

HBRC ARCHAEOLOGICAL SCREENING: PUMP STATIONS, HAWKE'S BAY

LEGISLATION

Under the current legislation (HNZPTA 2014) all archaeology is protected. This includes both recorded archaeology (that which we know is present) and unrecorded archaeology (that which remains to be formally identified).

PRELIMINARY SCREENING

This document is a high-level desk top screening only. It does not constitute a full Archaeological Assessment of Effects and at time of initial release did not involve a site visit UNLESS a Site Visit section is presented. The purpose of the screening is to help the recipient in determining the appropriate or legally required archaeological inputs during the preliminary planning stages of the screened project(s). At the completion of each project screening a progression recommendation is made, based on the information presented and the archaeologists' understanding of the potential risks. It is the recipient's responsibility to follow the advice and recommendations made.

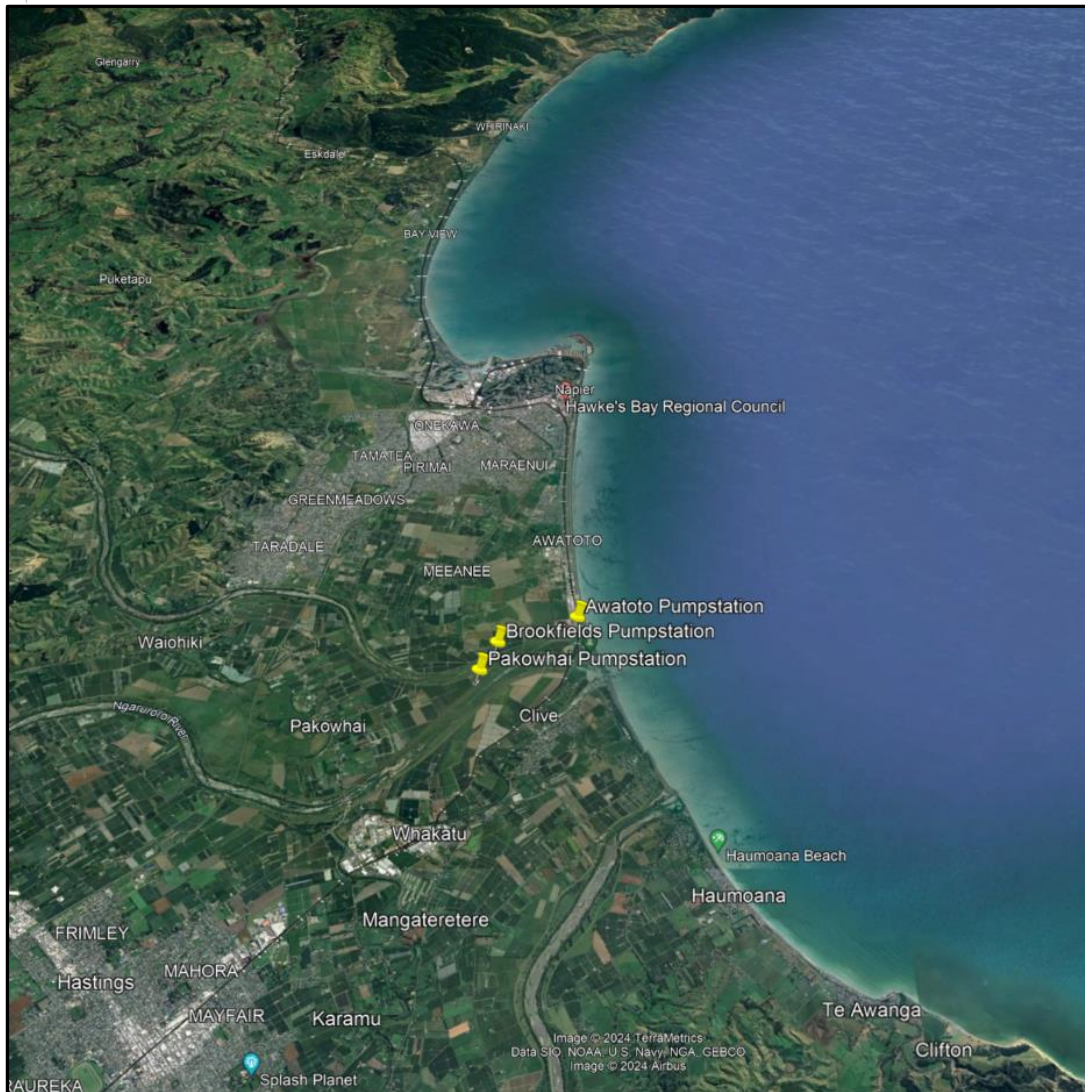
BACKGROUND

An archaeological risk screening of three proposed replacement pump stations has been requested from Archaeology Hawke's Bay Ltd (AHB) by J.P. Neethling for Hawke's Bay Regional Council (HBRC).

LOCATION

This screening relates to the following pump station sites:

- Awatoto
- Brookfields
- Pakowhai



Locations of the three pump stations in broad context.

PROPOSED WORK

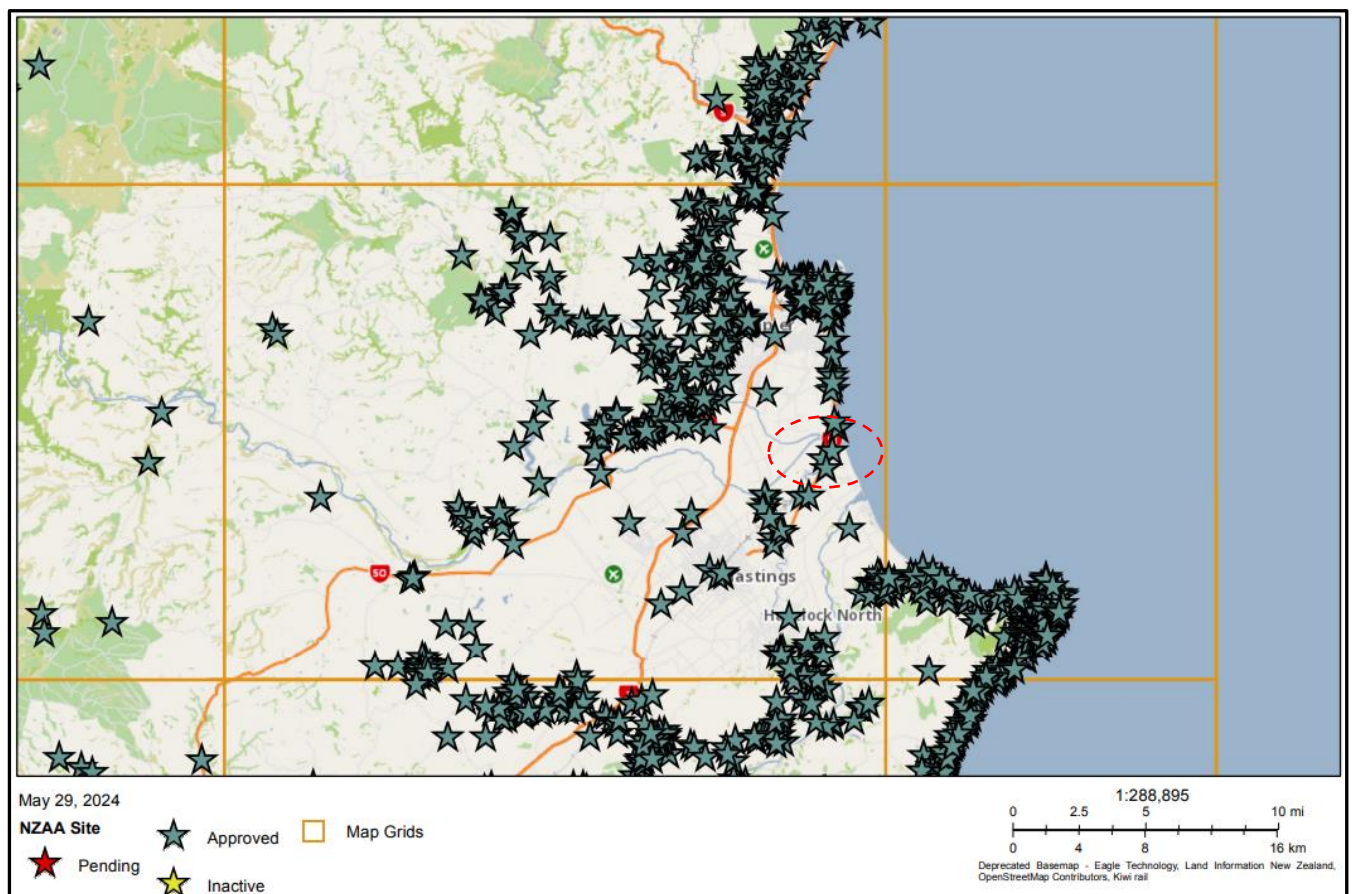
The proposed work involves the demolition of the existing pump station building(s) at each location and the construction of two new buildings per location (as provided by J.P. Neethling via e-mail 15/05/2024).

