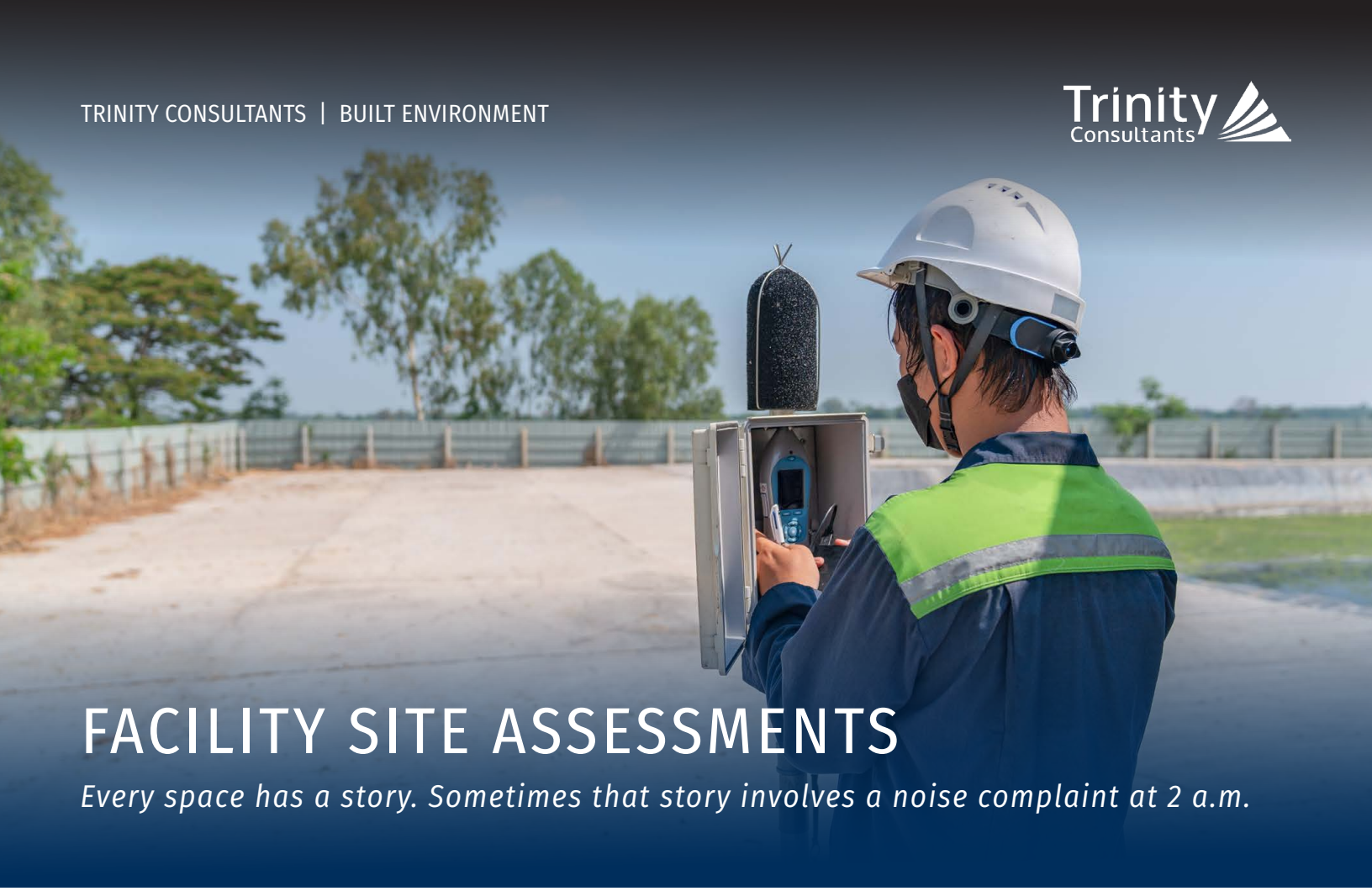


FACILITY SITE ASSESSMENTS

Every space has a story. Sometimes that story involves a noise complaint at 2 a.m.

OVERVIEW

Noise and vibration problems don't wait for convenient moments. They surface in occupied buildings, during active construction, at planning hearings, and in the middle of the night.

