

CIVIL ENGINEERING | STRUCTURAL ENGINEERING | PLANNING | SURVEYING

Aviation | Civic & Municipal | Commercial | Education | Healthcare | Industrial | Military | Transportation | Waterfront



Reid Middleton

DISASTER RESPONSE &
RECOVERY ENGINEERING

Post-Disaster Response & Recovery Engineering Services

Post-Disaster Response & Recovery Engineering Services

Seismic Screening, Evaluations, & Upgrades (FEMA 154 & ASCE 41)

Building & Bridge Shoring & Stabilization

Emergency Shoring & Stabilization for Buildings, Bridges, & Other Structures

Slide & Slope Stabilization & Repair

Post-Disaster Safety Evaluation of Buildings & Structures (ATC-20/45, CAL EMA)

Building Technical Review

Post-Earthquake Recovery Services for Building Departments

Post-Disaster Recovery Planning



Naval Hospital Twentynine Palms
Twentynine Palms, CA



Taiwan Earthquake, 1999



Haiti Earthquake, 2010



Everett Fire Station Seismic Evaluation &
Concept Retrofit Design, Everett, WA



Tacoma Fire Facilities Seismic Evaluations
City of Tacoma, WA



Whatcom Middle School Post-Fire
Bellingham, WA

Post-Disaster Response & Recovery Experience

EARTHQUAKE SAFETY TRAINING

After large-scale disasters involving buildings, bridges and critical urban infrastructure, assessing the damage and safety of our infrastructure is one of the most important first steps to disaster recovery. ATC-20 and ATC-45 are the de facto standards for post-disaster safety evaluations of buildings. Reid Middleton regularly leads ATC-20/45 training for clients like:

- U.S. Navy
- City of Kent
- Bellevue College
- Port of Seattle
- Washington State DOT
- King County

SEISMIC EVALUATIONS & UPGRADE DESIGN

Structural engineering at Reid Middleton has focused on renovation, preservation, and expansion projects. Over the past seven years, we have designed more than 90 seismic upgrade and renovation projects and more than six million square feet of new buildings. We have performed FEMA 154 seismic screening for over 500 buildings leading to innovative seismic risk reduction programs for our clients such as:

- U.S. Navy
- Alaska Airlines
- Seattle Tacoma International Airport
- City of Seattle
- Anchorage International Airport
- City of Tukwila

Post-Nisqually Earthquake Response, Recovery, & Safety Evaluations

City of Seattle ATC-20 Evaluations of 1,500 buildings

U.S. Navy ATC-20 Evaluations of 47 buildings at Naval Base Kitsap-Bremerton and Keyport, WA

City of Des Moines ATC-20 Evaluations of City Hall, Senior Center, Field House, and bridges

City of Renton ATC-20 Evaluations of several office and commercial buildings

Elevated Water Tanks Seismic Evaluation & Retrofit, Renton, WA

2 elevated water tank seismic evaluation and upgrades using FEMA 356

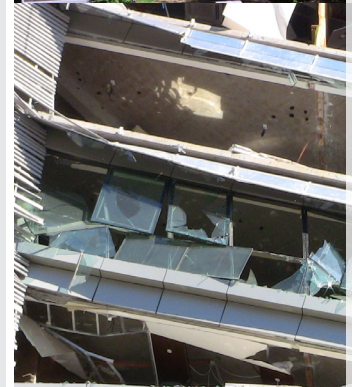
POST-DISASTER RECONNAISSANCE

Understanding the value to the engineering profession by investigating earthquakes worldwide and local disasters, Reid Middleton regularly organizes and leads post-disaster reconnaissance teams to learn how to better design buildings, bridges and infrastructure. Our engineers have led or served on the following reconnaissance projects:

