JAMES PHILLIPS

SENIOR CONSULTANT, ACOUSTICS AND VIBRATION BUILDING SCIENCE SOLUTIONS

STARTED WITH INTERTEK: 2020 / YEARS IN INDUSTRY: 32

James Phillips has experience on a variety of projects have involved the acoustical design of interior spaces; HVAC system noise measurement, assessment, and mitigation; and transit system noise and vibration assessment. He has developed techniques for assessing floor vibration in buildings resulting from human activities and from traffic and transit and has been involved in the design and verification of building vibration mitigation techniques incorporated into structural designs. His work has included the prediction of noise and vibration levels in structural-acoustic systems using Finite Element Analysis (FEA) and Experimental Modal Analysis (EMA). He has worked on a variety of project types including multi- and single-family residential, office and commercial, fitness, medical, research, performing arts and transportation.

Project Experience

Mixed-Use Developments

270 Brighton Avenue Mixed-Use Project*, San Francisco, CA — A two building, 4-story mixed-used development of 30 units with commercial space on the ground floor in San Francisco, CA, facing a street with a trolley line. Conducted a noise survey for developing building shell construction recommendations to meet the California Code of Regulations, Title 24 and CalGreen guidelines for interior noise due to exterior sources. He also conducted a survey of ground-borne vibration due to trolleys for comparison to the guidelines of the Federal Transit Administration for assessing vibration impacts upon residential land uses.

Performance Spaces

Capital One Performing Arts Center*, Tysons Corner, VA — Assessment of potential ground-borne noise from large trucks traveling on adjacent streets and structure-borne noise from semi-trucks within the loading dock and entrance ramp below auditorium. Development and review of vibration isolation for the auditorium with the goal to reduce structure-borne noise generated by semi-trucks moving in and out of the sublevel loading dock and structure-borne noise generated by a rooftop park and beer garden, including bocce courts.

Vibration Predictions and Mitigation

Transbay Transit Center*, San Francisco, CA — Using Finite Element Analysis (FEA), predicted structure-borne noise and vibration within the Transit Center within occupied spaces immediately below an elevated floor driven upon by intercity buses. Assessed and guided structural design modifications to reduce structure-borne noise and vibration to acceptable levels and assisted in the design of vibration isolation for hanging column supports to reduce transmission of bus generated vibration.

Publications of Noise and Vibration Control

Overview of noise policy in California, presented at the 150th Meeting of the Acoustical Society of America, Minneapolis, MN.

Vibration isolation for world-class performance spaces, presented at the 176th meeting of the Acoustical Society of America, Victoria, British Columbia.

Correlation of field measurements for footstep force pulse with finite element model for determining vibration response of a building floor, presented at the 16th International Congress on Sound and Vibration, Kraków, Poland.

** Consulting services performed while employed at previous company*

Education

MS in Acoustics
The Pennsylvania State University
BS in Aerospace Engineering
The Pennsylvania State University

Practice Areas

Architectural Acoustics
Mechanical Systems and Building Systems Noise and Vibration Control
Transit System Noise and Vibration Assessment and Mitigation
Building Vibration Assessment
Building Vibration Mitigation Design
Structural-acoustic System Predictions and Modeling
Expert Witness Support and Testimony

Professional Associations

Fellow, Acoustical Society of America

Co-Chair of the College of Fellows, 2021-Present
Chair of the Technical Committee on Noise, 2018-2021
Chair of the Technical Committee on Structural Acoustics and Vibrations, 2012-2015

National Council of Acoustical Consultants:

Immediate Past Present, 2018-2020
President, 2016-2018
President Elect, 2014-2016