

1920.
NEW ZEALAND.

FIRE BRIGADES OF THE DOMINION

(REPORT ON THE) FOR THE YEAR ENDED 30TH JUNE, 1920, BY THE INSPECTOR
OF FIRE BRIGADES.

Presented to both Houses of the General Assembly by Command of His Excellency.

THE INSPECTOR OF FIRE BRIGADES to the Hon. the MINISTER OF INTERNAL AFFAIRS.

SIR,—

Office of Inspector of Fire Brigades, Wellington, 22nd October, 1920.

Herewith I have the honour to lay before you my twelfth annual report, for the year ending 30th June, 1920, relative to the working of the Fire Brigades Act, and including matter in connection therewith.

During the year four new fire districts have been constituted—viz., Te Aroha (5th March, 1920), Napier (29th March, 1920), Taumarunui (1st April, 1920), Kaitangata (1st June, 1920). Following is a list of the thirty-five fire districts now constituted:—

Auckland	Hamilton	Napier	Tauranga
Balclutha	Hastings	New Plymouth	Te Aroha
Christchurch	Hawera	Oamaru	Timaru
Dannevirke	Hokitika	Ohakune	Waihi
Dargaville	Kaitangata	Palmerston North	Waitara
Dunedin	Lawrence	Petone	Wanganui
Feilding	Levin	Port Chalmers	Whangarei
Gisborne	Masterton	Rotorua	Woolston.
Greymouth	Milton	Taumarunui	

I have officially inspected the brigades, with their stations and equipment, working under the control of Fire Boards, as follows:—

Auckland—10th and 16th April, 1920.	Masterton—31st May, 1920.
Balclutha—22nd January, 1920.	Milton—21st January, 1920.
Christchurch—22nd March, 1920.	New Plymouth—23rd October, 1919.
Dannevirke—17th May, 1920.	Oamaru—20th January, 1920.
Dargaville—11th April, 1920.	Ohakune—4th November, 1919.
Dunedin—26th and 27th January, 1920.	Palmerston North—19th May, 1920.
Feilding—20th May, 1920.	Petone—17th June, 1920.
Gisborne—19th February, 1920.	Port Chalmers—27th January, 1920.
Greymouth—16th March, 1920.	Rotorua—9th December, 1919.
Hamilton—19th April, 1920.	Tauranga—15th December, 1919.
Hastings—18th May, 1920.	Timaru—23rd March, 1920.
Hawera—21st October, 1919.	Waihi—17th December, 1919.
Hokitika—17th March, 1920.	Waitara—22nd October, 1919.
Lawrence—23rd January, 1920.	Wanganui—20th October, 1919.
Levin—11th September, 1919, and 8th June, 1920.	Whangarei—13th April, 1920.
	Woolston—19th March, 1920.

Also, special visits were paid as follows:—

Waipukurau—13th October, 1919: Report upon fire protection at the Pukeora Sanatorium.

Poxton—11th November, 1919: Report to Borough Council upon fire protection of the town.

Trentham Camp—15th January, 1920: Inspection of the camp and its equipment.

Somes Island—10th February, 1920: Inspection and report upon quarantine-station, &c.

Featherston Camp—4th March, 1920: Inspection of the camp and its equipment.

Christchurch (Cashmere Hills Sanatorium)—20th March, 1920: Inspection and report.

Devonport—9th April, 1920 : Inspection of brigade and its equipment.

Rotorua (King George V Hospital)—Inspection and report.

Trentham Camp—27th May, 1920 : Inspection and report.

Following upon an invitation received from the executive officers of the United Fire Brigades' Association I attended their annual conference, held at Hastings in March last, and delivered an address to the delegates entitled "Suitability of the Military Gas-mask for Fire-brigade Purposes; Repair and Maintenance of Fire-hose, &c." At the request of the conference the address is being printed for circulation amongst the brigades.

Periodical inspections have been made of drill-halls, magazines, ordnance stores, and other buildings under the jurisdiction of the Defence Department. As usual, advice has been given to local bodies and others in relation to fire-prevention, fire risks, water-supply, purchase of new plant; sketch-plans for new stations and additions have been prepared, &c.

It having been found impossible for a single officer to carry out the various duties required under the three respective headings of Inspector of Fire Brigades, Fire Inspector of the Defence Department, and Departmental Fire Inspector (duties under the last heading alone calling for the annual inspection of over nine hundred buildings), in August, 1919, Mr. C. A. Juriss was appointed Assistant Inspector of Fire Brigades and Assistant Departmental Fire Inspector. Since his appointment he has been principally engaged in carrying out the duties of Departmental Fire Inspector, which includes the giving of practical instruction in certain branches of fire protection. So, to reach, with economy both as to time and expense, the many buildings situated in remote districts the Department has provided a two-seater motor-car with the body built suitable for carrying the materials necessary to this particular work.

Consequent upon the number of destructive fires which have occurred in school-buildings during the last three or four years, with the approval of the Education Department, an inspection of all schools under the jurisdiction of the various Education Boards has been undertaken, thus adding some hundreds to the buildings now to be inspected; and already in the course of his inspections the Assistant Inspector has come across conditions in a number of cases which if not remedied will surely, sooner or later, result in an outbreak of fire. I am sorry to say that these inspections have not been taken in a friendly spirit by more than one headmaster.

Provision for protection from fire in the larger cities is not keeping pace with the growth of population, the rapidly increasing number of buildings (many of them of large cubical capacity), and the continually increasing area to be protected due to amalgamation with contiguous boroughs. The difficulty, from a financial point of view, in providing adequate equipment at its present high cost is greatly added to by changes during the last two or three years in social and economic conditions which can only be met by a more extensive provision of married quarters for firemen—a very costly phase of the matter, but an expenditure that must be faced before any high degree of efficiency can be permanently attained.

Following are the principal improvements and additions to equipment :—

Auckland : Purchase of site in Ponsonby Road for the erection of a substation, and to include six cottages for married firemen. The old street fire-alarm system has been replaced in the city proper by the newer and more efficient "Duplex" system.

Dunedin : The old Borough Chambers in Roslyn have been converted into a substation to serve the Roslyn and Upper Maori Hill districts.

Levin : A site has been purchased, and a new central fire-station is in course of erection thereon.

New Plymouth : Land adjoining the central station has been purchased for the purpose of erecting cottages for married firemen.

Ohakune : A site for the erection of a new fire-station has been purchased.

Wanganui : A site has been purchased, and a new central fire-station is in course of erection thereon.

