

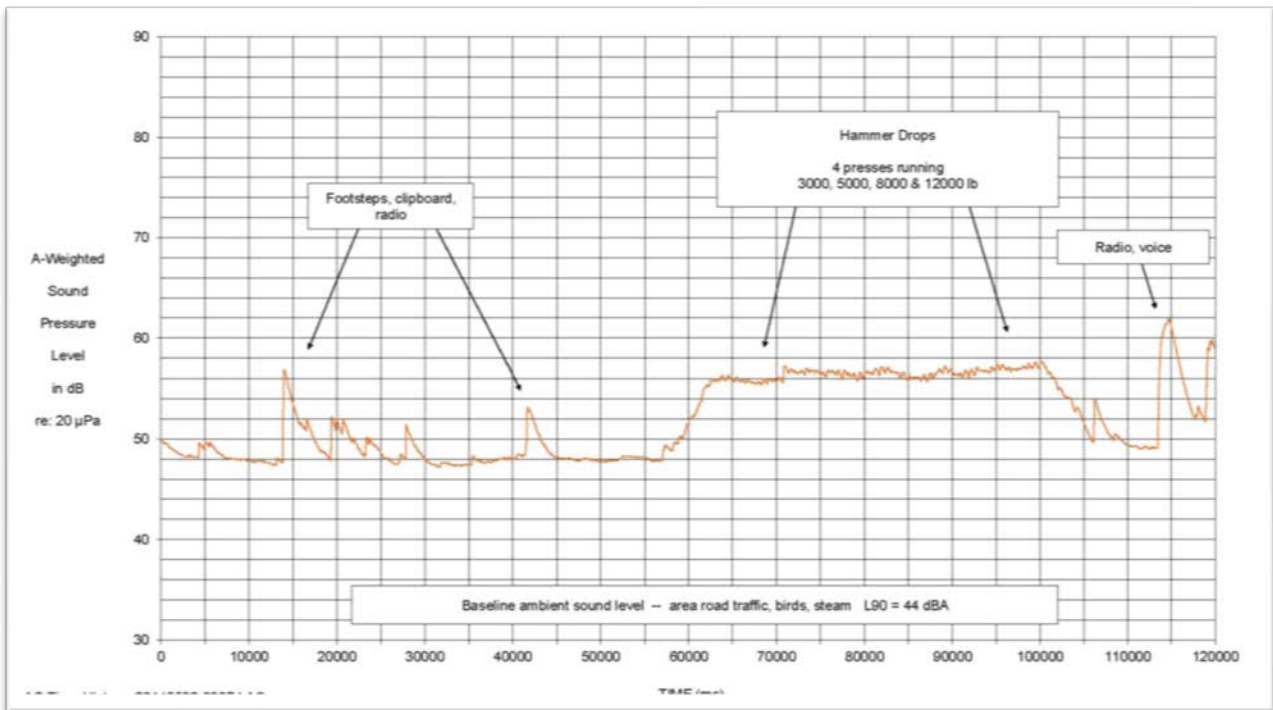
Case Studies – Forge Hammer Shop

Prevent sound inside a building from getting out

- Hammer Forge Shop
- Up to 160 KJ hammers
- Existing shop meets state regs
- Desire to run 24 hours a day

Goal -be inaudible to community





- Design to reduce hammer impulse noise
- Wide frequency range
- Use best available technology appropriate to project

Renovation Plan

Rebuild 60-year-old structure

Include new joists and rafters

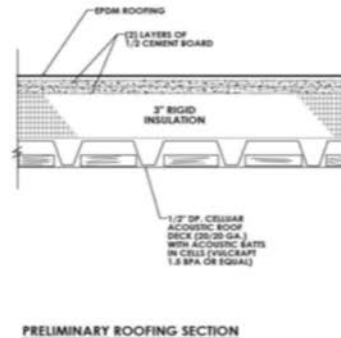
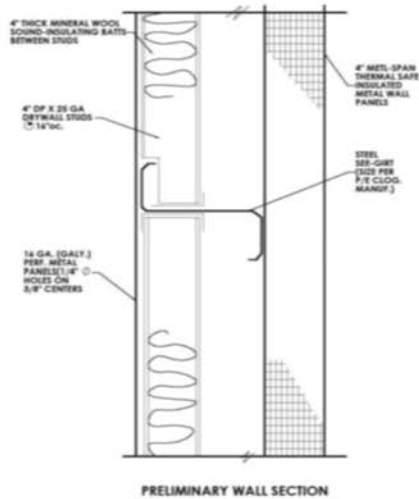
- 600 mm on center (oc) to support weight of heavy hung ceiling

Use high performance foundations

Seal all gaps in existing walls

Construct new sound isolation inner walls and spring hung ceiling

Acoustical Engineering Plan



NOTE:
 MUST CONFIRM THAT ROOFING ASSEMBLY COMPLIES TO FM GLOBAL REQUIREMENTS AND ROOFING MANUFACTURER RECOMMENDATIONS (FOR WARRANTY PURPOSES)

These design concepts were used for a power plant building with large reciprocating engines. This design will be modified to the exact needs for the hammer building, but they provide a good representation of sound isolating assemblies. They include sound absorbing elements on the inside of each assembly. For the wall it is a panel with mineral wool covered by corrugated metal. For the roof it is a pre-fabricated acoustical deck with absorption.

