

Oakura Wastewater Treatment and Reticulation Upgrade preliminary archaeological report

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Introduction

Whangarei District Council are currently completing an upgrade to the Oakura wastewater reticulation system. This has required the construction of sewer mains, pump stations and household connections throughout the Oakura township. Archaeological investigations were undertaken at the request of Alistair Greenwood, Whangarei District Council Project Manager for the upgrade between 4 August and 20 November 2008 under authority 2008/211 issued by the New Zealand Historic Places Trust (HPT) under section 14 of the Historic Places Act 1993.

An archaeological assessment of the works was undertaken by Ben Thorne and Colin Sutherland for CFG Heritage Ltd in December 2007 (Thorne 2007). That report noted that Oakura was located within a dense archaeological landscape which included seven pa sites as well as numerous pit, terrace and midden sites. Because the proposed wastewater lines were largely located beneath landscaped surfaces and roads and archaeological evidence that may have been present was obscured, the surface inspection was not very revealing. Accordingly, based on the limited surface evidence as well as on a close reading of the landscape, a series of archaeologically sensitive zones were defined with the recommendations that an authority to destroy, damage or modify archaeological sites within the area of works be obtained from the HPT that the sensitive zones be monitored by an archaeologist during the project. This monitoring is reported here. Monitoring and archaeological investigations were required for the open trenching for the main sewer lines, entry points for directional drilling, lateral trenches for household connections and open excavations for pump stations. This report outlines the basic archaeology of the investigation and points towards the analyses that will be undertaken in order to fulfil the conditions of the HPT authority.

Methodology

Maps of the proposed trench lines were provided by Whangarei District Council. This information also indicated areas for directional drilling, lateral trenches to the household properties, planned areas for pump stations, existing mains, including sewer and stormwater lines. The New Zealand Archaeological Association (NZAA) had recently upgraded information on archaeological sites in the area and data from the upgrade had been supplied by Council in GIS format. Clive Stone from the Ngatiwai Trust Board Resource Management Unit and various iwi representatives were consulted and present throughout the process. Ngatiwai are preparing a cultural impact assessment which is still to be completed and therefore is not taken into account in this report. Open trenching was undertaken with a mechanical digger which was monitored in areas identified as archaeologically sensitive during the December 2007 assessment, including

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general areas where subsurface features may be present. Trenches were carefully excavated at approximately 150 mm levels to a depth of 1.5 m. Twelve subsurface features were exposed during the earthworks with the majority (six) located along Oakura Rd and the remaining at Te Kapua St (four), Omutu St (one), and behind the Fire station (one). All features were numbered, mapped and recorded, including location points recorded on a hand-held Garmin GPS, generally accurate to ± 5 m, on New Zealand Map Grid. Features and areas were photographed with a digital camera.

Shell middens were sampled, taking a regular 10 litre sample in order to allow comparison between samples. Faunal material (animal bone waste other than shell) associated with pre-European Maori features or 19th/early 20th century features was retained. Koiwi (human remains) were relocated to the Oakura Cemetery the following day after excavation.

All artefacts were retained for analysis, whether from pre-European Maori features or 19th/early 20th century historic features. Artefacts from later 20th century rubbish pits (e.g., plastics, soft-drink cans, and modern beer bottles) were described on site and discarded.

Results

Each feature is described in this section. All features were numbered sequentially, apart from two firescoops (Feature 8) which were identified as Firescoops A and B. Note that Feature 5 has yet to be determined as a garden soil. Each feature has GPS points and photographs. The street locations of each feature are also given as this gives households an indication of the likelihood of further archaeological evidence being encountered during connection to the new mains.

Feature 1 – Midden: Ohawini Rd- Fire Station *E 2633073 N 6645488*

A heavily fragmented lens of tuatua (*Paphies subtriangulata*) and pipi (*Paphies australis*) shell with a thickness of 80–100 mm was located 32 m from the NE end of the trench line running adjacent to the irrigation ditch. It was immediately under 200 mm of topsoil and underlying the lens was a 180–200 mm grey/brown sterile soil.