Motor appliances :—

Auckland : A new 60 horse-power motor first-aid hose-and-ladder combination machine has been received and is now in commission.

Dunedin : For inspection purposes a 30 horse-power commercial motor-car has been purchased.

Greymouth : A 20 horse-power motor-chassis was purchased and fitted up as a combination chemical, hose, and ladder appliance.

Oamaru : A second-hand 40 horse-power chassis was purchased, and has been fitted up as a first-aid pump, hose, and ladder combination.

Whangarei : A 20 horse-power chassis has been purchased and fitted up as a hose-and-ladder tender.

Woolston : A first-aid double-action plunger-pump, having a discharging-capacity of 100 gallons per minute at 100 lb. pressure, has been fitted on the chemical and hose motor machine.

Casualties to civilians and firemen due to fires has been reported by Superintendents of brigades as having occurred in their respective districts as follows :—

Auckland.—10th February, 1920 : Boardinghouse—two females badly burnt about face and arms due to explosion of Primus lamp. 24th April, 1920 : Boardinghouse—male boarder burnt about face and arms. 29th April, 1920 : Hotel—man employed as cook severely burned, and died in consequence.

Christchurch.—23rd August, 1919 : Office buildings—man badly burnt and cut about hands and face, due to explosion of benzine. He was removed to the hospital, where he ultimately recovered. 26th October, 1919 : Superintendent injured in both eyes, requiring attention of specialist, caused by being struck in the face by a jet of water.

Dunedin.—27th July, 1919 : Boardinghouse—man found badly burned and unconscious; removed to hospital, where he died. The dead body of a second man badly charred was found later in bedroom. 14th August, 1919 : Private dwelling—two men badly burnt about head and arms, due to benzine-explosion. 29th April, 1920 : Railway-station—employee badly burnt about face and shoulders, due to gas-explosion. 27th June, 1920 : Shed fire—fireman fell from beam, tearing a sinew in the leg and receiving some internal injury.

Levin.—5th May, 1920: Private dwelling—a fireman severely cut about hand.

Waihi.—15th May, 1920: Private dwelling—child badly burned, and died in consequence.

The total number of "calls" received throughout the fire districts for 1919-20 was 1,112, as against 876 for 1918-19, an increase of 236, and which includes increases under all headings as follows: Fires, 480 (416)—increase, 64; chimney fires, 124 (95)—increase, 29; bush and rubbish fires, 208 (105)—increase, 103; false alarms, 275 (238)—increase, 37; out-of-district fires, 25 (22)—increase, 3.

Out of the 480 actual fires 14 are reported as due to incendiarism, 6 as having occurred in unoccupied premises, and 182 as of unknown origin. Of the 480 fires, 140 occurred in dwelling-houses, 27 resulting in total loss; 20 were damaged to the extent of from 50 to 90 per cent. of their value, 18 damaged from 25 to 50 per cent., and in the remaining 75 cases the damage ranged from slight loss to 25 per cent. of their value.

Losses throughout the fire districts: The three heaviest district losses occurred in Auckland (£39,691), Christchurch (£19,306), and Oamaru (£15,787). The total loss for the twelve months ending 30th June, 1920, amounted to £137,772, an average loss of £287 per fire: although there was an increase of 64 in the number of actual fires, this shows a decrease of £13,381 as compared with the loss of £151,153 during the preceding twelve months.

The insured loss throughout the Dominion for the year ended 31st December, 1919, amounted to £415,620; throughout the fire districts for the corresponding period the insured loss amounted to £120,173.

Appended are the following tables:—

1. Summary of calls attended by each brigade.
2. Fire loss in each district.
3. Annual cost of each brigade.
4. Summary of the causes of fires in each district.
5. Personnel and equipment of each brigade; also detailed reports dealing with each fire district.

I have, &c.,

THOS. T. HUGO,

Inspector of Fire Brigades.

The Hon. the Minister of Internal Affairs, Wellington.

1. SUMMARY OF FIRE CALLS.

District.	Fires.	Chimney Fires.	Bush, Grass, and Rubbish Fires.	False Alarms.	Out of District.	Totals.
Auckland	105	23	30	124	9	291
Balclutha	1	..	1	..	..	2
Christchurch	94	29	19	63	5	210
Dannevirke	12	..	1	1	..	14
Dargaville	2	1	..	..	1	4
Dunedin	77	40	85	37	2	239
Feilding	4	2	1	..	1	8
Gisborne	12	..	11	6	..	29
Greymouth	13	..	..	..	..	13
Hamilton	17	4	10	3	1	35
Hastings	11	3	2	..	..	16
Hawera	3	1	..	..	..	4
Hokitika	4	3	1	..	..	8
Kaitangata	..	..	..	..	..	..
Lawrence	..	..	..	..	..	..
Levin	3	1	..	..	..	4
Masterton	14	7	..	1	1	23
Milton	5	..	..	..	..	5
Napier	..	..	..	..	..	..
New Plymouth	9	..	1	5	..	15
Oamaru	7	3	1	1	..	12
Ohakune	..	..	..	..	..	..
Palmerston North	14	1	2	2	1	20
Petone	7	..	..	3	..	10
Port Chalmers	..	..	..	..	..	..
Rotorua	11	1	7	1	..	20
Taumarunui	..	..	..	..	..	..
Tauranga	3	..	..	..	..	3
Tc Aroha	..	..	..	..	..	..
Timaru	15	2	6	6	2	31
Waihi	8	..	5	15	..	28
Waitara	..	..	..	..	..	..
Wanganui	14	3	24	5	2	48
Whangarei	5	..	..	..	..	5
Woolston	10	..	1	2	2	15
Totals	480	124	208	275	25	1,112

2. SUMMARY OF FIRE LOSSES.

District.	Insured.	Uninsured.	Totals.
	£	£	£
Auckland	38,029	1,662	39,691
Balclutha	...	...	...
Christchurch	14,863	4,443	19,306
Dannevirke	494	7	501
Dargaville	...	8	8
Dunedin	6,173	1,463	7,636
Feilding	7,039	...	7,039
Gisborne	691	281	972
Greymouth	2,668	527	3,185
Hamilton	6,025	1,218	7,243
Hastings	945	2,461	3,406
Hawera	14	...	14
Hokitika	...	36	36
Kaitangata	...	...	...
Lawrence	...	...	...
Levin	1,100	145	1,245
Masterton	1,707	132	1,839
Milton	2,381	2,085	4,466
Napier... ..	...	...	...
New Plymouth	3,440	2,214	5,654
Oamaru	8,724	7,063	15,787
Ohakune	...	...	...
Palmerston North	3,982	1,363	5,345
Petone	75	13	88
Port Chalmers	...	...	...
Rotorua	1,183	858	2,041
Taumarunui	...	...	...
Tauranga	1,351	162	1,513
Te Aroha	...	...	...
Timaru	3,496	117	613
Waihi	317	350	667
Waitara	...	...	...
Wanganui	2,022	908	2,930
Whangarei	480	1,399	1,879
Woolston	1,241	417	1,658
Totals	108,440	29,332	137,772

3. COST OF FIRE BRIGADES (CAPITAL EXPENDITURE INCLUDED).

As taken from the Estimates for the respective Years.

