CRAIG BELL

LEAD STRUCTURAL ENGINEER CURRICULUM VITAE

CRAIG BELL CV

PROFILE

With over 20 years' experience within the industry, Craig has enjoyed working as a Buildings Structural and Civil Engineer within large multi-disciplinary consultancies in New Zealand and the United Kingdom.

Craig has been involved in a variety of large building and infrastructure projects, including high rise residential and commercial building design, healthcare and aged care, bridge design, sports development, design review and construction observation. Following the Canterbury Earthquakes, he was actively involved in the Initial Seismic Assessment of a number of buildings damaged within the event, and remained activily involved with rebuild work, undertaking seismic evaluation and retrofit schemes for various buildings.

Aside from his strong technical skills, Craig's strengths include being organised and efficient, strong leadership and communication skills, and working well within a collaborative environment.

QUALIFICATIONS

BEng Civil (Hons) – Bachelor of Civil Engineering, University of Auckland

Diploma in Engineering (Civil), UNITEC Institute of Technology

Chartered Professional Engineer (CPEng) 2012

Chartered Member of Engineering New Zealand (CMEngNZ)

CAREER HISTORY

2021 - Present, Lead Structural Engineer – Structus Consulting Limited

2018 – 2021, Senior Structural Engineer – Structus Consulting Limited

2015 – 2018 Senior Structural Engineer, BGT Structures, Auckland

2013 – 2015 Senior Structural Engineer, Cundall Limited, London, UK

2012 - 2013 Structural Engineer, Meinhardt Limited, London, UK

2008 – 2012 Civil/ Structural Engineer, Opus International Consultants

2003 – 2006 Civil Engineer, Opus International Consultants

MANAGEMENT SKILLS

- Well-developed and efficient organisational, communication and written skills

- Demonstrated record in successful delivery and timely outcomes of structural and multi-discipline design projects
- Ability to relate well to clients, stakeholders and project teams, providing clear direction and advice
- Confident and able to work individually or within a collaborative environment

TECHNICAL SKILLS

- Investigation, assessment, design and construction supervision of buildings and associated civil works
- Analysing and developing solutions to complex structural engineering problems, including seismic analysis and design of new and existing building and civil structures
- Forensic Engineering, including identification and assessment of building defects, and detailed design of remedial works solutions
- Surveillance and quality assurance of the construction phase

PROJECT EXPERIENCE

RESIDENTIAL PROJECTS

8 Putiki Street, Auckland, 2024-present, $10m

Lead Structural Engineer for 8 Putiki Street, Grey Lynn, Auckland. The project included structural design and CM3 level observation of a 5-sorey residential building. The structure is typically pre-stressed precast concrete flat slabs supported on structural steel beams and precast concrete shear walls on a reinforced concrete raft slab foundation.

Eden View Apartments, Auckland, 2017-2021, $45m

Structural Engineer for Eden View Apartments, 428-448 Dominion Road, Auckland. The project included detailed structural design and CM3 level observation of a new 6 storey apartment building with carparking and retail at ground level on street frontage. The structure is typically steel framed with precast concrete double tee floors. The lateral system consists of steel concentrically braced frames in the transverse direction and steel moment resisting frames in the longitudinal direction.

Line Epping & Derna Tobruk, Auckland, 2020-2021

Large two storey terraced housing residential developments for Fletcher Living in Glenn Innes and East Tamaki. Predominantly plywood portal frame and GIB braced timber frame structures, with rib raft floor slabs and some steelwork, plus pipe bridging structures and site retaining walls. Structural engineering design and construction monitoring.

110 Milford Apartments, Auckland, 2017-2023, $25m

New 6 storey apartment building with carparking and retail at ground level on street frontage. The structure is typically steel framed with precast concrete double tee floors. The lateral system consists of steel sway frames in the transverse direction and precast concrete panels in the longitudinal direction.

St James Suites, 304 Queen Street, Auckland, 2015-2017, $120m

Structural Engineer for the St James Suites Development, 304 Queen Street Auckland. The project included detailed design of a 40-storey reinforced concrete building, including connection into the existing historic St James Theatre; and advising and monitoring of

deconstruction of the existing buildings within the site, including temporary works support of the existing Queen Street façade.

