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Archaeological assessment of the proposed wastewater outlet pipeline within Wainui Reserve.

By Dr Warren Gumbley **September 2024**

Introduction

Watercare Services Ltd intend to install a new waste water pipe from the treatment station to the head of a small gully within Wainui Reserve. This pipe will be directional and drilled from the area of the existing manager's house up the ridge to the crest and then north to the head of the galley. As part of this, several pits will need to be dug to facilitate the drilling, and platforms for the rig may be needed in some places.

Two options (1 and 2 in Figure 1) are under consideration for the outlet pipe, with Option 1 being the preferred option. This assessment refers only to Option 1.

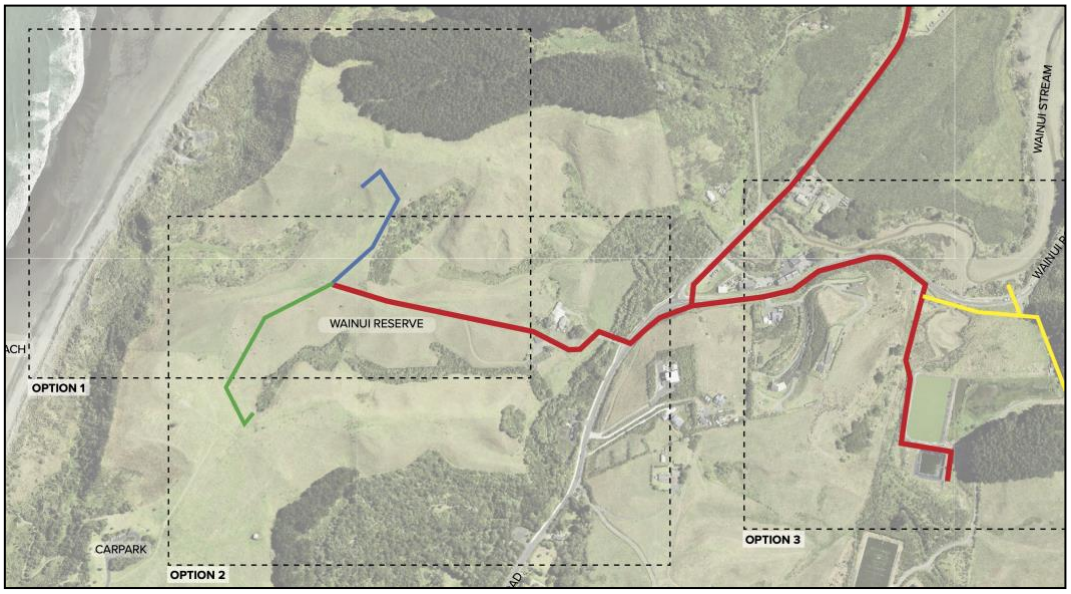

Figure 1: Map showing various rite options for pipelines associated with the wastewater upgrade. The area surveyed relates to the part of the route from Wainui Road to the head of the stream gully, as shown by the red and blue lines. (Prepared by BECA.)

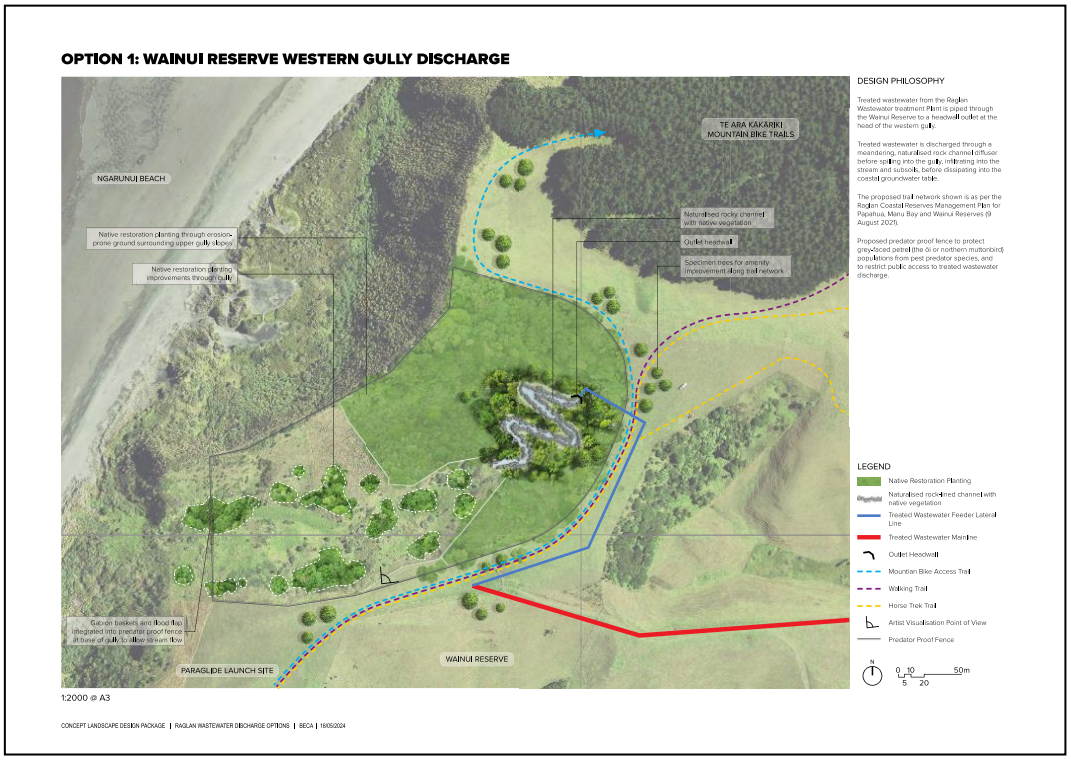

Figure 2: Concept plan showing Option 1 in more detail. (Prepared by BECA.)

