

THE HAWKE'S BAY EARTHQUAKE

New Zealand's Greatest Natural Disaster



by Robert McGregor

ART DECO TRUST - NAPIER, NEW ZEALAND

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Companion volumes to this publication are -

The Art Deco City

Published 1998

The New Napier

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'BEFORE THE QUAKE'



This view of early Napier shows the watery swamps to the south of Scinde Island. Countless ages ago, the Inner Harbour extended south of Hastings. Further back still, Napier's hill was an island some distance from the coastline, which followed the present edge of the Heretaunga Plains.

Before the 'quake' is a phrase that is still heard in Hawke's Bay. 'Before the 'quake this was all sea'. 'Before the 'quake when the trams ran'. 'Before the 'quake when the ships moored here'.....'when this creek was a river'....'when the streets were narrow'....'when this suburb was reclaimed from the swamp'...'when we picnicked on the beach that used to be here'.

Long, long before the 'quake, the land on which Napier and Hastings are built was below the sea. The edge of the bay known as Paritu to the Maori, and named Hawke Bay in 1769 by Captain James Cook, hugged the hills inland from Napier and the island called Mataruahou stood several kilometres off-shore.

From the mountain tops, shards of rock were carried to the coast by the streams and rivers. Worn smooth by their journey, these stones were piled up by the surf to form two shingle spits linking Mataruahou to the mainland. When the first Europeans arrived to settle in the early 1840's, these spits were the coastline, bordering a vast salt-water lagoon, the fertile Heretaunga Plains, and the swampland between them which was the one in the process of becoming the other.

Yet the hill was still island enough to be named Scinde Island by the first settlers.

On land purchased from Maori by the new European government in 1851, the town of Napier was established. It occupied three distinct areas - a triangle of flat land between the sea, the swamp and the island/hill; another triangle of land north of the hill which was laced with small lagoons; and the hill itself with its spectacular views of the sea, plains and mountains. The possibility that only fifty years later this site would be too small would have seemed unlikely to those first settlers. But it proved to be the case, and in 1908 the first houses were built in Napier South on land which had just been reclaimed by a private syndicate.

Only 20 kilometres to the south of Napier, the town of Hastings was built on the rich plains, the first sections being sold in 1873. The two cities, unusually close, have kept pace with each other in their growth; Napier the port and administrative base and Hastings the service centre for the market gardens and orchards of the plains and the pastoral farms of the hill country beyond.

INTRODUCTION

1931 was a pivotal year of the twentieth century. As it began, the understanding was growing that the strange convulsion which had taken place fifteen months before on New York's Wall Street was having a profound effect on the whole world.

In response to the Depression's bite into the purchasers' spending power, the market began to respond. The 'look of the twenties', not greatly changed over ten years, was giving away to the 'look of the thirties', as designers rose to meet the challenge and cars, clothes, and household goods began the most rapid evolution in design that has ever taken place. The modern age had really begun.

At the bottom of the world, in New Zealand's North Island, the east coast province of Hawke's Bay was feeling the Depression's effect as jobs were lost and bankruptcies increased. Falling prices for its agricultural exports were worsened by a severe summer drought.

But Depression worries would soon be forgotten. On February 3rd, the area would be convulsed by a violent earthquake.

For the people of Hawke's Bay, 1931 would be **the** pivotal year - the year that separated the old times from the new. The 'quake' would change the topography, the architecture, the growth of the region's largest city, the lifestyle, a host of regulations and the people themselves.

Today, interest in the Hawke's Bay Earthquake is as great as ever. Recorded by a wealth of photographs, the disaster is still overwhelming. The unique concentrations of buildings which arose from the devastation are attracting increasing attention world wide. The Earthquake has become a key event in the history of an earthquake prone land.

This is the story of that event and its aftermath.



Summer time on the Parade in the twenties. Cloche hats, short hair and short skirts signalled the most radical change in women's dress that had ever occurred.

Parking on the Marine Parade in the 1920s seems to have been just as much in demand in the 1920s as it is today. The shingly play area, on the present site of the floral clock, was across the road from Dr Moore's Private Hospital. The Hawke's Bay Club and the Department of Conservation, then the Courthouse, are unchanged today.



NAPIER



St Patrick's Roman Catholic Church in Munroe Street, built in 1894. It was destroyed by fire one tragic day in 1981.

By the 1920's, Napier was a town of 16,000 people, with an imposing array of buildings. Three important nineteenth century buildings - the Courthouse, the Hawke's Bay Club, and St Patrick's Roman Catholic Church - were built of timber as were some of the older shops, offices and hotels.

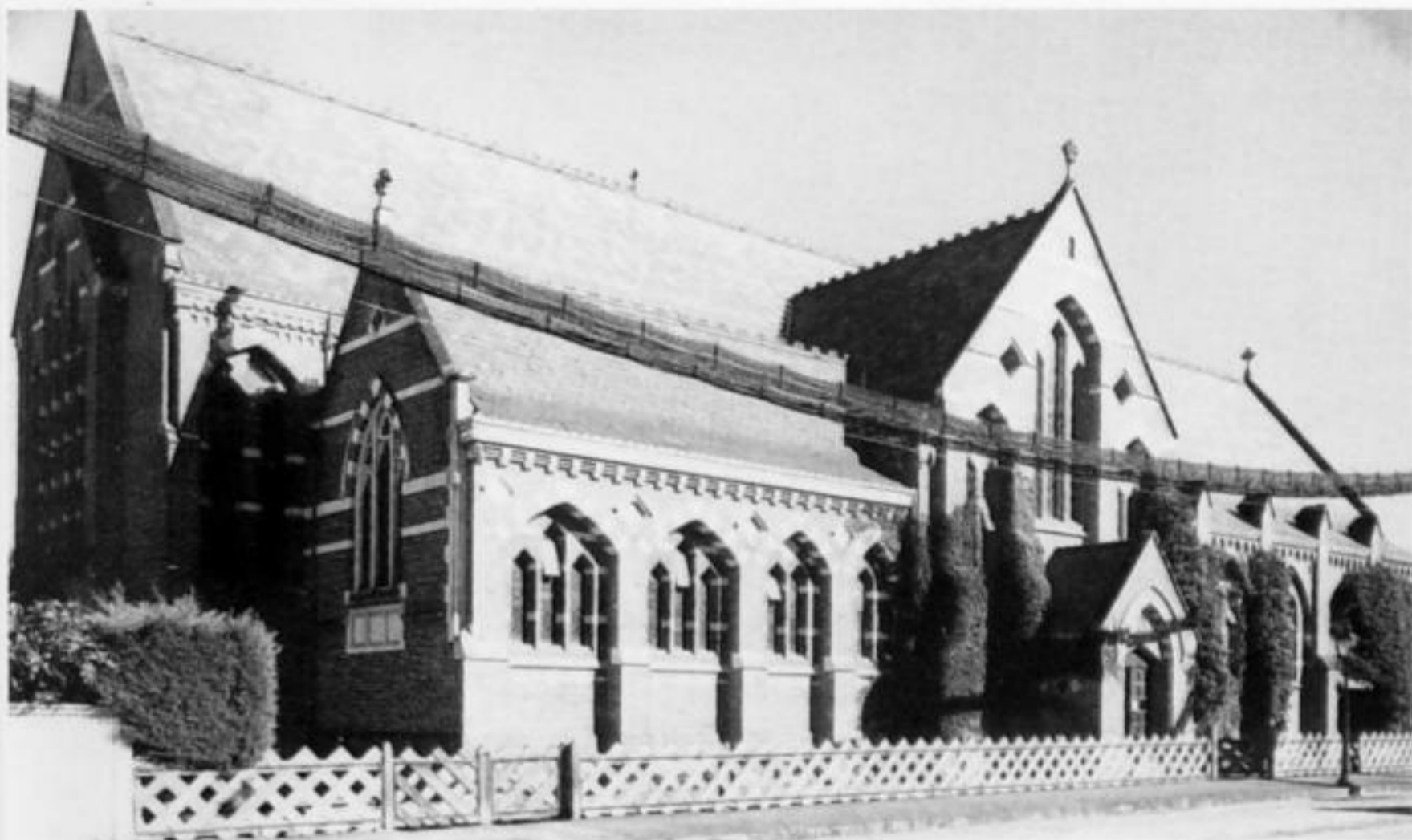
Many others were built of brick, including the two buildings which were the pride of Napier - St John's Anglican Cathedral of 1888 and the Municipal Theatre of 1912. Later buildings like the Boys' High School and its hostel of 1926, and the new St Paul's Presbyterian Church, almost ready for occupation at the start of 1931, had reinforced concrete tie beams incorporated into their design. Many more minor buildings were of unreinforced brickwork. Stone was sometimes used for facing, but was not a significant structural material.



The Masonic, Napier's premier hotel. What a lot of band concerts people must have listened to in early days - there was also a band rotunda in Clive Square.



Napier was proud of its Municipal Theatre. Built in 1912, it was designed in the Italian Renaissance style by the Australian theatre architect William Pitt. Often called "New Zealand's finest opera house", it seated 1400 and was renowned in the theatre world for its acoustics and sight-lines.



St John's Anglican Cathedral, consecrated in 1888, was designed by Benjamin Mountford. The lady chapel, added in 1902, was designed by Charles Tilleard Natusch, who expressed reservations about the ability of the main body of the church to withstand an earthquake.





The Nurses' Home at the Napier Hospital, built in 1930. Standing at the junction of Spenser Road and Napier Terrace, its roof commanded spectacular views of the Inner Harbour.

