



Mokau UFB2 Build (HNZPTA authority 2020/174): final report

report to
Heritage New Zealand Pouhere Taonga
and
Chorus

Arden Cruickshank

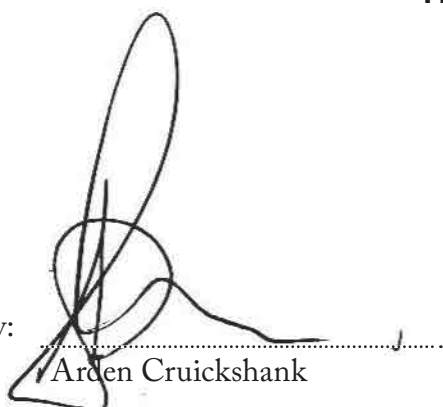


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Chorus have installed a new fibre optic cable network around Mokau as part of the second stage of the National Ultra-Fast Fibre project (UFB2). The installation of the cable mainly involves excavating small pits at regular intervals (usually in line with every second property boundary) within existing service trenches, and directional drilling between these. Other pits were opened to locate services or extend the cable to property boundaries. Topapahiki Pā is recorded in the New Zealand Archaeological Association (NZAA) Site Recording Scheme (SRS) as site R18/66, in the project area and could potentially be affected by the works (Glover and Cruickshank 2019). Ultrafast Fibre applied to Heritage New Zealand Pouhere Taonga (HNZPTA) for an archaeological authority to modify or destroy these sites under section 44 of the Heritage New Zealand Pouhere Taonga Act (2014). Authority 2020/174 was granted by HNZPT on 7 October 2019.

Work commenced in January 2020, with earthworks completed in July 2020. Ground disturbance associated with R18/66 were inspected prior to drilling to ensure that any archaeological features that were encountered were recorded and mapped for future site management. Additionally, at the request of mana whenua the length of Aria Terrace was monitored as there were unconfirmed reports of archaeological material being encountered during house construction along the street.

Methodology

During the initial assessment (Glover and Cruickshank 2019), a desktop study was undertaken to identify areas within the build where archaeological sites would potentially be impacted during works.

As a result of the desktop evaluation, two sites, Topapahiki Pā (R18/66) and Te Naunau Urupā (R19/79) were identified as having the potential of being affected by works. During consultation with mana whenua, it was decided that the portion of the build where Te Naunau is located (Point Road and Tokopapa Street) would be removed from the extent of works. A 200 m buffer was placed around Topapahiki Pā, and the road reserves within this extent were inspected prior to drilling.

Construction methodology

Installation of the ultrafast fibre network consisted primarily of directional drilling to minimise ground disturbance. These consisted of insertion and receiving pits which were generally 1.2 x 1.2 m, with varying depths, generally around 1 m. These pits also housed the underground cabinets which centralised the connections for a neighbourhood. Although drill shots were capable of being in excess of 200 m long, they were generally at distances of 40 m to allow for individual house connections. In addition to the drill pits, a number of 'potholes' were required to physically and visually identify the location and depth of services prior to a drill shot

