



# **127 Great South Road, Taupiri (HNZPTA authority 2020/285): final report**

**report to  
Heritage New Zealand Pouhere Taonga  
and  
Kildare Development Ltd**

**Arden Cruickshank**

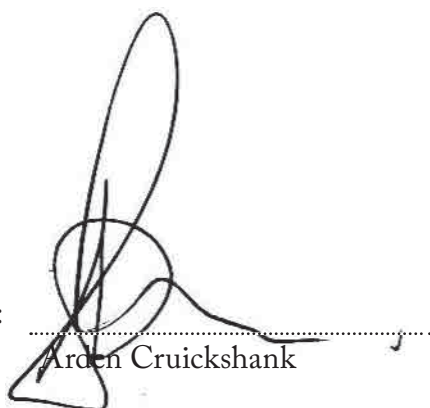


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Howard and Joanne Lovell are subdividing a portion of their property at 127 Great South Road, Taupiri (Pt Lot 1 DP 24220) to create a four-dwelling subdivision. The remaining portions of the lot will be used for a ROW and a 1500 m<sup>2</sup> Esplanade Reserve. An initial assessment of the property undertaken by Sian Keith Archaeology Ltd (SKA) (Keith 2017) identified a single depression in the north west corner of the property. During field assessment two further depressions were observed and recorded as site S14/472, a borrow pit site. A subsequent visit and an addendum to Keith (2017) was undertaken by CFG Heritage Ltd. Kildare Development Ltd applied to Heritage New Zealand Pouhere Taonga (HNZPT) for an archaeological authority to modify or destroy these sites under section 44 of the Heritage New Zealand Pouhere Taonga Act (2014). Authority 2020/285 was granted by HNZPT on 26 November 2019.