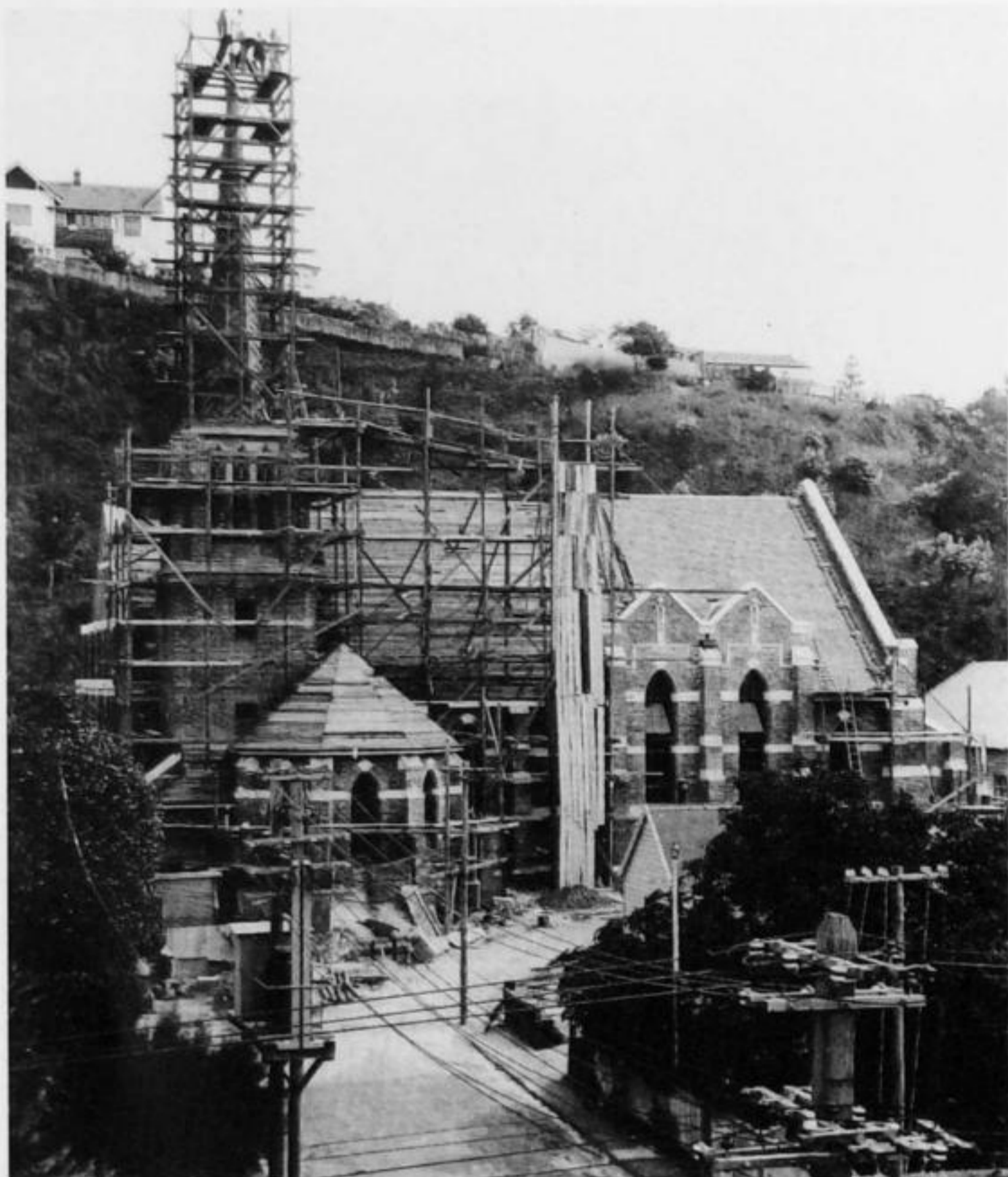


Hastings Street at its curve near Emerson Street. Falling parapets on buildings like these would cause many deaths in the Quake.

Unknown photographer, Auckland Star Collection, Alexander Turnbull Library C2962 1/1



Hastings Street in 1930, as it might have looked on the morning of the Earthquake.



But from early in the 20th century, the trend was to build in concrete, and knowledge of how to reinforce concrete with steel was increasing all the time. The Hawke's Bay County Council Building (now the County Hotel) was the first concrete building, of 1908, and would survive the earthquake, although damaged. From the end of World War 1, a number of new buildings arose. The Public Trust Office of 1920 was in Classical Revival style. Doctor Moore's Private Hospital in the newly fashionable Spanish Mission style, was built on the Marine Parade in the early twenties. A boom in the late twenties produced Dalgety's Building (now Broadcasting House), the Post Office, the E & D Building at the corner of Emerson and Dalton Streets (demolished in 1983), Bennett's Building in Hastings Street, a number of smaller CBD buildings, the Union Hotel at Ahuriri, and the new Nurses' Home at the Public Hospital, the last two also in Spanish Mission style.

The new St Paul's Presbyterian Church nearing completion in late 1930. Designed by Louis Hay, it replaced the small wooden building destroyed by fire in 1929.

Elegant Victorian and Edwardian buildings in Browning Street. The building at the far end is the Post Office, replaced in 1930 by the present building at the junction of Hastings and Dickens Streets. This move southwards was a trend both before and after the earthquake, as the centre of the business area followed the direction of Napier's suburban growth.





Napier in the 1920s, from above Seaview Terrace. Dr Moore's Hospital is on the left, and the Cathedral in the middle right of the photograph.



Unknown photographer, Alexander Turnbull Library 29347/3

Hastings Street at Browning Street on a busy weekday in the late 1920s. This intersection was once the hub of Napier's CBD, with trams grinding back and forth to Ahuriri.

Napier's business streets were narrow, and in the late 1920s a building restriction was introduced on the south side of Emerson Street, after which all new buildings were set back 1½ metres.

The tram service, opened in 1913, ran from the railway crossing at Hastings Street, through town and over Shakespeare Road to Ahuriri.

The potential of the Marine Parade as a civic amenity was

recognised when the Norfolk Island pines were planted in the 1890's and the Municipal Baths built in 1909, but development had since languished. Then in 1930, development of the foreshore was resumed using a Government subsidised work scheme for the unemployed. Lawns were to be laid on the seaward side of the sea wall, which had been built by prison labour in 1889 to prevent heavy seas from surging across the roadway and flowing down Emerson Street.



© Smith Collection, Alexander Turnbull Library C486707/3

The Marine Parade in the 1920s. Apart from the Municipal Baths, the Paddling Pool and the Sandpit, the beach is undeveloped, although it was popular for swimming in those days.



The Hastings Municipal Theatre was built in 1918, with an Art Nouveau interior and a superb Spanish Mission facade. Not only a live theatre, it was also used as a cinema for many years, which is why Rudolf Valentino's silent movie "The Sheik" was being promoted in this photograph of about 1926.



Roach's Department Store, at the corner of Heretaunga and King Streets, was Hastings' biggest store.

HASTINGS

S. C. Smith photographer, Alexander Turnbull Library G45670/12



Russell Street looking west in the early 1920s. The Hastings Post Office is in the middle distance



The Grand Hotel, Hawke's Bay's tallest pre-quake building. The present Grand Hotel, a much more modest building, stands on the same site in Heretaunga Street.

In 1930, Hastings' population was 10,850. Because its establishment followed Napier's by over 20 years, Hastings lacked the government offices and buildings like the Cathedral, which were inevitably to be found in the older settlement.

But it did have some substantial buildings. The Hawke's Bay Farmers Co-operative Association had erected a large new three-story building in 1929. The Grand Hotel in Heretaunga Street was Hawke's Bay's tallest building, at five storeys. It had been built in brick, in stages, with little engineering expertise. The Public Library, the Public Trust Office, several large churches, Roach's two-storeyed department store, the Dominion Building in Queen Street, and the Post Office with its tall clock tower were large buildings, as were several hotels, some of them built of wood.

OTHER HAWKE'S BAY TOWNS



S C Smith photographer, Alexander Turnbull Library C-48876/2

Quiet Havelock North in the 1920s, when it really was "the village."

Havelock North, close to Hastings and a favoured retirement centre, had 1,060 residents and was the home of three private boarding schools. Hereworth was a boy's preparatory school, and Iona College and Woodford house were secondary schools for girls.

Taradale, nine kilometres south-west of Napier was at that time an independent borough. Its population was 1,170.

Waipawa and Waipukurau, only eight kilometres apart as the crow flies, were an hour's drive south of Hastings at that time, when neither the roads nor the cars were as fast as today's.

Waipawa was the older centre, but Waipukurau, with its stock saleyards, was overtaking it in size. Dannevirke, as far south again, was a larger town with some solid Edwardian buildings. It had been settled by the Scandinavians who had come to the district to clear the Seventy Mile Bush for farmland.

Wairoa, the only Hawke's Bay town north of Napier, was still relatively isolated. The railway was slowly creeping north, but would not reach it until 1939, and a passenger service still ran by sea. Its population was 2,435.

Gloucester Street, Taradale, 1931. This photograph was taken by a New Zealand Herald photographer who had arrived to take photographs of the earthquake, though no damage was visible here.





The busy Heretaunga Street railway crossing, about 1929. The Grand Hotel is visible beyond.



This photograph was taken at the opening of the Hastings Soldiers' Memorial Hospital on Anzac Day 1928. After thirty years of talking, Hastings had its own hospital at last.

