

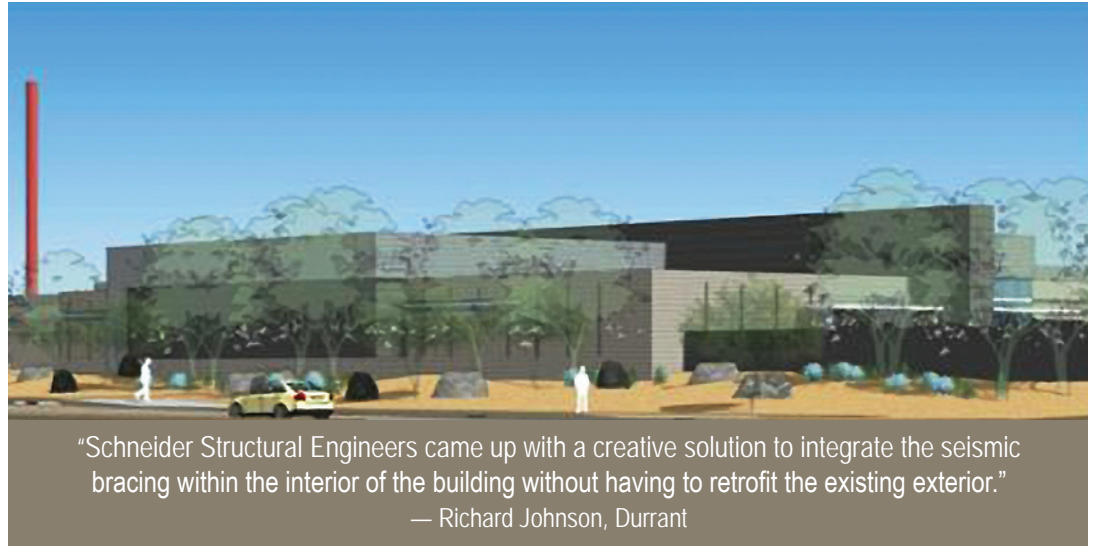
PROJECT PROFILE

Pima Emergency Communications and Operations Center

Tucson, Arizona

Architect:
Durrant

Structural Engineer:
Schneider Structural Engineers



PIMA EMERGENCY COMMUNICATIONS AND OPERATIONS CENTER

Once completed, this expanded facility will span approximately 63,000 square feet and house the regional emergency communications center for all of Pima County — including the Sheriff's Department, County Fire Consortium and backup dispatch capability for the City of Tucson. The unique cast-in-place concrete structure, originally a bank data center, was selected and purchased by the county for its baseline "heavy construction" and for its location.

One structural engineering challenge was to bring the building up to current code requirements for "essential facilities" like hospitals and emergency response centers. Another, because of site constraints, was to engineer the new addition to be blast resistant. Schneider Structural Engineers' design strengthens the existing structure with a new roof diaphragm of lightweight concrete, reinforced masonry shearwalls and retrofitting of existing pre-cast concrete tees. This creative solution preserved much of the structure's modern architectural integrity.

ENGINEERING SOLUTIONS STRENGTHEN EMERGENCY FACILITY

- Preliminary research indicated the midtown cast-in-place concrete structure did not meet current code requirements for "essential facilities" such as hospitals and emergency response centers. Schneider Structural Engineers devised a plan to integrate seismic bracing inside the structure, preserving the architectural integrity of the exterior.
- A combination of steel beams and/or strategic placement of mechanical units substantially reduced the retrofit requirements to support these essential building system elements.
- The new addition lies within the 82-foot setback required by NFPA 1221. This meant the addition must not only meet the "essential facilities" requirements but also be designed as blast resistant for security purposes. Schneider Structural Engineers' design solution included a SIPlast reinforced concrete roof diaphragm to absorb blast energy, as well as a confinement tied bond beam at the roof level to disperse blast energy. The exterior blast-exposed walls were detailed as 12-inch masonry with one bar per cell for energy absorption and continuity.
- Site and utility infrastructure improvements are planned with the goal of achieving LEED® Silver certification.

"We focus on what the client wants to accomplish, then ask ourselves –
how can we make this happen?"

— Ron Schneider