District.	Year ending 30th June, 1916.	Year ending 30th June, 1917.	Year ending 30th June, 1918.	Year ending 30th June, 1919.	Year ending 30th June, 1920.	Year ending 30th June, 1921.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Auckland	10,811 0 0	10,585 0 0	11,700 0 0	12,000 0 0	12,305 0 0	17,000 0 0
Balclutha	...	...	...	233 0 0	260 0 0	140 0 0
Christchurch	7,210 0 0	6,900 0 0	7,000 0 0	8,585 0 0	8,550 0 0	9,650 0 0
Dannevirke	639 16 1	819 9 4	251 9 9	467 13 11	586 9 1	617 15 0
Dargaville	...	...	...	614 16 6	416 0 0	523 6 7
Dunedin	7,000 0 0	8,000 0 0	8,500 0 0	8,500 0 0	9,500 0 0	11,500 0 0
Feilding	544 11 2	573 11 9	354 0 0	348 0 0	464 16 6	568 18 10
Gisborne	1,125 0 0	1,620 13 0	958 5 10	1,311 10 0	1,069 3 9	1,586 10 0
Greymouth	844 0 0	878 0 0	888 0 0	903 0 0	920 0 0	943 0 0
Hamilton	600 0 0	350 0 0	1,450 0 0	1,100 0 0	1,300 0 0	1,449 13 6
Hastings	1,287 0 0	1,125 0 0	1,300 0 0	1,124 12 3	1,038 0 0	1,024 0 0
Hawera	647 5 10	744 0 0	374 0 0	615 0 0	732 8 4	764 14 3
Hokitika	460 0 0	366 13 4	346 13 4	420 0 0	425 0 0	550 0 0
Lawrence	80 0 0	60 0 0	60 0 0	60 0 0	60 0 0	80 0 0
Levin	...	...	...	...	611 10 0	660 10 0
Masterton	1,246 18 0	1,026 7 2	931 13 0	1,084 0 0	1,501 0 0	1,536 0 0
Milton	110 0 0	100 0 0	90 0 0	80 0 0	85 0 0	232 4 9
New Plymouth	1,200 0 0	1,500 0 0	1,380 0 0	1,488 10 3	1,302 3 0	1,500 9 0
Oamaru	477 0 0	770 0 0	550 0 0	500 0 0	550 0 0	800 0 0
Ohakune	...	...	...	...	481 0 0	468 2 9
Palmerston North	1,685 19 0	1,364 12 5	1,400 7 4	1,512 12 11	1,530 10 7	2,055 0 5
Petone	880 13 7	870 0 0	850 12 4	850 0 0	838 0 0	893 0 0
Port Chalmers	...	...	...	...	350 0 0	400 0 0
Rotorua	752 7 0	794 0 0	807 0 0	885 10 0	1,490 10 0	875 0 0
Taumarunui	...	...	...	...	...	510 0 0
Tauranga	655 6 8	444 12 11	315 11 6	287 0 0	455 5 0	414 18 4
Te Aroha	...	...	...	...	...	500 0 0
Timaru	1,450 0 0	1,810 0 0	1,350 0 0	1,400 0 0	1,930 0 0	1,750 0 0
Waihi	...	...	...	850 0 0	1,160 0 0	930 0 0
Waitara	...	...	...	...	201 8 0	143 0 0
Wanganui	...	...	...	...	5,141 15 7	4,505 17 4
Whangarei	500 0 0	550 0 0	550 0 0	400 0 0	340 0 0	576 0 0
Woolston	...	914 4 0	776 2 2	900 0 0	1,047 9 10	1,284 6 2
Totals	40,336 17 4	42,166 3 11	42,183 15 3	46,520 5 10	56,642 9 8	66,433 7 11

4. SUMMARY OF CAUSES.

Summary of Causes.	Auckland.	Balelutha.	Christchurch.	Dannevirke.	Dargaville.	Dunedin.	Peliding.	Gisborne.	Greymouth.	Hamilton.	Hastings.	Hawera.	Hokitika.	Kaitangata.	Lawrence.	Levin.	Masterton.	Milton.	New Plymouth.	Napier.	Oamaru.	Ohakune.	Palmeston North.	Petone.	Port Chalmers.	Rotorua.	Tauranga.	Te Aroha.	Timaru.	Waihi.	Wairua.	Wanganui.	Whangarei.	Woolston.	Totals.
Ashes, live ..	3	..	4	..	..	4	1	..	1	1	..	1	..	..	..	..	3	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	19
Benzine, proximity to lights ..	3	..	3	..	..	4	4	..	..	2	1	..	..	..	..	..	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	16
Candles, drapery, &c., in contact ..	6	..	3	..	..	2	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	22	
Clothes airing before fires ..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	
Defective building ..	..	..	3	..	..	1	1	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	
" chimneys, hearths ..	1	..	4	1	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	16	
Electricity, fusing of wires ..	6	..	1	1	..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	11	
" iron left switched on ..	..	..	2	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	
" imperfect insulation ..	2	..	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	
Fireworks, sparks from ..	..	..	2	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	
Gas, defective fittings ..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	
" explosions ..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	
" rings, stoves ..	2	..	3	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8	
" Ignition of picture-films ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	
Incendiarism ..	1	1	3	..	1	1	..	..	2	1	..	..	4	..	..	..	1	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	14	
Kerosene-lamps, explosions ..	1	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	
" heaters, overheated ..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	
Lightning ..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	
Matches, children with ..	..	..	5	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	13	
" rats ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	
" thrown down alight ..	1	1	8	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	11	
Motors, back-firing ..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	
Naked lights ..	4	..	..	1	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	2	
Overheating, beeswax, fat, &c. ..	1	1	1	1	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	
" machinery, exhaust-pipes ..	1	1	2	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	
" tar ..	1	1	1	..	..	2	2	..	2	..	1	2	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	14	
" wood, proximity to furnaces ..	..	..	2	2	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	
Painters, burning off paint ..	1	1	2	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	
Phosphorus ..	2	1	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	
Smoking ..	1	1	3	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	
" cigarette-butts ..	2	..	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	
Sparks from chimneys ..	5	..	2	1	..	1	1	..	..	1	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	12	
" copper-fires ..	2	..	4	1	..	1	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	13	
" engines ..	1	1	1	1	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	
" fireplaces, furnaces ..	2	..	6	1	..	2	2	2	1	2	..	..	..	..	..	..	1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	19	
" other fires ..	..	..	..	..	..	4	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8	
Spontaneous combustion ..	2	..	9	1	..	2	..	..	1	1	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	18	
Vagrants ..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	
Vulcanizers ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	
Unknown ..	47	..	13	9	..	43	..	5	5	8	8	..	..	..	..	2	2	1	4	..	3	..	1	3	..	6	..	1	..	2	3	..	4	6	182
Totals ..	105	1	94	12	2	77	4	12	13	17	11	3	4	..	..	3	14	5	9	..	7	..	14	7	11	..	3	..	15	8	..	10	5	10	480