THE INNER HARBOUR

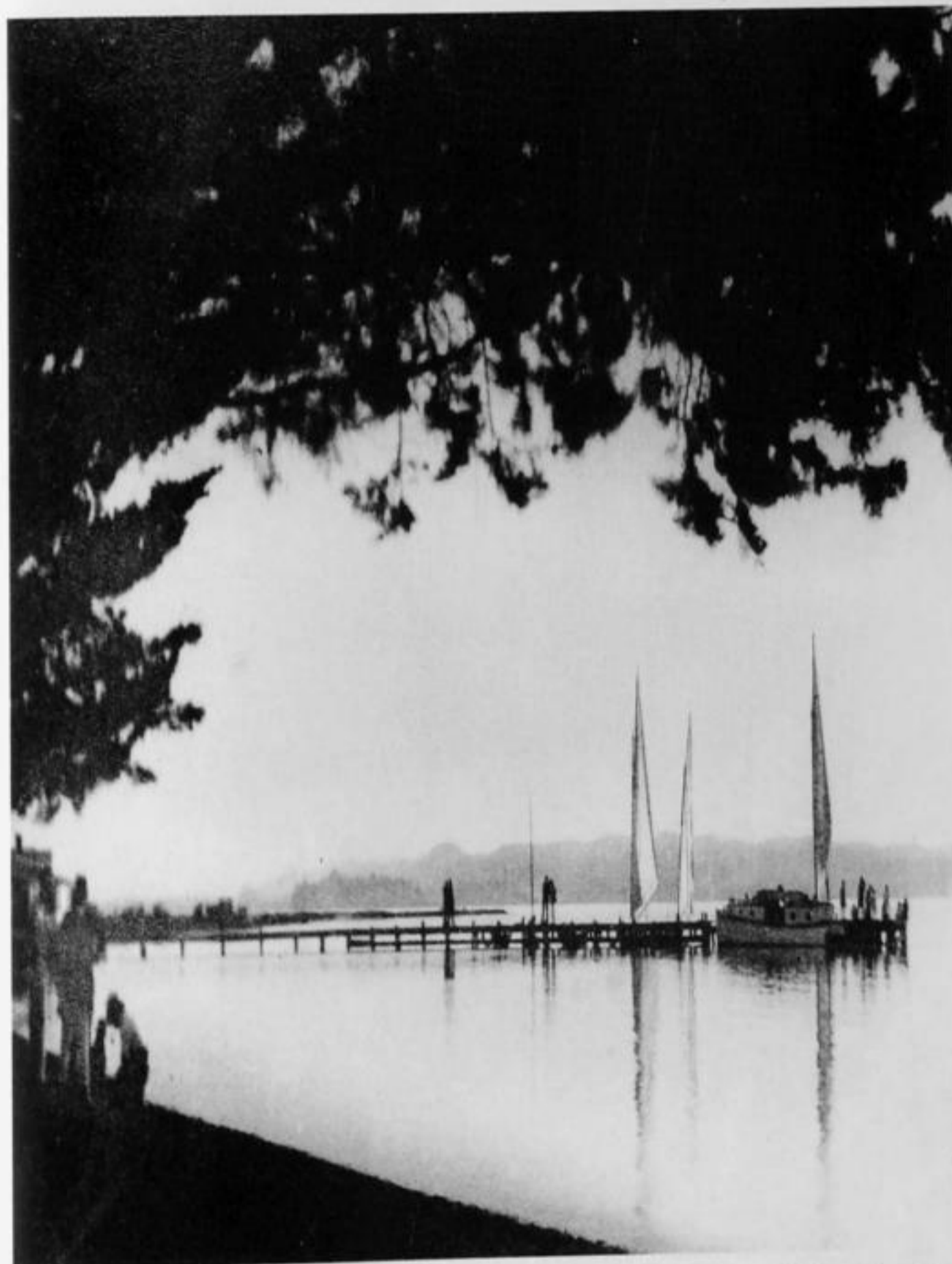


Covering 3,000 hectares, the Ahuriri Lagoon, usually known as the Inner Harbour, provided a sheltered maritime recreation area for the district. To suit its shallow waters, the pataki had evolved, a flat-bottomed sailing craft with an adjustable centre-board in place of a keel. The railway and road bridge and the embankment created a barrier for sailing vessels between the harbour and the open sea, and sailing only

took place on the calm water of the lagoon, except for the Annual Christmas Regatta. Other regattas were regularly held on the harbour, the last one on Saturday January 31, 1931.

Party time on the opening day of the Napier Sailing Club, probably 1923. The Club was situated at the present site of the Westshore Motor Camp.

The view from the Napier Hospital across the Inner Harbour towards the Western hills. Looking at the dry land of the Ahuriri Lagoon today, it's difficult to imagine now that a favourite weekend activity was to sail over to the beaches at the foot of the distant hills to picnic.



The end of a perfect day. This tranquil scene, photographed at evening on Sunday, January 25 1931, nine days before the 'quake, was framed and hung in scores of Napier homes. It brought back memories of days that would never return.



The appalling remains of Nurses' Home, in which several nurses died, asleep after being on night duty. An enquiry into its collapse found it faulty in both design and construction.



The Hastings Post Office fared well enough, except for the clock tower which collapsed sideways, flinging the bells beyond the Russell and Queen Street intersection.

FEBRUARY THIRD, 1931

The heavy seas of the previous two days, unusual during fine weather, had subsided and were now smooth. It was a calm, hot day, typical of February, traditionally the month with the highest temperatures. At almost 10.47am, the earth heaved upwards and swayed. Then half a minute of calm, though many people would not remember this. Another violent shock with a downward movement and more swaying and rocking, accompanied by the roar of buildings being torn apart. Two and a half long minutes after the first shock, it was over.

Those who were standing were thrown to the ground and found it impossible to rise. Car drivers imagined that their tyres were suddenly flat, as the roadway rippled beneath them. On the Westshore embankment road, the surface disintegrated into crevasses, the result of the silty ground liquefying.

Housewives in their homes, where most married women were in those days, heard and saw their brick chimneys with their heavy tops collapse about them, often tearing timber walls apart as they did so and spilling bricks through the rooms. Ornaments, china, preserves - all were smashed in their cupboards or strewn on the floor. The heavy free-standing wardrobes commonly in use then were usually flat on their faces.

"Then it happened! The ground leapt under us like an unbroken horse, then sank, then leapt again, over and over and over, leaving great fissures all around us. When the ground stopped jumping and started to roll like a ship at sea, we sat up. We watched almost unbelieving through the tumbled pines, as huge slabs of land fell from the home paddocks of Mohaka Station into the sea"

Related by Darry McCarthy.



There are wooden buildings still standing in this view of Emerson Street immediately after the 'quake. But not for long.

It was the first school day of the year, and most children were outside for the mid-morning break or because classes were not yet organised. At the Boys' High School in Napier, the new assembly hall, in which the entire school had shortly before been gathered, collapsed in a heap. In most of the schools which were occupied, pupils managed to escape.

The chief exception was the three-storey high Napier Technical School near Clive Square. It was a complete ruin in which nine pupils were killed and many injured.

Inevitably it was in the business areas of Napier and Hastings that most damage occurred and the majority of lives were lost. The masonry buildings were severely damaged in almost all cases, although the new concrete ones generally survived. Many of the deaths were caused by heavy parapets, gable ends or ornamental features falling through the verandah roofs or directly on to people as in panic they rushed out through doorways on to the street. Steel beams, supported by brick walls but not attached to them, trapped and injured many people caught inside the buildings as they collapsed. And others in the open were engulfed by brick facades, like that of the Grand Hotel in Hastings, as they hurtled across the street.

All of this was hidden by clouds of the choking, blinding white dust created by disintegrating mortar and collapsing ceilings and walls.



The ruins of the Napier Technical School. Some of the pupils who died had run back to save others who were still inside



Wooden houses were rarely damaged severely, but this was an exception, jumping off its piles and cascading down the hillside. Its site, above Faraday Street, is still vacant.

"... in the classroom, we felt a slight tremor and a boy said 'Earthquake sir!'. We were immediately struck with the full force of the 'quake. The master in charge, Matt Alexander, said 'Everybody out!', and we all made for the door which he held open. The shakes sent me flying onto the floor in the doorway and I can still feel the feet of the class trampling over me. I got to my hands and feet and from there I saw the Assembly Hall collapse like a pack of cards - each wall fell in then the tiled roof came down. Then dust clouds blotted it out."

Related by Jock Stevensen.



Dr Moore's Hospital tilted badly, crushing its mid-section. The damage was the result of excavations for an underground car-park, undertaken without engineering advice.



A shock for motorists and truck drivers when the Westshore Embankment Road disintegrated in the Earthquake tremors, because of the unstable silt on which it was built..



The massive slip which swept across the roadway and beach below Bluff Hill. In this photo, sight-seers are visiting the site some time after the earthquake. Not until the slip was finally removed in the 1960s was the rumour laid to rest that a car had been buried under the landslide.



Frustrated by the lack of water, a fireman in Hastings Street can only watch as Napier burns.

"...Mrs Barry had attended 10 o'clock Communion and was inside when the Cathedral collapsed. The brick walls disintegrated and the roof and ceiling fell on the rubble. Tom Barry, thinking that his mother might be alive in the ruins, walked entirely round it calling her name. When she answered him he worked his way through the darkness and fallen beams and masonry to where she was, but found her imprisoned and partly buried; it was then he came for me.

I went at once and followed his tunnel-like track for several yards. What I saw by torchlight was a sight of horror - a woman pinned by the legs and lower part of her body by what might have been the ceiling. She was in great pain. By that time about twenty helpers had collected. Using a post about the size of a telephone pole we tried to lever up the beams which pinned Mrs Barry, but to no avail. Finally I injected morphine into her scalp, which was accessible; I used an overdose. Was I right? The ruins were starting to burn and within two or three hours were entirely wiped out. I think that I was justified".

Dr George Waterworth in his memoirs "One Man in his Time".



Napier from the sea presented a scene of horror by mid-afternoon as the town centre and Ahuriri are consumed by the fires.

FIRE



Watched helplessly by a bystander, the fires move south along Hastings Street.



Flames and smoke boil skywards as the Hastings Street frontage of the Masonic Hotel burns.

Fires began within minutes of the Earthquake, mostly in chemists' shops where bunsen burners were in use in close proximity to highly flammable materials.

In Hastings, water was available and the fires that broke out could be contained, sparing many of the wooden buildings which had survived the tremors. But the Grand Hotel, whose wooden structure stood open to view without its brick outer walls, was destroyed by fire during the night, killing the proprietor who was still trapped in the cellar.

In Napier, immediately after the dust had cleared, professional photographer A B. Hurst hurriedly took photographs of the

damage. His images of Napier during those short hours were to be a unique record for soon the scenes of destruction would be transformed yet again by this new and frightening development.

With timber from the wrecked buildings strewn about, the flames advanced rapidly and an hour after the Earthquake had spread through the business area. By mid-afternoon, the town was completely ablaze.

The Earthquake had shattered the water supply system and the Fire Brigade could do little to halt the spread. A salt-water sump in Clive Square and storage tanks in Dalton Street provided what little water there was, and at least enabled the Brigade to stop the fire from crossing Clive Square or moving up Shakespeare Road.