Trinity Consultants' Site Assessments group specializes in solving and assessing noise and vibration issues in situ. We draw on the combined expertise of the Built Environment team — **Cerami, Longman Lindsey, Valcoustics, Jaffe Holden, JB&B, and WorkingBuildings** — to help owners, developers, property managers, institutions, and design teams understand and resolve real-world noise and vibration concerns wherever and whenever they arise.

We investigate complaints, document existing conditions, identify sources, evaluate transmission paths, and develop mitigation strategies that are technically sound, practically implementable, and aligned with project constraints. Every recommendation we make is one we can defend — in the field, in design review, and in front of a hearing.

300+
construction noise monitoring projects completed.

100+
active monitors across North America.

1,000+
residential and commercial noise and vibration troubleshooting projects.

Building Without Disruption

For MedStar's new medical pavilion — situated in a dense residential neighborhood — extensive construction noise & vibration monitoring, 3D impact modeling, and direct community outreach kept the project on track, on budget, and out of earshot.

MedStar Georgetown University Hospital Washington, DC

Services: Construction Noise Monitoring and Acoustics

Noise and Vibration Troubleshooting

Unexplained sound and vibration conditions are disruptive, hard to diagnose, and expensive to leave unresolved. Our troubleshooting practice addresses occupied buildings, tenant spaces, residential properties, healthcare environments, hotels, research facilities, entertainment venues, offices, and mixed-use developments.

Common sources we investigate include:

- Mechanical, electrical, and plumbing systems
- Elevators and vertical transportation
- Generators
- Bar and restaurant noise
- Office acoustics and speech privacy
- Gym and fitness noise
- Community and industrial noise

Through on-site observation, targeted measurements, source-path-receiver analysis, field testing, and engineering judgment, we identify the cause and recommend mitigation. Our dedicated team of on-call expert troubleshooters is available to go on-site quickly. Services include noise and vibration complaint investigation and remediation, vibration measurement, equipment noise and vibration control, proof-of-performance testing, and noise and vibration modeling. In finished, occupied spaces where cost and installation constraints matter most, we draw on extensive combined experience to diagnose the problem and identify workable solutions.

Tune in: Noise & vibration analysis

Trinity Consultants

"The community noted how the monitoring program was an effective tool to manage expectations and expressed their gratitude for all of [Trinity's] hard work and attention to detail on the project."

Emily Emrick, Shalom Baranes Associates, Senior Principal for the MedStar Georgetown University Hospital Surgical Pavilion Project

MedStar Georgetown University Hospital Washington, DC

Services: Construction Noise Monitoring and Acoustics

Noise and Vibration Monitoring

Sound and vibration risk does not resolve itself over time — it accumulates. Our monitoring services help clients manage that risk continuously, with programs designed for:

- Construction activity monitoring
- Noise and vibration sensitive projects such as research facilities, vivaria, hospitals, residences, hotels, and airports
- Concert and music festival venues
- Environmental monitoring
- Commissioning

