



Owner

Grupo Solerium, S.A.

Client

Grupo Solerium, S.A.

Services

Buildings

Total Area

255,000 SF

Construction Cost

\$7 M

Completion

2021

To obtain the required construction license from local authorities, developers of the Senderos Apartments asked DECON to provide a structural Initial Design Review (IDR) following the Colombian seismic code NSR-10.

The IDR consists of the review of all the products delivered by the structural designer and their consistency with the architectural design and the geotechnical recommendations for the foundations. Vertical and lateral load evaluation, materials, structural system definition, construction specifications are part of the aspects reviewed. A validation structural model is created and analyzed to verify the base reactions for all the different load cases the basic dynamic parameters of the structure as its fundamental periods. The detailing of all the structural members is reviewed according to the seismic design category and whether they are part of the seismic force-resisting system.

The 255,000 SF project consists of three 22-story apartment buildings, a seven-story parking building, a one-story lobby, and a water tank. It will have a total of 393 apartments and 91 parking spaces. It is located at an intermediate seismic zone over a site soil class C.

Apartment Buildings: The vertical and seismic force-resisting system of these buildings have special reinforced concrete shear walls. The floor system consists of flat slabs. The concrete strength is varied along the height of the structure from 6 ksi to 3 ksi. The foundation consists of a slab combined with cast-in-place piles.

Parking Garage and Lobby: The vertical and seismic force-resisting system of these buildings have intermediate reinforced concrete moment frames. The foundation consists of isolated footings connected by foundation beams.