The sea breeze that sprang up at about 12.05pm fanned the flames and spread sparks. However the wind's direction stopped the fire from spreading eastward beyond Herschell Street, sparing the Courthouse, the Hawke's Bay Club and the Athenaeum, all built of wood. The advancing flames drove rescuers to greater efforts to remove trapped people, but in many cases they were beaten back.

In desperation, men laid planks across the beach and an engine backed down to pump water from the sea, but this failed as shingle blocked the hoses. The fires raged on.

RESCUE WORK



The view up Brewster Street today is very different from this scene, as sailors climb over debris to remove a body.

The screams of victims trapped and injured quickly drew people to their aid. Ignoring the after-shocks, which dislodged more masonry and shook buildings further apart, many brave people rescued or succoured those who were in great pain or distress. Bare hands were often used to tear bricks, boards, iron and concrete away, for few tools were immediately at hand.

Before long a stream of injured people began converging on the Napier Hospital, but it was too badly damaged to function and all patients were being evacuated to the Botanical Gardens where many of the casualties were also dealt with.

Not only were the hospital wards wrecked, but the new Nurses' Home had collapsed in total ruin, killing several nurses who were asleep after completing night duty. Altogether, 11 staff and a patient died at the Hospital.

An emergency scheme had been prepared six years earlier for just such a situation and Dr Allan Berry moved the hospital

operation to the Racecourse at Greenmeadows, now Anderson Park. An operating theatre was set up beneath the main grandstand and other buildings and tents provided further accommodation.

At that time, the Hastings Public Hospital was not large and most casualties in Hastings were taken to Royston Private Hospital. But an emergency plan also existed there too and facilities were set up at the Hastings Racecourse.

".... I climbed over a high fence alongside the hotel in Shakespeare Road and got to the back to find the woman lying helpless with a fractured femur. I ordered her to be shifted to the Napier Hospital and when a bystander said, 'There isn't any Hospital', I said 'Nonsense, move her at once'".

Dr George Watervorth in his memoirs "One Man in his Time".



Searching for survivors in the ruins of Roach's Department Store was a grim task. Seventeen people died here.



No place for the claustrophobic! A searcher emerges from the ruins of a cellar.



Organised chaos in Napier Terrace as hospital beds are moved to the Botanical Gardens.



Weary sailors search through the burnt out ruins for bodies in Tennyson Street.

A party of sailors being transported by a Harbour Board tractor and trailer in Shakespeare Road, with the ruined Government Building behind.



The Navy's task completed, HMS Veronica draws away from its mooring at West Quay, to return to Devonport.

THE NAVY



The presence of HMS Veronica, moored at West Quay, made an enormous difference to Napier after the disaster. A large body of men, used to working as a team, who did not experience great trauma during the shock, whose living quarters were undamaged and who had no immediate families to be concerned about, were able to achieve a great deal. Soon they were in the town helping with rescue work and setting up emergency services.

It was the Veronica's radio which first alerted the country and the world to Hawke's Bay's plight, for all other forms of communication were broken. A series of messages sent by morse to the Devonport Naval Base culminated in one at 1218 hours - "Stores buildings down fires raging everywhere all medical assistance possible required shocks still recurring" - and another at 1331 hours - "Situation appalling whole town appears to be on fire".

By 2.30pm on February 3, the Navy had despatched HMS Dunedin and Diomedé to Napier from Auckland, laden with doctors, nurses, medical equipment and supplies; tents, shovels and picks. They arrived at 8.30am on the following day, and their crews supplemented the Veronica's men.

Sailors demolish a dangerous portion of the Bank of New Zealand building, where the Tait Fountain now plays in front of the Cathedral.



*"Citizen of Napier: 'Thank God we've got a Navy' " -
Minhinnick's cartoon in the Weekly News, 11 February 1931*

DEVASTATION



A couple pose for a photo in a crevasse near Hastings.

The size and construction of the buildings in Napier and Hastings meant that damage was greatest in those towns. But other parts of the province suffered too.

In Waipukurau and Waipawa there were buildings damaged, and Te Aute College, 23 kilometres south of Hastings, suffered badly, losing its clock tower and one of its class room wings. The meat works at Paki Paki, south of Hastings were destroyed.

Because Wairoa was close to the Earthquake's epicentre, 50 kilometres north-east of Napier in Hawke Bay, the damage was considerable, and a span of the Wairoa Bridge had collapsed.

At Havelock North, the bridge on the road to Hastings was down, taking with it the main Hastings water supply. Woodford House and Iona College both suffered, the latter having to be closed for a year while the buildings were restored.



The wrecked chapel at Mount St Mary's Seminary, Greenmeadows, where several brothers and students were killed.



The main street of Wairoa, where considerable damage occurred.



The driver of this car on the Wairoa Bridge would not have enjoyed his trip across!

In Hastings, pockets of destruction dotted the business area. The Grand Hotel and Roach's Department Store had gone, the latter killing 17 people. Many buildings survived but lost their brick facades.

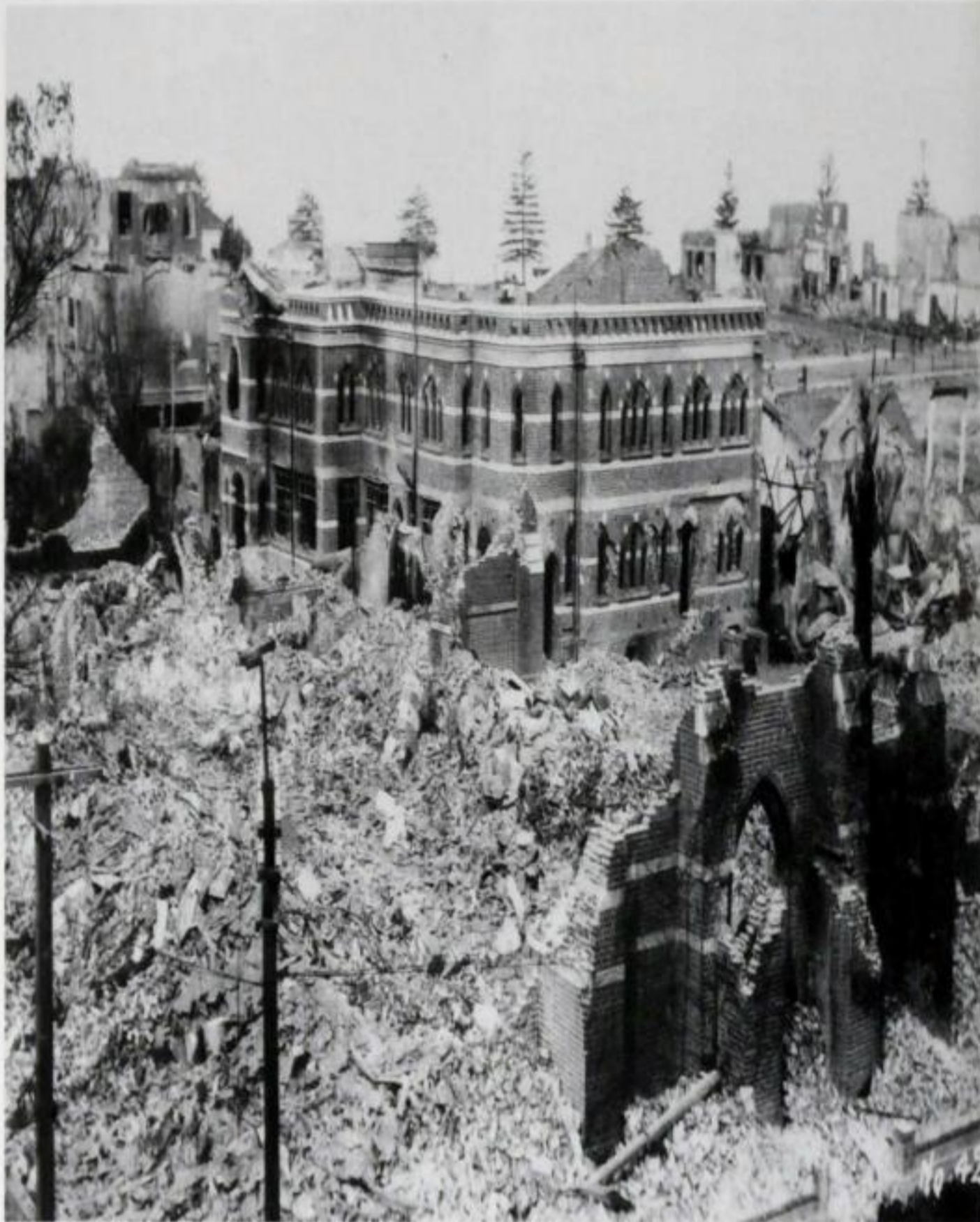
The Taradale Town Hall and the Taradale Hotel were both levelled. The town clock was tilted and some other buildings partly or totally destroyed. The nearby Park Island Old Men's Home was a total ruin, and many of the residents were trapped and injured. Fifteen inmates died.



The bridge on the Hastings - Havelock North Road collapsed, bringing down a water main..



From Tiffen Park, the view over the charred shell of St Paul's Church shows the extent of the devastation in the business area.



A pile of bricks was all that was left of St John's Cathedral. The Divesan Offices behind, also built of brick but with reinforced concrete tie beams, were gutted by the fire but were still structurally sound.

This hollow ruin was the Municipal Theatre, no longer the scene of music, dance and drama in Napier



In Napier, the fires didn't die out until the afternoon of the following day. It was only then that people could assess the extent of the destruction. All of the hospital buildings were destroyed or unusable and there was considerable damage at Ahuriri.

In the business area most of the buildings had been destroyed or gutted, with only those built of reinforced concrete or reinforced brickwork, mainly in the preceding decade, spared. The Municipal Theatre, the Cathedral, and most commercial buildings were gone. Communications to the north were cut, for a span of the road and railway bridge on the embankment had dropped, and the railway lines both north and south were out of alignment.