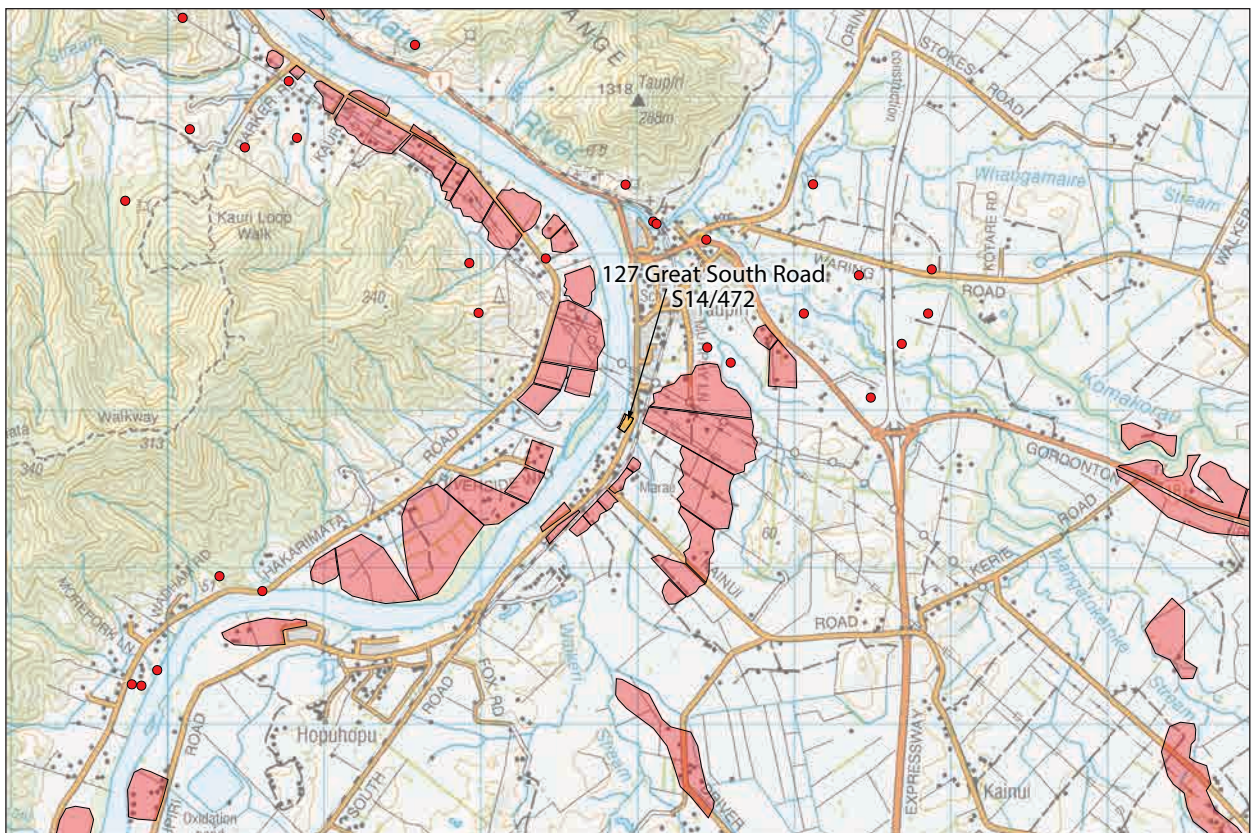


Figure 1. Location of 127 Great South Road showing recorded archaeological sites, including pre-European Māori garden sites.

## Background

Taupiri is in the northernmost portion of the Waikato Basin, a geological catchment which is one of the most agriculturally productive regions in New Zealand. Following the eruption that formed Lake Taupo 27,000 years ago the immediate vicinity was blanketed with pumice. The lake level built up to 120 m higher than its current level, but a catastrophic break-out flood around 22,000 years ago lowered the lake level by 80 m and huge quantities of pumice were swept down the Waikato River. The river formed a new course that took it through the Waikato Basin to exit at Taupiri before flowing to the Tasman Sea, rather than to the Hauraki Gulf, where it had flowed previously. Much of this pumice and associated sands and gravels were deposited across the basin as the Hinuera formation. The river formed multiple routes across the basin before settling into its current course. The Hinuera formation has since been blanketed with several layers of alluvium and volcanic tephra that form the fertile agricultural soils of the Waikato (McCraw 2011).

### *Pre-European Māori occupation*

The pumice sands and gravels of the Hinuera formation were exploited by Māori for kūmara cultivation. Sands were mined in 'borrow pits' and added to the overlying loams, either as a sheet mulch, dug into the soil or in small planting hollows that may have had growing mounds (puke) over them. These friable, made soils encouraged kumara tubers to grow fat, rather than long, which made them survive winter storage better. Garden areas are often recorded based on the locations of borrow pits, which can be extensive, as well as subsurface evidence of modified gardening soils (Gumbley et al. 2003; Campbell and Harris 2011; Campbell 2012).

Borrow pits can be over 15 m wide, and are between 1 and 4 m deep, occurring both singly or in groups. Modified soils are generally found within 100 m of borrow pits. Many borrow pits and associated gardening soils have been damaged or destroyed by modern agriculture and residential development in the Waikato although some remain in good condition. Aerial photographs of the Waikato region taken in 1943 show many borrow pits present, including S14/472.

Because of these highly sought-after growing soils, the area surrounding Taupiri has a long and extensive occupation history. There are numerous sites in the area connected with gardening, namely in the form of borrow pits and modified gardening soils. There are several important pā near Taupiri, including Kaitotehe, home of Pōtatau Te Wherowhero (S14/7) on the other side of the Waikato river (Kelly 1940: 157), and Taupiri / Kuaō (S14/6), the home of prominent chief Te Putu prior to his death (Cruickshank 2016). This site is located at the base of Taupiri Maunga and later became a prominent urupā for Tainui and the Kīngitanga, and which is still in use.

### *19th Century history*

The original Crown Grant of 150 acres in the area in which Taupiri Township is located was granted in 1867 to George Edward Thoms (Innes 1989: 05) following the invasion of the Waikato. Taupiri then saw settlement by Europeans in the 1870s and served as an important centre for flax production (Swarbrick 2012). Taupiri Township was surveyed and town lots of approximately half acre blocks were plotted out to encourage settlement. Although there was

plenty of flax and production was booming, it was difficult to get produce to the markets, which required taking a horse and cart up the Great South Road to Auckland.

The solution to this transport issue was rail, and it wasn't long after the settlement of Taupiri that the North Island Main Trunk was first proposed by Julius Vogel to join the Auckland and Wellington rail networks (Scholefield 1906: 9). Construction began in 1877 connecting Taupiri to Mercer, and ultimately the greater Auckland network. In 1908 the line was completed, linking Wellington to Auckland, providing logistical support for many towns like Taupiri and a means to get their products to markets which were previously only accessible by horse and cart over less than reliable tracks. This main trunk passes approximately 70 m behind 127 Great South Road.

