**Problem**

The Ted Stevens International Airport is currently undergoing significant seismic retrofit measures. As part of the scope of the project, new shear walls are being built that tie down to existing concrete columns. As a result, these columns required strength and ductility improvements in order to withstand the seismic forces transmitted by the shear walls.

**Solution**

QuakeWrap® FRP Strengthening System was selected to retrofit 35 columns. Unique FRP retrofit designs were generated using carbon fabric for columns tying down to existing and new shear walls. The number of wraps varied from two to three, depending on the transverse confinement demands imposed on the columns.

- 35 concrete columns of various dimensions were targeted for FRP retrofit
- Concrete columns required increase in strength and ductility
  - 6,500 ft² of FRP carbon fabric to be installed when retrofit project is completed.

**Credits**

Engineering: QuakeWrap, Inc., Tucson, AZ.
FRP Installation Contractor: FRP Construction, LLC, Tucson, AZ
General Contractor: PCL, Anchorage, AK

*The FRP Retrofit Experts*

— © 2009 QuakeWrap, Inc. | (520) 791-7000 —