- Building 1: foundation (approximately) 13 m x 4.5 m x 4.5 m deep
- Building 2: foundation (approximately) 14 m x 7 m x 1 m deep (excluding pile depths)
- General earthworks: excavation of foundations to indicated depths and introduction of introduced fill- note depths remain subject to geotechnical confirmation so may go deeper or shallower. Further cut and fill earthworks to an unspecified extent will be required to create access platforms.

OVERVIEW OF ARCHAEOLOGICAL POTENTIAL

Traditionally river corridors and river mouth environments were utilized for resource gathering and as transportation routes, either by foot or waka. Prior to and since Cyclone Gabrielle there have been several instances of archaeological sites having been encountered at significant depth below current ground levels (> 1 m) along river or stream corridors e.g. during the Whakatū Arterial Link project (V21/464, V21/463, V21/465, V21/461, V21/462) and during the Springfield Stopbank repairs (V21/531)

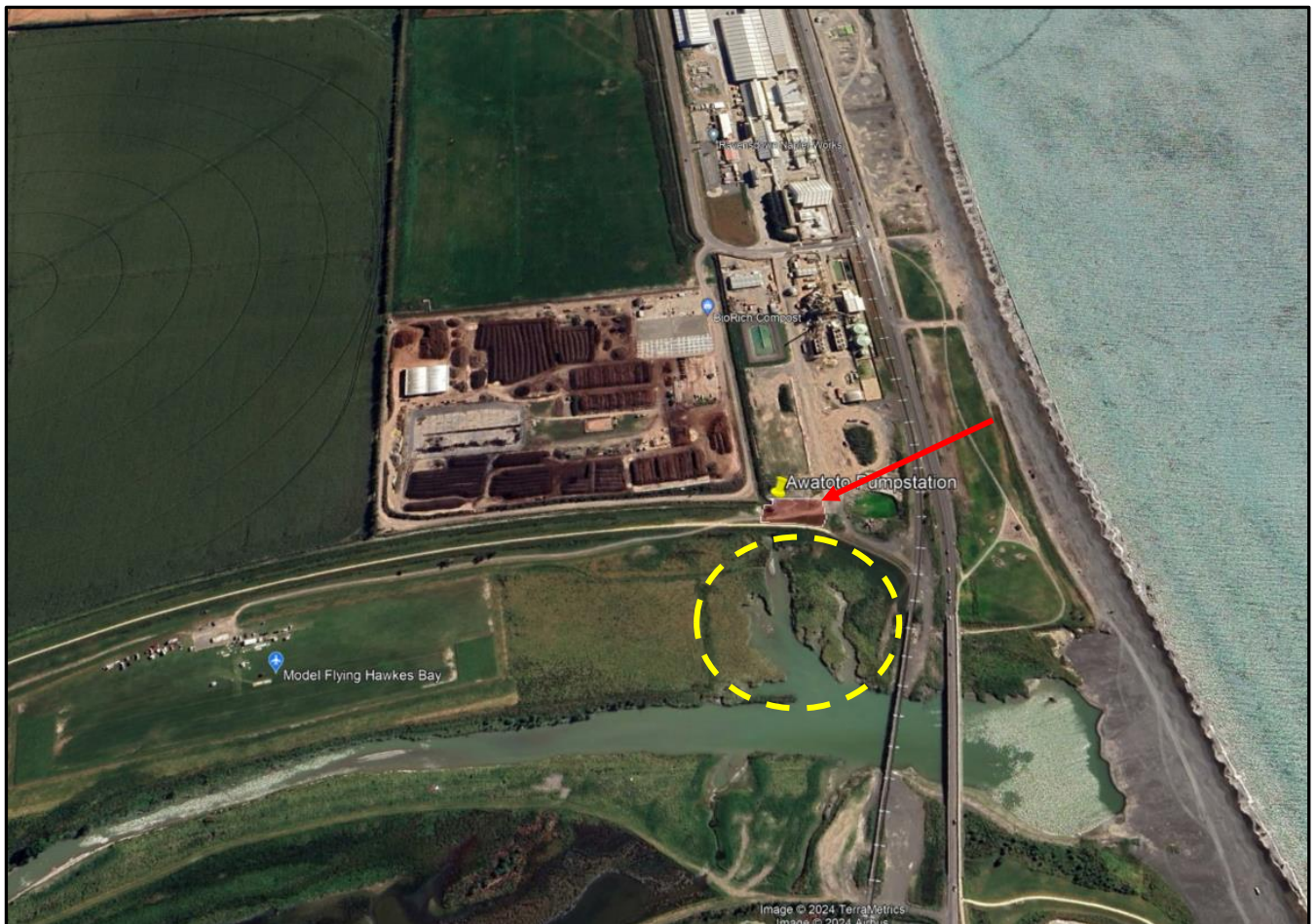
These pump stations lie adjacent to the present day Tutaekuri and Ngaruroro Rivers. These rivers are in places much modified from their pre 1900 course, with three now essentially exiting at the one river mouth. Therefore, the location, size and form of the current rivers cannot be assumed to closely reflect that of the pre-1900 environment. Further, because of Cyclone Gabrielle (Feb 2023) the river mouth area was significantly altered with gouging of banks and the creation of numerous new inlets.