St James Suites comprised of 26,500m^2 of Residential and Commercial floor area, including 3,800m^2 of prime Queen Street retail space at basement and ground floor level; car parking within the podium levels 3-8 with allowance for 200 carparking spaces; a lap pool, sauna, spa and gymnasia at level 8, and communal roof terrace at level 9; and a 140-metre-high residential apartment tower from levels 8 – roof level, accommodating 323 apartments.

Construction works of the peer reviewed and consented design were due to commence in 2017. However, these were halted due to client funding issues.

Union Green Apartments, 39-47 Union Street, Auckland, $60m

Structural Engineer for Union Green Development, 39-47 Union Street, Auckland. The project included detailed structural design and CM3 level observation of one 12-Storey Residential Apartment Building, and three 4-storey townhouses supported on a podium slab with basement carparking below.

Parkside Residences, 12-26D Barrack Road, Mount Wellington, Auckland, $50m

Structural Engineer for Parkside Residences, 12-26D Barrack Road, Mount Wellington. The project included scheme, and detailed design of three 5-storey Residential Apartment buildings, with 2 levels of basement level carparking below. Buildings B and C were designed to be supported on a common podium slab at level 1, with the buildings seismically separated above. Building A was designed to be independent of the remaining two buildings.

165-167 Jervois Road, Herne Bay, Auckland, $30m

Structural Engineer for 165-167 Jervois Road, Herne Bay. The project included scheme design and liaison with the lead Architect and Client for a 5-storey high specification residential apartment building.

Greenwich Square, London, UK, £30m

Structural Engineer for the detailed design of 3 no. seven storey reinforced concrete mixed use (residential, retail and office) buildings, and a four storey Masonite building and podium slab associated with the Greenwich Square Development.

EDUCATION PROJECTS

St Ignatius Secondary School, Drury, 2021-2023, $25 million (Stage 1)

A new secondary school with works over 3 Stages. The masterplan for the site includes Residential, Secondary School, Primary and Early Childcare facilities. Structus has been engaged for Stage 1-3 structural engineering concept and preliminary design for the Secondary School, and full design and construction monitoring services on Stage 1 which comprises a 3 storey Teaching & Learning and Administration Block, Chapel, Auditorium, Hall, Café, Changing rooms, Library and Entry.

CIVIC PROJECTS

Te Unua Museum of Southland – Project 1225, Invercargill, $50m

Lead Structural Engineer for Te Unua Museum of Southland – Project 1225 (Invercargill Museum). The project included structural design of a single storey Importance Level 3 Exhibition Hall and a single storey double height central entry and foyer area,

and two storey mixed-use building with café, retail, toilets, office and education space, seismically isolated from the exhibition area.

COMMERCIAL PROJECTS

34 Sale Street, Auckland Central, Auckland, $30m

Structural Engineer for 34 Sale Street, Auckland Central. The project included seismic strengthening of an existing 4-storey carparking building, and structural design for an additional level above the existing roof carpark, for commercial use.

NZI Roof, 1 Fanshawe Street, Auckland, $2.5m

Structural Engineer for building retro-fit of a new steel roof and supporting structural steelwork, to enclose mechanical plant at NZI Roof, 1 Fanshawe Street, Auckland.

V'NUE Fire Egress Stairs, 20 Viaduct Harbour Avenue, Auckland

Structural Engineer for building retro-fit of an external 5-storey structural steel fire egress stair. The project included structural design and CM3 level observation of the structural steel stairs, which utilized an existing external steel gantry for support.

No.1 Hobson Street (Auckland CBD), Auckland

Structural inspection and building condition assessment of 1 Hobson Street Hotel and Apartments, associated with water penetration into the basement levels of a multi-storey reinforced concrete building.

Girlguiding UK, London, UK, £10m

Structural Engineer for the redevelopment of 17-19 Buckingham Palace Road, a 6-storey building with an occupied basement.

The project involved dividing the building into two properties, one comprising of 17-19 Buckingham Palace Road to be Girlguiding UK offices, the remainder being 8-10 Palace Street, redeveloped as a hotel.

