



MT VICTORIA

Historical Society News

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Sunday, August 23 at 2.00 pm
New Crossways, 6 Roxburgh Street

Annual General Meeting

A Capital Place

*After the AGM, Jo Newman will give an illustrated talk about Wellington in 1865
and what you can still see today around Wellington dating from that time.
(Followed by afternoon tea)*

Annual General Meeting

We are keen to have new members join the MVHS Committee. The work is not onerous and the company enjoyable! If you would like to put your name forward, please contact Jo Newman before the meeting or just come along to the AGM and be nominated from the floor.

150th Anniversary of Wellington becoming the Capital

There's lots going on in Wellington this month, as the city celebrates the 150th anniversary of becoming the capital. After much debate, the decision was made in 1865 to move the capital from Auckland to the more convenient centre of the country. The first session of parliament was held here on July 26. There will be many 'open homes' at our important cultural institutions and amazing sound and light shows on Parliament buildings and Old St Paul's over the celebratory weekend. There's also an exhibition of portraits – *Capital Characters: Wellington Portraits from then to now* – at the National Portrait Gallery until August 23rd. Curated by David Colquhoun, who is an historian as well as having a love of art, it presents a quirky selection of some of the people who have contributed to our history, with the stories around them. The Council has put out a brochure listing the events, or you can find information on the events page of their website.

Heritage inventory for Mt Victoria

One of the great successes in this year's Wellington City Council Long-Term Plan round was the allocation of \$50,000 over two years to carry out a heritage inventory for Mt Victoria. It's something that we and Mt Victoria Residents' Association have been promoting for a number of years, so it was great to have the support of all our ward councillors this year to get it through the planning process.

The aim is to make a good start on documenting Mt Victoria houses, their history and heritage values so that there is an information resource for Council, residents, buyers, sellers and others who may be interested. Our suburb has a very high proportion of original housing but is also highly visible and an essential part of the character and charm of the city.

The purpose is not to include houses in the District Plan heritage list, but to provide an informed understanding of the nature of the built heritage of Mt Victoria and make it widely available. Mt Vic Historical Society is suggesting that the project start by researching buildings within the special character areas currently listed in the District Plan, then move to selected buildings outside these areas. We have also offered to share information we have gathered from our research over the years to facilitate the project and help get as much done as possible within the funding allocated.

Fundraising for Basin Reserve flyover High Court Appeal

An impressive \$3412 has been raised towards the cost of the High Court action taken by NZTA to try and overturn the Board of Inquiry decision to decline consent for the flyover at the Basin Reserve. A huge thanks to those who attended or supported the Victorian Gaiety and other members and friends who donated. By the time you get this newsletter, the High Court hearing will probably be underway (starts July 20).

This will be Jo's last newsletter for a while, as she heads off to work overseas for a year. She will be back, though – you can take the girl out of Mt Victoria (for a while), but you can't take Mt Victoria out of the girl!

ES1: Mount Victoria's Experimental Radar Station in WWII

In Newsletter 69, I [Mary Harris] wrote about Elizabeth Alexander who lived in 8 Hawker St while Head of Operations Research 1942-1945 in the secret Radio Development Lab (RDL), the cover for radar, based in 37-39 Marjoribanks Street. By the time she was appointed, RDL had set up its experimental station (ES1) on top of Mount Victoria.

New Zealand had got off to a very early start with radar and was probably *the first country in the Empire outside the United Kingdom to have radar cover**. ES1 was first established for testing aerials but became a testing ground for much else including demonstrating radars to members of the War Cabinet. One of the first research results at ES1 was that imported aerials were as matchsticks in Wellington winds: from then on New Zealand made her own. One of the problems for the aerial experts, whose expertise had grown with the first operational set on Motu Tapu in Auckland harbour, had been that it had to kept operational when needed, not the best conditions for research and development. For RDL, the site on top of Mt Victoria was *more or less Hobson's choice**. The two summits were already in use, the only available piece of flat land being in the saddle between them, where the car park is now. But the whole site was within the security area of a Light Anti-Aircraft Battery: it already had a couple of huts that could be modified and access by a track that the Public Works Department could fix. The site is 625ft above sea level, almost vertically over 8 Hawker St.

A separate power house was built during 1943 for a back-up diesel, but it was seldom used because there was already a three-phase mains supply up there. A panorama taken in late 1943 by R.G. Black, RDL's gifted photographer, his camera fixed to the rotating mechanism of the aerial, shows just how cluttered the site was; a search light under its canvas cover, a corrugated iron fence, some buildings on the true summit, the existing broadcasting station and its tower aerials on the false summit, and the usual sort junk which, in my memory, always collected round military sites and which made such good (strictly forbidden) playgrounds.

