

Research & Technology Building University of Washington, Seattle, WA

Environmental noise & vibration review

Client
University of Washington

Work Scope
Environmental Noise+Vibration

Project Value
\$31 Million

Design-Builder
M.A. Mortenson Company

Architect, Engineers
CollinsWoerman
McKinstry, DCI, KPFF, Sasco

Total Building Area
90,000 sq. ft.

The University of Washington Research & Technology building is located on a challenging and awkwardly-shaped site, bounded by a waterfront industrial zone, bike trails, and an existing neighborhood. From an environmental noise and vibration perspective, Interstate 5 passes very close to the site.

The new building was designed to serve a variety of research interests. Environmental noise and vibration were important not only to occupant comfort, but potentially critical for the laboratory environments required by some types of research.

We performed an environmental noise and vibration assessment of the site. The noise assessment revealed significant site noise. Daytime noise levels of nearly 75dB(A) were clearly dominated by traffic noise on the I-5 overhead. The noise profile during a brief traffic break caused by an accident provided definitive evidence for the identity and magnitude of the noise source.

Additional studies were carried out with respect to ground vibration. Because facility vibration performance is limited by the ambient vibration in the site soils, our findings revealed the potential limitations of the site. A comparison of the R&T Building site to other high-end laboratory sites on the UW campus helped guide the design team in identifying uses for which the final facility performance would be appropriate.