5. SUMMARY.—PERSONNEL, PLANT, AND APPLIANCES.

	Auckland.	Balclutha.	Christchurch.	Dannevirke.	Dunedin.	Dargaville.	Felding.	Gisborne.	Greymouth.	Hamilton.	Hastings.
Brigades, total strength of	62	15	36	22	79	20	24	27	21	27	22
Fire-stations—											
Residential	5	1	3	1	3	1	1	1	1	1	1
Non-residential	1		..	1	2	1	1	4	4	1	..
Fire-alarms—											
(C.) circuits, (B.) boxes	28 (C.), 232 (B.)	..	16 (C.), 104 (B.)	..	8 (C.), 78 (B.)	..	..	..	..	1 (C.), 1 (B.)	..
Automatic, private	45	..	30	..	32	..	..	2	..	1	..
Telephones, points	14	1	4	1	9	1	2	3	7	2	3
Motors—											
Hose-and-ladder tenders (h.p.)	7 (6, 40; 1, 20)	..	1 (14)	1 (40)	1 (15)	..	1 (20)	1 (20)	1 (20)	..	..
Chemical, hose-and-ladder (h.p.)	1 (38)	..	2 (40, 40)	..	2 (75, 65)	..	..	1 (50)	1 (20)	..	1 (30)
Pump, hose-and-ladder (h.p.)	1 (110), 800 gal.	..	3 (75, 50, 50)	..	..	..	..	..	..	1 (60)	..
First-aid, pump, hose-and-ladder (h.p.)	1 (60)	..	..	..	3 (60, 60, 60)	..	..	..	..	..	..
Electric, ladders (height)	1 (87)	..	..	..	1 (84')	..	..	..	..	..	..
Fire-engines—											
Steam (gallons)	..	..	2 (260, 450)	..	..	..	..	1 (600)	1 (600)	..	..
Manual (gallons)	..	..	..	..	..	..	..	1 (100)	1 (60)	..	..
Chemical-engines, hand-drawn (gallons)	..	..	..	..	..	..	..	..	..	..	..
Hose-carts, reels—											
Horse-drawn	..	..	..	..	..	..	..	..	..	..	..
Hand-drawn	1	1	2	2	2	2	2	2	6	3	2
Ladders—											
Motor-traction (height)	1 (65')	..	1 (65')	..	1 (80')	..	..	..	2 (40', 30')	1 (50')	..
Extension (height)	1 (35') 2 (44') on motors	..	3 (45', 35', 32') on motors	1 (25') on motor	5 (2, 50; 3, 20)	..	..	1 (35') on motor	..	..	..
Single and coupling (total length) ..	12 (18' to 22')	2 (32')	20 (10' 6" & 6')	5 (65')	5 (65')	3 (25', 10', 10')	6 (83')	5 (81')	4 (81')	6 (150')	10 (184)
Jumping-sheets (square feet)	5 (10' x 10')	..	3 (2, 9' x 1, 10')	..	1 (12' x 12)	..	..	..	1 (10' x 10')	..	2 (12' x 14')
Smoke-jackets (J.), helmets (H.)	2 (J.), 4 (H.)	1	1 (J.), 5 (H.)	2	1 (J.), 1 (H.)	..	2 (H.)	1 (H.)	2 (H.)	..	..
Hand-pumps	5	2	5	2	5	..	1	1	1	1	2
Hand chemical extinguishers	6	2	7	2	9	..	2	4	2	1	..
Portable standpipes—											
Ratchet valves	17	1	1	..	15	1	..	..	..	1	..
Double heads	..	..	19	7	10	2	6	7	9	..	6
Single heads	4	1	..	..	..	2	..	4	1	6	..
Hose—											
Rubber-lined (diameter)	360' (1")	..	1,630' (2½")	..	..	..	2,500' (2½")	4,000' (2½")	4,200' (2½")	1,900' (2½")	3,500' (2½")
Unlined (diameter)	11,200' (2½")	860 (2½")	12,700' (2½")	2,600' (2½")	16,000' (2½")	1,300' (2½")	..	..	..	..	..
Water-supply (G. = gravitation)	..	..	..	..	..	..	..	..	..	..	..
Pressure, average, noon-midnight	40-120	70-75	95-106	80-88	96-157	80-95	90-105	110-125	85-100	40-48	120-130