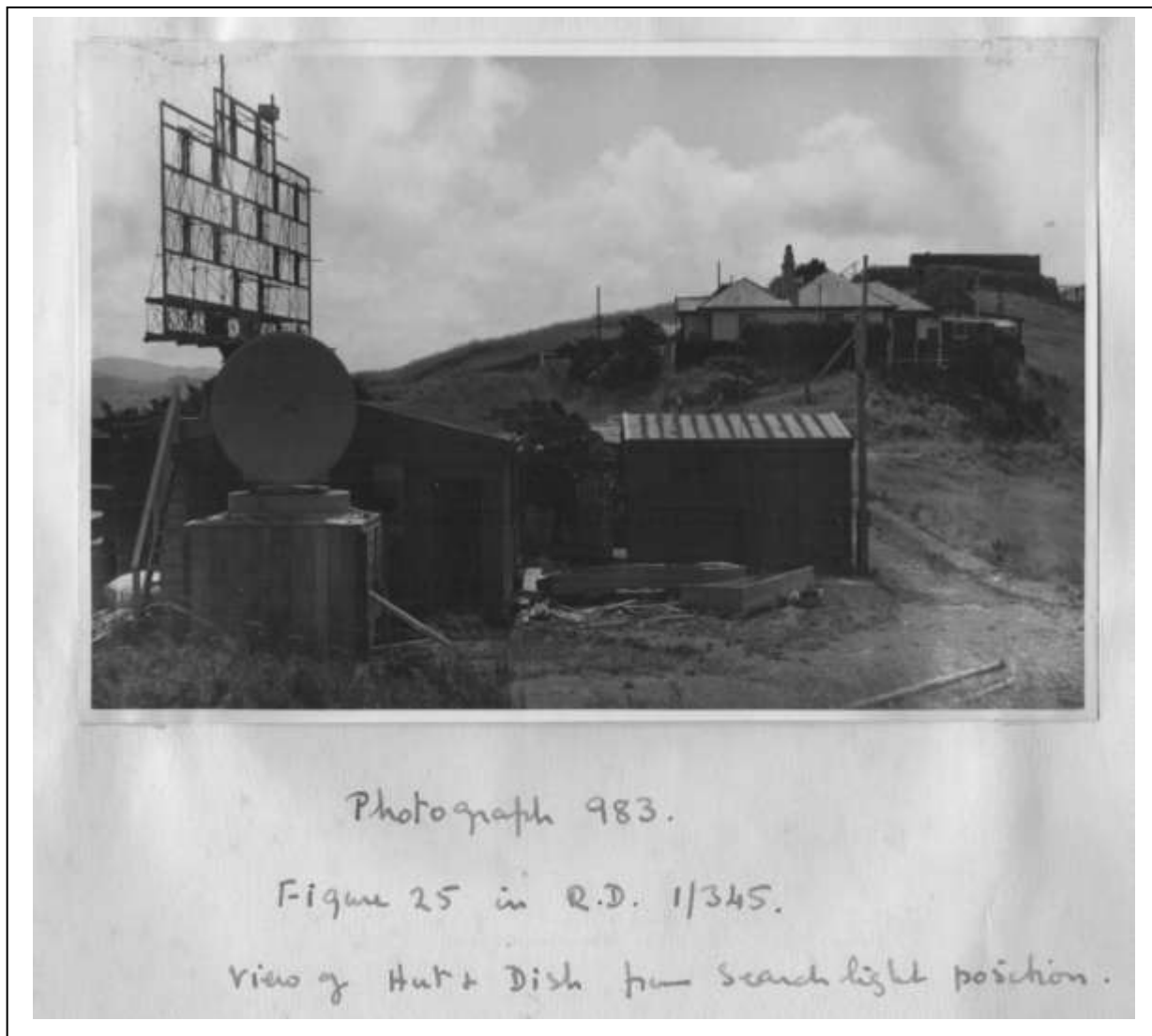


Fig 1 Photograph 983 Bedstead and dish aerials at ES1

Two of RDL's very particular radar sets were put through their paces at ES1. The Long Range Air Warning set with its 'bedstead' aerial was developed for use in the Pacific, essential to the US forces until their own radars had caught up following the trauma of Pearl Harbour. New Zealand's microwave ME set, developed at the same time but with higher priority, used very different technologies, its aerial in the form of a dish. Both can be seen in Fig 1. Fig 2 shows the inside of the microwave hut with the tripod for Black's camera, the only way to do a screen grab in those days.

