Environmental Acoustics Modeling

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SHEN MILSOM & WILKE

WHO WE ARE

SM&W's core purpose is to provide guidance and creative acoustical and technology solutions to make the places we work, play, learn and live more functional, safe, and welcoming.

Originally founded as an acoustical firm in 1986, Shen Milsom & Wilke, has become an internationally recognized technology consulting firm with 15 global offices. Our areas of practice include healthcare, education, science + technology, residential, hospitality, mixed-use, corporate, retail, and government. Although our firm has grown considerably since opening its doors, we have stayed true to our roots of acoustics design and planning services.

SM&W delivers a consistent methodology both locally and globally. Our approach has been the key to the successful delivery of over eighteen thousand projects in more than 40 countries. As the spaces we design evolve, much like technology, SM&W remains dedicated to providing comprehensive acoustical designs. We do this by utilizing advanced and innovative tools and applying the fundamental physics and engineering principals to the project, all while keeping aesthetic and end user needs at the forefront of our design.



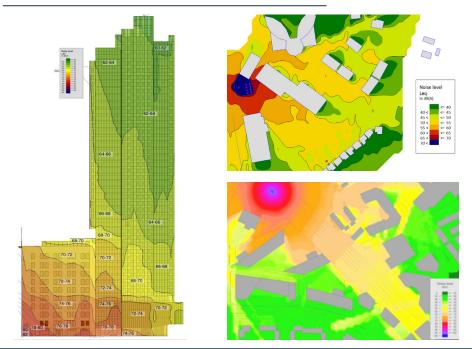
ABOUT ENVIRONMENTAL ACOUSTICS MODELING

We identify potential acoustical issues at the earliest point possible, and bring forth all available options for team review, discussion and coordination.

Our projects range from **extremely sensitive environments**, such as broadcast studios, performance spaces, SCIFs, and laboratories; **to heavily trafficked spaces**, like corporate and learning environments, open offices, sports arenas, and convention centers. We understand that each project is different, and have specific needs. That's why our solutions are customized for each project and problem at hand.

SM&W is an independent consultant. Our impartiality means that we are able to craft an objective and appropriate solution that is specific to your project's operational goals and budget.





Our **acoustical engineering and design team** offers comprehensive, 3D modeling for evaluating a variety of exterior noise sources. This includes, but is not limited to, modeling for use in land-use compatibility, specific building envelope studies, and noise ordinance compliance. Benefits of acoustical modeling include:

- > Creates detailed, high resolution models that demonstrate noise levels and site images, allowing for quick and intuitive decisionmaking when it comes to design options and approaches.
- Provides enhanced planning and design insight into site-specific opportunities through accurate calculation of acoustic reflections and shielding from buildings and terrain.
- > Uses well-established prediction algorithms, such as the FHWA
 Traffic Noise Model, and public data for accuracy.
- Can replace on-site measurements, minimizing travel costs and site logistics.

There are several noise metrics & methodologies involved in environmental, industrial, and exterior noise assessments.

SM&W cuts through the chaos to deliver pragmatic and efficient solutions through virtual noise assessments by harnessing the power of acoustical modeling. Did you know? SM&W's acousticians can evaluate and predict noise levels for a wide variety of applications, such as:





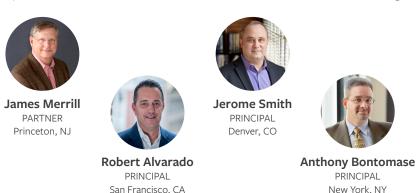
California Northstate University, Medical Center SAN FRANCISCO CA

SM&W is currently providing acoustical planning & design with Fong & Chan Architects for CNU's new Medical Center. The project required a noise study to assess helicopter operation noise in order to meet Federal, State, and Local regulations. SM&W analyzed flight paths, helicopter models, and flight frequency.

OUR ACOUSTICS LEADERS

From engineering backgrounds to professionally-trained musicians, our acoustics

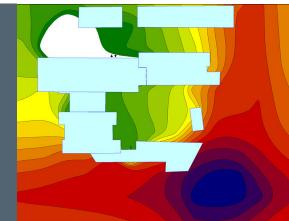
team has a wealth of knowledge and experience that allow us to solve complex acoustical challenges. Our team is made up of over 20 qualified professionals, with a reach that extends to all corners of the globe.



We are a leader in the industry because of our people.

Our team is committed to and involved in many industry associations in order to remain informed and collaborate across this unique design and engineering industry. Our collective knowledge and diverse skill set results in better ideas and solutions for the problems our clients face. Some of our industry affiliations include:

- > Acoustical Society of America (ASA)
- > American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE)
- > Institute of Noise Control Engineering (INCE)
- > National Council of Acoustical Consultants (NCAC)
- > American Society of Testing and Materials (ASTM)



Post Oak Blvd. Mixed-Use Development HOUSTON, TX

Dana Hougland

PRINCIPAL

Denver, CO

SM&W is currently providing complete acoustical design services for the 1.2-Million SF development in Houston. Part of SM&W's acoustical services involved acoustical predictive modeling using SoundPLAN to model the noise environment of the development, an environmental noise study, and 3 in-place sound isolation tests.

Our clients range from owners and end users to architectural design teams. From our very first days of operation, SM&W's goal has been to meet and exceed client expectations. To this day, we go the extra mile to ensure a project's success with cost effective and prudent approaches. SM&W is unparalleled in experience. Some of our acoustical modeling projects include:

- > 1066 Market Street
- > 2100 Market Street
- > Alves Ranch
- > California Northstate University Medical Center
- > Falkland North Apartment Complex
- > Foreign Affairs Service Training > Oakland City Center, T5 Lot Center
- > Four Seasons Private Residences 706 Mission
- > Georgetown Preparatory School New Campus & **Residence Hall**
- > Indiana University Health, Bloomington Health Campus

- > INOVA Fairfax Hospital Helicopter Noise Study
- > Mission Bay, Block 1
- > New York City Housing Authority, Post Hurricane Sandy Emergency Generator Evaluations
- > One Raffles Quay, Singapore
- > Parkmerced Residential Development
- > Post Oak Boulevard Mixed-Use Development
- > PSE&G/LIPA, Montauk & Southampton Stations
- > San Vicente Preschool

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MANAK BR

Located globally to better serve you.

Shen Milsom & Wilke is an international firm of more than 200 talented and dedicated professionals who provide technology and design consulting for new construction and renovation projects of all sizes.

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Four Seasons Private Residences 706 Mission Street SAN FRANCISCO, CA

SM&W provided acoustical expertise to address exterior to interior sound isolation per California Title 24 requirements at 706 Mission St. SM&W prepared acoustic models to show current and predict future outdoor noise conditions at the site for use in optimizing locations for upgraded sound-rated glazing.