

COPY



BROWNE SPURR & KRONAST
CONSULTING CIVIL & STRUCTURAL ENGINEERS



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Larkin Brothers Ltd.
P O Box 696
ROTORUA

15 November 1995

Attention: Mr. J. Larkin

Dear Sir,

Re: **SECTIONS 16. 34. 35 (BLOCK LXIII) AND LOT 1 D.P.S. 19165**
PUKUATUA STREET, ROTORUA

As requested, we have perused the site investigation report prepared by Tonkin and Taylor Limited for this property which consists of five lots adjacent to the Ranolf Street corner. The report, which was completed in December 1992, has been based on information gained from boreholes and extensive cone penetrometer testing carried out over the site.

The report confirms the presence of soft surface silts over the site, varying in depth from 4.0m to 12.0m. These silts are very compressible, and make the site unsuitable for surface founding. However, dense sand and gravel layers are located immediately under the soft silts, uniformly throughout the site. This means that a driven pile foundation would prove to be a most satisfactory alternative to surface foundations for buildings up to three stories high, which is the maximum height permitted on site.

We have used short driven piles of this nature on several buildings in Rotorua over the years, and confidently recommend this alternative as being not only very economical, but also very positive in terms of eliminating the risk of differential settlement which can occur when surface founded buildings are constructed on soft or suspect silt layers.

We trust that this provides the assurance you require at this time, and would be pleased to follow this up with more detailed information should the preliminary design and layout of any proposed development for the site become established.

Yours faithfully,

A.M. BROWNE
BROWNE SPURR & KRONAST

PARTNERS: A. Murray Browne, B.E., N.Z.E.N.Z., Reg. Engineer. John W. Kronast, B.E., N.Z.E.N.Z., Reg. Engineer