The length of the feature is 2.5 m with little variation in the thickness. Small amounts of charcoal and pebbles were visible in the profile. This feature was sampled, recorded and mapped. A small flake of obsidian, probably from the local Huruiki source, was also recovered.

Feature 2 – Firescoop: 37 Te Kapua St. *E 2632918 N 6644484*

Three distinct charcoal stained layers with burnt sand on the base were located at the end of Te Kapua St. The feature was 490 mm in thick with a width of 1.6 m. Each distinct layer was approx 80–20 mm thick with flecks of charcoal visible. The feature was located 170 mm below the surface in fine-grained natural sterile sand which has been capped by the road.

The fire-stained sand at the east end of the feature was irregularly shaped and approx 20–50 mm in thickness with the length being 180 mm. It was sampled, photographed, and recorded.

Feature 3 – Midden: 209 Oakura Rd.
E 2632846 N 6644243

An oval-shaped lens of heavily fragmented tuatua shell, 1.9 m long and 120–150 mm thick, was located directly beneath the remnants of a shell garden at a depth of 150 mm. This feature was exposed by surface clearing with a mechanical digger. Beneath the lens was 900 mm of natural brown dune sand and then natural white beach sand to a depth of 1 m (base of trench).

No charcoal or faunal bone material was visible in the profile and sample. Photographs and GPS points were taken.

Feature 4 – Animal bone: 203 Oakura Rd.
E 2632889N 6645061

One femur from an mammal (probably sheep) was located at the base of the trench line at a depth of 1.2 m. The profile of the trench was 150 mm of humic topsoil with the remaining stratigraphy being natural, white beach sand to the base of the trench. Note this bone could possibly be fall-in material from the sides of the trench.

Feature 5 – Garden soils: 209 Oakura Rd.
E 2632848 N 6645047

A possible garden soil layer was visible in both sides of the trench line as a 250–300 mm thick band of brown/black soil, brown sand with small water-rolled pebbles mixed throughout. This feature was at a depth of 540 mm with 190 mm of topsoil and 350 mm of white/light brown sterile sand above it, and 1.5 m of sterile sand below the band to the base of the trench. The length was 25 m running from a south to north direction. No charcoal or bone was clearly visible in the profiles. Personal communication with local resident J. Smith recalls as a child local kaumatua talking about gardens along the foreshore of Oakura Bay. This foreshore strip was also farmed in the 19th century. The feature was photographed, mapped and sampled.

Feature 6 – Koiwi and animal bone: 203 Oakura Rd.
E 2632850 N 6645047

Various human and animal bone remains were recovered from the spoil heap of the trench line. No bone was visible during monitoring either in the profiles or spoil. All excavations were suspended with the appropriate people notified immediately, ie; iwi, police, Historic Places Trust and Council, followed by a blessing (karakia) of the site by local kaumatua.

Both the spoil heap and approximate area from where the bone came from was taped off with the following two days spent sieving the spoil heap. All koiwi recovered was kept by local kaumatua overnight and then reburied the following day at Oakura cemetery. Photographs of the koiwi were taken and it was noted that most of the long bones were incomplete. This could partially be due to excavation damage and dumping of spoil. Due to a time restriction further analyses was not undertaken.

The remaining animal and fish bone was retained for further analyses. Two flakes of obsidian were also recovered during the sieving of the spoil heap. Note that koiwi were recovered approximately 40 m from the immediate foreshore in December, 2007. Results can be seen in a police report held by Ngati Wai Trust Board.

*Feature 7 – Midden: Pump Station opposite entrance to Te Kapua St.
E 2632808 N 6644704*

A thin lens, approximately 20 mm thick, of heavily fragmented shell was recorded in south-facing road cutting approximately 12–15 m west of the pump station opposite the entrance to Te Kapua St. It is 1 m in length and at a height of 650 mm from the road surface and is clearly visible from the roadside. No bone or charcoal was evident upon inspection.

