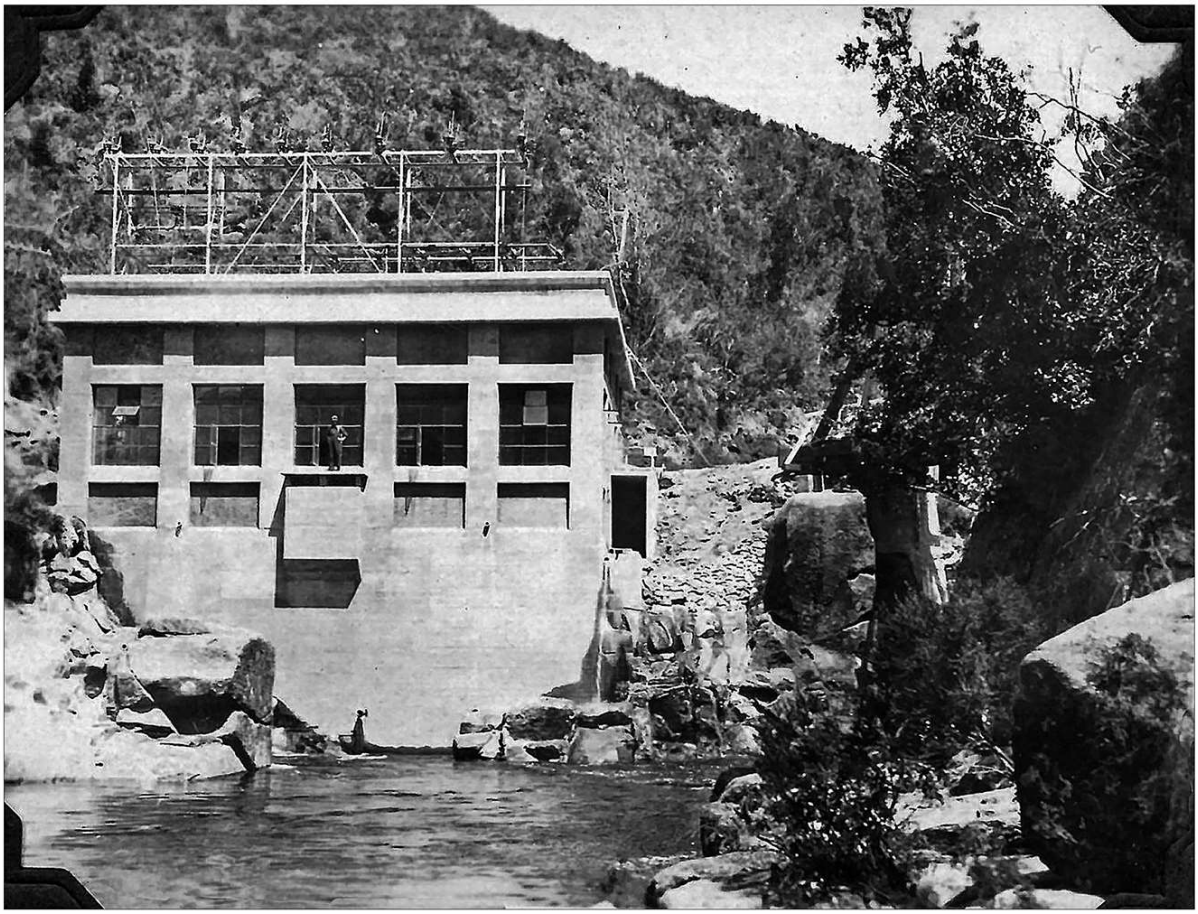
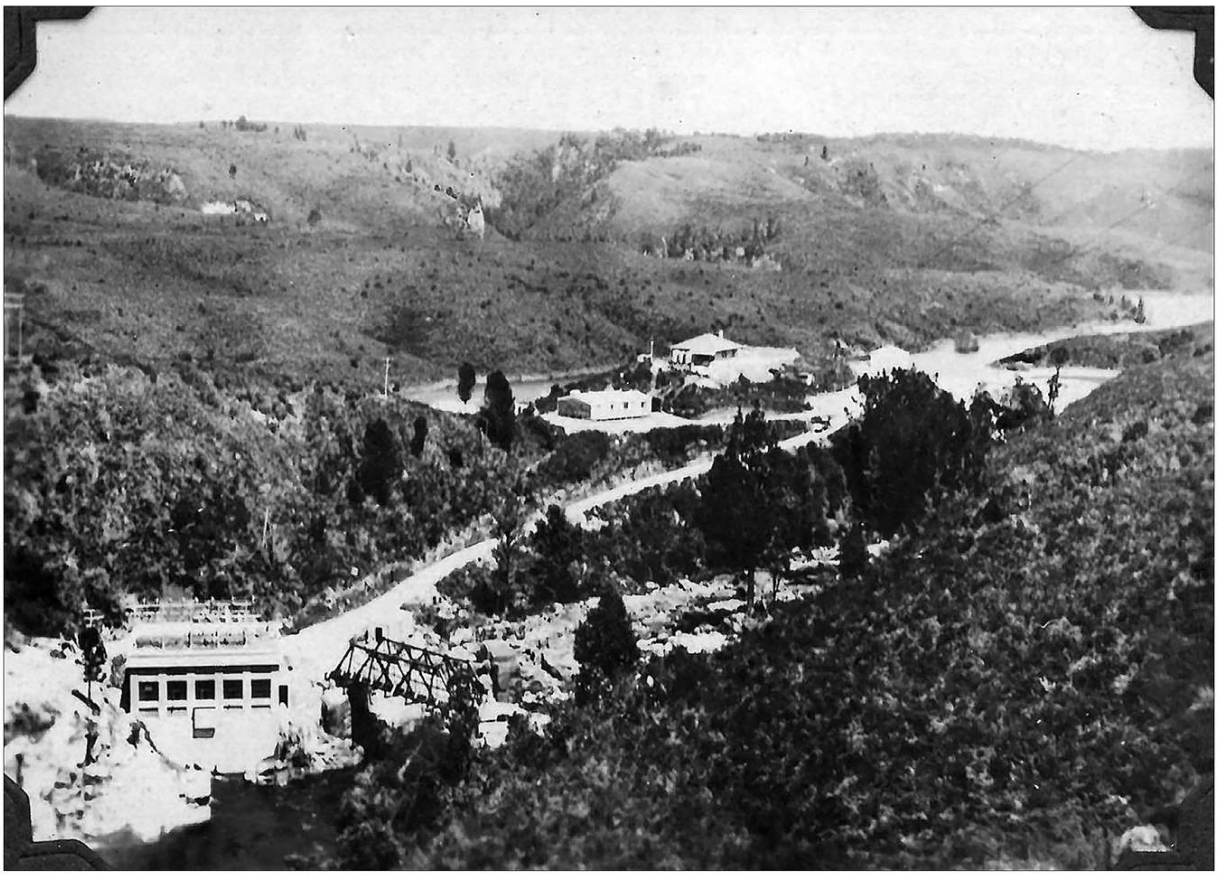
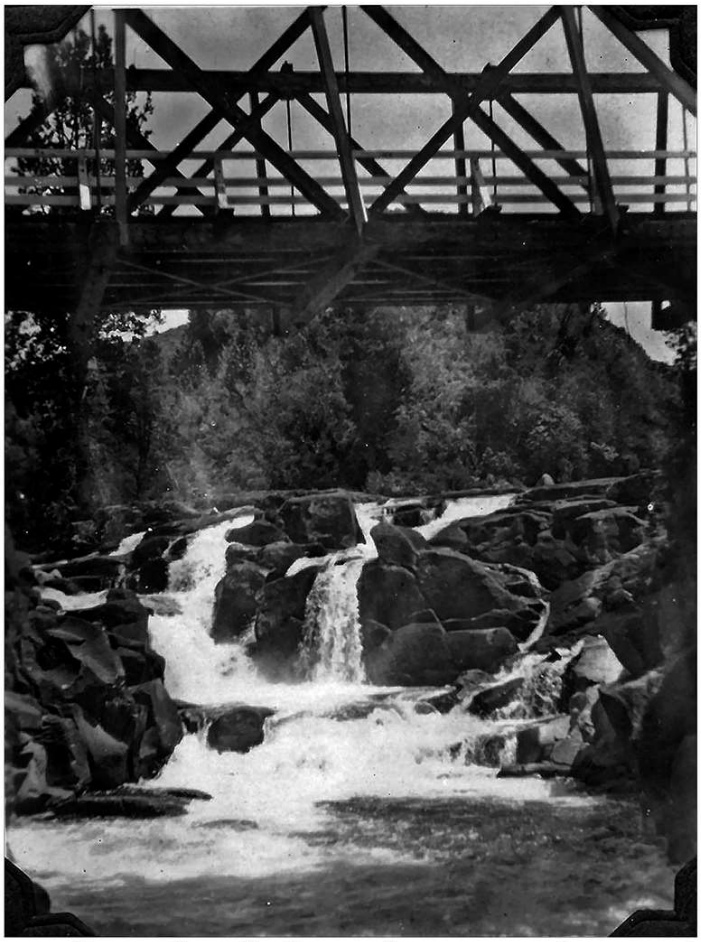
Mclaren Falls Hydro-Electric Power Scheme - Tauranga