But on the whole, wooden dwellings in the province, being relatively flexible, had survived well.



Bombed out cities in Europe at the end of World War 2 looked little different from Napier seen from the air.

Napier in ruins, mid-February 1931.

It was fortunate that the Earthquake occurred during the Summer, for the frequent aftershocks and the terror which people felt at entering a building made it impossible to sleep inside. Most people camped on lawns, joining with other families who perhaps had a rain-water tank, an earth-closet lavatory or a better means of cooking. Those who had wells were fortunate, although those on the Napier hill went dry. Water would soon be delivered daily by truck. Many people fled to the beach, safely away from buildings, often not able afterwards to recollect actually going there. Those with homes not too far away from the beach moved furniture and bedding there.



With clothing in bundles, women and children await transport.

Others pitched tents in open spaces on roadsides or in parks. On the second day, the Army erected tents to house 2,500 people in Nelson Park,

The camaraderie experienced by those sharing their lot in communal camps made it easier to recover from the severe shock experienced by most people during the disaster, which left many tearful, hysterical or with a lost, bewildered look.



These two women cheerfully made the best of things in their garden.



Communal cooking in Hastings - and who said men were undomesticated in those days?

SURVIVAL



Survivors on the beach. Many of them, like this woman, were in shock.

"...various brave people - I think they were very brave - went into houses to get food and things. The noise of the windows creaking was really frightening. The shakes seemed to go on all the time, with some very big ones."

Related by Althea Sheppard.



People clutching a few possessions hurry along Browning Street on their way to the Marine Parade Beach.



Camping on the beach, on the present site of the Tom Parker Fountain. For children, it was all very exciting - and no school for a while.



An armed marine on duty in Heretaunga Street, Hastings.

Constantly frightened by aftershocks, of which 525 were recorded in the two weeks following February 3, women and children were glad to leave. Able-bodied men were required to stay to provide labour for the many tasks waiting to be done. A large shock on February 13 increased what had become a trickle of departures to a flow again.

When evacuation ceased on February 16, 6,700 people had left through the Nelson Park camp, with perhaps 2,000 travelling independently.



A picket at the corner of Heretaunga Street and Southland Road in Hastings.



Bell tents supplied by the army in Nelson Park, Napier, the refugee evacuation station.

S C Smith photographer, Alexander Turnbull Library G47689/12

EVACUATION



A Hastings family takes to the road and trudges past the Tomoana Showgrounds.

The flight from Napier and Hastings began on the day of the 'quake, as cars began to stream southwards. With their homes lacking water, electricity, sewerage or chimneys, there was good reason for people to leave if it were possible, if only to relieve the stress on the servicing of the population. Palmerston North became the receiving point for most of the refugees, accommodating them until arrangements could be made for them to travel to whatever city had friends or relatives to house them.

Waipukurau, Waipawa and Dannevirke became way-stations where grimy, frightened and often bandaged travellers were met with refreshments. Waipukurau in addition was the rail-head, for to the north the line was twisted and bridge approaches were usually shaken down. Ambulances brought more seriously wounded cases to Waipukurau where hospital trains took them south. The town provided a multitude of other services, and cars and even trains were met by teams of people with food, tea and soup.

In Napier and Hastings food depots operated, dispensing free meals. The tent-town at Nelson Park was the official evacuation centre for Napier. Some evacuees were taken by ship, but most left by car, or by train after the line was patched up sufficiently to enable a slow journey south.



An injured patient is evacuated from Hastings by truck.

CLEANING UP



The committal service at the community grave at Park Island. 101 people are buried in this grave.

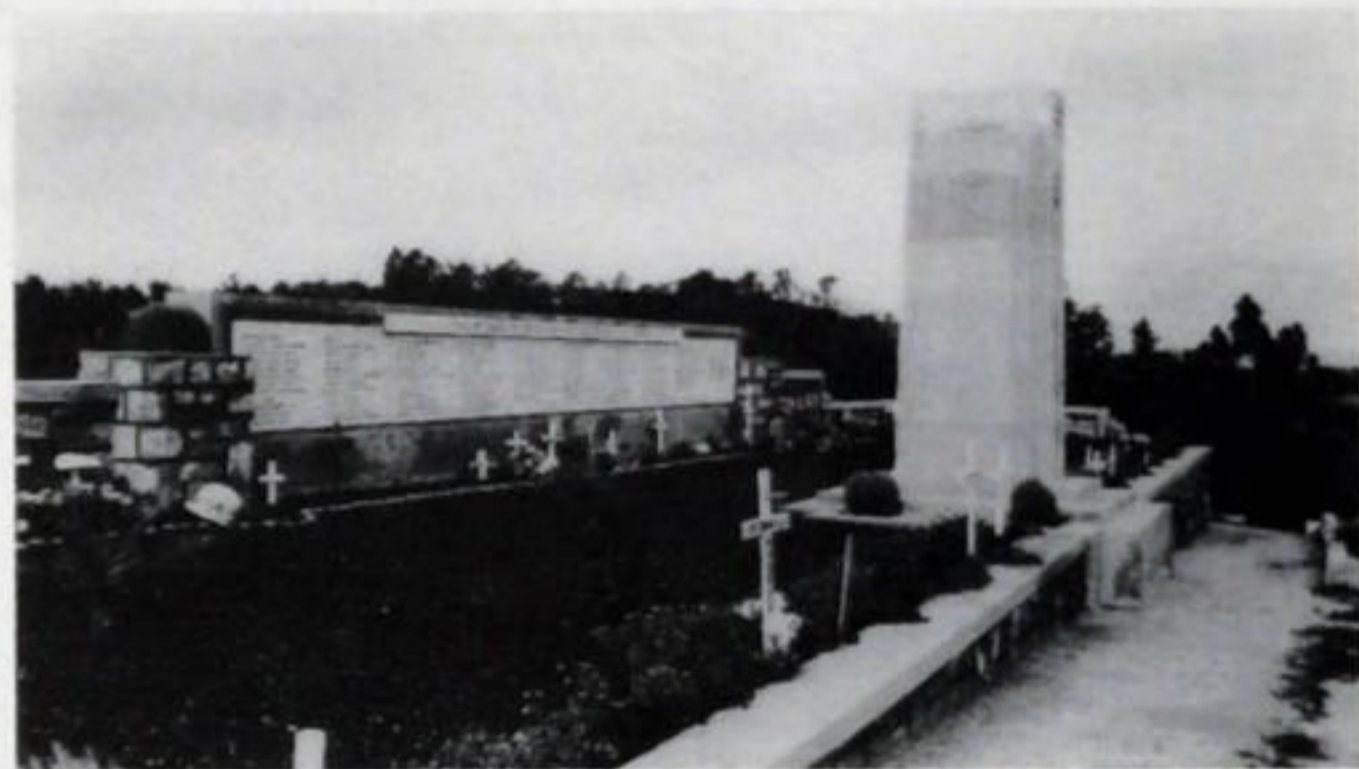
Burial of the Napier Earthquake victims took place on February 5 in a communal grave at Park Island Cemetery near Greenmeadows. The limestone rock had to be dynamited to dig the huge grave.

A convoy of trucks bore the rough coffins from the Napier Courthouse on the Marine Parade, which had served as the temporary mortuary, and an interdenominational service was held at the grave-side.

By the sixth of February, a Napier Citizens' Control Committee had been formed, taking charge of safety, public health and the administration of the town. Street cleaning began, with the rubble being dumped at the junction of Hyderabad and Taradale Roads, and at the Hardinge Road and Marine Parade fore-shores.

In Hastings, a Citizens' Committee operated under Colonel Hildebrand Holderness, but relinquished control to the Hastings Borough Council on February 16.

The first temporary buildings in both towns were combined bank headquarters and public bars, the latter required by law to be operating within 24 hours. The temporary bars in Napier would be the only businesses operating in central Napier during the period when Tin Town, the temporary shopping centre, was the town's business heart.



"Their sun has gone down while it was yet day". The Earthquake Memorial at the same spot, unveiled in 1932.

The Prime Minister, G W Forbes, visited Napier and Hastings on February 10, joining most of the cabinet who were already in the area. The Governor General Lord Bledisloe and Lady Bledisloe were the most popular visitors, arriving on Saturday February 7 and attending memorial services on the Sunday in Clive Square and Cornwall Park.

Food cards and passes were soon operating, and permits were introduced for various purposes such as authorisations to return home and to occupy houses.

The Daily Telegraph in Napier and the Hawke's Bay Herald Tribune in Hastings published daily bulletins, beginning on 4 and 5 February respectively, in spite of the fact that the Daily Telegraph's building and plant had been totally destroyed.



Giant machines, brought in from outside Hawke's Bay, tore into the buildings and loaded the rubble on to trucks.



Dr Moore's Hospital is demolished and removed.



These trucks are dumping rubble at what is now known as Pettigrew's Corner, at the junction of Hyderabad and Taradale Roads.

TIN TOWN



The Cenotaph in Memorial Square, an island in a sea of corrugated iron.

In Napier, the decision was made on February 17 to forbid the rebuilding of any business premises until further notice, to prevent shanty construction, to avoid hindering the clearing of debris and to allow time for rational planning of the new town.

To make this possible, the temporary business centre known as Tin Town was erected by the Fletcher Construction Company. With a £20,000 Government grant, shops were built in Clive Square while Memorial Square was the site of

"Tin Town" in Clive Square



professional offices, their corrugated iron roofs connecting with the undamaged Women's Rest building and almost surrounding the Cenotaph. A similar building housing the Associated Banks had been built opposite on the gardens adjacent to St Patrick's Church.

The shopping centre, similar to the suburban shopping complexes of today, was popular with residents although there were problems with rats and the 54 premises were serviced by only one toilet.



Looking down on Memorial Square from the hill. The palm trees, planted in 1920, were still quite small.



TIN TOWN



The Cenotaph in Memorial Square, an island in a sea of corrugated iron.