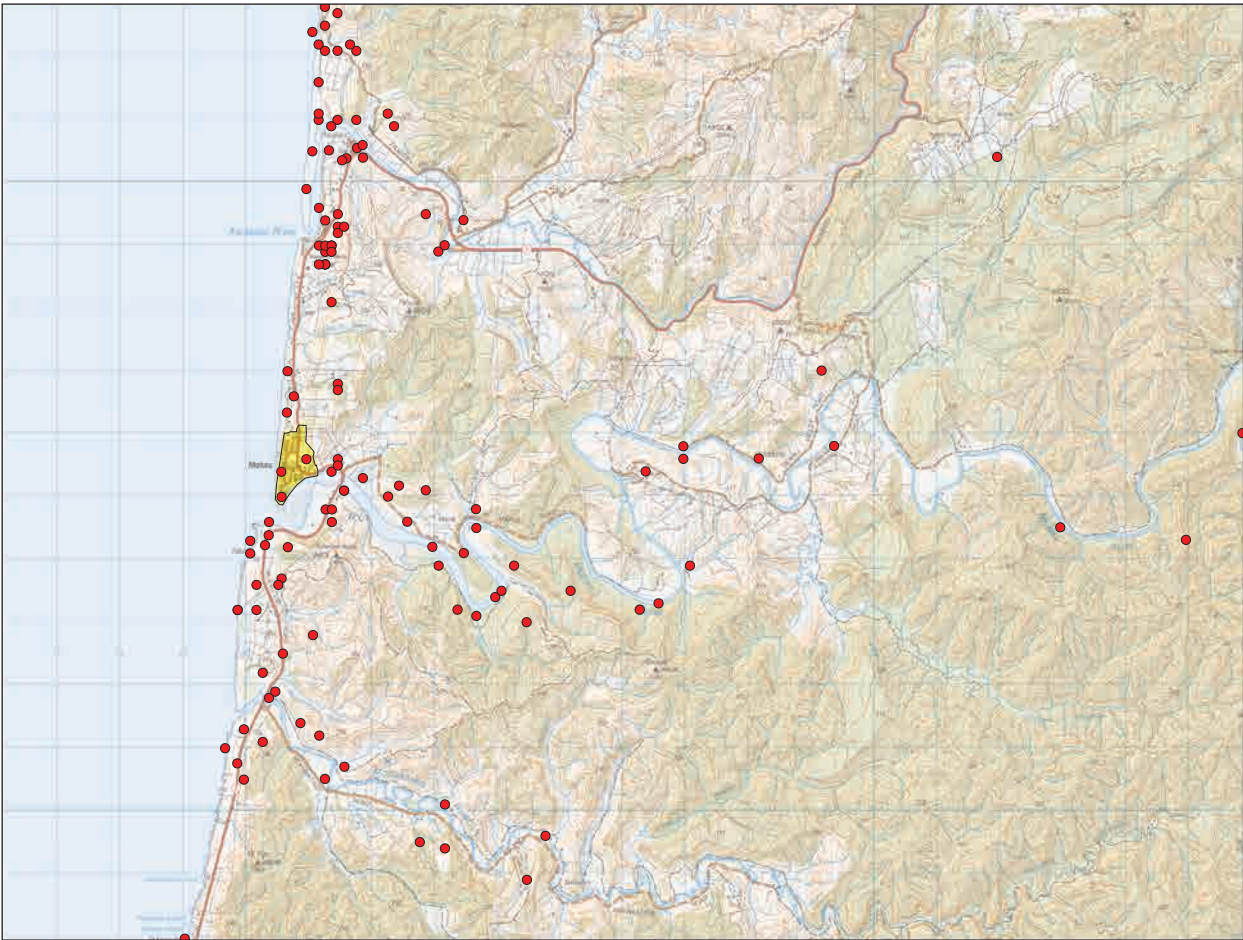


Figure 1. Location of Mokau showing recorded archaeological sites in the area.

being made. Because of the inherent risk of sub-surface drilling near existing services, the drill shots were often made next to existing service trenches to allow for accepted minimum distances from high voltage cables and other potentially hazardous services. It cannot be assumed that the areas where the fibre is being installed have been previously disturbed. Drill shots were generally run 600–900 mm beneath the ground surface and have the potential to run through sub-surface archaeological features such as pre-European Māori storage pits and fire scoops as well as historic period features.

The level of ground disturbance associated with this project depended on the complexity of services in a particular street and cannot be seen as consistent over the build but is still less than traditional trenching methods for installation of services.

Due to this type of ground disturbance, assessing the archaeological effects and interpreting features and the landscape is not as straight forward as typical archaeological monitoring projects. Trenching would traditionally be used for installation projects of this magnitude which would allow an archaeologist to view soil profiles over a significant length and identify subtle landscape modifications that would indicate human activity. Similarly, large scale topsoil stripping such as with housing developments provide an archaeologist with a complete knowledge of the sub-surface archaeological deposits within the project extent.