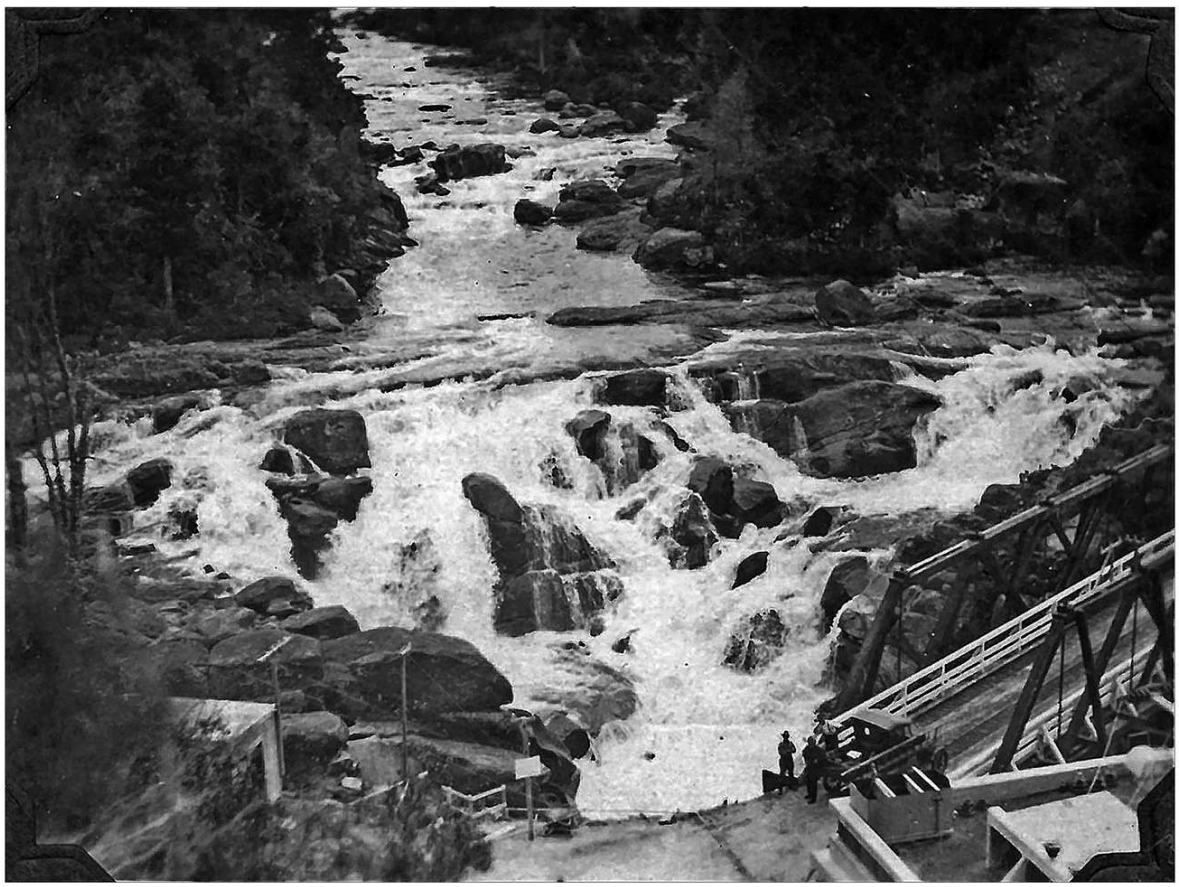
Mclaren Falls Power House - circa 1925
Tauranga City Libraries Image Number 99-877



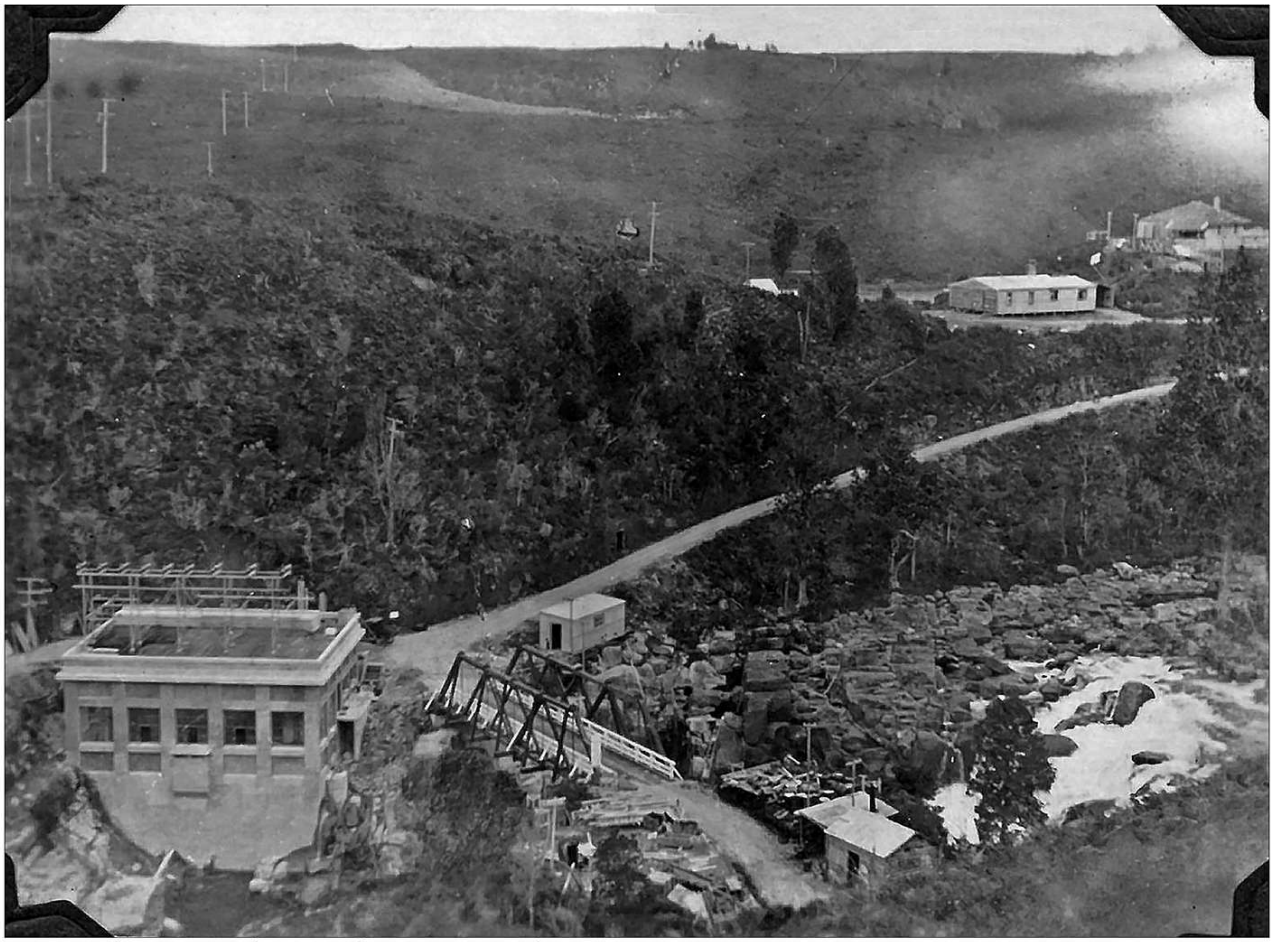
Mclaren's Scheme - View from the transmission line - circa 1925
Tauranga City Libraries Image Number 99-878