- 1995 Kobe Earthquake, ASCE/SEAW Reconnaissance
- 1996 Roof Collapse & Retrofit after Puget Sound Holiday Snow Storm
- 1996 Slope/Road Stabilization for Island County after Puget Sound Holiday Snow Storm
- 1999 Taiwan Earthquake, ASCE/SEAW Reconnaissance
- 1999 Satsop Earthquake, Response & Recovery, Aberdeen & Montesano, WA
- 2001 Nisqually Earthquake City of Seattle Response & Recovery Services, Seattle, WA
- 2001 Nisqually Earthquake Response & Recovery, Various Cities, WA
- 2002 City of Bellevue Post Disaster Recovery Plan, Bellevue, WA
- 2005 Hurricane Katrina, NCSEA Response Effort
- 2006 Hurricane Ernesto, US&R Deployment
- 2008 Wenchuan China Earthquake, UW/SEAW Reconnaissance
- 2009 Whatcom Middle School Fire, Response & Recovery, Bellingham, WA
- 2010 Chile Earthquake, ASCE/SEAW Reconnaissance
- 2010 Haiti Earthquake, UW/NSF Reconnaissance
- 2011 Christchurch New Zealand Earthquake Volunteer Safety Evaluations/Reconnaissances
- 2011 Great East Tohoku Japan Earthquake & Tsunami Reconnaissance
- 2014 Oso Landslide, US&R Deployment
- 2017 Central Mexico Earthquake Reconnaissance



Renton Highland Water Tank Seismic Retrofit
Renton, WA



Chile Earthquake, 2010



City-Wide Seismic Screening of URM
Buildings Study, City of Seattle, WA



Post-Nisqually Earthquake Safety Evaluations &
Engineering Coordination, City of Seattle, WA

Disaster Response & Recovery Team

DAVID B. SWANSON, PE, SE, F. SEI, LEED AP



Dave is a Principal and serves as the Director of Structural Engineering at Reid Middleton, Inc., an ~70-person structural and civil engineering firm with offices in Washington, Alaska, California, and Hawaii. Dave's structural design practice involves the design and seismic rehabilitation of buildings for healthcare,

commercial, institutional, academic, civic, and aviation projects throughout the western United States, Alaska, and Pacific Rim.

Dave was named Structural Engineer of the Year by the Structural Engineers Association of Washington (SEAW) and has represented Structural Engineers nationally as the Chair of the NCSEA Structural Engineers Emergency Response Committee. Dave is a member of FEMA's Urban Search & Rescue (US&R) Washington Task Force, where he participates as a Structural Engineer evaluating collapsed buildings for urban search and rescue operations. He is also a certified CAL EMA Safety Assessment Program (SAP) Evaluator Trainer that is certified to conduct SAP evaluator training.

Dave has led Reconnaissance Teams to research lessons learned from numerous earthquakes including the devastating 1995 Kobe Japan Earthquake, the 1999 Chi Chi Taiwan Earthquake, the 2010 Haiti Earthquake, the 2010 Chile Earthquake, the 2011 New Zealand Christchurch Earthquake, the 2011 Great East Japan Earthquake and Tsunami, and the 2017 Central Mexico Earthquake. Moved by the devastation of the large urban Kobe Earthquake, and inspired by the work done on the EERI Hayward Fault Scenario in the late 1990s, Dave played a key role in the leadership and development of the 2005 Seattle Fault Scenario Project. The widely distributed M6.7 Earthquake on the Seattle Fault Scenario Report extended the Seattle Fault seismic hazard mapping work by the USGS to assess the vulnerability of the region's building, bridge, and port infrastructure.

Dave has authored and published over 20 technical papers on structural design of buildings in high seismic hazard areas. Dave is a licensed Structural and Civil Engineer in Alaska, Arizona, California, Guam, Hawaii, Idaho, Nevada, Oregon, and Washington. He holds Bachelor and Master of Science degrees in Civil and Structural Engineering from the University of Washington.



Left to right, top to bottom: Darin Aveyard, PE, SE; Jenn Ciofolo, PE; Charles Liu, EIT; Brian Moon, SE; Erik Bishop, PE; Brian Matsumoto, PE, SE



Naval Medical Center San Diego, REAP Training



ATC-20/45 Training for ASCE in Costa Rica

Dubai Seismic Monitoring Presentation

Reid Middleton

EVERETT, WA

728 134th Street SW, Suite 200
Everett, WA 98204
425-741-3800 (p)

ANCHORAGE, AK

4300 "B" Street, Suite 302
Anchorage, AK 99503
907-562-3439 (p)

SAN DIEGO, CA

13220 Evening Creek Drive S, Suite 112
San Diego, CA 92128-4103
858-668-0707 (p)