*Feature 8 – Firescoops A & B: 207 Oakura Rd.
E 2632836 N 6645088*

Firescoop A was located in west-side of trench 4–5 m south of the property boundary during trench line excavation. The firescoop was directly under 300 mm of topsoil with fire-cracked rock and charcoal stained sand clearly visible. The feature is bowl-shaped, 30 mm in depth, and 600 mm in length. Unfortunately due to collapsing of the trench wall, the feature was unable to be sampled.

Firescoop B was located in same profile 7 m north of Firescoop A at a depth of 300 mm directly under the topsoil. The firescoop was 850 mm in length, with a distinctive scoop-shape to the feature which was cleaned back by trowel and spade. It had a oval-shape in plan view. The fire-scoop was half-sectioned to investigate the contents, being charcoal-stained sand, fire-cracked rock and one small animal bone (incomplete rib). No shell was visible during excavation. Photographs before and after excavation were taken including a GPS point and a sample was taken.

*Feature 9 – Rubbish pit: 37 Te Kapua St.
E 2632852 N 6645080*

This feature was damaged by earthworks with a large amount of animal bone being recovered in the spoil heap. Information regarding an in-situ rubbish pit was therefore unable to be recorded and all material was bagged as spoil-heap finds (bone). Corrugated iron, an old oven, and miscellaneous metal objects were noted but not collected. The rubbish pit was located along the track to the cemetery approximately 25-30m south-east of the end of Te Kapua St. Due to the large amount of bone it is possible an animal burial was part of the pit.

*Feature 10 – Rubbish/offal pit: 203 Oakura Rd.
E 2632850 N 6645068*

A small amount of cattle bone was located 12 m from the man-hole in the trench line running across Oakura Rd in a north-south direction at a depth of 1m. No evidence of articulation was visible and the bone was excavated from an area of 1 x 1 m with a depth of 800mm. The feature was in sterile, clean dune sand, no charcoal or shell was present. Some bone have clear butchery marks on them and await further analyses.

Feature 11 – Midden: 6 Omutu St.

Midden scoop located by excavation of trench line at a depth of 300 mm. It measured 1200 x 650 mm but was heavily disturbed due to tree root damage. The depth was 250–300 mm with a layer of charcoal-stained sand (100 mm) at the base of the feature. The midden was sampled with charcoal and a small amount of fishbone present.

Feature 12 – Rubbish pit: 1 Te Kapua St.

An area of 1 x 2 m was excavated for an entry point for directional drilling. Animal bone and two complete bottles were recovered at a depth of 800-900mm, however, any shape to the feature was heavily damaged during mechanical excavation. All bone and glass visible was retained including an location GPS point.

Future analysis

The midden samples will be analysed following a standard protocol. All other artefactual and faunal remains will be analysed. Samples will be taken from the midden samples for radiocarbon dating. A microfossil analysis will be undertaken on the soil samples from Feature 5 to determine if it is a garden soil and what plants may have been grown there. A full report will be prepared.

Recommendations

Because the recorded sites are likely to extend on to adjacent properties the householders will need to obtain an authority from the Historic Places Trust under section 14 of the Historic Places Act 1993 to destroy, damage or modify the sites when they install their connections to the new mains. This applies to the properties listed in the features descriptions and, as a precautionary measure, properties on either side of them.

These authority applications should follow the protocols agreed at a meeting held on 13 October 2008 at Walton Plaza between the Trust (represented by Bill Edwards and Shelagh Norton), Whangarei District Council (Karsten Thomsen), Ngatiwai (Clive Stone) and CFG Heritage Ltd (Matthew Campbell).

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References

Thorne, B. 2007. Oakura Wastewater Treatment and Reticulation Upgrade archaeological assessment. Unpublished CFG Heritage Ltd report to Whangarei District Council.