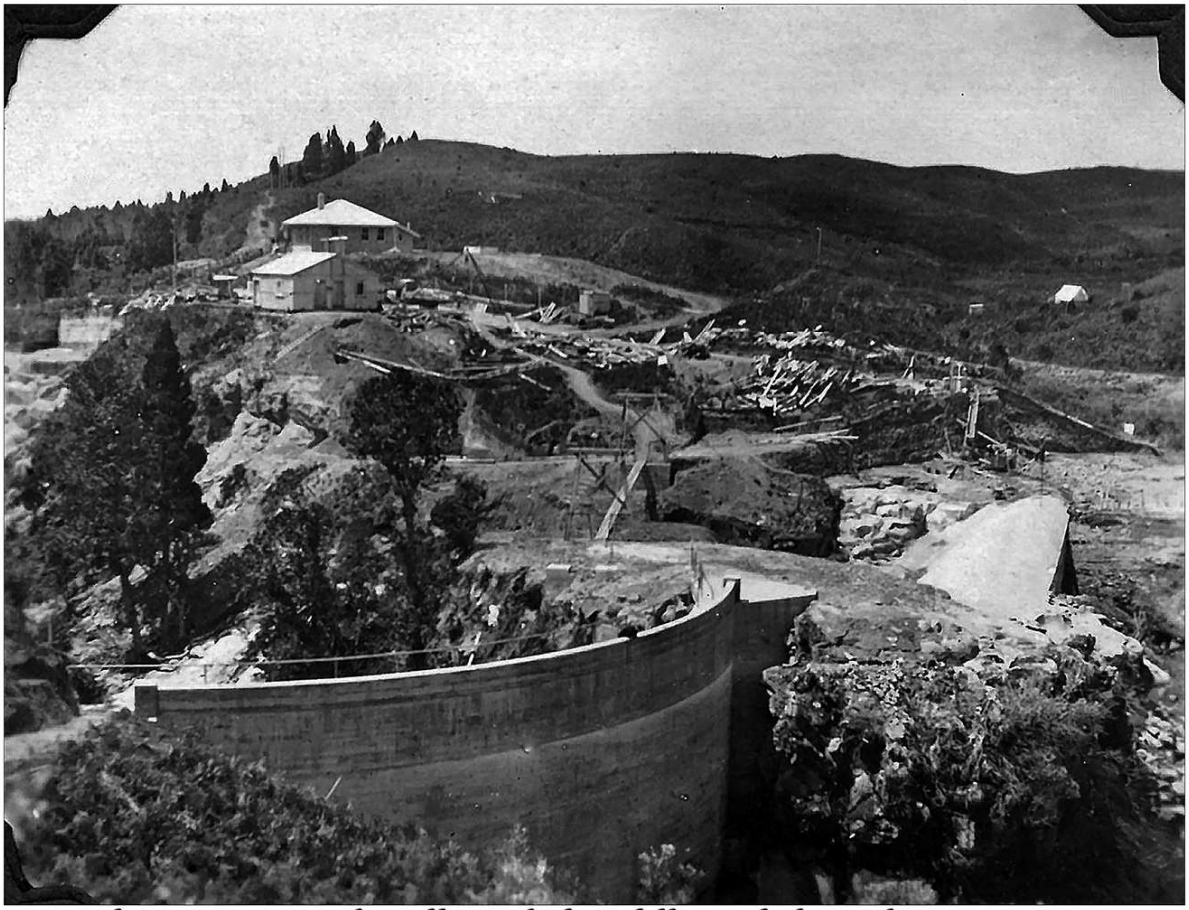
Mclarens - View of Falls from the Power House - circa 1925
Tauranga City Libraries: Image Number 99-879



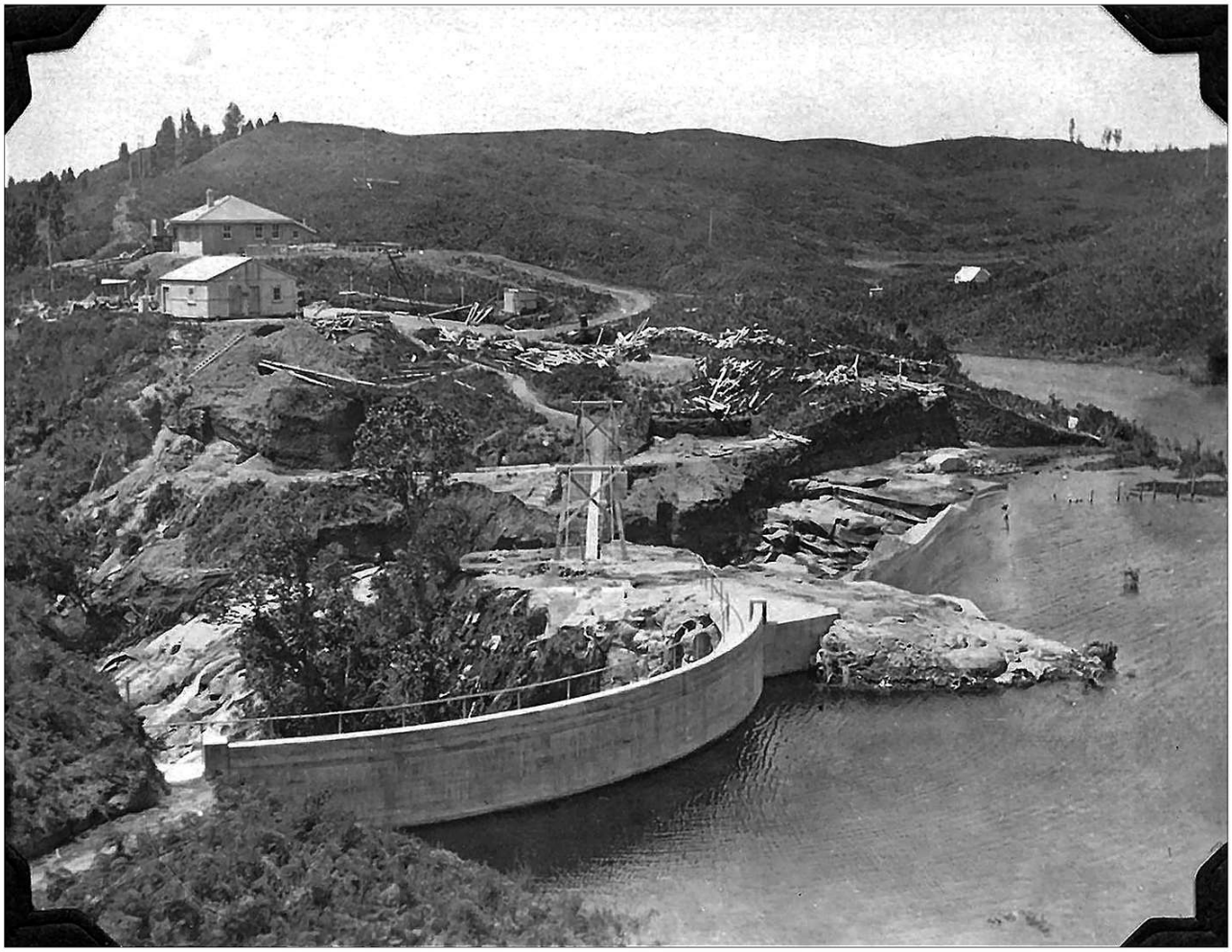
Mclaren Falls in Flood - circa 1925
Tauranga City Libraries: Image Number 99-880



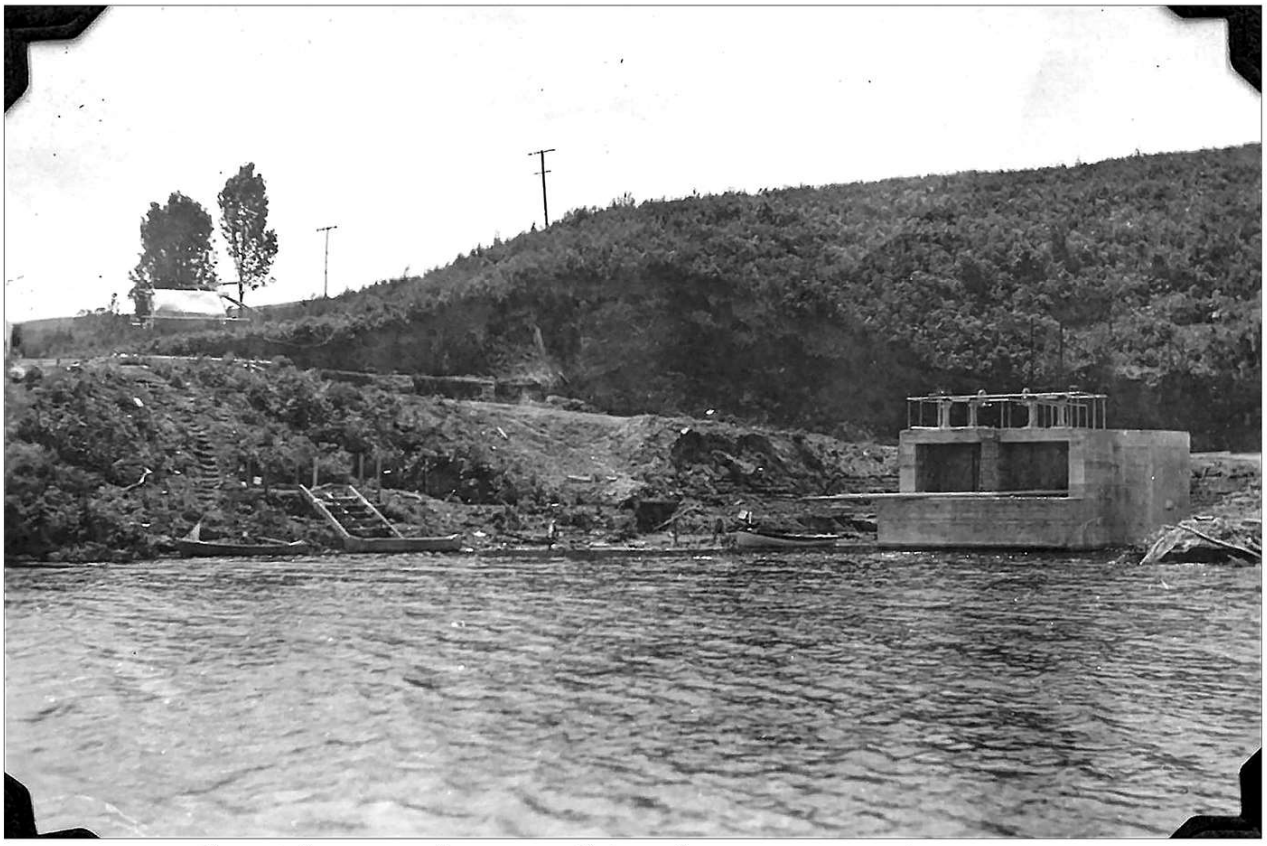
Mclarens Scheme showing tie line to Omanawa Station (top left) - circa 1925
Tauranga City Libraries: Image Number 99-881