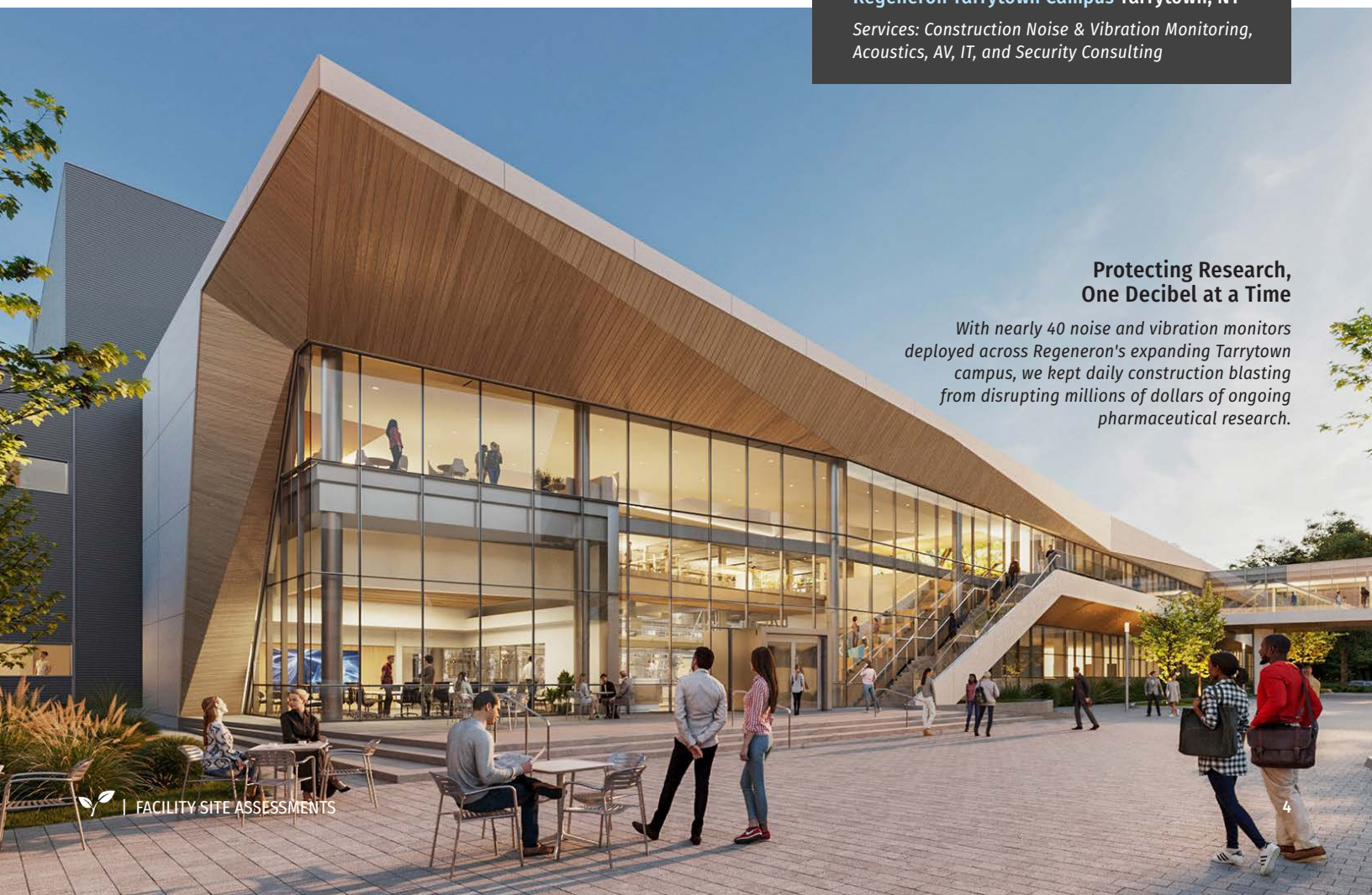
Sound and vibration risk does not resolve itself over time — it accumulates. The cheapest acoustical problem to solve is the one caught before construction begins.

We provide long-term continuous monitoring with custom solutions, real-time results, zone-of-influence studies, ground vibration monitoring, and structural vibration monitoring. Programs include baseline measurements, active and unattended monitoring equipment, real-time alert thresholds, data review, reporting, and corrective action recommendations. Mitigation strategies range from equipment isolation and silencers to barriers, enclosures, absorptive treatments, structural modifications, and operational controls.

Hear how we stay ahead of noise & vibration risk

Regeneron Tarrytown Campus Tarrytown, NY

Services: Construction Noise & Vibration Monitoring, Acoustics, AV, IT, and Security Consulting



Protecting Research, One Decibel at a Time

With nearly 40 noise and vibration monitors deployed across Regeneron's expanding Tarrytown campus, we kept daily construction blasting from disrupting millions of dollars of ongoing pharmaceutical research.

Trinity Consultants

Research-Ready, Down to the Foundation

Designing offices and amenities at Regeneron's Tarrytown campus required structural slabs engineered to precise vibration thresholds — protecting the vivariums and electron microscopes operating within the same buildings.