### *Archaeological survey and investigations*

There has been an increase in archaeological survey and investigation within Taupiri in the past decade as a result of the Waikato expressway (Campbell and Harris 2011) Maintenance works on the NIMT (Cruickshank 2016) and increased demand in housing developments (McIvor 2017; Keith 2019a, 2019b). The associated investigations have mainly encountered modified gardening soils, storage pits and lithic artefacts except for Cruickshank (2016), which primarily identified cooking areas and later burials associated with Taupiri Maunga (S14/6). This was not unexpected for the project, and it should be viewed as an outlier for archaeological investigations in the area.

This property was surveyed by Sian Keith Archaeology (SKA) Ltd in 2017, where three potential borrow pit depressions were identified. Three test pits were dug, with Test Pits 1 and 3 having indications of modified gardening soils within them. Test Pit 2 was dug into one of the borrow pits but this identified a thick fill deposit containing charcoal on top of a loose fine gravel at 800 mm. These potential borrow pits and associated soils were recorded in the NZAA SRS as site S14/472.

## **Investigation**

Three trenches of topsoil stripping were initially monitored on 19 December 2019 to identify the extent of Borrow Pits 1 and 2; confirm if Borrow Pit 3 is archaeological in nature; and determine if gardening soils are present across the property. As a result of the initial three trenches, an additional two trenches were dug to determine the extent of gardening soils and Borrow Pit 1.

### *Trench 1*

This trench was run along the edge of the sewer trench from the manhole on the property to the northern boundary, which represents the westernmost extent of earthworks. It was expected that evidence of Borrow Pits 1 and 2 would be identified within this trench and any associated gardening soils would also be evident.

The topsoil ranged between 150–200 mm in depth, onto a B horizon consisting of Horotiu loam. There was evidence of tree root disturbance and rabbit burrowing in the first 20 m of trench.



Figure 2. Plan of property showing the locations of Borrow Pits 1, 2 and 3 and Test Pits 1, 2 and 3 as identified by Keith (2017) and position of the five trenches described below.

Modified gardening soils were identified in the trench between 28 and 42 m. These modified soils were identified as a lens of Hinuera gravel ranging from 20–100 mm thick partially mixed into a buried topsoil layer. At the 42 m mark, the fill of Borrow Pit 1 was observed for 6 m. No evidence of a second borrow pit was identified within this trench. Borrow Pit 1 and its associated soils are discussed in further detail below.

### Trench 2

This trench was placed approximately 10 m south east of Trench 1 and run parallel to capture potential Borrow Pit 3 and any associated gardening soils. This trench had a similar topsoil depth onto the Horotiu loam as Trench 1, but had evidence of ploughing throughout it.

The potential borrow pit indicated by Keith (2017) consisted of a mix of organic material and charcoal to a depth of 500 mm onto B horizon soil. No evidence of C horizon gravels were present and it appears that it is most likely a burnt and removed stump rather than a borrow pit.

### Trenches 3 and 4

These two trenches were used to identify the extent of the modified gardening soils identified in Trench 1. These soils were identified for approximately 5 m in both trenches and then



Figure 3. Eastern baulk of Trench 1 showing Hinuera gravel above buried topsoil. Photo scale = 1.0 m.



Figure 4. Profile of potential borrow pit 3 showing dark organic fill. Photo scales = 1.0 and 0.5 m.



the soil profile returned to a 300 mm thick A horizon sitting on top of B horizon with no mixed material within it.

### Trench 5

This trench was dug to capture the extent of Borrow Pit 1 into the works area. The borrow pit was evident for approximately 3.5 m of the trench and then a similar profile of A and B horizons observed in Trenches 3 and 4 was observed.

## Borrow Pit 1 and associated gardening soils

As a result of the trenching, it appears that there is only one Borrow Pit which has been impacted through the construction of the gravity sewer and was still partially present within the extent of the proposed works area. This borrow pit had been bisected by the sewer main, and the eastern extent had been filled, obscuring it. Based on what was observed in Trenches 1 and 5 and what can be seen west of the proposed works, Borrow Pit 1 appears to measure 14 x 6 m and, in the trenches, is 1 m deep. Below this depth, the Hinuera gravels appear sterile so it is unlikely that mining was any deeper than the 1 m observed.

