

Gateway Business Center, New Songdo City

Incheon, South Korea

Owner

GALE International

Architect

KlingStubbins(US) + Heerim Architects
(Korea)

Contractor

POSCO E & C

Completion Date

2011

Total Area

5 million sf



Thornton Tomasetti is providing structural design for the Gateway Business Center, a mixed-use project in the master-planned Songdo International Business District, in Incheon, South Korea. It comprises three blocks (F7, F6.1 and F6.2) along the edge of the 100-acre Central Park. The center is formed by the multi-level Gateway Plaza. Five office towers sit atop a multi-story retail base and underground parking facility. Each of the towers has a rooftop garden sheltered by 12-meter-high glass screen walls and a trellis of photovoltaic panels. The Gateway Business Center is targeting a LEED Silver rating, incorporating innovative technologies to reduce and conserve energy and material, and create a healthful and sustainable environment.

The F7 tower accommodates 17 office floors and 10 “officetel” (a common type of studio apartment rental in South Korea) floors above grade and three basements below grade. The typical floor framing (i.e. 10.5-meter-by-12.7-meter bay) consists of 150-millimeter framed slab over the composite steel beam/girder supported by a reinforced concrete core wall and a composite column. Since the structure sits on reclaimed soil, the 2.5-meter-thick mat foundation sits on 2-meter diameter piles. The overall lateral resistance and stability is provided by a reinforced concrete core wall designed to meet the code-defined wind of 30 m/s and moderate seismic load.