H+M, The Parade, Swindon, UK, £10m

Structural Engineer for the development of H+M, The Parade, Swindon. The project involved the redevelopment of two adjoining buildings into a single retail unit for H+M.

R+ Offices, Reading, UK, £20m

Structural Engineer for Stage 'D' design (Scheme Design and Planning) of R+ Offices, Reading. The scheme included the demolition of an existing four-storey 1970's reinforced concrete building, and redevelopment of the site into a seven-storey structural steel building designed to provide high spec open plan office space.

Weavers Wharf Development, Kidderminster, UK, £30m

Structural Engineer for Stage 'D' design (Scheme Design and Planning) of Weavers Wharf Development, Kidderminster. The development includes demolition of an existing 6-storey building, opening of a bridge and culverted section of the River Stour, and construction of 6 new buildings providing over 4,700m2 of retail and restaurant space. The stage D design additionally included the provision for a single span tie arch vehicle and pedestrian bridge crossing an existing canal.

HEALTHCARE AND AGED CARE PROJECTS

Te Roopu Kimiora Project, Northland, 2024, $5m

Lead Structural Engineer for structural building design and civil services of Child & Youth Mental Health Outpatient Services – Te Roopu Kimiora Project at 40 Redan Road, Kaitaia Northland. The project comprises a new Child & Youth Mental Health Outpatient Services building to replace and existing dated building on the site. Due to the remote location, and limited contractor presence in the region, the building was designed to be prefabricated off site and delivered to site in a modulated form.

Aria Bay, Auckland, 2016 - 2023, $60m

Structural Engineer for Aria Bay Redevelopment, a new retirement village development in Browns Bay, Auckland. 2 no. 5 storey apartments blocks and 4 storey day clinic block (Importance Level 3) form the development within an existing operational retirement village campus, plus a two storey link and bridge structure in a very constricted part of the site. Significant RC soldier pile tiered retaining structures with ground anchors, RC bored pile foundations, precast concrete shear walls and steel frames. Responsible for structural engineering design and construction monitoring from concept through construction.

Bethlehem Shores, Tauranga, 2022 – present, $80m

A new multi storey over basement aged care facility at Bethlehem Shores Retirement Village, Tauranga. Designed with Cross Laminated Timber (CLT) and shear walls to create a lightweight, durable and robust building. Structural design, Revit documentation, seismic restraint of building components and construction monitoring.

Whangarei Hospital, SSBC2 – Te Kotuku Building, Northland, 2021-2023, $50m

Project Lead for additional level to the existing 3 level building, including an upper level full length suspended concrete enclosed plant area, connected 4 level egress core including lift and stairs servicing all levels. Egress core with lifts and stairs for public access links the building over multiple levels with an existing medical Block, external precast concrete elevated walkway structure and new canopy roof over. The eastern core is seismically isolated from the building and existing Block. Precast concrete shear wall structure that oversails an existing trunk services tunnel linking the Hospital, with RC bored piles. Structural, civil, geotechnical and surveying services for design and construction.

Whangarei Hospital Theatres Extension, Northland, 2019-2020, $10m

Extension to the existing Theatres building at Whangarei Hospital, consisting of a two level building with the extension to provide additional Operating Theatre facilities. This is an Importance Level 3 structure. Responsible for structural engineering on this project, from the value engineered concept through construction.

Waitakere Hospital SCBU, Auckland, 2017-2022, $10m

Refurbishment and extension to the existing Special Care and Birthing Unit at Waitakere Hospital, consisting of single level building with both existing building refurbishment and extension to provide additional facilities. This is an Importance Level 4 structure. Structus services comprise structural engineering on this project, from the initial concept through construction.

Aria Park, Auckland, 2023 – Present, $50m

Project Lead for a new multi-storey aged care and residential apartment facility at 1-3 Claude Road, Epsom, Auckland. The project includes a 3-storey reinforced concrete building with light timber framed walls and roof trusses over, and basement carpark linking through a tunnel to the adjacent existing Epsom on the Park building and associated retaining site structures.