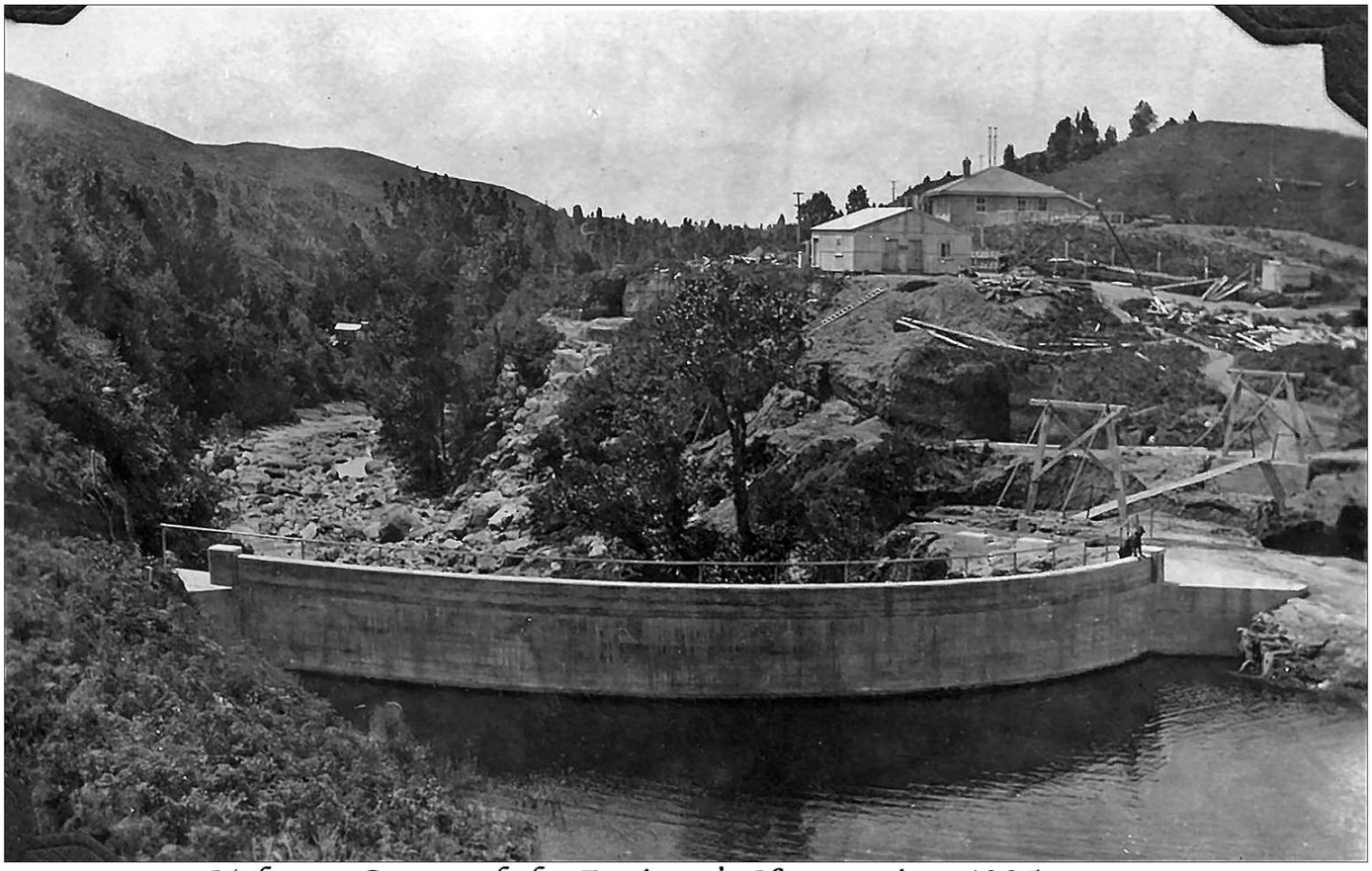
Mclarens Dam and Spillway before filling of the Lake - circa 1924
Tauranga City Libraries: Image Number 99-882



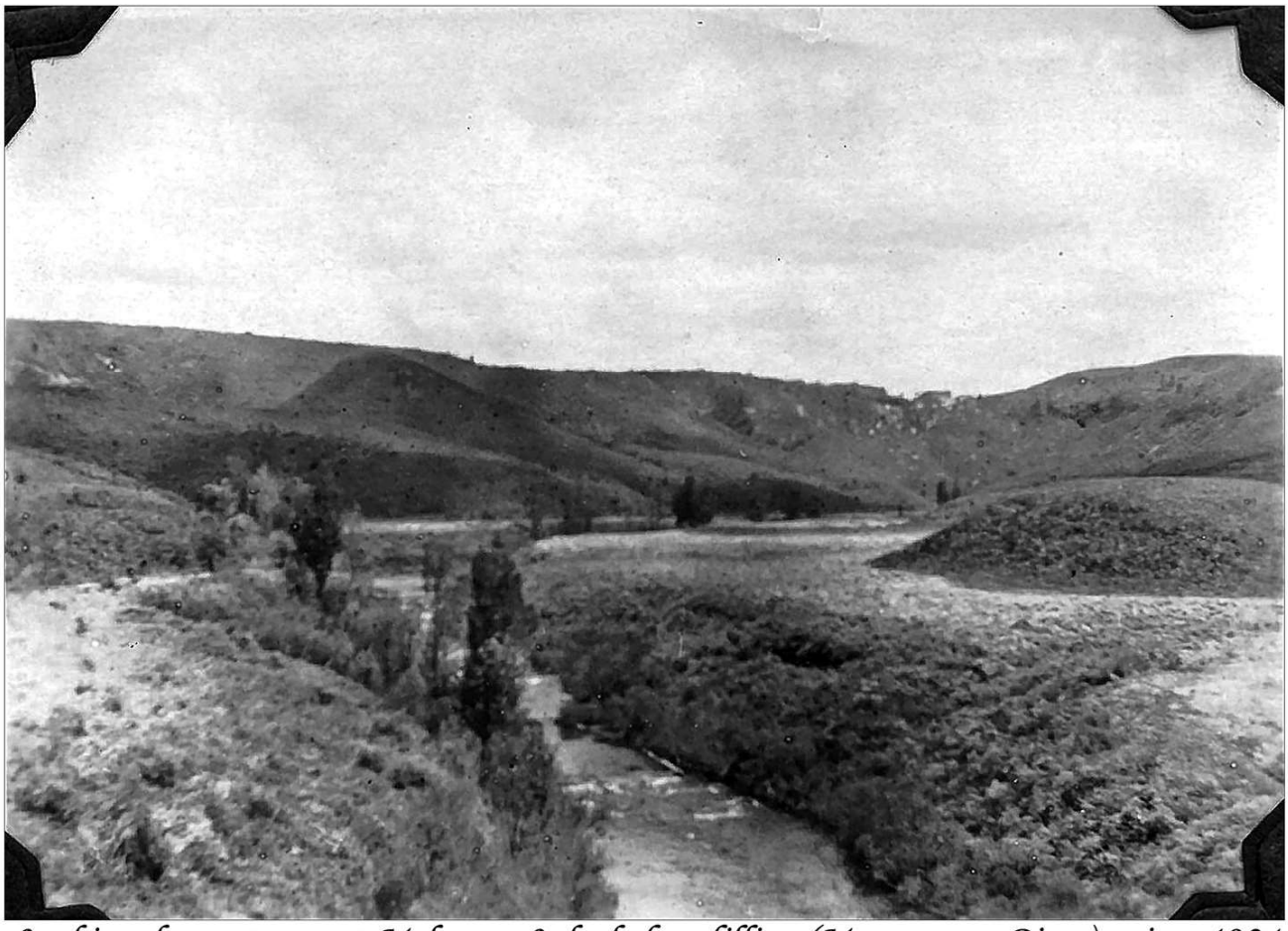
Lake Mclaren filled and water flowing over the spillway - circa 1925
Tauranga City Libraries: Image Number 99-883