Wider archaeological landscape of proposed pump station projects (red dash) (ArchSite).

AWATOTO PUMP STATION

The Awatoto pump station is located adjacent to the Tutaekuri, Ngaruroro and Clive River mouth. This area has been considerably modified by industrial activity throughout the 20th Century and has also been impacted by river redirection work. During Cyclone Gabrielle the Awatoto area was significantly impacted by the volume of water from three flooding rivers being funneled to this one exit point. The physical changes to the river mouth include newly formed inlets gouged out during the flooding (see below).



Awatoto Pump Station location in local context, arrowed red shade indicated project area, yellow dash = newly formed inlets (Google Earth Pro & kmz data provided by J.P. Neethling).

ARCHSITE

There are two currently recorded archaeological sites within approximately 300 m of the proposed replacement Awatoto pump station:

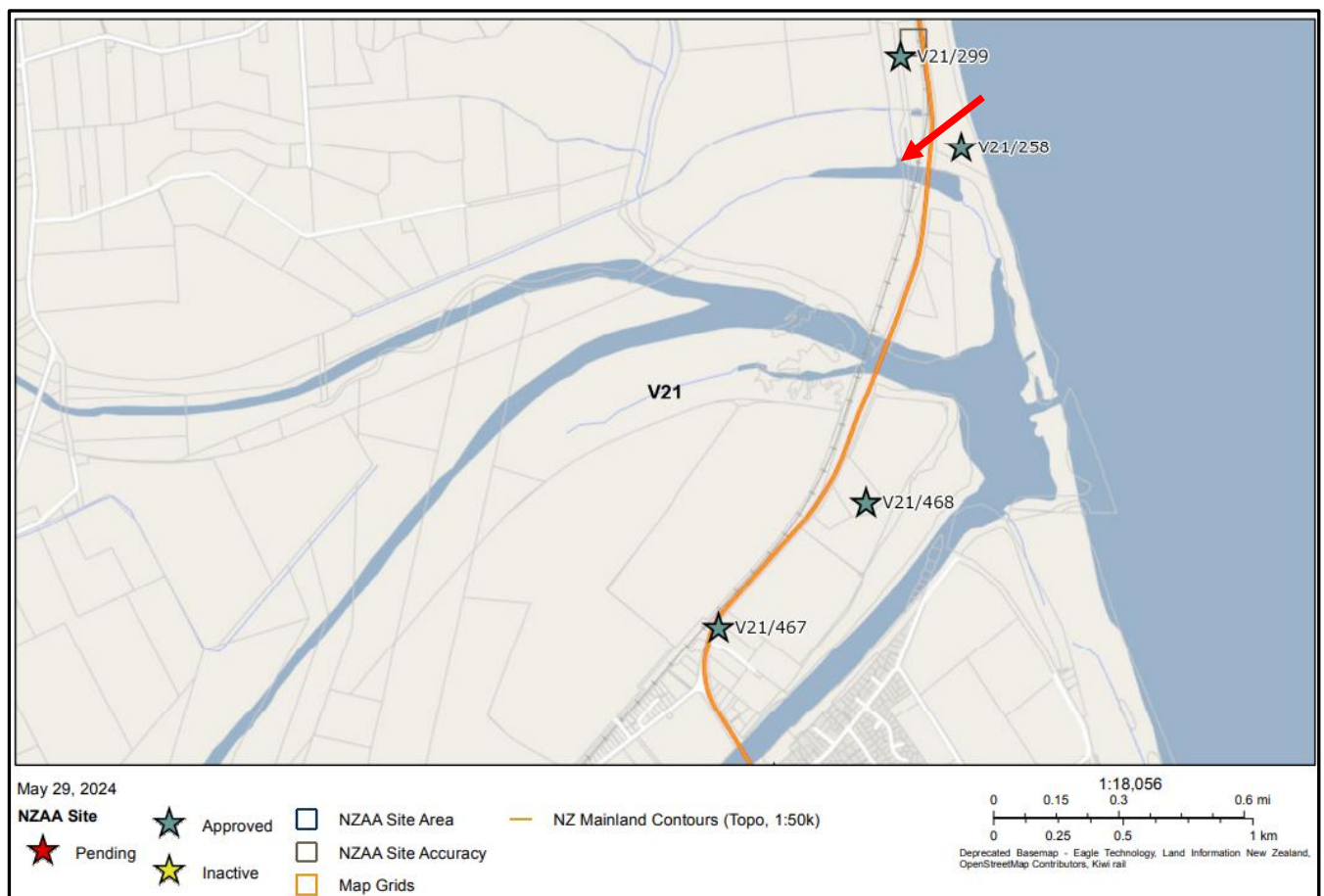
V21/258 – WWII Pillbox

V21/299 – Te Awapuni Pā, chapel and burial ground associated with William Colenso's mission

station.

Recorded site V21/258 is a WWII military pillbox, is observable from the surface and has a highly defined and localized footprint. This archaeological site will not be impacted by the proposed work.

Recorded site V20/299 is described as Te Awapuni Pā and is recorded as having a chapel and burial ground that are associated with William Colenso's mission station. This would suggest that this is potentially an extensive site as pā often had activity areas much more expansive than the pā palisades or defenses might indicate. The additional chapel and burial ground potentially extended this site further. However, this site is recorded from historic documents only, there is no physical evidence at the surface, and aside from anecdotal records of human remains being encountered during work at the Ravensdown factory (mid – late 20th C?), no archaeological evidence of the pā, chapel or burial ground has been recovered to date.