5. SUMMARY.—PERSONNEL, PLANT, AND APPLIANCES—continued.

	Hawera.	Hokitika.	Kaitangata.	Lawrence.	Levin.	Masterton.	Milton.	Napier.	New Plymouth.	Oamaru.	Ohakune.	Palmerston North.	Pekone.
Brigades, total strength of	23	30	..	12	12	30	15	..	28	19	17	26	18
Fire-stations—													
Residential ..	1	..	..	..	..	1	1	..	2	1	..	2	1
Non-residential ..	..	5	..	1	..	..	..	..	1	1	1	1	..
Fire-alarms—													
(C.) circuits, (B.) boxes ..	3 (C.), 14 (B.)	..	..	..	..	5 (C.), 13 (B.)	..	..	2 (C.), 22 (B.)	..	..	..	2 (C.), 12 (B.)
Automatic, private ..	..	..	..	..	..	2	..	..	..	..	..	..	..
Telephones, points ..	2	8	..	..	1	2	..	..	3	3	..	2	1
Motors—													
Hose-and-ladder tenders (h.p.) ..	1 (35)	..	..	..	..	..	..	..	1 (20)	..	..	1 (25)	1 (30)
Chemical, hose-and-ladder (h.p.) ..	..	..	..	..	..	1 (25)	..	..	..	..	..	..	..
Pump, hose-and-ladder (h.p.) ..	..	..	..	..	..	..	..	..	..	..	..	1 (55), 350 gal.	..
First-aid, pump, hose-and-ladder (h.p.) ..	..	..	..	..	..	..	..	..	1 (60), 400 gal.	1 (40)	..	..	..
Electric, ladders (height)	..	..	..	..	..	..	..	..	..	..	..	..	..
Fire-engines—													
Steam (gallons)	..	1 (380)	..	..	..	1 (350)	1 (50)	..	..	..	..	..	..
Manual (gallons)	..	2 (80, 60)	..	..	1 (80)	..	1 (60)	..	..	..	1 (80)	..	..
Chemical engines, hand-drawn (gallons)	..	..	..	..	..	..	..	..	..	..	..	..	..
Hose-carts, reels—													
Horse-drawn ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hand-drawn ..	3	6	..	2	2	3	..	..	3	2	..	3	2
Ladders—													
Motor-traction (height) ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Extension (height) ..	(1 (35'))	..	..	..	..	..	..	..	..	..	..	..	..
Single and coupling (total length) ..	(6 (121'))	5 (99')	..	2 (49')	5 (57')	1 (35') on motor	..	..	1 (50') on motor	1 (30') on motor	..	1 (60') on motor	1 (40') on motor.
Jumping-sheets (square feet)	..	..	..	..	..	5 (65')	3 (56')	..	5 (101')	3 (60')	..	9 (117')	7 (62')
Smoke-jackets (J.), helmets (H.) ..	1 (H.)	..	..	..	..	..	..	..	1 (12' x 12')	1 (H.)	..	1 (12' x 12')	1 (10' x 10')
Hand-pumps ..	2	2	..	1	..	2	1	..	2	2	2	2	1 (H.)
Hand chemical extinguishers ..	2	..	..	2	..	1	2	..	4	1	2	1	2
Portable standpipes—													
Ratchet valves ..	1	..	..	1	1	2	..	..	..	1	..	..	..
Double heads ..	5	5	..	1	1	2	..	..	9	5	..	5	1
Single heads ..	2	2	..	1	2	4	..	..	2	2	..	4	6
Hose—													
Rubber-lined (diameter)	..	..	..	..	..	..	150' (1")	..	200' (2½")	3,300' (2½")	700' (2½")	5,000' (2½")	4,250' (2½")
Unlined (diameter) ..	2,700 (2½")	2,500' (2½")	..	1,000' (2½")	1,100' (2½")	2,800' (2½")	300 (2")	..	6,400' (2½")	G.	Creeks, &c.	G.	G.
Water-supply (G. = gravitation) ..	G.	G.	..	G.	G.	G.	Wells and tanks	..	G.	G.	..	G.	G.
Pressure, ave. age, noon-midnight ..	50-75	100-105	..	65-80	100-120	85-90	..	..	110-130	80-100	..	60-100	50-65

5. SUMMARY.—PERSONNEL, PLANT, AND APPLIANCES—continued.

—	Port Chalmers.	Rotorua.	Tau- marunui.	Tauranga.	Te Aroha.	Tinaru.	Waihi.	Waitara.	Wanganui.	Whangarei.	Woodston.	Totals.
Brigades, total strength of	20	19	..	16	..	25	16	15	14	20	12	742
Fire-stations—												
Residential ..	..	1	..	1	..	1	1	1	1	1	1	35
Non-residential ..	2	1	..	1	..	..	..	..	3	2	..	37
Fire-alarms—												
(C.) circuits, (B.) boxes ..	..	..	..	..	..	6 (C.), 24 (B.)	3 (C.), 16 (B.)	..	..	1 (C.), 1 (B.)	..	75 (C.), 517 (B.)
Automatic, private ..	..	2	..	..	..	1	1	..	..	..	..	117
Telephones, points ..	..	3	..	3	..	5	8	..	2	4	1	95
Motors—												
Hose-and-ladder tenders (h.p.) ..	..	1 (50)	..	..	..	..	1 (30)	..	1 (20)	1 (20)	..	20
Chemical, hose-and-ladder (h.p.) ..	..	..	..	..	..	..	..	..	1 (40)	..	1 (40)	11
Pump, hose-and-ladder (h.p.) ..	..	..	..	..	..	1 (80), 400 gal.	..	..	..	..	..	7
First-aid, pump, hose-and-ladder (h.p.) ..	..	..	..	..	..	..	..	..	..	..	..	6
Electric, ladders (height)	..	..	..	..	..	..	..	..	..	..	..	2
Fire-engines—												
Steam (gallons) ..	..	..	..	..	..	..	..	..	1 (400)	..	..	7
Manual (gallons) ..	..	..	..	..	..	..	..	..	..	..	..	7
Chemical-engines, hand-drawn (gal- lons)	..	..	..	..	..	..	..	..	..	..	..	1
Hose-carts, reels—												
Horse-drawn ..	1	..	..	..	..	1	..	..	..	..	..	2
Hand-drawn ..	2	2	..	2	..	1	2	2	3	3	..	68
Ladders—												
Motor-traction (height) ..	..	..	..	1 (36')	..	..	1 (30') on motor	..	1 (35') on motor	1 (50')	..	3
Extension (height) ..	..	..	..	2 (49')	..	1 (60') on motor	3 (75')	..	1 (12' x 12')	2 (30')	1 (16')	27
Single and coupling (total length) ..	6 (96')	4 (46')	..	..	..	8 (170')	..	1 (30')	6 (94')	2 (30')	1 (16')	161
Jumping-sheets (square feet)	..	1 (9' x 9')	..	..	..	1 (12' x 12')	..	..	1 (12' x 12')	..	..	18
Smoke-jackets (J.), helmets (H.)	..	1 (H.)	..	..	..	1 (H.)	..	..	..	2 (H.)	..	5 (J.), 23 (H.)
Hand-pumps ..	..	1	..	2	..	3	2	..	4	..	2	53
Hand chemical extinguishers	..	3	..	..	..	..	..	..	..	..	..	64
Portable standpipes—												
Ratchet valves ..	..	1	..	..	..	2	..	..	5	..	..	50
Double heads ..	3	2	..	4	..	3	4	2	6	5	..	128
Single heads ..	..	4	..	1	..	2	..	..	..	1	..	51
Hose—												
Rubber-lined (diameter)	..	2,500' (2½")	..	2,600' (2½")	..	3,000' (2½")	3,000' (2½")	2,000' (2½")	3,789' (2½")	2,000' (2½")	900' (2½")	2,340'
Unlined (diameter)	..	G.	..	G.	..	G.	G.	G.	G.	G.	River and drains	111,974'
Water-supply (G. = gravitation)	..	..	..	..	..	..	..	..	..	..	..	..
Pressure, average, noon-midnight ..	80-120	56-58	..	70-110	..	70-75	90-120	95-125	120-140	160-170	..	..