Lake Mclaren and penstock intake structure - circa 1925
Tauranga City Libraries: Image Number 99-884

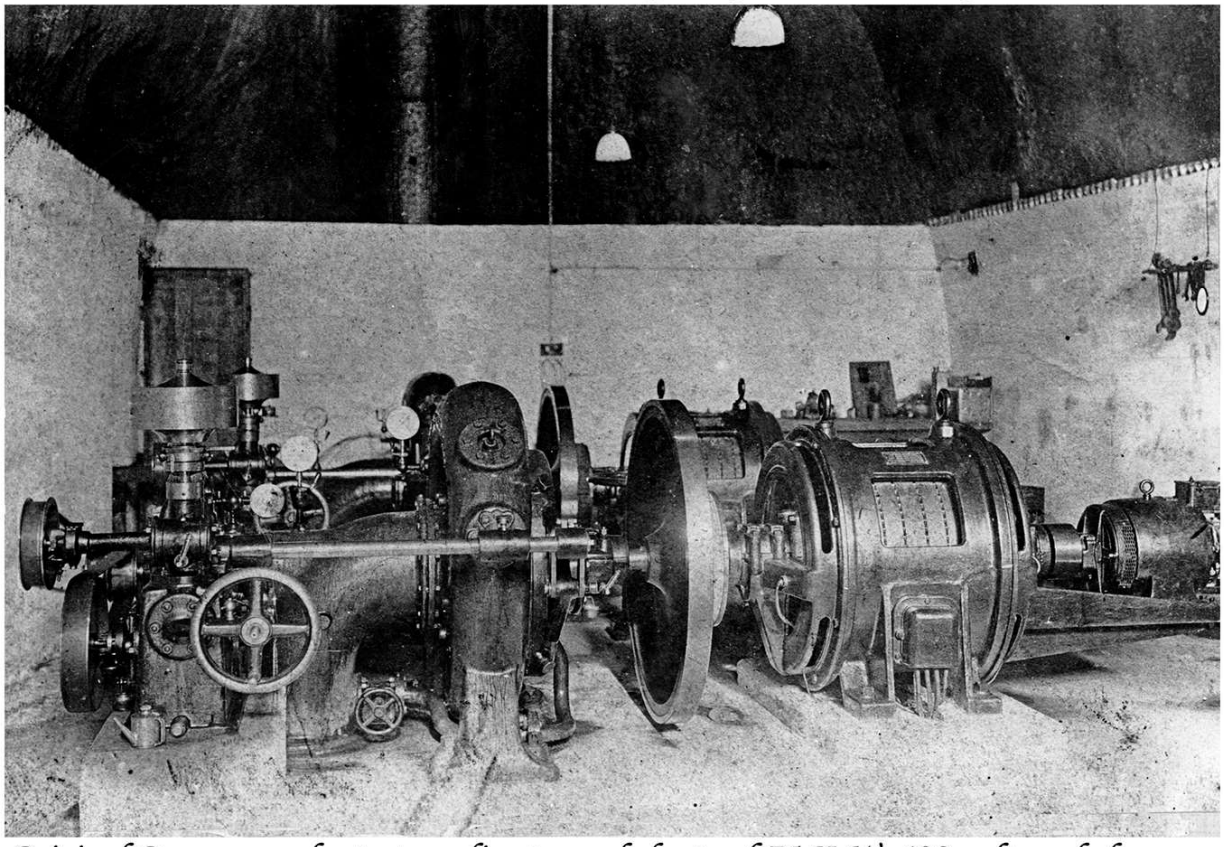


Mclarens Dam and the Engineer's House - circa 1925
Tauranga City Libraries: Image Number 99-885



Looking downstream at Mclarens Lake before filling (Mangapapa River) - circa 1924
Tauranga City Libraries: Image Number 99-886

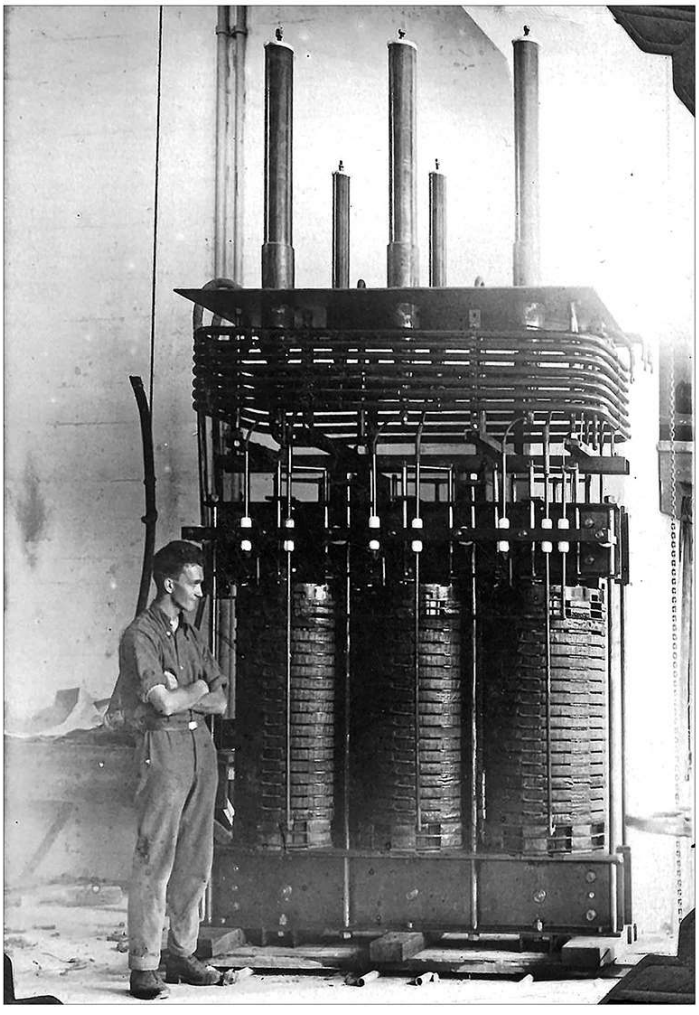
Omanawa Falls and Power Station - 1915
Tauranga City Libraries: Image Number 99-887



Original Omanawa plant - two direct-coupled sets of 75 K.W. 400 volt made by Escher Wyss and Brush - 1915 *Tauranga City Libraries: Image Number 99-888*

Tauranga City Libraries:
Image Number 99-889

Ropeway installed at Omanawa in 1920 whereby to lower heavy machinery and structural materials into power station. Picture shows test load comprising 6 tons of sand bags being lowered. - 1920



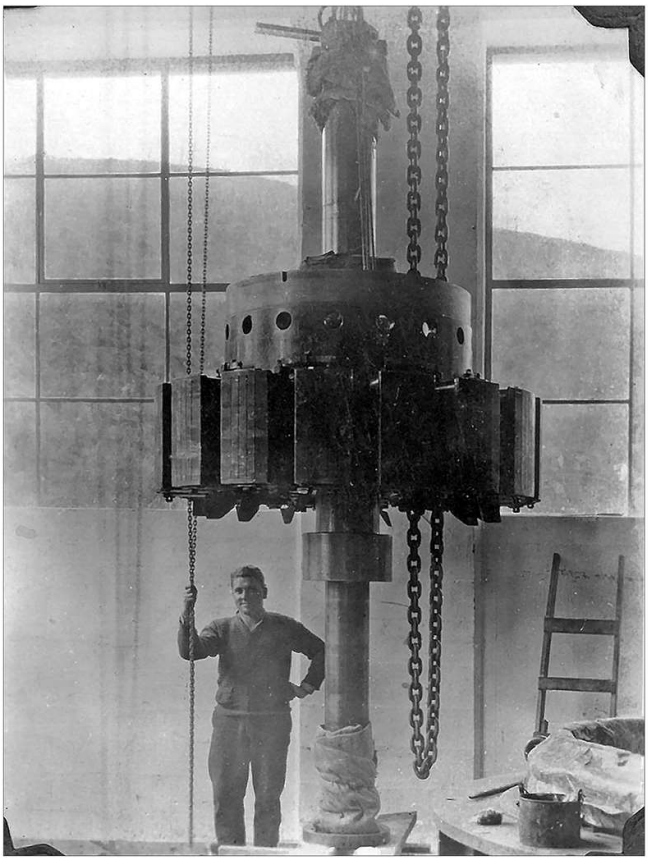
Tauranga City Libraries:
Image Number 99-890

One of the two Phillips 1,250 kVA water cooled transformers. A primary 3000V three phase primary winding from a generator output and a tapped 33,000V/50,000V secondary winding.