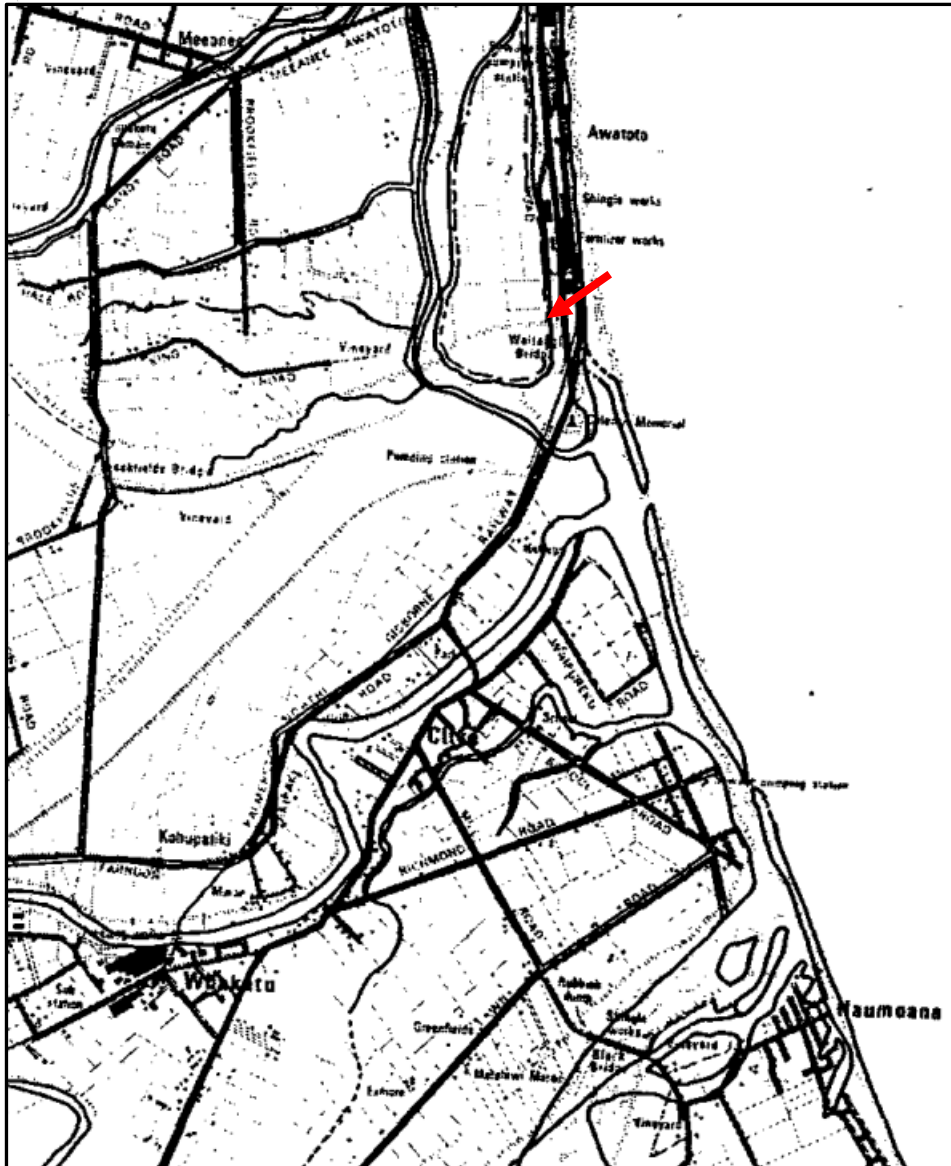


Archsite excerpt showing the recorded archaeological sites in the immediate vicinity of the pump station location (arrowed).

