ANDRES BENAVIDES

SENIOR STRUCTURAL ENGINEER CURRICULUM VITAE

ANDRES BENAVIDES CV

PROFILE

Andres has over 10 years as a Structural engineer. He obtained his qualifications in Costa Rica and completed his postgraduate studies in Earthquake Engineering and Engineering Seismology in Europe. After a period of engineering consultancy work in Europe and Latin America he moved to New Zealand.

Andres considers important the detailed, technical understanding of the behavior of a structure to undertake an analysis that balances accuracy and simplicity in order to develop efficient, quality solutions.

He has gained experience in multi-storey residential, commercial and industrial buildings as well as seismic assessment and retrofit schemes of existing structures and construction monitoring.

QUALIFICATIONS

International Professional Engineer (IntPENZ) 2019

Asia Pacific Economic Cooperation Engineer (APEC Engineer) 2019

Chartered Professional Engineer (CPEng) 2018

Chartered Member of Engineering New Zealand (CMEngNZ) 2018

ME/MSc – Master in Earthquake Engineering, University of Costa Rica, 2012

Costa Rican Association of Structural and Seismic Engineering (ACIES) 2007

Federated College of Engineers and Architects of Costa Rica (CFIA) 2007

Lic. (Civil) – Licentiate in Civil Engineering, University of Costa Rica, 2007

CAREER HISTORY

2019 – Present, Senior Structural Engineer - Structus Consulting Limited, Auckland, New Zealand

2015 – 2019, Structural Engineer – Blueprint Consulting Engineers, Auckland, New Zealand

2013 – 2015, Structural Engineer – Opus International Consultants, Auckland, New Zealand

2012 – 2013, Structural Engineer – Grupo Integra S.A., San Jose, Costa Rica

2010 – 2012, Structural Engineer – Lombardi-Reico, Milan, Italy

2006 – 2009, Structural Engineer – Grupo Integra S.A., San Jose, Costa Rica

MANAGEMENT SKILLS

- Involvement in the concept and detailed design through each stage of the projects.
- Clear and concise communication with the clients and stakeholders during the concept, design and construction stages.
- Leading projects from the beginning to the end in order to ensure that all involved parties understand their role and commit to the project deliverables.
- Ability to understand client and stakeholders thinking, providing solutions that ensure a more efficient project.
- Leading the project through technical excellence, cost efficiency and time schedules.

TECHNICAL SKILLS

- Comprehension of theoretical knowledge and philosophy behind design approaches and structural first principles.
- Academic and work experience background with gained knowledge in modelling, analysis, linear and non-linear analysis, foundations and different materials design.
- Comprehensive knowledge of New Zealand Standards, as well as European and American analysis and design Codes and guidelines.
- Ability to solve complex engineering problems and provide practical solutions.
- Attention to detail in construction monitoring and ability to provide efficient support to contractors.

SELECTED PROJECT EXPERIENCE

RESIDENTIAL PROJECTS

Garfield Street Apartments, Auckland, 2018

Structural analysis and design of a seven-story and single basement apartment building. The primary structural system consists of reinforced concrete shear walls for the lateral system. The gravity system consists of a combination of reinforced concrete beams and walls.

Miller Street Apartments, Auckland, 2019

Structural analysis and design of a three-story apartment building. The primary structural system consists of reinforced precast concrete shear walls for the lateral system. The gravity system consists of a combination of reinforced precast concrete walls and steel beams and columns.

COMMERCIAL PROJECTS

New Zealand International Convention Centre (NZICC), Auckland, 2017

Complex temporary structural and retaining works for the construction stage of the NZICC. The building is constructed in the Auckland CBD where the density of buildings is high, including historical heritage buildings. The construction required demolition and partial demolition of existing structures, excavations up to circa 20m at boundaries of existing buildings, and temporary access relocation amongst other requirements.

CPO Spiral Stairs, Dunedin, 2015

Structural design and detailing of a six Tonne spiral staircase without a central post that connects the lobby level with the first floor of the Chief Post Office (CPO) building. Due to architectural requirements, the structure has a complex shape. One of the requirements was to be made of steel without any additional visible members to strengthen or support the structure. The stair is supported at the bottom by a concrete floor on steel beams, and at the top by a new steel bridge that is part of the redevelopment works in the building.

Bucharest Subway Transportation System, Bucharest, Romania, 2011

Seismic analysis and hazard risk study of an underground subway project. The study consisted of identifying the seismic risk of the zone, design spectrum, get representative and compatible records, and the evaluation of the earthquake effects in the depth of the soil deposits.

Torre Citroen, San Jose, Costa Rica, 2009

Structural analysis and design of the five-story and single basement Citroen Tower project. The primary structural system consists of regular steel frames, and steel eccentric braced frames. It also includes reinforced concrete shear and retaining walls. It features a large basement, over which extends a monolithic reinforced concrete two-way slab, which was the structural floor system used for all stories.

Mandarin Oriental Hotel, Guanacaste, Costa Rica, 2008

Structural analysis and design of an eight-story building. It has a main social area, and two independent four-story towers of an area of approximately 115m² floor plan area. The primary structural system consists of concrete shear walls and concrete frames. The design package included the structural analysis and design of a five-story building. For this hotel building the primary structural system consists of concrete shear walls and concrete frames.

INDUSTRIAL PROJECTS

Hangar 3, Auckland, 2018

Structural design and construction monitoring of alterations to an existing 30m high airport hangar building that holds the maintenance process for the Air NZ aircrafts. The project included roof access, stairs design and analysis of the response of the existing building.

Inmarsat Antenna, Auckland, 2013

Seismic and wind verification of the foundation and connection design of an 9m tall and 14m dish diameter antenna installed in the north shore in Auckland.

EPA V, San Jose, Costa Rica, 2008

Structural analysis and design of a warehouse and commercial store project. The mixed gravitational and lateral force resisting systems consist of 66m steel moment frames divided in three spans in one direction. In the other direction the lateral and gravitational resisting system consists of concrete masonry shear walls with concentrically braced frames.

SEISMIC PROJECTS

1154 Hinemoa Street, Rotorua, 2015

Structural analysis and detailed seismic risk verification of an eight storey commercial building in Rotorua. The mixed gravity and lateral force resisting systems consist of reinforced concrete frames and perimeter reinforced concrete frames with masonry infill shear walls.

Science Blocks – Auckland Grammar School, Auckland, 2014

Structural analysis and detailed seismic risk verification of 3 no. three storey buildings (Science, MMT, New Specialist and Language). The mixed gravity and lateral force resisting systems consists of reinforced concrete masonry shear walls and reinforced concrete shear walls, reinforced concrete and steel moment resisting frames, and steel braces in both directions.

Auditorium – Auckland Grammar School, Auckland, 2014

Structural analysis and seismic risk verification of the Auditorium Building. The mixed gravitational and lateral force resisting system consists of reinforced concrete masonry shear walls and reinforced concrete shear walls in both directions.

Mid Central District Health Board, Palmerston North, 2014

Structural analysis, seismic risk verification and strengthening of the Blood Donor Centre Building. The structure is a four storey building with a gravitational and lateral force resisting system that consists mainly of reinforced concrete frames in both directions.