Background

A series of 12 archaeological sites are recorded within the Wainui Reserve. Three are relatively close to the proposed pipeline route and the recipient gully. The three sites are R14/63, R14/136, and R14/351, respectively, a pā and two storage pit sites. The locations of these are shown in figure 2. The pā is on the ridge north of the gully and overlooks the gully. The pit site, R14/136, is recorded as located on the ridge crest that forms the northern side of the gully. The other pit site, R14/351, is located northeast of the proposed pipeline and the head of the gully. Of these recorded sites, only R14/136 might be impacted by the proposed development because it would be within the area where native trees and shrubs will be planted. However, during the 2008 archaeological survey of Wainui Reserve (Hoffmann 2008), R14/136 could not be relocated. At that time, the area where the record locates the site was under dense vegetation, described as kikuyu grass and gorse.

The pā (R14/63) is located close to the project boundary, a short distance to the north, approximately 75 m.

Methodology

In addition to referencing the archaeological site records held in the national database (Archsite), historical aerial photography was consulted via Retrolens (https://retrolens.co.nz/).

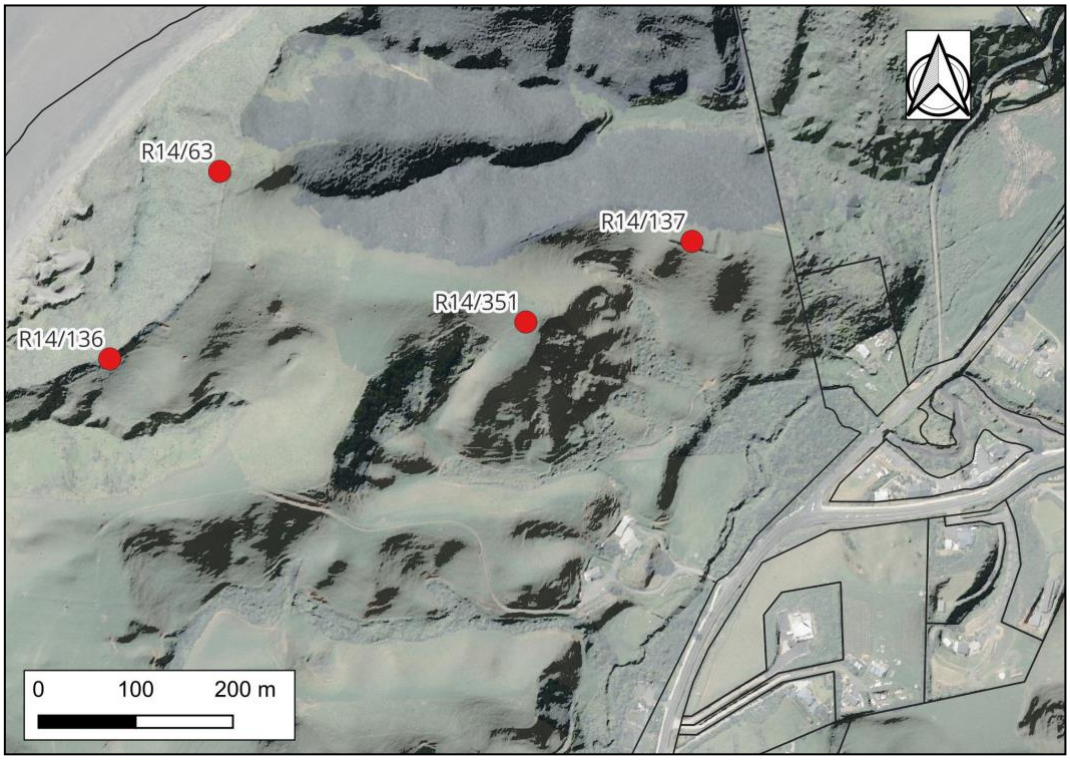

Figure 3: Location of archaeological sites recorded in the national database near option 1.

The 1944 and 1957 aerial photographs[1] were reviewed. Neither showed any features close to the pipeline route of the stream gully. The pā R14/63 and R14/137 were visible in the 1957 aerial photographs but were less visible in the earlier photographs because of the presence of ground cover in 1944.

The pipe route was walked to examine the ground surface for evidence of potential archaeology. This was supplemented in places using a 25 mm diameter screw-type soil auger. The auger was used in areas where the ground was flat or gently sloping to identify any soil disturbance that may indicate the presence of archaeological features (e.g. the fill of a storage pit) or shell midden.