The two generators are each rated for 1,750 kVA at 0.8 pf. giving 3,000-3,300 Volts, and running at 375 r.p.m.

There was also one 1,350 kVA. transformer capable of being connected for either 11,000 or 33,000 Volts.

The transformers are located on the generator room floor.



Rotor of Mclaren's #2 Generator - circa 1925
Tauranga City Libraries: Image Number 99-891

Generators.

The generators are each rated for 1,750 kVA at 0.8 pf. giving 3,000-3,300 Volts, and running at 375 r.p.m. The rotor is carried from the top thrust bearing which sustains a total bearing load of 21 tons.

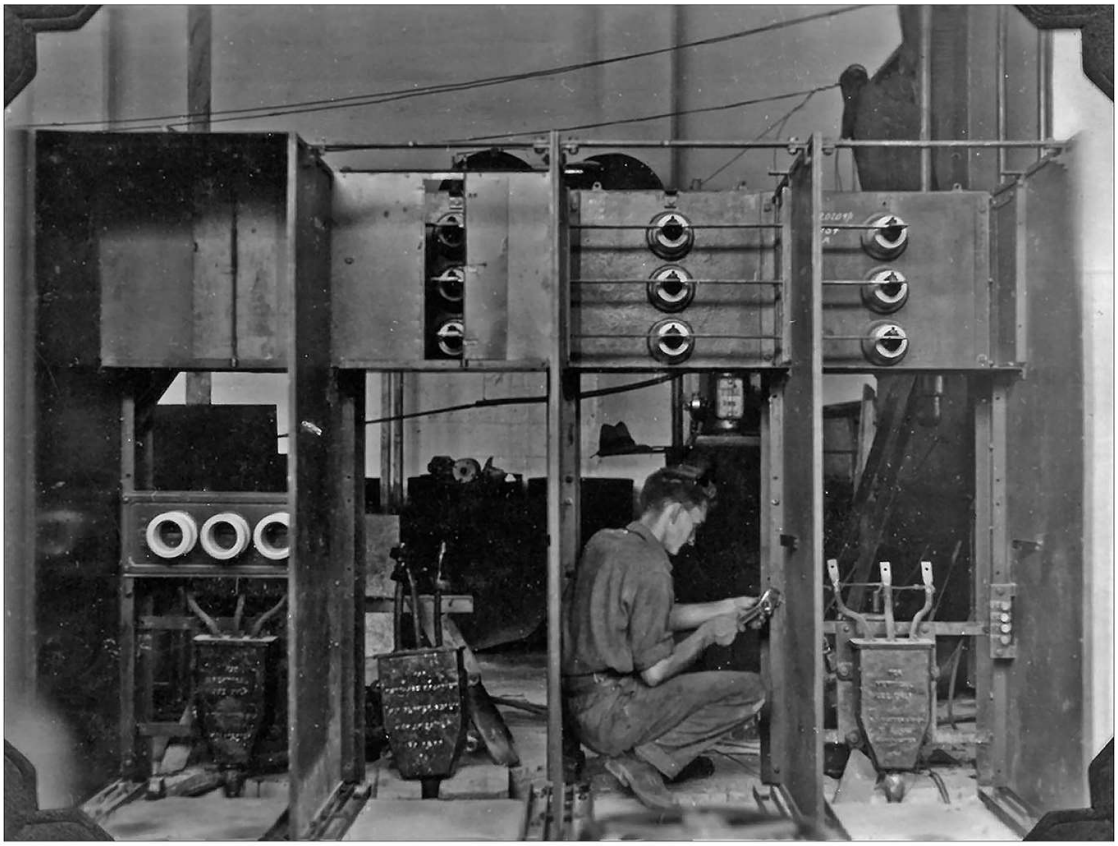
Two separately driven exciters were installed each capable of exciting both generators. One is motor driven off the busbars and the other is direct coupled to a vertical turbine controlled by hand only.

Cranes.

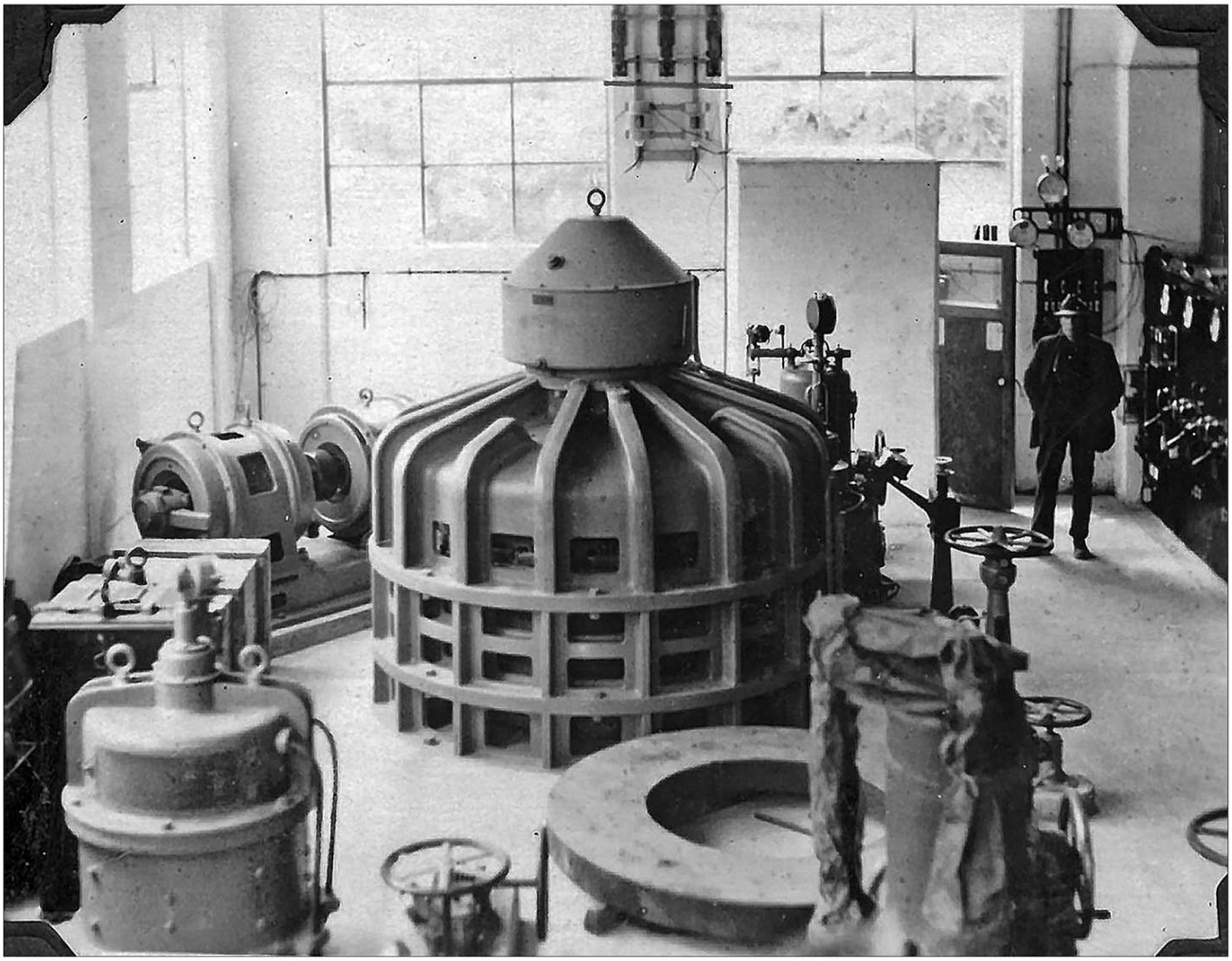
The bay comprising the generating room is covered by a 10-ton travelling crane, hand operated with ball bearings throughout. The clearance of this crane is calculated to allow of the removal of the turbine shaft and runner after the upper generator frame casting has been removed.

This height is insufficient to provide for lifting carcases out of the transformer tanks and, in order to obviate increase in the height of the building to allow for this, a 6 feet deep pit is provided in the floor of the generator room into which the transformers are dropped before being dismantled.

