

5 STOREY STUDIO APARTMENT COMPLEX

Vincent St | Leederville | WA

CLIENT
Premier Building Solutions

DATE
2013

TEAM
Commercial & Infrastructure



THE PROJECT

This 5 storey mixed-use building houses 2 commercial tenancies and 24 apartments over 4 levels. Our multi-disciplinary abilities enabled an efficient service delivery through in-house project coordination.

Ground works, including CPT, SRP, PSP and percolation testing, discovered natural loose sand up to 3m, which required alternative solutions for the foundation design and on-site stormwater management. We issued our client with the geotechnical design parameters for deep foundations, as well as the design and documentation for the sanitary sewer drainage, roof and balcony drainage, domestic cold and hot water service and fire hydrant and hose reel system. High groundwater levels meant detention tanks were installed below ground to contain the stormwater prior to discharging via pumps. These levels were carefully considered when designing the basement raft slab so it would be heavy enough to prevent it from floating once dewatering stopped.

An important component for our client was material cost savings across the board, which influenced our structural design. Sheet piling was used as permanent shoring for the basement walls, and the ground floor consisted of an in-situ concrete slab and reinforced concrete beams. The upper floors were designed as one-way spanning slabs, supported by AFS walls, which acted as deep beams supported by carpark columns in the basement, minimising the thickness of the ground transfer level.

Lastly we assessed the original structural plans from an energy perspective, working closely with our clients to meet their specifications of an average 6 star rating across the entire building.

 Residential  Geotechnical  Commercial & Infrastructure  Inspect & Investigate  Energy Assessment  Environmental

Perth | Brisbane | Sydney | Bunbury | Geraldton | Gold Coast | Albany | Karratha

1 Erindale Road, Balcatta, Western Australia 6021 | PO Box 792, Balcatta, Western Australia 6914
Phone (+618) 9205 4500 | Fax (+618) 9205 4501 | Email perth@strucsterre.com.au | Web www.strucsterre.com.au
ABN 71 349 772 837 Zemla Pty Ltd ACN 008 966 283 as trustee for the Young Purich and Higham Unit Trust trading as Strucsterre Consulting Engineers

 **STRUC**terre
consulting engineers