DETAILED REPORTS.

AUCKLAND.

An inspection of the Auckland Brigade, its stations and equipment, was made on the 10th and 16th April, when the several stations, plant, and appliances were found to be in good order and condition, and the various turnouts and inspection drills were carried out in a smart and efficient manner.

For the proper protection of the city I found it necessary to make the following recommendations: First, purchase of a site for a new fire-station in Ponsonby Road, at the corner of Lincoln Street; second, erection of a district station on the above-mentioned site, to include six sets of married quarters, on the lines of the pencil sketch submitted; third, erection of two sets of married quarters at the Remuera Station; fourth, purchase of 1,000 ft. of rubber-lined hose; fifth, provision of a second telephone at the central fire-station. I had also to call attention to the unsatisfactory conditions in respect to the street fire-hydrant indicators.

BALCLUTHA.

An inspection of the Balclutha Brigade and its equipment was made on the 22nd February, when fourteen members of the brigade out of a total strength of fifteen were in attendance. The various practice drills were carried out in fairly satisfactory manner, and showed considerable improvement as compared with all the work performed at the time of my previous visit.

I found the brigade was in possession of only 600 ft. of serviceable hose, and recommended that another 500 ft. at least be obtained immediately, also six collapsible canvas buckets. I noticed a number of the street fire-hydrants were overgrown with grass.

CHRISTCHURCH.

An inspection of the Christchurch Fire Brigade, its stations and equipment, was made on the 20th and 22nd March. Various drills with the motor-pump, fire-escape, ladders, &c., were carried out in a satisfactory manner. The central and district stations, together with the plant and appliances, were found in good order and condition.

For the more adequate protection of the city I consider it necessary to make the following recommendations: Erection of a substation in the vicinity of the North Avon Road; extension of the street fire-alarm system; provision of a mechanically operated 90 ft. fire-ladder; provision of a runabout motor.

DANNEVIRKE.

An inspection of the Dannevirke Brigade was made on the 17th May, when eighteen members of the brigade were present. Various drills were carried out in a fairly satisfactory manner. Suggestions for improvement in this respect were made to the officers of the brigade.

I had to repeat my recommendation that a 35 ft. trussed telescopic ladder be procured and carried on the motor hose-tender; also that the installation of a street fire-alarm installation be taken in hand, and the brigade provided with a couple of gas-masks.

DARGAVILLE.

An inspection of the Dargaville Brigade was made on the 14th April, when fifteen out of the seventeen members of the brigade were present. Various drills were carried out in a smart and efficient manner, and the main station and appliances were in good order and condition.

Since my last visit nothing had been done to improve the equipment of the brigade, and I had to repeat my previous recommendation that a 1-ton motor-truck be purchased, and a body built thereon suitable for the transport of men and appliances; also the brigade to be provided with the following smaller equipment—viz., one hand-pump, two gas-masks, and a hose-repairing outfit.

DUNEDIN.

An inspection of the Dunedin Brigade, its stations and equipment, was made on the 26th and 28th February. At the inspection muster at headquarters there were on parade twenty-two officers and men; also, a contingent of the South Dunedin section, consisting of one officer and five firemen, took part in the practice drill carried out at Hayman's Buildings, and which was performed in a very smart and efficient manner. All stations and equipment were found to be in good order and condition.

For the more efficient protection of the city I deemed it necessary to make the following recommendations: Increase the permanent staff; provide more married quarters; provide better protection in the North-east Valley, Mornington, and Anderson's Bay districts, also the question of better protection of the harbour-front; extension of the street fire-alarm system; manning and equipment of the Roslyn substation. In reference to the latter, the Roslyn Station has since been placed in commission.

On that part of the above recommendation relating to the provision of adequate protection in the North-east Valley, Mornington, and Anderson's Bay districts the Board comments as follows: "Except for certain outlying portions difficult of access under any conditions, the main portions of these districts are all within a ten-minutes run from existing stations, and the provision of local stations in each would not, on the average, reduce this time to under five minutes. The expense of establishing and maintaining such stations would very greatly exceed any saving in value destroyed that might be effected thereby, and it is not considered necessary to provide such until the building values of areas referred to are largely increased. Extensions of the street-alarm system to them to enable calls to be promptly sent in is all that the situation calls for at present."

From the above comment it would appear that the Board are concerned only with the loss of property, and have apparently lost sight of the fact that protection and saving of life is an all-important part of fire-brigade work. If for financial reasons the Board find it impossible to improve the fire-prevention conditions in the districts named, then there is no more to be said; otherwise "Extensions of the street-alarm system is *'not'* all that the situation calls for at present," and in the interests of both life and property the acknowledged average gain of five minutes most surely justifies my recommendations.

FEILDING.

An inspection of the Feilding Brigade was made on the 20th May, when at the inspection muster there were present twenty-one members of the brigade out of a total strength of twenty-four. Various drills were carried out, but not in an altogether satisfactory manner, as subsequently explained to the officers of the brigade. The station and fire equipment were in good order and condition.

I have recommended the brigade should be provided with 500 ft. of new hose, as also with a couple of gas-masks and a hose-repairing outfit.

GISBORNE.