PEER REVIEWS

Peer reviews, 2019-present

Structural peer reviews for the following projects:

- Fisher & Paykel Building 5.1, Auckland - The building structures peer reviewed comprised of a two storey Basement / Office Space, and the single storey Manufacturing, which also included 2 no. cafes, material store and model shops plus ancillary general areas.
- Carlaw Park Student Accommodation – Stage 4 (CPSV4) – $150m, 12 Storey Student Accommodation Building developed as part of the University of Auckland's accommodation precinct. The building structure generally consisted of pretensioned precast flatslab flooring supported on structural steel beams and columns, and reinforced concrete shear walls supported of bored insitu concrete piled foundations.
- Value Engineering Review of BoI Hospital Helipad. Te Whatu Ora – Health New Zealand requested a review the structural design for appropriateness and seek potential value engineering opportunities.
- Child Health Centre – Tira Ora project at Whangarei Hospital, Northland - Importance Level 3 building and pedestrian footbridge peer review. The building is predominately steel frame with Comflor slab and steel eccentrically braced frame (EBF) systems. The roof is lightweight steelwork, foundations predominantly RC bored piles and standalone steel frame with precast flat slab pedestrian footbridge.
- Liston College New Gymnasium & Classroom Facility (long span structure with two storey component)
- Pak'nSave Glen Innes and Papakura DSA Peer reviews – Peer review of DSA's and preliminary strengthening schemes
- IKEA – Sylvia Park - Current - (New purpose built mega store - steel frame with Comflor slab and steel portal roof structure over, with steel bracing systems supplemented by concrete cores)
- Fisher & Paykel Building 5 and Carpark, Auckland (Building 5 – 54,000m^2 manufacturing centre and 2 storey offices. Carpark – 2 blocks of 6 storey's plus pedestrian footbridge)
- Lauriston Park, Cambridge (Aged care facility - 2 no. apartment buildings and Care facility)
- Carlaw Park, Auckland ($120m, 10 storey student accommodation facility)
- Copper Crest Retirement Village, Tauranga (3 blocks up to 4 storeys care and apartment facilities)

ASB North Wharf, Auckland

Structural design peer review of two seven-storey reinforced concrete buildings, including consideration of foundations, structural horizontal and vertical elements, high level steel frames, stairs, and bridges.

EMU Maintenance Depot, Auckland

Structural design peer review of a two storey structural steel and reinforced concrete masonry maintenance depot building designed to accommodate Auckland's new electric multiple unit (EMU) train fleet.

RAIL INFRASTRUCTURE

DART 1 (Developing Auckland's Rail Transport) – Newmarket Rail Station, Auckland

Civil / Structural Engineer for DART 1 which involved large modifications and upgrades to Auckland's rail network and infrastructure in and around Newmarket junction.

Responsible for a broad range of civil and structural engineering works which included earthworks design for rail double tracking, a bridge replacement, station platform design, drainage and sewerage relocation and stormwater management design.

Newmarket Station received an NZIA Architecture Award

DART 9 – Manukau Rail Link Interchange, Auckland

Structural Engineer responsible for the design and construction supervision of a below ground rail station. The station was designed as a secant piled open top box, propped apart by reinforced concrete capping beams to a depth of 7.0 metres over a 320 metre length.

The project won the Concrete Construction Award from NZCS

Papakura Rail Station Feasibility Study and Detailed Design, Auckland

Project Manager and Structural Engineer involving the preparation of a concept feasibility report to evaluate the various options available for improving efficiency of passenger and freight operations ahead of electrification of the Auckland rail network.

Kingsland Station Upgrade, Auckland

Responsible for the structural design, project management, and construction supervision of new rail station platform canopies ahead of Rugby World Cup 2011.

MARINE ENGINEERING

Birkenhead Ferry Terminal Upgrade – Outer Berth, Auckland

Structural Engineer responsible for the design and management of Birkenhead Ferry Terminal Outer Berth, including the design and construction supervision of fender piling, a gangway ramp, a hydraulic platform and landing support structures, and associated architectural works.

Beach Haven Ferry Terminal, Auckland

Responsible for the design of Beach Haven Ferry Terminal including the design of a gangway ramp and canopy, and fender piles, and the preparation of a performance specification and design review of a floating pontoon.