Regeneron Tarrytown Campus **Tarrytown, NY**

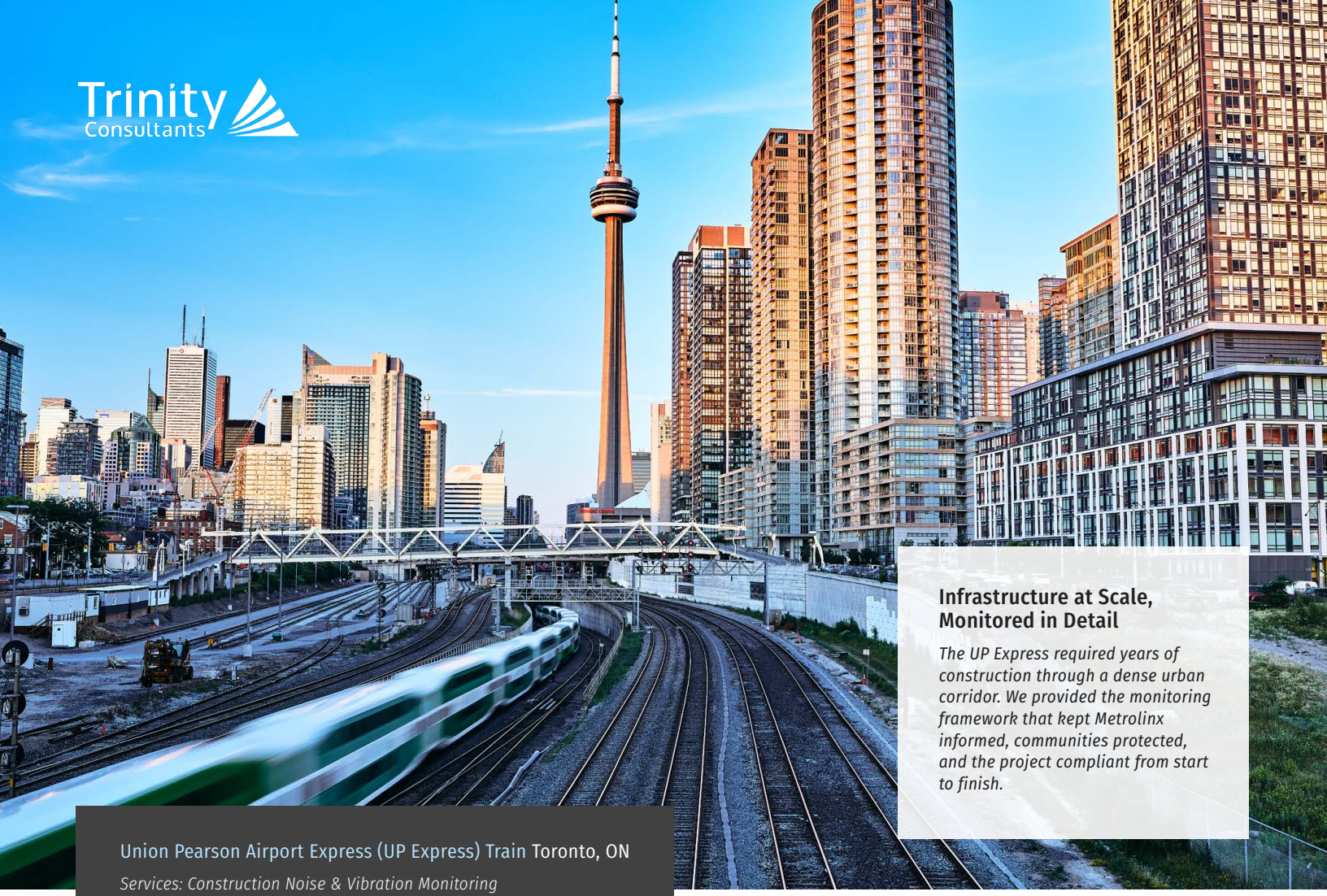
Services: Construction Noise & Vibration Monitoring, Acoustics, AV, IT, and Security Consulting

Five and a Half Years of Uninterrupted Monitoring

When Metrolinx needed continuous noise and vibration oversight for Toronto's UP Express rail link, we deployed up to 90 unattended monitors running 24/7 for nearly six years — work that earned a CiPA award for Infrastructure Innovation.

Union Pearson Airport Express (UP Express) Train Toronto, ON

Services: Construction Noise & Vibration Monitoring



Union Pearson Airport Express (UP Express) Train Toronto, ON

Services: Construction Noise & Vibration Monitoring

Infrastructure at Scale, Monitored in Detail

The UP Express required years of construction through a dense urban corridor. We provided the monitoring framework that kept Metrolinx informed, communities protected, and the project compliant from start to finish.