An inspection of the Gisborne Brigade was made on the 19th February, when, out of a total strength of twenty-eight members of the brigade, twenty-six were accounted for. When the chemical motor was turned out the reverse gear would not act, and upon examination later it was found the near-side chain-drive sprocket-wheel had completely sheared the end of the counter-shaft. This engine must be taken down and the whole machine thoroughly examined once every twelve months. It took twenty minutes to raise 80 lb. of steam on the stationary fire-engine: this engine is not working at all well. The chemical was got to work, but there was a considerable loss of pressure due to leaky hose. The personnel of the brigade is efficient, but otherwise, and taken in conjunction with the unreliable condition of the gravitation water-supply, fire-protection conditions in Gisborne are in an unsatisfactory state, and a recommendation was made that a motor turbine pump with a 400–500 G.P.M. should be purchased, and a system of street fire-alarms installed. Other minor recommendations were also made.

GREYMOUTH.

An inspection of the Greymouth Brigade was made on the 16th March, when the full strength (twenty-eight) of officers and men was in attendance. Various drills were carried out in the usual efficient manner, and the stations and equipment were found in good order and condition. The new motor chemical hose-and-ladder machine is giving satisfaction. The new 10 ft. 6 in. coupling-ladders are not up to standard make, and a new extension ladder is required. There was no improvement in the water-supply, nor was the well in Blaketown completed. The brigade require a couple of gas-masks and a hose-repairing outfit.

HAMILTON.

An inspection of the Hamilton Brigade was made on the 19th April, when twenty officers and men out of a total strength of twenty-six were in attendance. Various drills were carried out in a satisfactory manner, with the exception that more ladder drill is required. Nothing had yet been done in the matter of erecting a cottage at the rear of the central station. In addition to some minor recommendations made, 500 ft. of new hose is required.

HASTINGS.

An inspection of the Hastings Brigade was made on the 18th May, when fifteen officers and men out of a total strength of twenty were in attendance.

Various drills were carried out, but in some particulars, as pointed out to the Superintendent, they were not up to the usual standard of efficiency. In addition to some minor recommendations I had to again call the Board's attention to the necessity of installing a street fire-alarm system in the town.

HAWERA.

An inspection of the Hawera Brigade was made on the 21st October, 1919, when there were present at the inspection muster twenty-one officers and men out of a total strength of twenty-three. Various wet and dry drills were carried out in a smart and efficient manner, and the station and equipment were found to be in good order and condition.

HOKITIKA.

An inspection of the Hokitika Brigade was made on the 17th March, when seventeen officers and men out of a total strength of thirty were in attendance. Various drills were carried out in an efficient manner, and the several stations with their equipment were found in their usual good order and condition.

The Board have received a letter from the brigade asking to be provided with a motor hose-tender; but in my opinion local requirements, in conjunction with the present efficient brigade organization and system of working, do not call for such provision.

LAWRENCE.

I visited Lawrence on the 23rd January with the intention of inspecting the brigade and its equipment, but, although due notice had been given, only three members of the brigade were in attendance. At my previous inspection practically the same thing occurred. Such incidents clearly show a want of interest in fire-brigade work, and do not give me an opportunity of judging and reporting upon the efficiency or otherwise of the brigade and its equipment.

LEVIN.

My first inspection of the Levin fire district was made on the 11th and 12th October, 1919. At the inspection muster there were present eight officers and men out of a total strength of twelve. During the course of the various drills it was apparent that, whilst the men were active and willing enough, they were much in need of more instruction and drill. Unfortunately, the Superintendent has had no fire-brigade experience whatever, consequently is not in a position to impart the necessary instruction, and a qualified officer should be appointed to the position at once.

Plans for a new central station are in hand. The following recommendations were made: A 1-ton motor-truck to be purchased, and body built thereon to suit local requirements; 500 ft. of new hose to be provided, also one hand-pump, six canvas buckets, set of new nozzles (Government standard pattern), one 35 ft. trussed telescopic ladder; also all members of the brigade to be provided with uniform, including helmets.

A second inspection was made on the 8th June, when I found the new central station was in course of erection; but, with the exception of providing a new set of nozzles, none of my previous recommendations had been given effect to, and there was little or no improvement in drill.

MASTERTON.

An inspection of the Masterton Brigade was made on the 31st May, when eighteen officers and men out of a total strength of twenty-five were in attendance. Various drills were carried out in a satisfactory manner.

The 500 ft. of new hose had been used for competition practice, and was more or less chafed and worn in consequence; also, 300 ft. of it had been cut into 50 ft. lengths—a wrong thing to do with new hose intended for fire-brigade work: in any case, another 500 ft. of new hose is required. Upon an examination of the steam fire-engine the inside of the pump-cylinder was so badly scored as to have the appearance of having been machine-milled to the depth of $\frac{1}{8}$ in. or more, also the metal piston was badly scored. The cylinder requires to be relined or renewed. The brigade should be provided with a couple of gas-masks and a hose-repairing outfit.

MILTON.

An inspection of the Milton Brigade was made on the 21st January, when there were thirteen officers and men, out of a total membership of sixteen, in attendance. During the course of the various drills it was evident that, whilst the members of the brigade are an active and willing body of men, they are in much need of more instruction and drill. The manual pump proved to be not in good working-order, due to want of attention. Three out of the seven lengths of hose are no longer serviceable for fire purposes, and some new hose is immediately required.

NEW PLYMOUTH.

An inspection of the New Plymouth Brigade was made on the 23rd October, when there were twenty-two officers and men on parade. Various drills with motor-pump, ladders, &c., were carried out with fairly satisfactory results. The stations and equipment were in good order and condition. The west-end reel-shed should be shifted to Moturoa, as previously recommended. A further recommendation made is that a second permanent fireman be appointed.

OAMARU.

An inspection of the Oamaru Brigade was made on the 20th January, but, as the brigade had been at work all night and day at a large fire, no muster or inspection drills were carried out.

The recently acquired second-hand motor machine fitted up as a first-aid pump and hose-tender is proving only partially satisfactory: the pump itself is satisfactory, but some alterations are required to the fittings; the body of the machine is roughly finished, and the hose-box badly designed.

The following recommendations were made—viz., a set of married quarters to be built on to the present central station, and the brigade to be provided with a 35 ft. trussed extension fire-ladder.

OHAKUNE.

Due notice was sent that I would visit Ohakune on the 4th November, 1919, but by some oversight the members of the brigade were not notified, consequently no inspection of the brigade personnel was made.

