ACOUSTICS
FOR THE BUILT ENVIRONMENT
“Sound is an element too often forgotten when designers and owners visualize a building, but acoustics are just as important as what we can see and feel.”

– Randy Waldeck, PE, LEED® AP, Principal Acoustician
“CSDA has demonstrated to be quite a team player with great communication skills, professionalism, and responsiveness in assisting me in my role with implementing the noise monitoring requirements for the Universal Studios Specific Plan.”

– Robert Glaser, Principal Planner, County of Los Angeles, CA
Academic
Civic and Public Institutional
Commercial
Data Centers
Entertainment and Leisure
Healthcare
Industrial
Master Planned Communities
Mixed-Use
Performing Arts
Places of Worship
Restaurants
Retail
Single- and Multi-Family Residential
Senior Housing
Sports Facilities
Student Housing
Theater
ARCHITECTURAL ACOUSTICS

CSDA carefully considers a building’s location, function and aesthetics in designing acoustical solutions that are within an owner’s budget. We have collaborated on new construction, expansions, restorations, and renovations for a wide range of building types, including high-performance and sustainable structures.

We provide developers, planners, schools, architects, engineers, and owners with:

- Recommendations for room shaping, acoustical finishes, and sound isolation
- Design review and acoustical input on building plans and specifications
- Coordination, calculations, and documentation for LEED acoustics credits
- Construction site visits and measurements
- Three-dimensional modeling and graphics for agency/user presentations

Interior computer model of a 2,100 seat multiuse concert hall, used to develop recommendations for acoustical treatment and room shaping.
Aircraft Construction Central Plants Equipment Yards Helicopter Industrial Facilities Rail Vehicle
ENVIRONMENTAL/TRANSPORTATION NOISE

By necessity, transportation systems are placed near population centers. The resulting noise and vibration may adversely impact the quality of life for nearby residents and the surrounding communities. Government agencies are well aware of these environmental impacts and have set regulatory compliance standards to ensure community wellbeing.

CSDA works with planners, engineers, and project managers to meet regulatory requirements for noise by providing:

- Environmental noise and vibration studies
- Noise barrier and building envelope design
- General plan noise element updates
- Noise and vibration measurements/monitoring

Three-dimensional noise model provides an accurate visual “heat map” of project noise levels
SOUND INSULATION

Apartments
Churches
Civic Institutions
Community Centers
Condominiums
Educational Facilities
Hospitality
Nursing Homes
Retirement Homes
Single-Family Homes
SOUND INSULATION

In an effort to address noise concerns, the federal government has funded programs to retrofit impacted properties with architectural solutions aimed at achieving acceptable interior noise levels. These retrofits reduce speech interruption and sleep disturbance in homes and improve learning environments in schools. We respectfully work with each community to provide acoustical solutions that offer healthier, more comfortable environments.

We have earned a reputation for excellence in the following:

- Acoustical design and measurements
- Agency audits
- Architectural design
- Construction and contract document development
- Construction administration and inspection support
- Community outreach/collateral materials
- Data management systems
- Program management
- Technical and administrative staff support
NOTABLE PROJECTS

- Kids’ Country Theater and Science Center
- Los Angeles County High School for the Arts Black-Box Theater
- Ravenswood Family Health Center
- UCLA Medical Center Kidney Transplant Suite
- Stanford University Hospital Helipad
- Stanford Linear Accelerator
- 360 Spear Street Data Center
- Universal Studios Sound Monitoring
- 6701 Shellmound Mixed-Use Artisan Way Residences
- Metro Purple Line/Westside Subway
- BART Silicon Valley Berryessa Extension Residential Noise Insulation Program
- General Mitchell International Airport Noise Program
- Los Angeles World Airports (LAWA) Residential Soundproofing Program
- Norman Y. Mineta San Jose Intl. Airport (SJC) Acoustical Treatment Program
- Phoenix Sky Harbor Intl. Airport (PHX) Sound Mitigation Services
Randy Waldeck, principal and founder of CSDA’s acoustics practice, has traveled all over the U.S. to measure, model, analyze, and develop acoustical solutions to mitigate and control environmental, mechanical and occupant noise. A third generation engineer, Randy has been working with clients to provide sound solutions for the built environment for more than a decade.

ABOUT CSDA DESIGN GROUP

CSDA Design Group (CSDA) is an architectural and engineering firm with 55 professionals practicing in San Francisco, Los Angeles, San Diego, and Milwaukee. Founded in 1952, we specialize in acoustics and educational facility planning and design. We collaborate with clients to develop cost-effective acoustical solutions that provide healthy environments and meet regulatory requirements and community expectations.
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