The associated gardening soils were identified over an area of approximately 100 m<sup>2</sup>. It should be noted however that it is likely that they extend outside of the scope of works, but they do seem to indicate a distribution to the south of Borrow Pit 1. It is likely that if the borrow

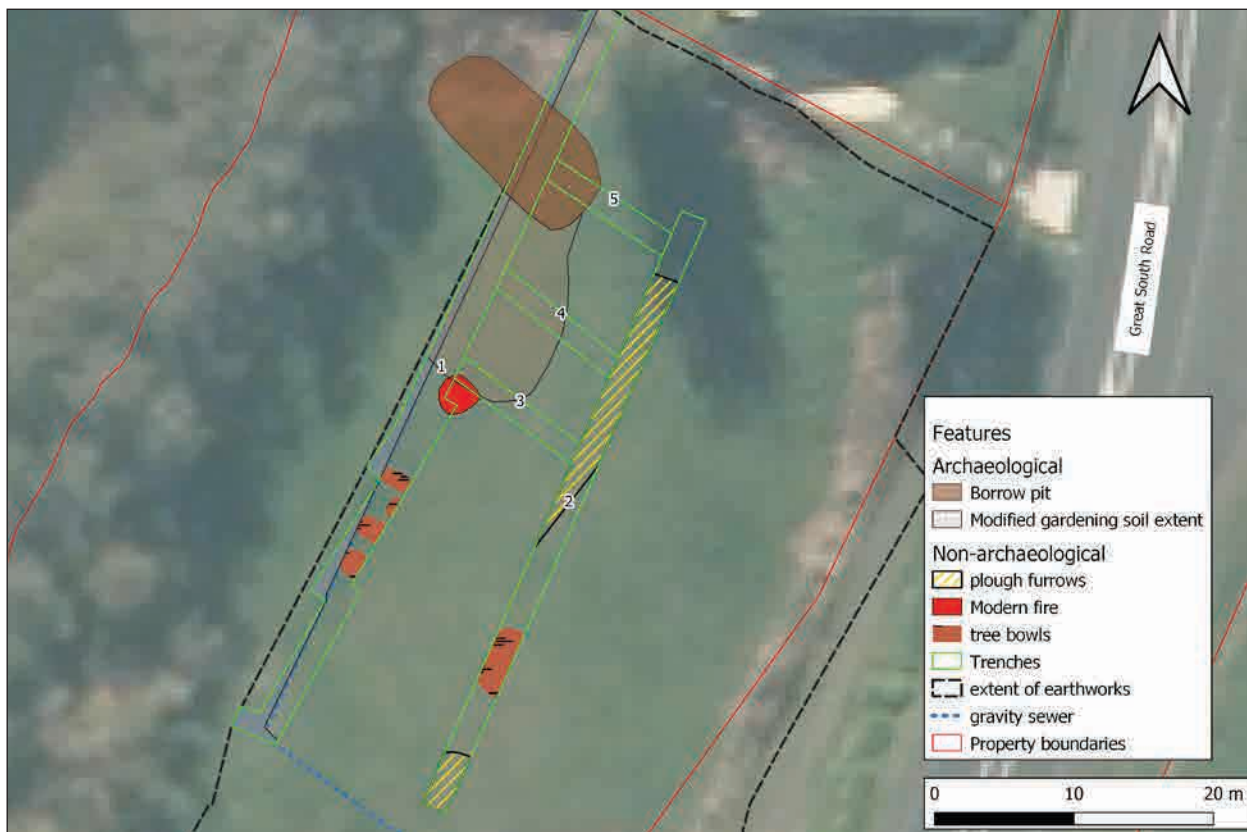


Figure 5. Plan of site showing location of five trenches and features discussed above.

pit continued to be mined then the extent of gardening soils would be greater than what was identified.

## Discussion

Based on the small area of gardening soils identified within the proposed works area and lack of definitive mixing into the soil, it is likely that this borrow pit was abandoned not long after it was established. Based on the flooding events identified during archaeological investigations at Taupiri Maunga (Cruickshank 2016) it is possible that due to the close proximity of the Waikato River, the site proved unsuitable for horticulture due to flooding risks.

The mixed material identified by Keith (2017) during topsoil stripping could be the result of additional gardening soils outside of the extent of works, but equally could have been a result of ploughing which is evident within the property. As Test Pit 1 dug by Keith (2017) was outside of the scope of works, further investigation was not undertaken to establish the origin of that sample. Test Pit 3 was near an area of identified ploughing and no obvious borrow pit, so it is possible that this modification was modern rather than associated with pre-European Māori horticulture.

No further archaeological features were identified within the proposed extent of works, and no material was sampled for further analysis.

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