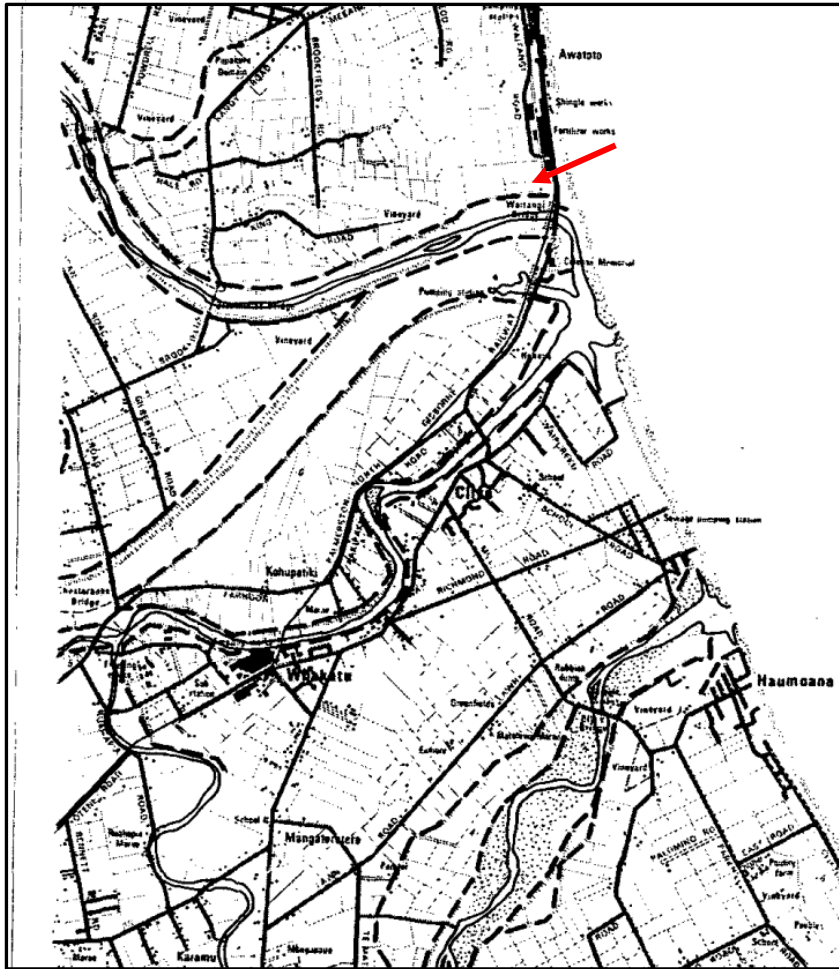
HISTORIC MAPS

Historic maps are very useful for understanding past landscapes, especially in areas such as this where river courses have been significantly modified both by natural and engineered means. A series of Hawke's Bay Rivers Board map excerpts included in the V21/299 Site Record form shows the changes to the river mouth and river corridors between 1875 and 1990. In 1875 there were multiple streams and three major rivers: Ngāruroro, Clive and Tukituki all feeding into an extensive long narrow estuary running from the Waitangi Bridge to Haumoana, separated from the sea by a narrow gravel bar.

By 1958 the Tutaekuri had been diverted to its current path and the proposed Ngaruroro diversion had been seemingly confirmed. The extensive estuary had been closed off with one river mouth for the Tutaekuri and Clive Rivers between Waitangi Bridge and Clive; and a second for the Tukituki at Haumoana.



Hawke's Bay Rivers Board plan excerpt showing 1875 rivers and coastal environment in the Awatoto to Haumoana area, project area arrowed.



Hawke's Bay Rivers Board plan excerpt showing 1958 rivers and coastal environment in the Awatoto to Haumoana area, project area arrowed.

HISTORIC AERIAL IMAGES

Several Retrolens historic aerial images dating from the 1930s to 1990s were scanned for information relating to the recent history of modifications to the pump station location and for potential unrecorded archaeological sites that might be affected by the proposed work. The earliest images of use found were from 1939 and shows the area prior to the major industrial activity of the 20th C. and during a flood event. By this time the river mouth stopbanks had been formed and the wetland, river and stream channels closest to the pump station appear largely consistent with those up until Cyclone Gabrielle. There was no indication in any of the images of unrecorded archaeology or features that might be associated with V21/299.



Awatoto area and river mouth within 1939 flood landscape (Retrolens taken 15/06/1939).



Indicative location of proposed work within 1939 landscape (Retrolens).



Indicative location of proposed work within 1969 landscape (Retrolens).



Indicative location of proposed work within 1980 landscape (Retrolens).