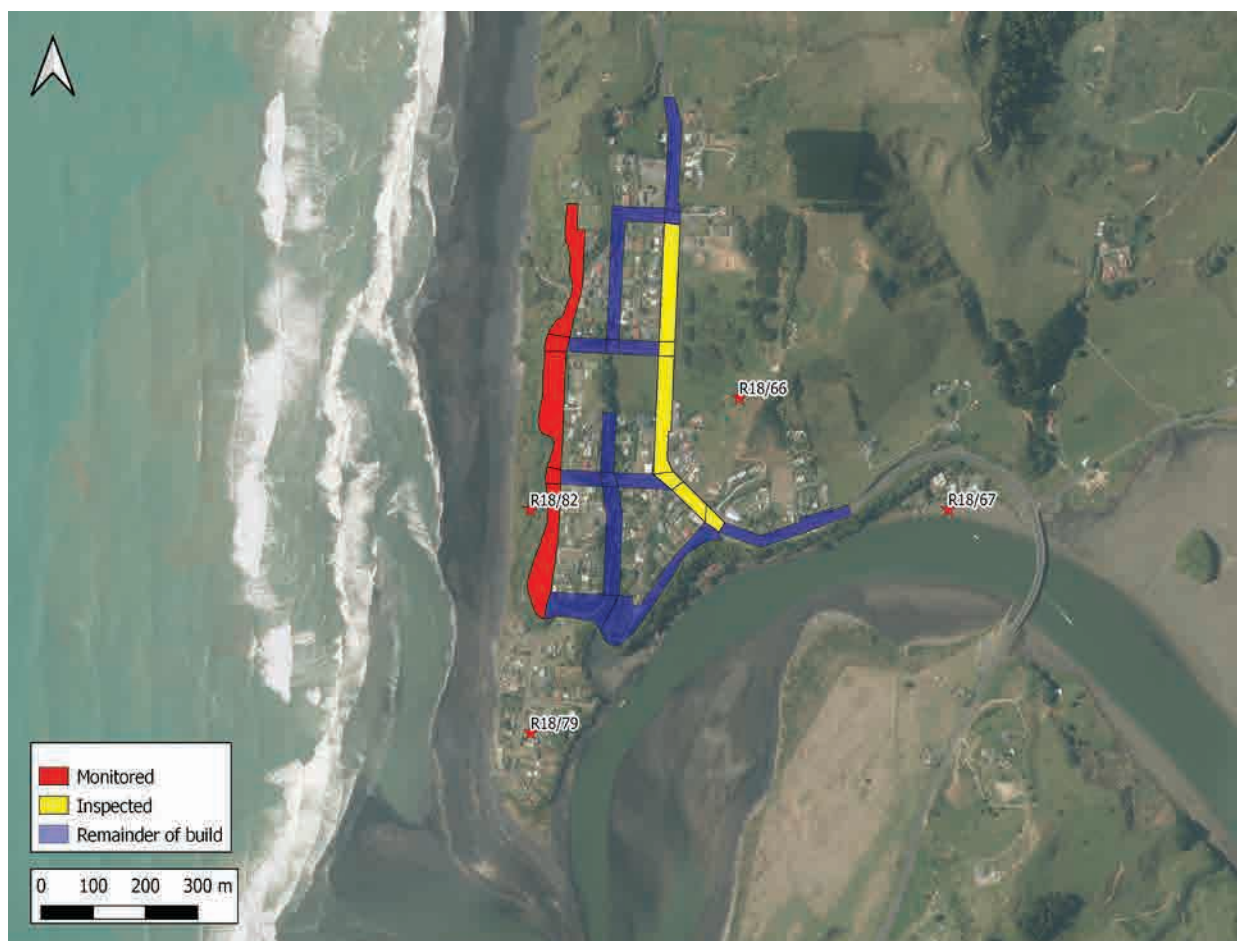


Figure 2. Map of Mokau showing extent of build.

The drawback of those methods of extensive earthworks is that any archaeological features that are within it are significantly modified. The purpose of the Heritage New Zealand Pouhere Taonga Act 2014 is “...the identification, protection, preservation and conservation of the historical and cultural heritage of New Zealand”, with avoidance and minimisation of damage the preferred approaches for archaeological landscapes. With this in mind, the approach for these projects is to manage the archaeological landscape and the effects on it, rather than to create a robust record of all archaeological sites within a build.

Archaeological monitoring and investigation procedures were developed to ensure disturbance to both archaeological features and council assets was minimised.

1. If archaeological features are discovered during works, the archaeologist will not extend the hole beyond its intended size. This was a two-fold limitation, as this would increase the modification of the feature, and has the potential of destabilisation of the road and other infrastructure. The only exception to this would be if kōiwi were encountered, which would be dealt with upon discussion with mana whenua, the New Zealand Police, Heritage New Zealand and Waitomo District Council.
2. Where archaeological features are discovered, drilling will be done at a depth of 1200 mm, or a suitable depth determined by the archaeologist as likely to avoid archaeological features.

