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**Client** JP Property Investment

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**Location** Dunedin

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**Country** New Zealand

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**Size** 1,200m<sup>2</sup>

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**Timeframe** October 2007

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**Value** NZ\$300,000

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**Awards** N/A

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**Services provided by CPG**

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Structural Engineering

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**Description of Project**

A seismic evaluation and a feasibility study were undertaken on this three storey unreinforced brick building dating from 1885, which utilises timber floors and internal steel columns and beams.

The feasibility study was carried out due to the client's requirement for change of use from commercial to residential for the top two floors. The report included assessment of the structure and presented feasible options to bring the building up to minimum council requirements being 67% of New Building Standard (NBS).

The proposed strengthening methods included installing timber ceiling diaphragms, connected to a new lateral restraining system. This was to be accomplished by setting reinforced shotcrete walls with fixings into the existing masonry walls and a steel braced frame system. In addition, due to the building being sited on reclamation ground, foundation improvements such as micropiles tied to existing foundation pads were proposed.