Preventative Services

The cheapest acoustical problem to solve is the one caught before construction begins. Our preventative services address early-stage decisions where the cost of intervention is lowest and the value is highest:

- Feasibility studies for prospective space programming — evaluating whether a proposed use or site configuration meets the right criteria before design begins
- HVAC reviews for noise code compliance — assessing mechanical system designs against applicable noise standards and ordinances
- Risk assessments for building upgrades — evaluating the noise and vibration implications of planned modifications to existing buildings

These services are most valuable when owners, developers, and design teams are weighing programming decisions, evaluating prospective properties, or planning upgrades where acoustical implications could affect design direction, regulatory approvals, or project cost.

Pre-Construction Surveys and Baseline Studies

A construction project that lacks baseline documentation is a liability waiting to happen. Before work begins, a thorough understanding of existing noise and vibration conditions is essential for managing risk, establishing defensible records, and meeting regulatory and contractual requirements. Our pre-construction services include ambient noise measurements, structural vibration baseline surveys, zone-of-influence studies, and documentation of pre-existing conditions in neighboring structures.

These surveys protect all parties — owners, contractors, and neighboring property owners — by creating a factual record before construction-related impacts occur. Our practice includes pre-construction baseline measurements, ambient vibration assessments, and monitoring plan development tailored to site-specific risk profiles and applicable local requirements.

Listening at Every Frequency

The renovation demanded a monitoring system sophisticated enough to distinguish construction, environmental, and office noise — tracking vibrational impact minute-by-minute at the neighboring commercial building.

Tiffany & Co. Flagship Store New York, NY

Services: Construction Noise & Vibration Monitoring, Acoustics, and Audiovisual Consulting

Land Use Assessment and Permitting

Noise and vibration from proposed developments, transportation infrastructure, industrial facilities, and entertainment uses can shape — or derail — the approvals process. Our land use assessment services evaluate the noise impact of proposed projects on adjacent sensitive land uses and develop the documentation needed to support planning applications, environmental impact statements, development permits, and agency review.

We provide assessments covering road, rail, and air transportation as well as industrial sources, with sound exposures quantified using state-of-the-art computer and mathematical modeling and field measurements. Mitigation analysis covers sound barriers, architectural elements, operational techniques, and vibration isolation concepts. Our team has also assisted municipalities in establishing noise standards and has participated on committees to revise legislation, guidelines, policies, and standards related to noise.

From Approval to Operation

Noise is one of the most common obstacles in data center land use approvals. We provide the acoustic modeling, mitigation strategies, and support community engagement efforts to move projects through permitting — and keep them running once they're built.


*Stock Photo


*Stock Photo

Expert Witness Testimony

When noise and vibration disputes reach courts, arbitration panels, planning boards, zoning bodies, or municipal authorities, independent expert testimony determines outcomes. Our team members have testified on matters of acoustical fact, impact assessment, and mitigation feasibility across construction activity disputes, adjacent operations, property damage claims, development applications, and regulatory compliance disagreements.

Our experts are recognized across civil and regulatory proceedings and are experienced communicators of complex technical findings to non-technical decision-makers. We support clients on both sides of disputes, as well as municipalities, developers, and property owners who require independent technical credibility on contested noise and vibration matters.

Why Trinity Consultants

From initial complaint through measurement, monitoring, mitigation design, reporting, and follow-up verification, Trinity Consultants delivers a practical, integrated approach to facility site assessments. Our Built Environment platform combines acoustics, vibration, environmental assessment, building systems, land use evaluation, preventative services, regulatory advisory, and expert witness capability. We help clients make informed decisions, avoid late-stage surprises, support compliance, and create buildings and sites that perform as intended.

CONTACT OUR TEAM!

For more information about how we can help your organization, please contact us.

Trinity Consultants | Built Environment
built-info@trinityconsultants.com

CERAMI
JAFFE HOLDEN
JB&B
LONGMAN LINDSEY
VALCOUSTICS
WORKINGBUILDINGS

Trinity Consultants

SCAN OR CLICK THE QR CODE TO LEARN MORE

We're committed to sustainability—please print responsibly.