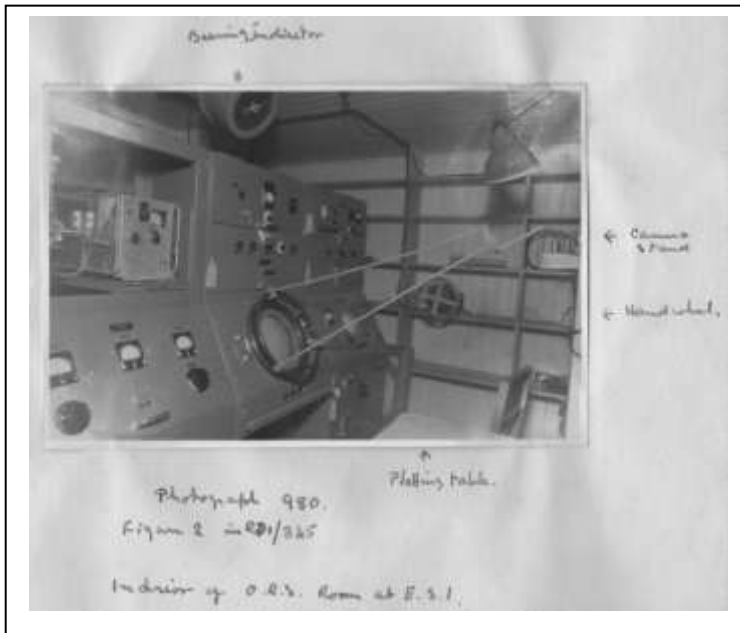


Fig 2 Photograph 980 Inside the ORS hut



Fig 3 Photograph 946 Wellington Harbour by radar

One of the many exciting things about the new and different technology of microwave radar was its potential for research at a time when very little was known about how and why the weather affected its performance in that way that it did. One aspect of particular interest to the military was that under certain conditions, particularly common in New Zealand, microwave radars could, in effect, see over the horizon, something of keen interest as the war island-hopped its painful way northwards towards Japan. RDL had been under pressure from the small and secret international community of radar boffins for research on such anomalous propagation since its microwave programme began, but it was not until the end of 1943 that Elizabeth was able to add that particular strand to the more routine matter of operational research on the performance of the set itself. She described ES1, by then her own research station, as *scenically impressive but operationally almost impossible*.** But in spite of the masking and shadowing caused by too much nearby geology and the phenomenon of wave clutter in windy Wellington Harbour, she obtained enough data to convince the Navy Board to supply her with six WRNZNS (always pronounced Wrens) to extend the research for another six months, while the international boffins picked up on her findings and pushed hard for the obvious need for further research in New Zealand. Her report RD 1/345 and its book of photographs by Black survived the war, as did one on the behaviour of some seabirds, as observed by radar from ES1. More papers, on how to distinguish whales from submarines, do not seem to have survived.

International interest in Elizabeth's ES1 results, was such that she was able, eventually, to go ahead with all the preparations and feasibility study, which she carried out at Kaikoura in 1944, for the major international research programme on anomalous radar propagation, called the Canterbury Project, to go ahead after the war ended. The bureaucracy was always awful. War Cabinet approval came eventually on the same day as the bomb on Hiroshima.

ES1 was in more or less continuous use until October 1944, after which burglaries, following the evacuation of the Army battery, made it necessary to mount a guard and to ask the PWD to erect a high fence. At this stage the Works Department pointed out that the defence enclosure was situated on land owned partly by the Hataitai Land Company, and partly by Wellington Harbour Board; if the Department of Scientific and Industrial Research, the parent body of RDL, wanted permanent occupancy, a land survey would have to be made, and a proclamation issued. It was agreed that the station would be maintained only for the duration of the war and the matter of land survey lapsed. In May 1945, the station was temporarily re-commissioned for further experimental work, then transferred to the Dominion Physical Lab of DSIR, which assumed responsibility for the radar work of RDL when it was closed at the end of the war*.

* The information comes from DSIR [Department of Scientific and Industrial Research] World War 2 Narratives. No 3 Radar [Archives Reference: AAQ W3424 16] Archives New Zealand The Department of Internal Affairs Te Tari Tāiwhēnua.

** Elizabeth's report RD 1/345 and the album of Black's photographs are in the possession of the Alexander family.

Mary Harris

Rocks, Radio and Radar: The Extraordinary Scientific, Social and Military History of Elizabeth Alexander, by Mary Alexander Harris, is to be published by Imperial College Press.

In November this year, the New Zealand History of Science conference will be held at Victoria University. Mary has suggested it would be a great time to announce installation of something to commemorate/inform visitors about the radar station history of Mt Victoria. We think this is a great idea and would love to hear from anyone interested in working with the Council to explore this.