The results of this project should not be seen as an exhaustive list of archaeological sites that exist within the road reserves around Mokau, or even a representative sample; but rather an exercise in minimising potential effects on the archaeological landscape.

Background

Mokau is a coastal town situated on the west coast of the Waikato, on the northern bank of the mouth of the Mokau River. The river has always played an important role in this area, as a territory boundary, source of food, a safe harbour, and a method for transportation of people and goods (Pollock 2011).

The geology of the area consists of limestone, sandstone and shale deposits, with fluvial sands and gravel at the river mouth, and brown coal seams in some locations (Jourdain 1909). Soils primarily consist of volcanic loams of the Egmont family (Molloy 1998). Pre-European vegetation is largely described as scrub and fern (McFadgen 1970). Tainui trees, located only in Mokau and Kawhia, are said to have grown from parts of the *Tainui* waka (Jourdain 1909).

Pre-European Maori background

The Mokau River served as the boundary between Tainui iwi to the North, and Taranaki iwi to the South (Pollock 2011). Serving as the southern coastal boundary of Ngāti Maniapoto, the people of Mokau were descended from the Turongo of the *Tainui* waka (Adams and Meredith 2005). The *Tainui* moored near the river mouth before being buried at Te Ahurei in Kawhia. The anchor stone of the waka was left in Mokau, near the river mouth, but later removed by Europeans and taken to New Plymouth. The anchor stone is now located north of Mokau at Maniroa pa, after Maori leaders including Pēpene Eketone obtained court orders for its return (Adams and Meredith 2005).

The area around Mokau contains several pā, including Topapakihi pa, where Te Rauparaha led a battle against Ngāti Rakei in 1821, following earlier conflicts (Jourdain 1909; Burns 1980).

The Te Kauri settlement was situated on the northern riverbank, at the eastern edge of the current Mokau township. It was named for a tree trunk, thought to have drifted from Kawhia which was considered tapu and named Te Kauri (Cowan 1938; Jourdain 1909).

Historic background

European settlement of Mokau begun in the 1820s when Thomas Ralph, a flax trader originally from Sydney, settled there (Pollock 2011). Timber milling commenced in the 1840s further in-land and coal mines were in operation from the 1880s (Pollock 2011). These formed a major part of Mokau's industry but eventually the costs and risks associated with transporting the goods down the river ended these industries. A dairy factory was built on the northern bank of the Mokau River near the bridge in 1921 but was closed in 1956 when dairy farms in the region were converted to beef.

A Wesleyan Mission Station was built in the early 1840s near Te Kauri with a chapel on Pukekiwi hill. Chiefs of Ngāti Rakei and branches of Ngāti Maniapoto were buried near the Pukekiwi chapel, as was the first Maori missionary who came to Taranaki, called Hamuera. This mission station was deemed unsuitable by Reverend George Buttle and another Mission Station

was built almost two years later (c. 1848) up-river at Te Mahoe (Astridge 2013). Reverend Cort Schnackenberg worked in the Te Mahoe mission station until 1858, then left it in the care of Reverend Hoani Eketone (Astridge 2013).

Ngāti Tama (of Poutama) held territory on the south side of the Mokau River, and conflicts with Ngāti Maniapoto were reported as frequent for a period of at least 250 years if not longer (Smith 1908). Though Ngāti Tama was much smaller, they held their territory until 1821, when Ngāti Maniapoto, armed with muskets, led an invasion at Pararewa. Ngāti Tama suffered heavy losses and later moved south to towards the Cook Strait (McLintock 1966).

With increasing pressure being felt from European encroachment and settlement, Ngāti Maniapoto became involved in the Kīngitanga movement and in 1857 supported Pōtatau Te Wherowhero of Waikato Tainui as the first Maori king. Maniapoto fought against the European colonial government in Taranaki in 1860 and the in the Waikato in 1863. Tainui and their allies, under King Tawhiao, Te Wherowhero's son, retreated to Ngāti Maniapoto territory which became known as the King Country or Te Rohe Pōtae. Europeans were essentially kept out until the government negotiated the opening of the King Country for the North island Main Trunk railway in 1885, though some Europeans were invited to settle in Mokau in the 1870s (Adams and Meredith 2005; Pollock 2011; O'Malley 2016).