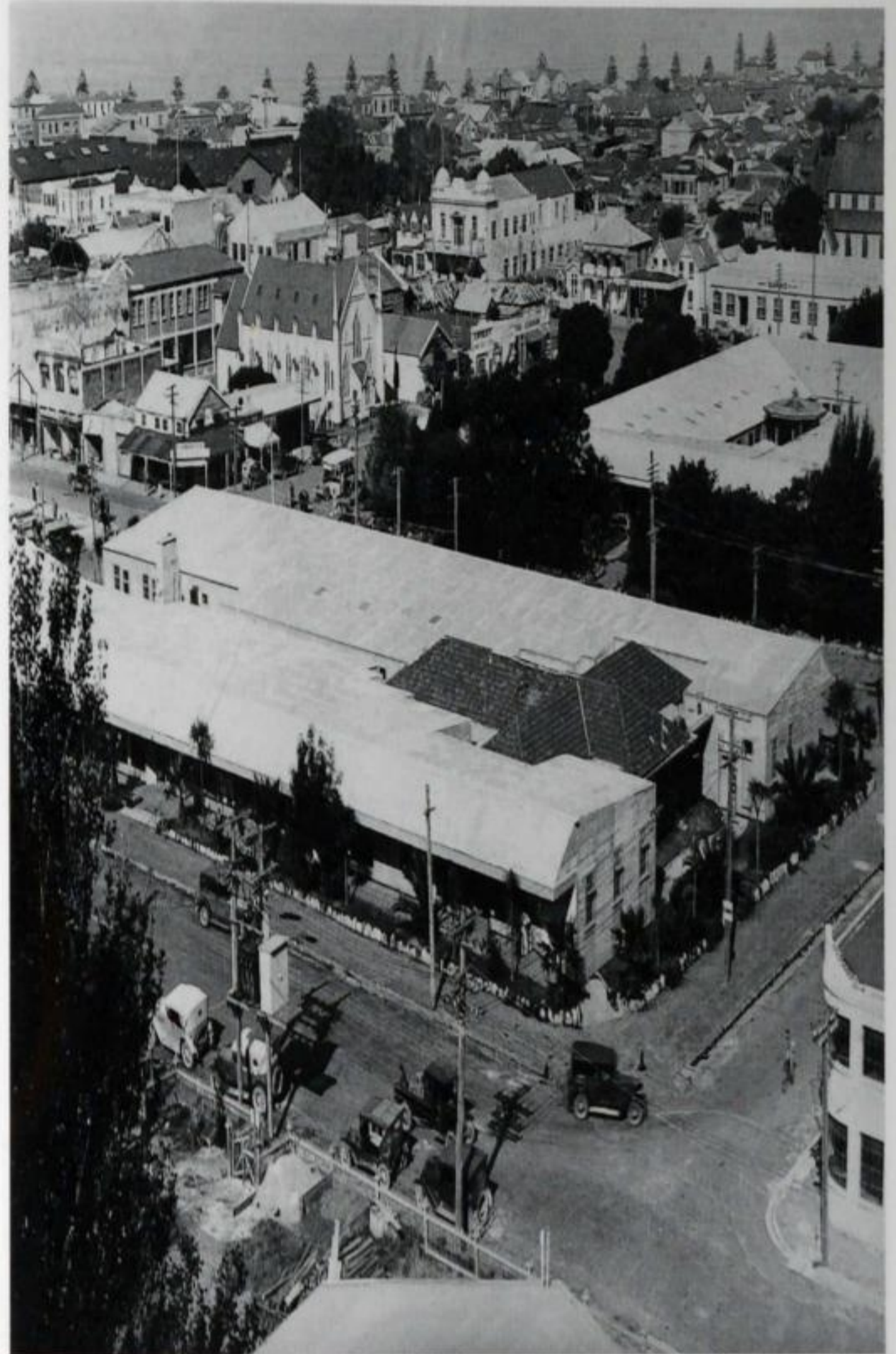
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Looking down on Memorial Square from the hill. The palm trees, planted in 1920, were still quite small.



RENAISSANCE



Heretaunga Street at the railway crossing, 1932. The new Post Office is under construction at right, and the Clock Tower has yet to be built.



New chimneys being built in Te Awa Avenue, Napier.

The task of clearing Napier and Hastings began in earnest only after the passing of the Hawke's Bay Earthquake Act on April 8. This provided loan monies for companies and individuals to rebuild their premises, but excluded national companies or those whose head offices were domiciled outside Hawke's Bay. Companies unable to prove their solvency on February 3 were also ineligible.

The Act granted insufficient funds for Earthquake relief, and the terms of repayment were harsh. Loans were too small to meet the cost of rebuilding and did not cover replacement of stock or fittings, and although the 4½% interest was exempt for periods of from one to three years, capital repayments had to begin within the first year. As most businessmen already

had mortgages contracted before the 'quake, their commitments were often ruinous, although the terms were eased after a few years.

In Hastings, a plan to widen Heretaunga Street was abandoned following opposition from some property owners. Although the fires there had been isolated and the shells of many buildings still stood, facades had often toppled or collapsed and the replacement of these gave the town an appearance almost as new as Napier where damage had been greater. Chief among the Hastings architects were the firm of Davies, Garnett & Phillips. Edmund Anscombe of Wellington, who had designed the Hawke's Bay Farmers Building in 1929, was the architect for Westermans and several other buildings.

NEW PLANS

On March 11, the Napier Citizens' Control Committee disbanded and the Napier Borough Council delegated the powers conferred upon it by the Municipal Corporations Act 1920 to a benevolent two-man dictatorship charged with the task of rehabilitation and reconstructing the town.

Napier's two Commissioners were John Saxon Barton, accountant, barrister and magistrate, and Lachlan Bain Campbell, an engineer. These two men, in the two years during which they 'ruled', put Napier back on its feet with "compassion, efficiency, dedication and vision". Until a newly elected Borough Council met on May 15, 1933, Napier was under commission control.

During the moratorium on new building, the future of the town was pondered by the Commissioners and the Napier Reconstruction Committee, a voluntary group of thirteen representing local bodies, the professions and business interests.

The street widening scheme already begun in Emerson Street was accelerated and extended to include Tennyson, Dickens, Dalton and Market Streets and Cathedral Lane. Some service lanes were laid out. Street corners were splayed and all power and telephone lines placed underground. Verandahs were all suspended and their widths and fascia heights standardised.

The question of the future of Napier's tram system was deferred for a time but in due course the inevitable decision was made - the trams, which had never been profitable, would run no more. But it was not until 1937 that the last tram tracks were removed.

The Lands & Survey Department faced a serious problem.

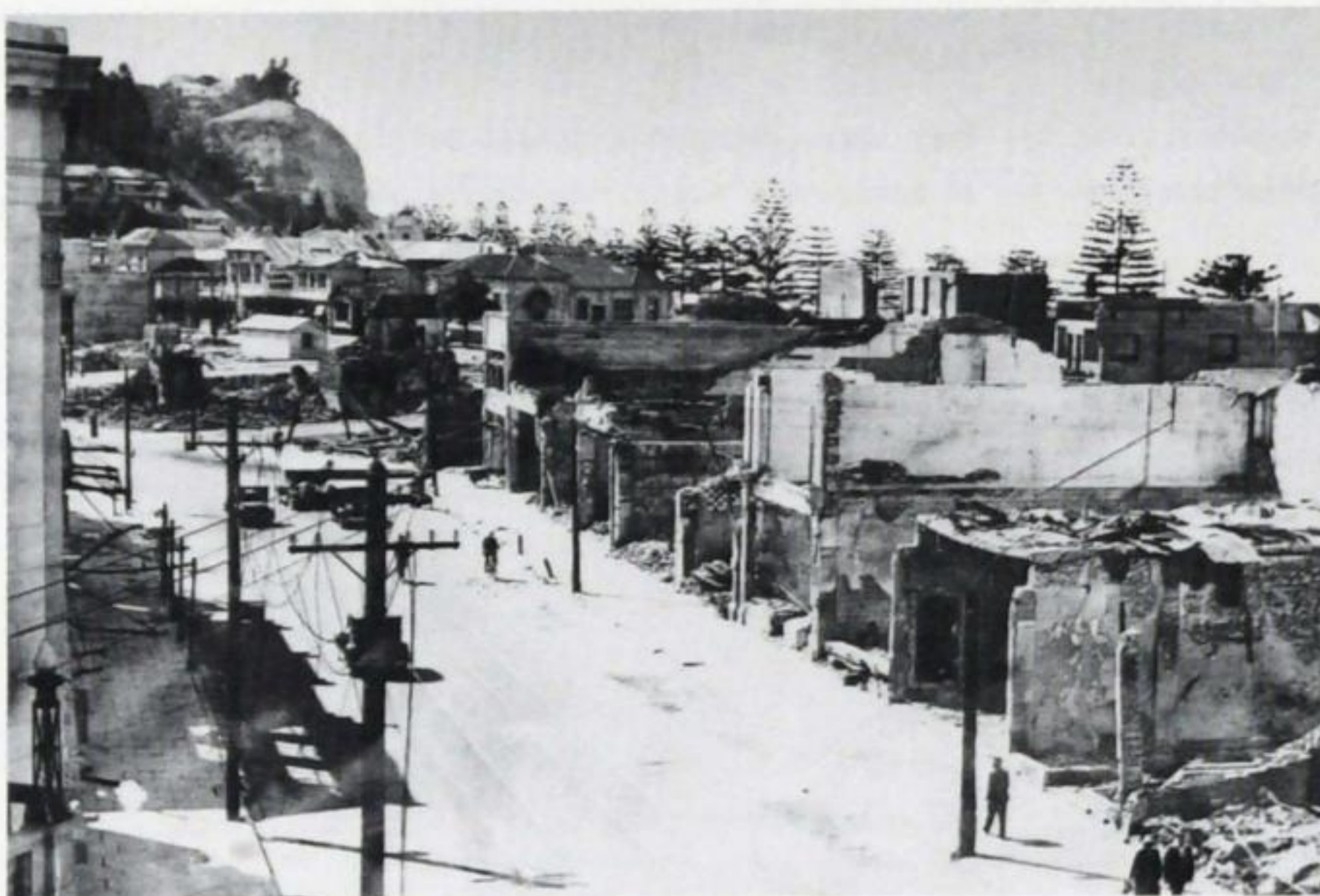


Surveyors redefine boundaries at the corner of Browning and Hastings Streets in Napier.