Altogether, 21 Auger samples were examined in four locations.

Results

No archaeological features were observed along the pipeline route nor in the gully. R14/136 could not be relocated at the location identified in the site record form. The area of the pā R14/63 was also examined.

[1] SN266/831/3 and SN1051/2675/2 respectively.

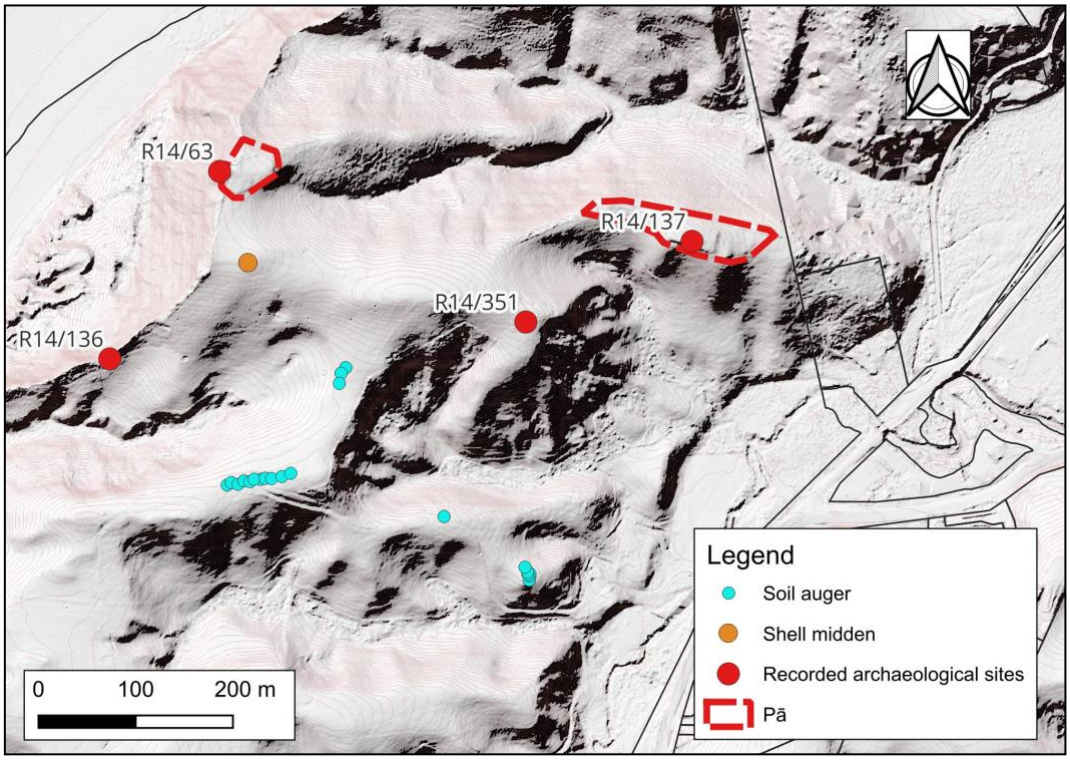

Figure 4: Plan showing the locations of the auger samples and archaeological items. The shell midden is recorded in ArchSite as R14/470.

None of the auger test sites revealed any evidence that indicated the potential for archaeological deposits.


Figure 5: View east down the lower part of the access track from the manager's house.

Figure 6: View down the upper part of the track from the manager's house.

Figure 7: Typical soil profile seen in the track cutting.

Figure 8: View north along the ridge crest showing where the track from the manager's house meets the ridge crest (gate centre-right). The head of the gully can be seen in the centre–left of the image.

Figure 9: Stock cutting showing a typical soil profile at the head of the gully.

However, shell midden was exposed around the water tank adjacent to the maramataka 'circle' on the ridge crest immediately above the gully. While this exposure of shell midden is disturbed by the installation of the water tank, it indicates that the level area where the maramataka circle is sited contains archaeology and probably functioned as an extension of pā R14/63. Therefore, this area has been recorded in the national archaeological site database as R14/470.

Figure 10: Shell midden visible in the stock cutting around the water tank at R14/470.

Figure 11: View from the water tank looking south east across the head of the gully.

The identification of shell midden, with the potential for further archaeological deposits within and surrounding the flat area where the maramataka circle is located, has implications for the final location of the proposed predator-proof fence and the associated native plantings. Both should be located downslope of the flat area where the circle is located. Similarly, the

proposed route of the mountain bike track, as shown in Figure 2, is inapposite and needs to be changed to avoid both this area and the pā.

Conclusions

The pipeline route appears to avoid archaeology, but associated activities, such as the predator-proof fence, the native vegetation plantings in the gully, and the proposed mountain bike track, could affect archaeology. These need to be finalised to avoid impact on archaeology. There is no need to apply to Heritage New Zealand for an archaeological authority to install the pipe. Good planning for the location of the predator-proof fence and plantings will mean that these should not need an authority either. To achieve this, it is recommended that an archaeologist vets the final design for these to ensure that archaeology is avoided.