Extracts fom "Mclaren Falls Hydro-Electric Power Scheme" by Lloyd Mandeno

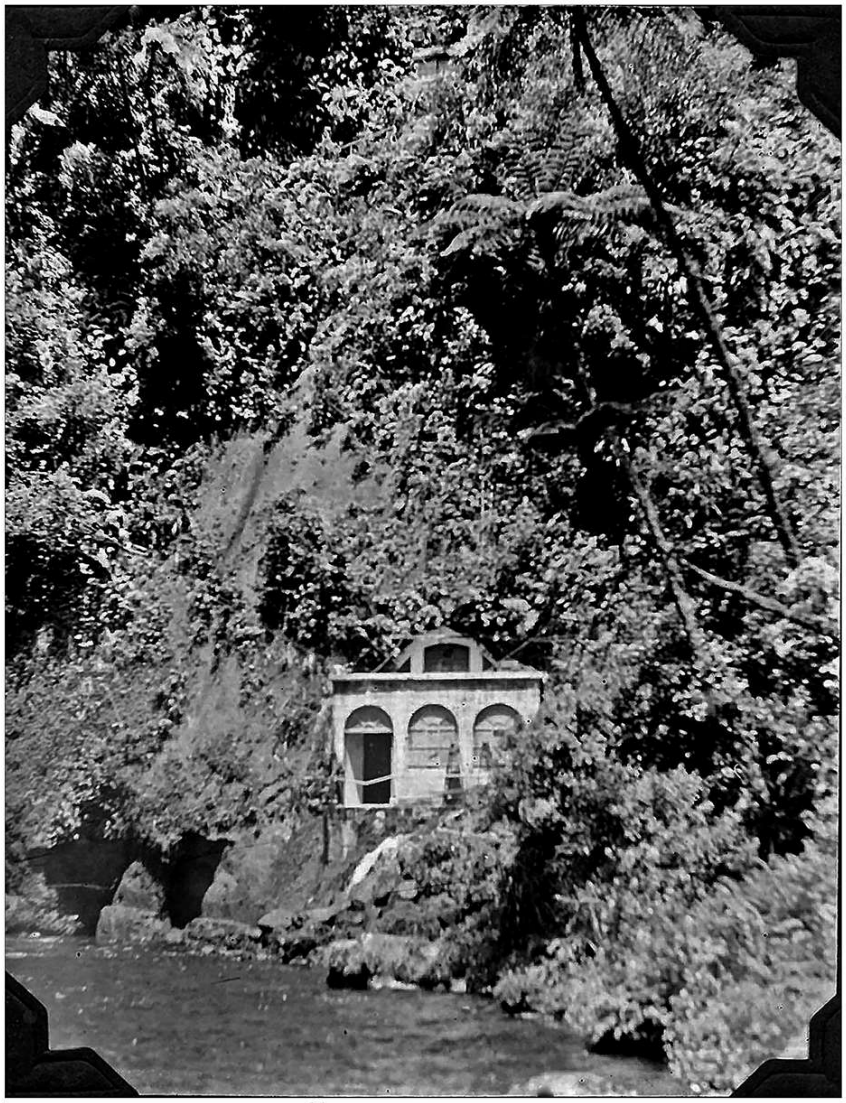


Interior of Metropolitan-Vickers switchgear cubilcle
Tauranga City Libraries: Image Number 99-894

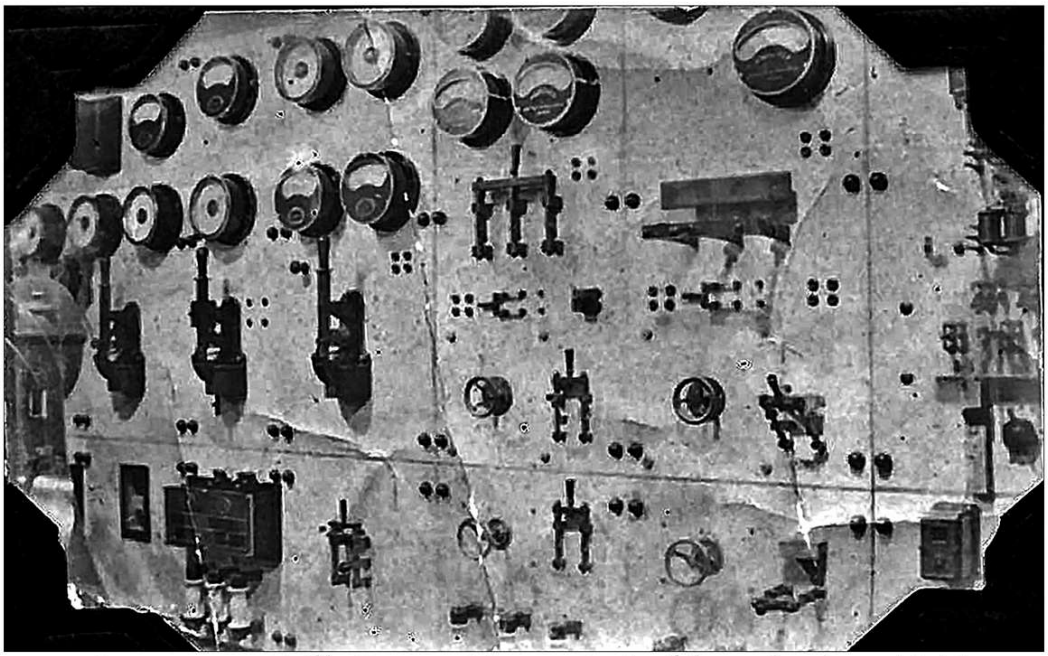


Mclaren's P.S. interior showing No. 2 generator and flywheel - circa 1925
Tauranga City Libraries: Image Number 99-893

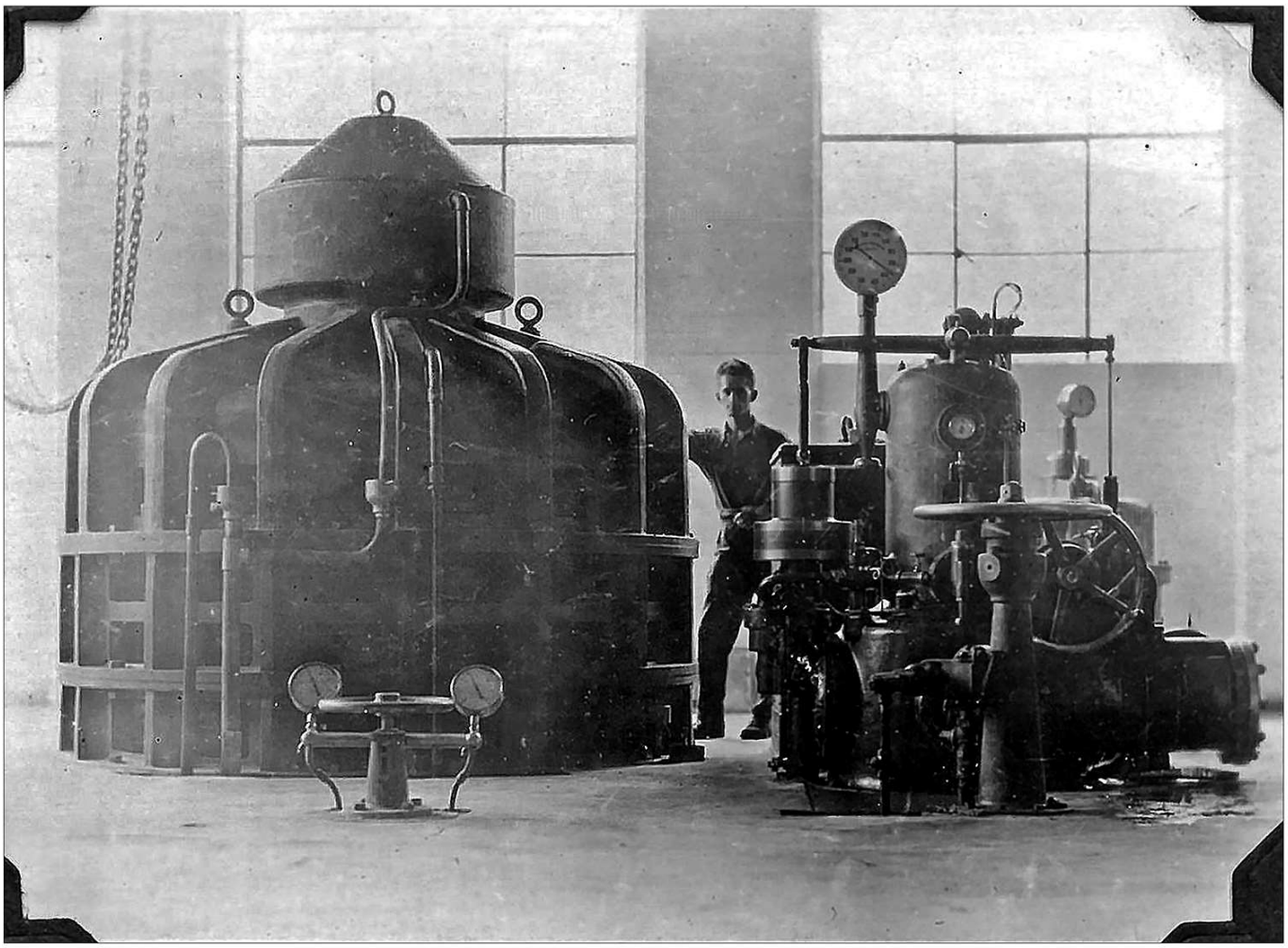
Mclaren's P.S. main switchboard on the generator floor and is of the trunk cubicle type. *Tauranga City Libraries: Image Number 99-894*