All survey plans and land title certificates held in its building at the bottom of Shakespeare Road had been destroyed. Some owners' duplicate titles had survived, but in most cases these had been stored in the vaults of solicitors or banks and had been incinerated by the fire.

But worse still was the fact that the movement of the land had made all existing survey pegs valueless. A complete resurvey of Hawke's Bay was required, and it began immediately, following the road system so that all properties would be adjacent to new marks.

For those who could produce no title to their land, an interim certificate was issued for a six month period, after which it was deemed 'conclusive except as to description and delineation'.



Downtown Napier looks gaunt in this view of Hastings Street from the Post Office corner, after the rubble had been removed. On the far left is the pocket of wooden buildings between Herschell Street and the Marine Parade which escaped the fire, because the wind was from the sea on February 5. Beyond can be seen the top of Dr Moore's Hospital, tilted backwards, and the Bluff Hill slip.

Napier's rebuilding in permanent materials was begun in August with the start of the Market Reserve Building, for which design work had begun before the 'quake. The building, owned by the Borough Council, would be a statement of faith in Napier's future.

As it rose in the midst of the town's dead heart, almost deserted both day and night, the din of its construction breathed life into Napier. Architect Rene Natusch had altered the documents to specify a riveted frame instead of a welded one so that the builders would make as much noise as possible. Crittalls, the English metal window manufacturers, supplied bronze windows for the price of steel as a gift to Napier and to set a standard for the rebuilding.



A statement of faith in Napier's future, the Market Reserve Building is the first building to rise above the empty town, The New Napier, 1933.



Rene Natusch was the Chairman of the Napier Associated Architects, formed to share resources and to bring a unity of purpose to the immense task of rebuilding the town. It comprised four practices.

Finch & Westerholm's designs were often in the Spanish Mission style, while E A Williams designed some of the most striking Art Deco buildings but also used the Mission style. Louis Hay was an admirer of the pioneer modern American architect Frank Lloyd Wright, and almost all of his buildings reflected Wright's designs of the period 1900 to 1910. Natusch & Sons' buildings tended to be simple in style, often using arched windows.

Some buildings, such as the banks, the Masonic Hotel, and the Government Building were designed by Wellington architects.

In cases where the basic reinforced concrete structure was sound, the beams and columns were "caged" by wrapping steel around them and pouring additional concrete around them.

By May 1932, 19 new shops were ready for occupation and one month later 129 were completed, of which 108 were occupied. Tin Town was demolished in stages as it was vacated by firms moving back into the business area.



Buildings under construction at the intersection of Hastings and Emerson Streets. There was more building activity in Napier than in all of New Zealand.



But it was not just in central Napier and Hastings that reconstruction was taking place. Schools were being rebuilt, many of them not destroyed by the 'quake but with damaged brickwork which no longer inspired confidence in its safety. The Harbour Board works were in many places wrecked, and some buildings at Ahuriri were in ruins. Sewers needed replacement all over the flat areas of Napier. Some roads and bridges had to be rebuilt. And almost every house between Wairoa and Waipukurau had to have at least one chimney replaced - at no cost, thanks to the Government, although a second chimney cost £1.

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CELEBRATIONS

By late 1932, great progress had been made in the reconstruction of the two towns. Hastings held a carnival in November to celebrate the rebuilding. The New Napier Carnival was held in January 1933, amid great rejoicing and pride in the new, modern business centre that had become a reality. A week of celebrations was held, culminating in a procession led by the Carnival Queen, Miss Sheila Williams, daughter of the architect E A Williams.



Celebrating a city reborn - the New Napier Carnival poster, January 1933.



An entry in the Hastings Carnival procession, November 1932. Heez a goer - and he seems to have secured sponsorship from Big Tree, a major petrol brand of the day.



A pram race in Dickens Street during the Napier Carnival.



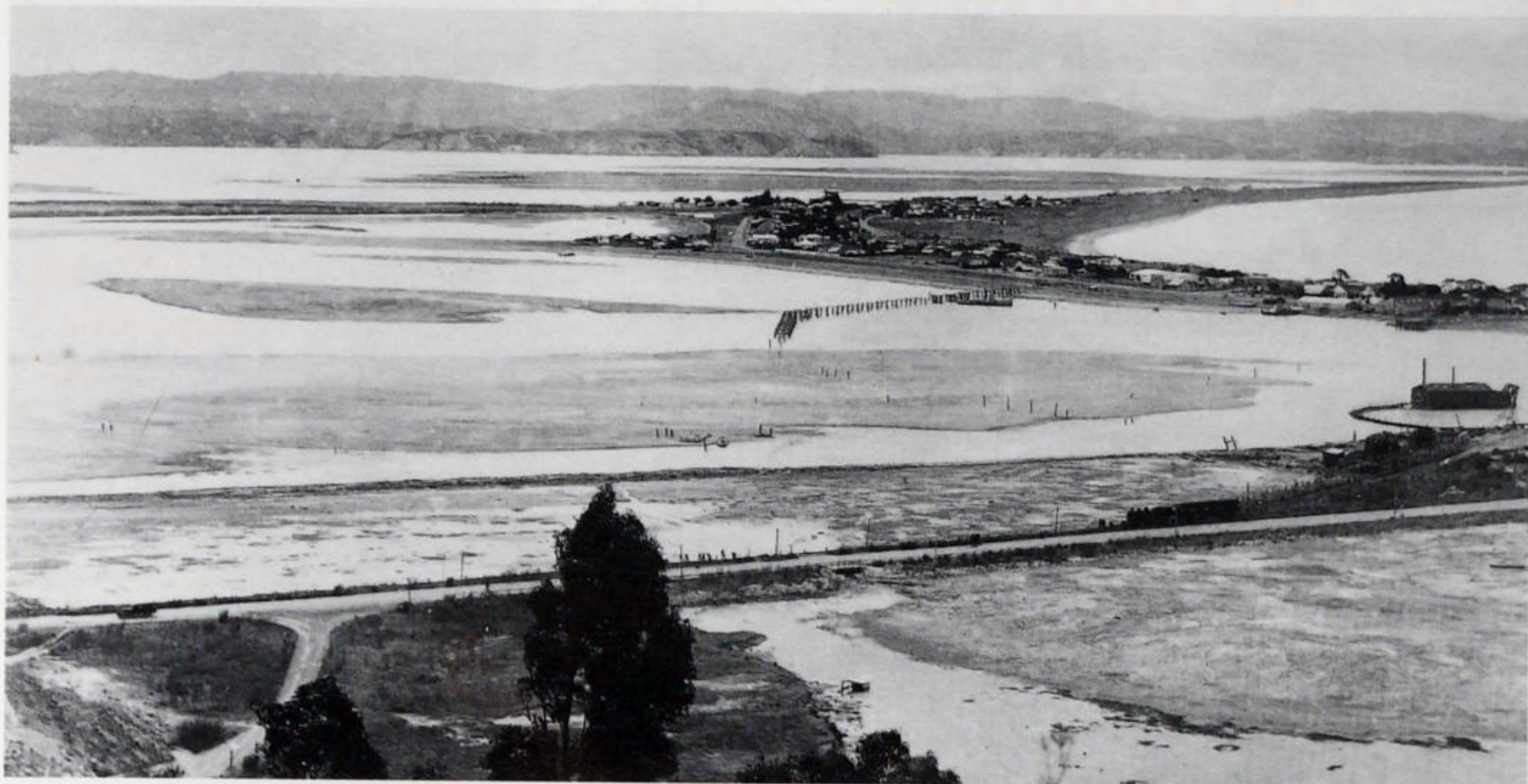
The children's parade in the New Napier Carnival procession, passing down Emerson Street.



Finishing touches in Dalton Street, with the new Hotel Central at right.



The new Masonic Hotel was Napier's most modern building in 1933, with a hint of the streamline styling of the late thirties



This photograph of the Inner Harbour was taken a day or two after the earthquake. Already most of the water has drained away.

