

THE WORLD BELOW

400 GHz

The Periodical Newsletter of the
WAIKATO VHF GROUP Inc.,
 ZL1IS,
 PO BOX 606,
 Waikato Mail Centre
 Hamilton 3240.



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www.zl1is.info

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WAIKATO VHF GROUP EXECUTIVE

President	Phil King	ZL1PK	07 847 1320
Vice President	David King	ZL1DGK	07 884 9590
Secretary	Gavin Petrie	ZL1GWP	07 843 0326
Treasurer	Ian Brown	ZL1TAT	07 847 3709
Projects	Tom Bevan	ZL1THG	07 864 5425
Committee	Peter Reinhard	ZL1PR	021 841 274
Committee	Morris Beale	ZL1ANF	07 884 8416
Committee	Neill Ellis	ZL1TAJ	07 576 1999
Committee	Kevin Hampshire	ZL1KRH	07 544 5987
Editor	David King	ZL1DGK	07 884 9590

September General Meeting 2017

A General Meeting of the Waikato VHF Group will be held on
 Sunday, 3rd September, 2017 at 1:30pm
 at the St. Stephen's Church Hall, Cnr. Ohaupo Rd., and Mahoe Street, Hamilton.

See website - www.zl1is.info/meetings.html - for location map.

The speaker for this meeting will be Les Cole, ZL1KF, who will give us an updated talk & presentation on the Auckland Waterview tunnel and the comms involved. Les gave his first talk and presentation back in August 2014. So come and hear what has happened since then.

Non Members and visitors most welcome.

The Waikato VHF Group owns and maintains a number of repeaters and beacons in the greater Waikato and Bay of Plenty area. These are available for sponsorship for a period of 1 year. Please see <http://zl1is.info/sites.html> for a list of repeaters, beacons & links that are currently available for sponsorship. If you are interested in sponsoring one of them, please contact our Secretary (ZL1GWP) or Treasurer (ZL1TAT).

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Te Uku Site - stolen equipment update

The latest information we have had from the Police, is that the prospect of getting our equipment back is virtually nil. From forensic tests carried out on a computer, it would appear that our equipment, along with other commercial equipment, is most likely residing in the USA.

We are now in the process of obtaining the necessary equipment to re-establish the site. So far we have been donated an Icom FR5000 repeater, but will be approaching philanthropic trusts for funds, (approx. \$3500.00 required) to purchase the remaining equipment. Replacing the coaxial feed to the IRLP/Te Weraiti yagi will be part of the reinstall, as this coax has become full of water.

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From the Secretary for Branch 27, ZL2DRV.

Branch 27, New Plymouth Amateur Radio Club is celebrating its 90th birthday on September 23rd 2017, we extend an invitation to your members to join us in celebrating, this event, all relevant information is on the attached program and registration form (see link below).

We would especially like to see anyone who has been involved or associated with Branch 27 over the years attend this event.

Could you please pass this information on to all of your members.

The program and more registration forms can be seen at <http://www.zl2ab.com/90th-celebration/>

Please contact me if you have any questions zl2drv@extra.co.nz

The Brynderwyn Repeater Site

The Auckland VHF Group is fortunate to have access to a prime site well north of Auckland, on top of the Brynderwyn range. Planning for this site, to become an extension to the National Sys-tem commenced in 1988. Fundraising, path planning and obtaining the repeater

equipment and aials took approximately two years. The Group received a building permit from the Whangarei District Council in May 1991 after submitting details of the antenna mast and building plan.

Very much a co-operative effort between the Whangarei Amateur Radio Club, Branch 28 and the VHF Group, construction of the concrete block building and foundations for the tower commenced soon after receipt of the building permit. As with the Klondyke site, teams of volunteers from Auckland and Whangarei completed the site work and the site became operations in late 1991.

Radio path profiles undertaken by FMTAG (now ELG) showed that the path from Klondyke to Brynderwyn was obstructed, and would be subject to fading and signal drop-outs. FMTAG strongly recommended a two-hop extension from Klondyke. This option was investigated with the possibility of establishing an intermediate UHF repeater linking site out towards Hellensville or out towards Leigh. Although not very scientific, the deciding factor on staying with a single-hop link from Klondyke to Brynderwyn was a visit to the proposed site in October 1990 by the then President, Ron Philips ZL1TBO, Colin McKenzie ZL1ARC and Vaughan Henderson ZL1VH. The photo below shows Ron ZL1TBO standing on top of a fence post holding a 70cm dipole and Colin ZL1ACM taking signal strength readings on his 70cm hand-held. The results of these tests convinced the Group that the location on top of the Brynderwyns was useable and that signal strengths received from the UHF repeater at Klondyke were sufficient to justify going ahead with the site.



The tower at the site is a Create Model KT22S, 22m high self-supporting radio mast manufactured by the Creative Design Company Ltd in Japan. Two of these masts were brought in for use at the 1990 Commonwealth Games in Auckland where they formed the entrance-way into the athletes village. After the Games, items like this were sold off and the Group was able to obtain one at a good price!

The site has 70cm link equipment to enable the National System to extend north, local 70cm access via a "reverse" repeater, and the 146.500 MHz 2m repeater. The repeater equipment is all Tait Electronics 300 series with a 6-cavity 2m filter made by Wacom and purchased via the Wellington VHF Group. The required 70cm cavity filters were made by Deltec.

The antennas at the site for linking are 4 x 7 element Yagis pointing south to Klondyke and north to Whangarei. An omnidirectional antenna with 10dB gain (Decibel Products Model DB450) is mounted lower on the tower on the north face and provides local 70cm access to the system. On 2m, a 5dB gain omnidirectional Decibel Model DB516 is mounted at the top of the tower, giving excellent coverage from Warkworth/Wellsford through to Whangarei.

The site also hosts the Auckland Rescue Helicopter Trust's aviation band repeater and links for use by the rescue helicopter's when transiting from Whangarei through to Auckland.

During the first half of 2017, members of the Whangarei Amateur Radio Club made several trips to the site to give the repeater equipment building a tidy-up make some repairs to the mortar joins around the base and a new coat of paint. The Auckland VHF Group is indebted to the Whangarei club for its continuing work on our behalf keeping this site in good working condition. The following photos show the site in July 2017 with the new paint job completed.

Overall view of the Brynderwyn site, some 500m to the West of SH1 as it passes over the top of the Brynderwyn Range.

Access to the site is via a forestry road and the land surrounding the repeater has been logged and re-planted with pine trees.

Report and photos by Vaughan Henderson ZL1VH (as printed in Spectrum)





70cm and 2m transmitters and receivers inside the equipment building. Third module in from the left is the site microprocessor controller.



The site has mains power and for back-up a bank of six 2V lead acid batteries keep the site fully operational during occasional power out-ages.