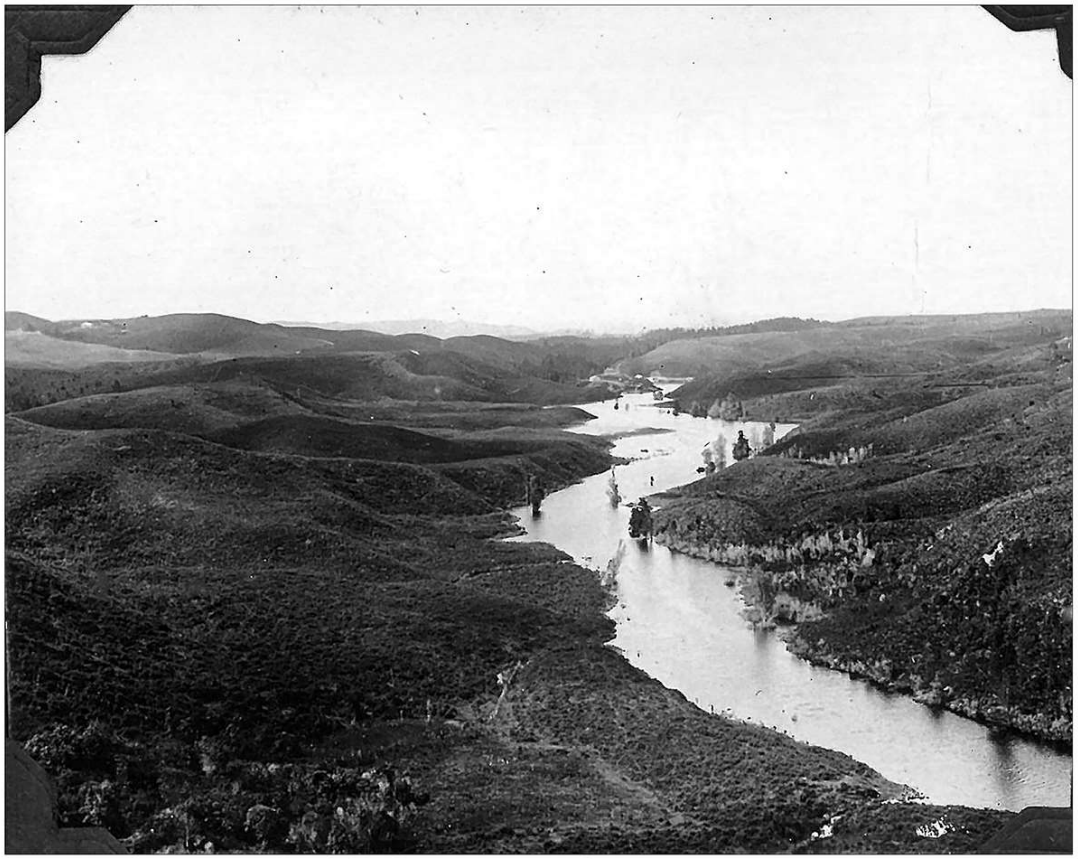
Omanawa Falls Power House - circa 1915
Tauranga City Libraries: Image Number 99-895



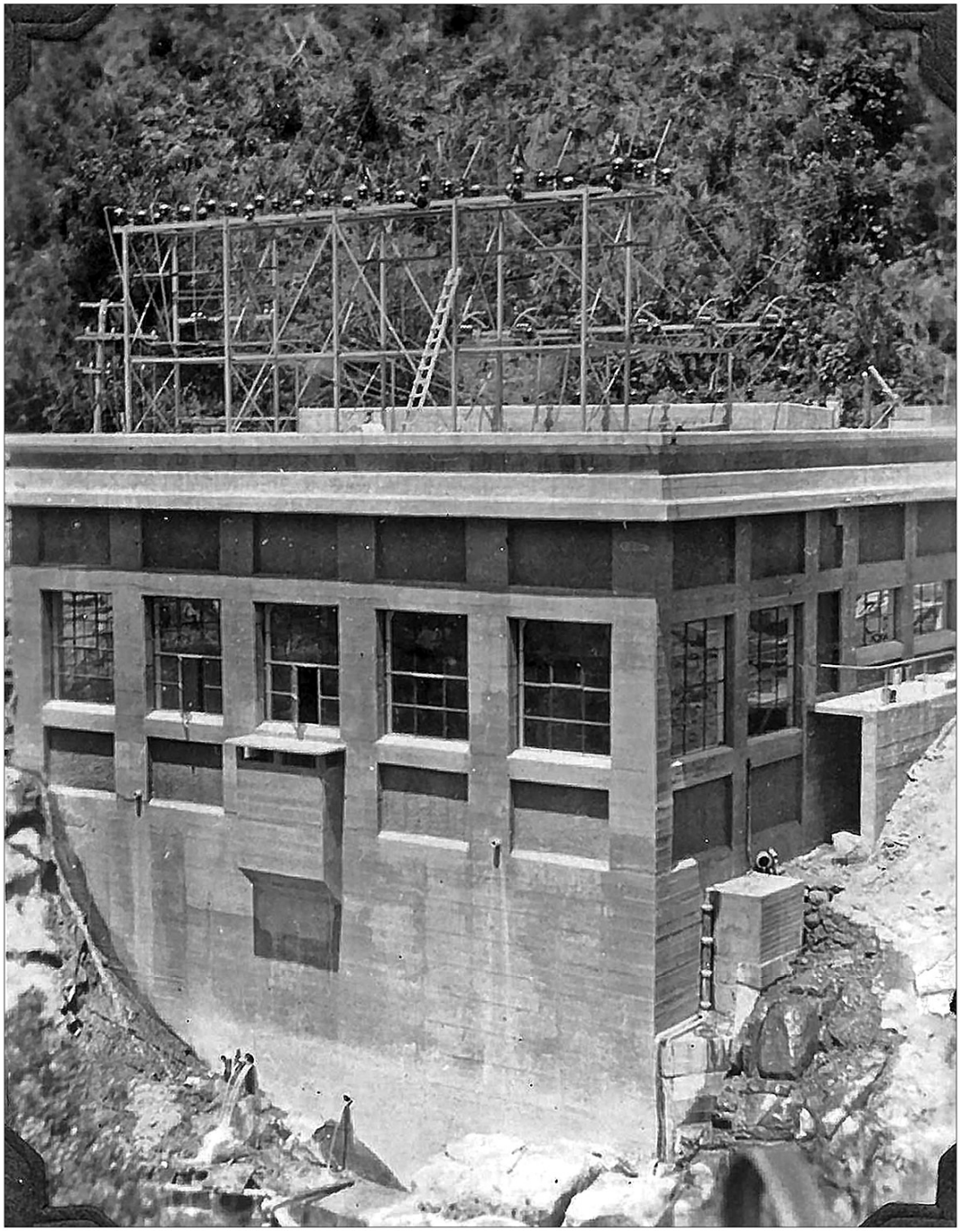
Omanawa Falls Power House Switchboard - circa 1915
Tauranga City Libraries: Image Number 99-897



Mclaren Falls PS No. 2 generator, and belt driven governor - oil pressure type
Tauranga City Libraries: Image Number 99-896



Mclarens Lake filled - Dam in the distance - circa 1925
Tauranga City Libraries: Image Number 99-898



Mclarens Power House showing 50kV switchgear and lightning arrestors
Tauranga City Libraries: Image Number 99-899

The following lines leave the station (1925) :—
1 — 3 kV circuit to Omanawa.
1— 11 kV circuit to Tauranga.
1 —11 kV circuit to Te Puke.
1 —50 kV circuit to Waikino.
The 11 kV circuits will be changed over to 33 kV

PDF version of pages from a Photo Album held by Tauranga City Libraries prepared by David Hyde - pseudonym 'David de la Hyde' - with the assistance of Debbie McCauley and Fiona Kean. (April 2019)