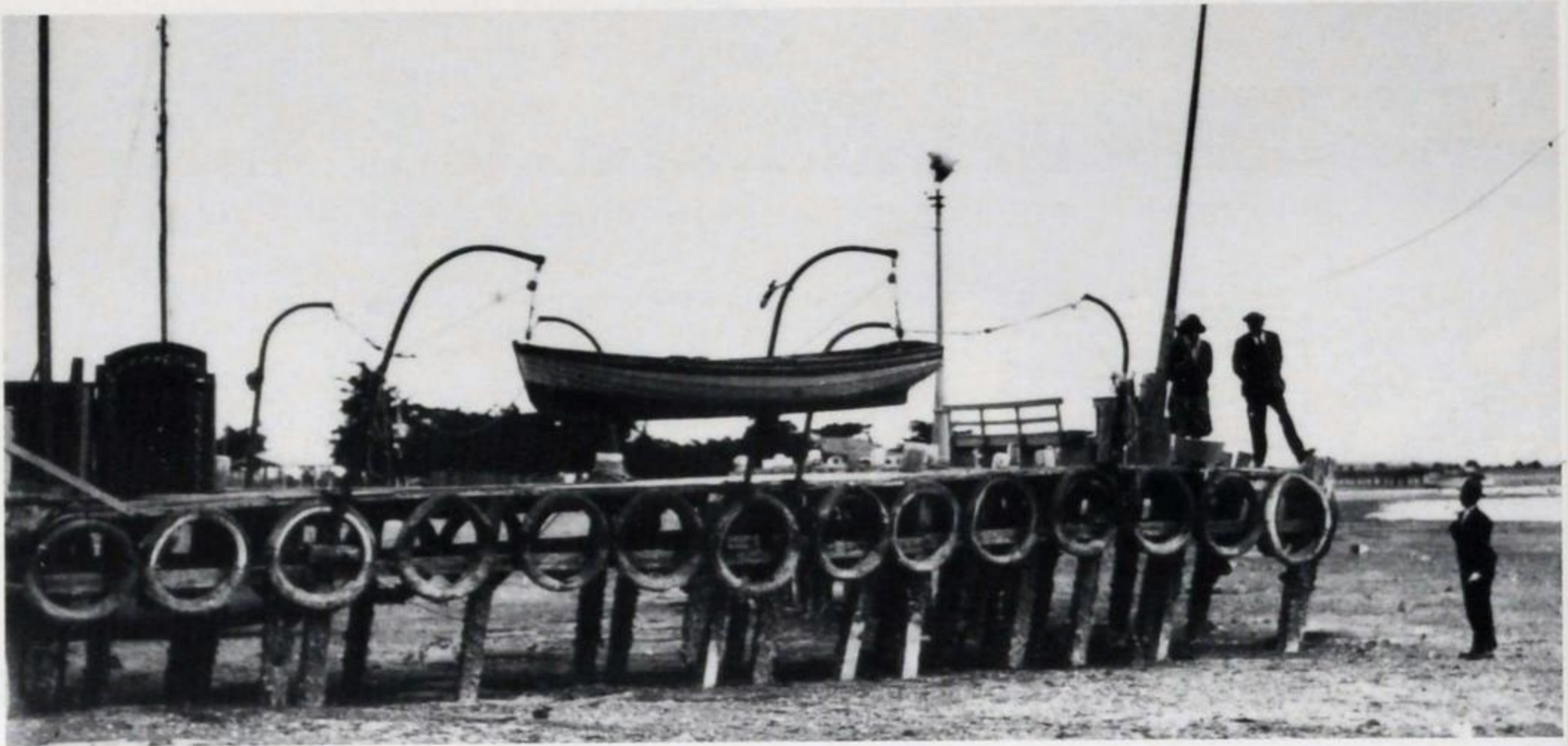


Salt drainage trenches in 1936. The main outfall channel crosses the photograph.

LAND FROM THE SEA

Fishing was never so easy! Dead fish had to be collected from pools of trapped water in the Inner Harbour, as the smell and the risk of disease were both great.

The private jetty of Mr J Vigor Brown, the Mayor of Napier, now far from the water.



Perhaps the most unexpected legacy of the Earthquake, and the one which would have the most far-reaching effects for Napier was the uplifting and draining of the Inner Harbour. Parts of the harbour bottom were exposed within hours of the Quake, as the sea poured out of the harbour entrance, but many areas of sea water remained. Fish trapped in these pools quickly began to decay and the stench and sanitation danger made their removal a matter of urgency.

In 1934 the Harbour Board began a drainage scheme involving the construction of a channel at the base of the western hills and a 250 metre wide gravity drain to the sea. The Tutaekuri River was diverted from its course along Georges Drive, created for it when Napier South was reclaimed, to discharge into the sea at Waitangi, south of Napier.

Parallel drains were dug across the Lagoon to allow rainwater to carry away the high salt content of the soil. Water in these drains and in the perimeter drain is pumped up into the main outfall channel which is above the general level of the old harbour. Some areas of the Lagoon were producing crops and pasture by the mid-thirties, and although salinity is still a problem in some parts of Tamatea, the old sea floor is now a richly productive area.

The Hawke's Bay Airport is situated where yachts once sailed and fish were caught. And the suburbs of Marewa, Onekawa and Pirimai now stand on the former swampy southern reaches of the Lagoon, which became totally high and dry. Artificial reclamation, as had happened in Napier South early in the century, was no longer necessary for Napier to expand.

Marine Parade, where the gardens planned before the 'quake had already been extended on a base of Earthquake rubble.

From 1934 until the outbreak of World War 11, the club raised funds for the sun bay, the colonnade, the sound shell, the skating rink and the memorial arches. Menswear retailer Tom Parker donated the coloured fountain after seeing one in England. The Norfolk pines were illuminated and net-ball courts constructed south of the Sound Shell. The road south was widened.

In 1936, the T & G Building (now the A & B Building) was built, making an impressive, visual statement on what was becoming famous as the finest waterfront of any New Zealand city.

Out of the disaster and tragedy came two cities which were once the newest in the world and are today becoming famous as historic towns in the modern style.



The Soundshell in 1935, looking lonely without the colonnade which embraces it today.



Trevor Geddis, Managing Director of the Daily Telegraph and Chairman of the Harbour Board, presided over the ceremony when HMS Veronica's bell was installed on the colonnade in 1935.

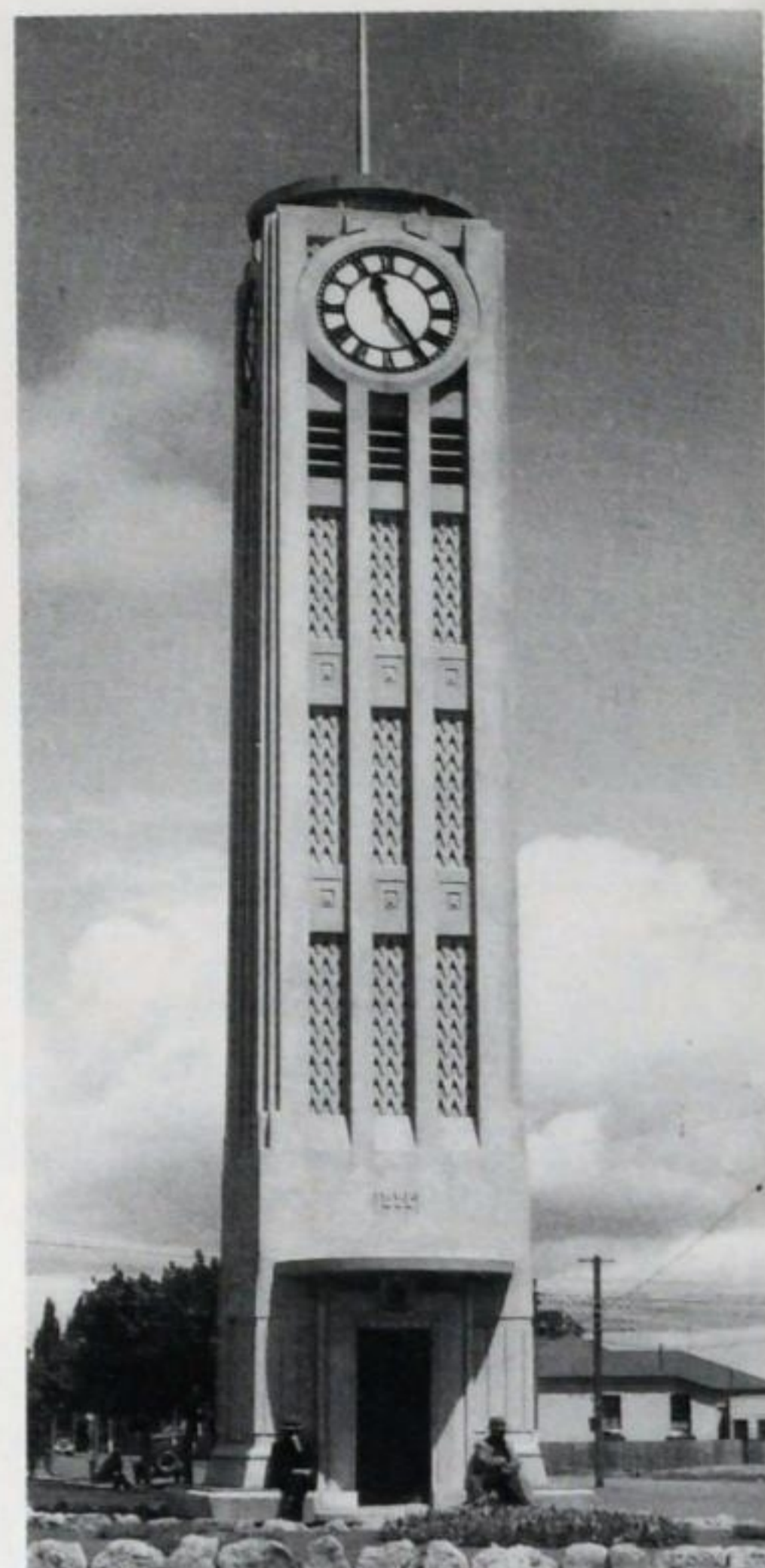
BEAUTIFICATION

Having rebuilt their towns, Napier and Hastings continued to improve them. Fortunately for Hastings, their beautiful Municipal Theatre, highly regarded in the theatre world, survived the Quake although major reconstruction was required to the backstage area. And the town's fine parks were enhanced, especially Windsor Park in which bridges and a waterway were constructed.

In Napier, the new Municipal Theatre was opened in 1938, a year after completion of the first wing of the Hawke's Bay Museum. The Napier Thirty Thousand Club had been formed in 1912 to promote Napier and increase its population to that ambitious number. It embarked on the development of the



The Heretaunga Street railway crossing in the late 1930s. Westerman's Building, in the Spanish Mission style, is the focal point of the Russell Street Historic Precinct, one of the finest groups of commercial buildings in New Zealand.



In 1934 a national design competition was held for the new clock tower to house the bells from the Post Office clock. It was won by Sydney Chaplin, a young Hastings architect, and the tower was completed in 1935.



An Art Deco bridge in Windsor Park in the mid 1930s.



The Marine Parade gardens, early in 1933. Few people would imagine then how different the gardens would look by the end of the decade.

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HAWKE'S BAY EARTHQUAKE STATISTICAL DATA

Time: 46 minutes and 46.3 seconds after 10.00am on Tuesday February 3, 1931.
Magnitude: 7.8 on the Richter Scale.
10.11 on the Modified Mercalli Scale of Felt Intensity in the Napier/Hastings area.
Epicentre: 15.20 kms north of Napier.
Focus: Shallow, at approximately 16 kilometres.
Duration: 2.5 minutes.
Aftershocks: Approximately 150 in the 12 hours post-quake.
525 in the 14 days post-quake.
Deaths:

Napier	162
Hastings	93
Wairoa	3
TOTAL	258

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