The peculiar local conditions obtaining in Ohakune—viz., its extensive area of 3,224 acres with a small township located at the two opposite ends of the borough some two miles apart, its otherwise widely scattered dwellings or other buildings, no established water-supply, &c.—make the formulation of an adequate scheme of fire protection at a moderate cost proportionate to the small number of inhabitants a very difficult matter. I consider the recommendations set down below are the minimum requirements that will provide any reasonable degree of protection, and which, including the manual engine, go very little beyond a first-aid line of protection: A fire-station, on the lines of the sketch submitted, to be erected on the proposed new site; a bell-tower to be erected adjacent to the station; a 1-ton motor-truck to be purchased and a body built thereon (fittings to include a first-aid chemical outfit); three 100 ft. lengths of $2\frac{1}{2}$ in. hose with couplings of Government standard pattern; one 25 ft. and one 18 ft. extension ladder; four hand-pumps fitted with stirrups, hose, and nozzles; two hand chemical extinguishers; twelve collapsible canvas buckets; six helmets; two fire-axes; two lamps; and 50 ft. $1\frac{1}{2}$ in. rope.

PALMERSTON NORTH.

An inspection of the Palmerston North Brigade was made on the 19th May, when nineteen officers and men were on parade. Various drills with motor appliances, fire-escapes, &c., were carried out smartly and efficiently, and the stations and equipment were in good order.

For some time past it has been recognized that the site on which this central station now stands is too small, and will not permit of any further extension of the present building. It is practically impossible to acquire any more land adjoining the present site, therefore it has become necessary to acquire another site of larger area; and in that connection a recommendation was made in respect to a certain suitable site. Another matter requiring prompt attention is the installation of a street fire-alarm system, which matter has been held over for some years past.

PETONE.

An inspection of the Petone Brigade was made on the 17th June, which eighteen officers and men—these representing the full strength—were in attendance. A series of drills was carried out in the efficient manner customary with this brigade, and the station and equipment were found to be in the usual good order and condition.

For reasons set out in previous reports submitted to the Board I have to repeat my recommendation that the brigade be provided with a second motor fitted with pumping-apparatus; also, the station should be connected up with the public telephone service.

PORT CHALMERS.

An inspection of the Port Chalmers Brigade was made on the 27th January, when only eleven officers and men, out of a total membership of eighteen, were in attendance—this, however, due to six of the men having had to return to their work. Various drills were carried out, but not in a satisfactory manner, and more attention should be given to my instruction in such matters.

I have to confirm the recommendations contained in my previous reports as to the provision of a motor machine for the transport of men and appliances, and as to the provision of a more suitable fire-station.

ROTORUA.

An inspection of the Rotorua Brigade was made on the 9th December, 1919, when there were fifteen officers and men in attendance, these, with four on leave, accounting for the full strength of the brigade. Considerable improvement was apparent in carrying out the various drills, which were performed in a satisfactory manner.

The principal recommendation made is that the brigade be provided with a 35 ft. trussed telescopic ladder.

TAURANGA.

An inspection of the Tauranga Brigade was made on the 15th December, 1919, when there were eighteen officers and men in attendance, only one man being unaccounted for. Various drills were carried out in a satisfactory and efficient manner, and the stations and apparatus were in good order.

Following are the principal recommendations made: All members of the brigade to be properly fitted out with helmets and axes; a 35 ft. trussed telescopic ladder to be purchased; some mechanical system of ringing the large firebell to be installed.

TIMARU.

An inspection of the Timaru Brigade was made on the 23rd February. At the inspection muster twenty-two officers and men, out of a total strength of twenty-five, were on parade. Various drills were carried out in a smart and efficient manner, and the station and equipment were in good order.

A report was forwarded to the Board again calling attention to the absence of any fire-main reticulation in certain streets almost in the centre of the town; also to the sparsity of hydrants in the principal streets, in some cases not fulfilling conditions laid down in the Municipal Corporations Act. The condition of the fire-hydrant indicators is also unsatisfactory.

WAIHI.

An inspection of the Waihi Brigade was made on the 17th December, 1919, when ten officers and men were in attendance out of a total membership of sixteen; but the small attendance was due to excusable circumstances. Hose drills were carried out and certain instruction given. The station and equipment were in good order.

The three new street fire-alarm call-boxes previously recommended have not yet been installed, nor have the canvas buckets yet been supplied.

WAITARA.

My first inspection of the Waitara fire district was made on the 22nd and 23rd October, 1919. At the inspection muster twelve officers and men, out of a total strength of fifteen, were in attendance. Various drills were carried out, but, whilst the members of the brigade appear to be an active, willing body of men of good physique, they are much in need of more drill and instruction.

Following are my recommendations in the matter of the principal requirements necessary to place the brigade and its equipment on an efficient footing: A 1-ton motor-chassis to be purchased, and a body built thereon to suit local requirements; 1,000 ft. new hose; firebell at west end; hand-pump fitted with stirrup; six canvas buckets; three new nozzles; turbine to ring firebell; branches require straightening; street hydrant-indicators require renovating.

WANGANUI.

An inspection of the Wanganui Brigade was made on the 20th and 21st October, 1919. At the inspection muster there were present eleven officers and men, these representing the total membership of the brigade at the time. Various drills were carried out, but, owing to the scarcity of hose, not to any extent.

Following are my principal recommendations: The Ajax ladder to be thoroughly overhauled; to obviate the use of the siren, except when attending fire-calls, a bulb horn to be fitted on the No. 1 motor; a siren to be fitted on the No. 2 motor; the early purchase of another motor appliance as previously recommended; 2,000 ft. of new hose to be packed with and sent out with the proposed new motor. I strongly advise the purchase of the house and section adjoining the new central-station site. A fire-main should be laid down along the frontage of the benzine and wool stores in Heads Road.

WHANGAREI.

An inspection of the Whangarei Brigade was made on the 13th April, when there were in attendance twelve officers and men out of a total membership of seventeen then on the roll. A very decided improvement was manifest in the method and performance of the various drills carried out. The brigade should be provided with a couple of gas-masks and a hose-repairing outfit.

Referring to the erection of the proposed new central fire-station, the amended plans of which have been approved, as stated at the meeting, the Board would be well advised to acquire the originally contemplated site in Dent Street, which is much more suitable than the present site.

WOOLSTON.

An inspection of the Woolston Brigade was made on the 19th March, when there were in attendance six officers and men and two messengers. The chemical engine was got to work, and proved to be in good order, but the two hand-pumps were in defective condition. The brigade is numerically weak, and the authorized membership should be increased to not less than fourteen adults.

A siren has been installed at the central station to serve for general alarm purposes. A double-action plunger-pump to develop a pressure of 100 lb. per square inch, with a discharge capacity of 100 gallons per minute, has been fitted on the motor chemical machine, and, I am advised, has passed a very satisfactory test.

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