Archaeological background

Mokau experienced some archaeological interest in the 1960s and 1970s but has had limited work since then. Garry Law investigated petroglyphs south of the Mokau River (site R18/7) in 1969. These occur on the north wall of a small notch in the siltstone cliffs. The incised petroglyphs primarily depict feet motifs, but also include an image of a flatfish, which seem to have been a valuable resource in the area.

Ken Gorbey (1969) carried out a survey of the Kapuni Pipeline route, beginning in 1968 with the examination of aerial photographs, searching not only for visible sites but also for typical landscape features which often host archaeological features. Two small pa sites were identified (R18/3 and R18/4) on the southern bank of the Mokau River. Fieldwork was then undertaken along the route. In 1969 Bruce McFadgen (1970) carried out a salvage excavation at one of these pa sites (R18/3). The site included terracing, ditches, banks, postholes, and seven rectangular pit features, as well as a scatter of midden. No samples were taken for radiocarbon dating.

Kath Prickett carried out an archaeological survey from the South bank of the Mokau river down to Frankley Road in New Plymouth in 1975, in accordance with the proposed Maui Pipeline route. In doing so, a small ring-ditch pa was recorded (R18/11).

Although there is a limited number of known archaeological sites within the Mokau township itself, there are 31 Maori sites within 2 km of the township. This includes 19 pa, four midden/oven sites, two Maori settlements, and at least two urupā. The presence of a known urupā site (R18/79), an exploited kokowai source near the township (R18/82), the importance of the location as a mooring site of the Tainui waka, and the preponderance of pā in the record all suggest that it is highly likely that there are additional archaeological sites within the area which have not been identified.

Field work

Aria Terrace

Works along Aria Terrace were monitored on 14 and 15 January 2020. This started in the northern end of the street on the top of the large bluff near the cemetery and headed southward towards Beach Road. The soil profile appeared to consist of the Egmont volcanic loams, with the flatter portion of Aria Terrace between Rangī Street and Beach Road almost exclusively the Egmont Black Soils (Molloy 1998) to the desired depth of drilling (≥ 600 mm). With the exception of some late 20th century rubbish and vegetation, the road reserve was relatively undisturbed, and although no archaeological material was encountered during the drilling along this street, if there are any archaeological features along Aria Terrace, they should be in fair condition.

R18/66 Topapahiki Pā

Topapahiki Pā R18/66 is situated on the hill behind the township. Pā are highly significant archaeological sites and, while many pā have easily visible earthworks, others are damaged or modified with little surface visibility and poorly defined site extents. A battle between Ngāti Rakei and Ngāti Toa, led by Te Rauparaha, took place at this pā (Jourdain 1909), and it is likely that related archaeological material and features extend beyond the hilltop itself.



Figure 3. Insertion hole on Aria Terrace showing Egmont black soils. Depth of pit is 600 mm.

The length of SH3 from Oha Street to Rerenga Street was inspected prior to drilling. There was approximately 50 mm of topsoil on top of a 400 mm thick layer of roading metal and basecourse. Beneath this were the Egmont Black Soils that were also observed along Aria Terrace. No archaeological material was observed.

Discussion and conclusion

As with the other UFB2 builds undertaken in recent years (for example, Cruickshank 2020; Cruickshank and Craig 2020; Cruickshank and Ussher 2020) this type of directional drilling often does not produce the levels of archaeological evidence that would be produced through trenching or large scale earthworks projects. Even in builds such as Omokoroa (Cruickshank 2020) where the density of archaeological sites on the peninsula is well documented and has been subject to dozens of archaeological investigations in the past 15 years, in situ archaeological material was only encountered in four separate insertion holes, with no material occurring in the next closest holes. The encountering of archaeological material during the fibre builds proves to be rare, even in dense archaeological landscapes.

The lack of archaeological evidence encountered during this build should not be seen as a lack of archaeological evidence within Mokau, but is a justification of the use of minimal disturbance methods such as directional drilling and avoidance of high-risk areas. The removal of the two roads within the likely extent of R18/79 (Point Road and Tokopapa Street) meant that a known, and highly sensitive archaeological site was able to be avoided, preventing the likely disturbance of kōiwi tangata and their associated archaeological features.



Figure 4. View south down SH3 of insertion holes inspected prior to drilling.

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