



Typical Major Commercial Building Projects

Jeffery and Katauskas have completed over 21,000 jobs since the company was formed in 1976. At least 50% of these projects involve buildings ranging in size from housing developments, multi-storey buildings, and to the large projects such as the Sydney Casino. Some examples are given below of major commercial building projects in which the company has been involved, from preliminary investigation through to construction supervision stages.

Project	Owner/Client	Description
Sydney Casino, Pyrmont	Leighton Contractors Pty Ltd	The Casino is one of the biggest building projects constructed in Sydney. Interesting geotechnical aspects of the design included major transfer structures supporting loads from tower blocks above the main hall with column loads of up to 60MN. A diaphragm wall was installed to cut off the alluvial sediments in the basement excavation, which also required major rock excavation. Parts of the superstructure extending beyond the basement towards the harbour were supported on deep piled foundations.
Italian Forum, Leichhardt	Civil and Civic	Detailed geotechnical investigation including cored boreholes and ongoing construction monitoring and advice on excavation batters, retention systems, building footings and floor slabs for a large residential and commercial development.
Darling Park Development, Sussex Street, Darling Harbour	Christie Civil Contracting	Design review, advice and construction supervision of anchored, bored soldier pile wall and steel sheet pile walls for a 15m deep basement. The site was underlain by 6m to 11m of alluvial soils, where the underlying bedrock surface was terraced and contained detached blocks, ledges and cliff faces.
Multi-Storey Office Building, 40 Miller Street, North Sydney	Mirvac Projects	Geotechnical investigation and ongoing construction advice for a 10m deep basement excavated into weathered sandstone.
Sydney Central	Commonwealth Government	The Commonwealth Government office headquarters in the Haymarket district of Sydney comprised two high rise towers and an extensive basement car park excavation through the alluvial clay soils fringing the harbour. The site was relatively complex due to the presence of a major igneous dyke running through the site below numerous heavily loaded tower columns. The dyke was weathered to depths in excess of 20m, requiring complex foundation design and construction. Anchored shoring systems were required for excavation support.

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Project	Owner/Client	Description
HMAS Waterhen	Australian Construction Services for Department of Defence	A major upgrading of facilities at the naval base in Waverton (Sydney) involving two and three-storey buildings, a five-level car park and two major wharf structures. Site conditions varied, with sandstone bedrock at shallow depth below some buildings, whilst deep fill and alluvium in other areas required investigation and design of piled foundations. The major wharf structures required over-water drilling and geophysical investigations for pile design.
King Street Wharf, Darling Harbour	Multiplex Constructions	A prestige waterfront development involving expert geotechnical advice for construction of basement levels below the harbour. Subsurface conditions varied significantly from bedrock at shallow depth to areas of deep fill, with large inclusions and old timber piles, and alluvium over bedrock. A cement bentonite cut-off wall was constructed and piles were then drilled through the cut-off wall for structural strength. Inclometers were installed in some of the piles for monitoring of the wall during excavation and anchoring.
Victoria Park, Zetland	Various	Geotechnical investigation and ongoing construction advice for a new residential precinct. Individual developments comprised unit buildings from five to twenty levels, with part basement parking areas. The sites were geotechnically challenging with the depth to rock varying from 10m to 40m, and soils of variable strength and stiffness and with discontinuous peat lenses. Footing systems comprised pad footings, stiffened raft slabs, bored piles, driven piles and barrettes.
Binary Centre, North Ryde	East Asia Property Group / Bovis Lend Lease	The project included two multi-storey office blocks over common parking levels excavated into the hillside to a maximum depth of 12m. Detailed geotechnical investigations comprising cored and augered boreholes and a hillside stability assessment were completed. Ongoing construction advice for rock face stability was provided and footing inspections and testing were carried out.
South Sydney Junior Rugby League Club, Kingsford	Demlakian & Associates	Geotechnical investigation for a major extension which included a 12m deep basement. The site was underlain by about 2m of sand deposits over sandstone bedrock with interbedded shale. Ongoing construction advice was provided and regular geotechnical inspections were carried out for underpinning existing adjoining buildings, vibration monitoring, rock face stability, groundwater seepage and stabilisation of a long narrow rock column between two basement excavations.
Cassia Garden Project 589-593 George Street, Sydney	Moonfare Pty Ltd	Investigation and detailed design advice for complex site abutting seven different buildings and three streets, with existing and proposed railway tunnels affecting one side of the site. Excavation depths of 16m encountered the Mittagong Formation and Hawkesbury Sandstone and were affected by joint swarms. The commission included construction advice to the developer.