, we are considering "Building 2" and "Building 3" at this time. We understand that if, or when, Building 1 is designed and permitted that Tech will need to consider the impact of not just Building 1 at that time, but all three buildings as compared to the ambient measurements prior to permitting for Building 2 and 3. This conservative approach prevents incremental permitting on a common lot as required by MassDEP when demonstrating compliance with the MassDEP Noise Policy.

The location studied is a former gravel pit previously owned by Aggregate Industries. As a gravel pit, there were many sounds present from earth moving equipment, crushing, and hauling. As part of our sound assessment, we did not include these previous sounds in our background sound data collection. We examined the site as an undeveloped site with no former uses to be conservative. Our ambient sound assessment did include the normal neighborhood sounds outside of the site that exist today.

Tech performed both short-term and long-term ambient sound measurements to identify the lowest background sound levels at the nearest residential areas surrounding the proposed warehouse development. Due to the size of the project area, two long-term meters were set up on the project site and were supplemented by short-term locations at the closest neighborhood. All sound level measurements were collected by an acoustic engineer using either a Larson Davis 831 sound level analyzer or a Brüel & Kjær Model 2250 ANSI Type 1 (high precision) real-time sound level analyzer, which was equipped with a precision condenser microphone, windscreen, and frequency analyzers. This analyzer meets or exceeds all requirements set forth in the American National Standards Institute (ANSI) Type 1 Standards for quality and accuracy.

The existing area is zone office/industrial light, with other office/light industrial area across the street on Providence Road. Properties on Buttonwood Avenue, Dudley Road and parts of Boston Road are zoned residential. Both Providence Road and Boston Road are fairly active roads. Providence Road is part of Route 122A and Boston Road branches off Route 146. Buttonwood Avenue and Dudley Road are prone to more residential traffic. The preferred traffic patterns were discussed with the design team and were presented in the traffic report we received.

The acoustic modeling study of the proposed light manufacturing (Building 2) and warehouse building (Building 3) to be leased by be UN1F1ED[2] Global Packaging Group, included examining the sounds of truck traffic and potential HVAC equipment. Building 2 and Building 3 have loading docks facing east and west. The sound of trucks entering, backing up and exiting these areas was explored. At the time of modeling, the expected make and model of HVAC equipment had been specified for Building 3, but had not been specified for Building 2. We had the choice to assume general warehouse ventilation for Building 2, or to scale the Building 3 equipment expected for Building 2. Based upon your expectation that Building 2 ventilation will likely be similar in design to Building 3, we scaled the equipment accordingly for permitting purposes. Tech understands that the actual ventilation equipment on both buildings could change as final design progresses, so the actual HVAC equipment will be "as equal or less" with respect to sound, or Tech will need to re-model to confirm any changes do not impact or findings from this study. The sound study was initiated to determine whether that the proposed warehouse development would comply with sound limits set by the Massachusetts Department of Environmental Protection (MassDEP) in 310 CMR 7.10, "Air Pollution Control" (herein referred to as Noise Ordinance).

Future sound levels of the proposed development were calculated with the Cadna-A acoustic model assuming both continuous and non-continuous sources associated with the facility. Cadna-A is a sophisticated 3-D model for sound propagation and attenuation based on International Standard ISO 9613.[1] The results were then compared to the collected to ambient sound levels and the modelling results confirmed that Building 2 and Building 3 would be in compliance with the MassDEP Noise Policy.

Sincerely,

TECH ENVIRONMENTAL, INC.

Michael T. Lannan, P.E.
President
4679/ Sutton, MA Sound Study

1 International Standard, ISO 9613-2, Acoustics – Attenuation of Sound During Propagation Outdoors, -- Part 2 General Method of Calculation.