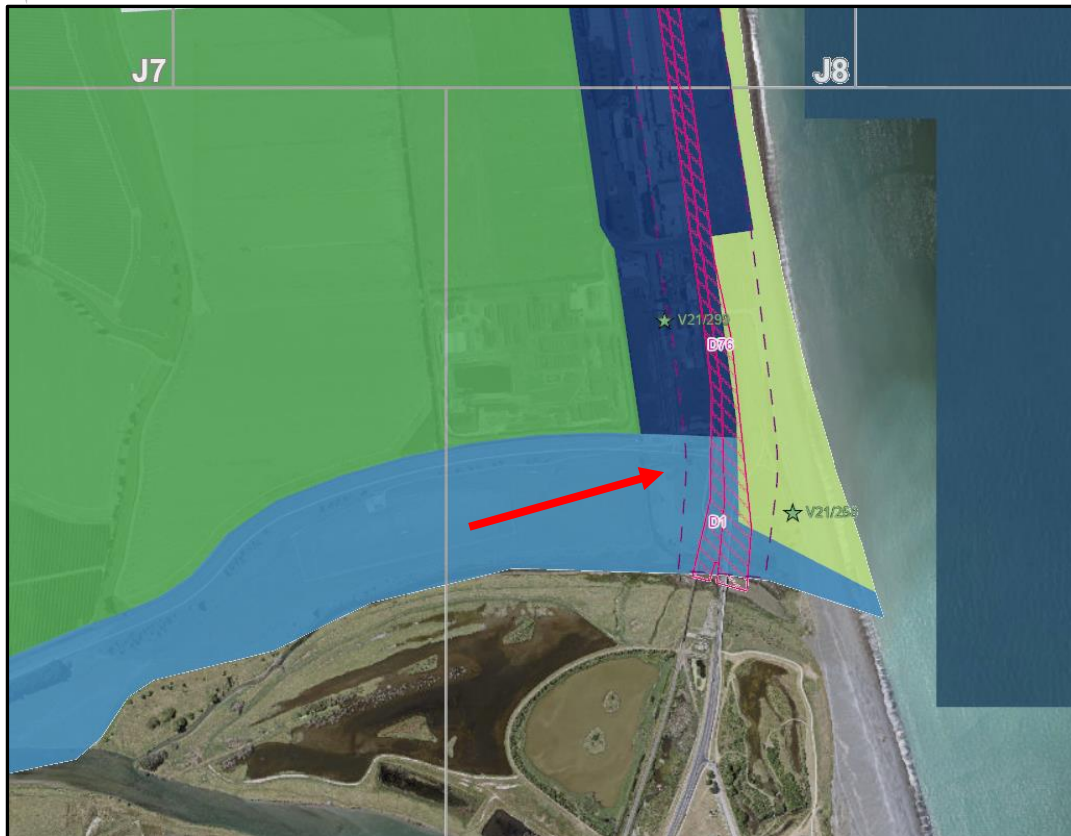


Location of proposed work within 2021 landscape (GoogleEarthPro).

DISTRICT PLANS

The area of proposed work lies within the Napier City Council region and is zoned as River Conservation. There are no items of cultural or historical significance aside from the two recorded archaeological sites, identified in the immediate area on the Operative District Plan¹.

¹ <https://napier.isoplan.co.nz/eplan/property/0/0/42>



Indicative location of proposed work (arrowed) in relation to NCC District Plan.

DISCUSSION

The proposed replacement pump station has two recorded archaeological sites within approximately 300 m. One, V21/ 258, is known to be outside the area of proposed work. Recorded site V21/299 has not had any surface or subsurface indicators identified since it's recording based on historic documents. Although this site is potentially sufficiently large that it could have extended to the area of proposed work, there is no evidence to suggest this to date. Unfortunately, the flood history of the Heretaunga Plains has obscured from view the types of surface archaeological indicators that are usually seen such as dips, hollows and banks; and materials such as burnt stone, shell, ceramic and glass. Over the past 5 – 10 years there has been an increasing realization that much of the archaeology of the Heretaunga Plains is buried beneath past flood depositions. Where earthwork is limited to the upper 300 – 500 mm of ground these archaeological horizons may not be revealed and remain intact beneath the modern landscape. However, where deeper foundations, footprints or excavations are required these archaeological horizons can unexpectedly be revealed.

SUMMARY STATEMENT

The proposed work does not directly impact any currently recorded archaeology. Nor is there

any evidence to date known to the writer that there is a high risk of encountering currently unrecorded archaeology within the proposed building footprints. However, there is an unquantified 'moderate' risk that archaeological features or materials associated either with V21/299 or unrelated activities occurring at the river mouth could be encountered during the work. Any such encounter, without an approved Archaeological Authority in place, could result in significant delays to the project whilst an Authority is sought and the required investigations carried out.

RECOMMENDATIONS

The pump station demolition and replacement could be undertaken under Accidental Discovery Protocol (ADP).

Hawke's Bay RC are encouraged to consider the risks associated with an ADP approach in terms of project delays should currently unrecorded archaeology be encountered. If an Archaeological Authority were required mid-project this could result in delays in the order of 4 - 6 months for document preparation, iwi consultation and HNZPT processing times. Alternatively, a pre-emptive Archaeological Authority could be applied for, potentially incurring costs and time delays (pre-start) that later prove to be unnecessary.

BROOKFIELDS PUMP STATION

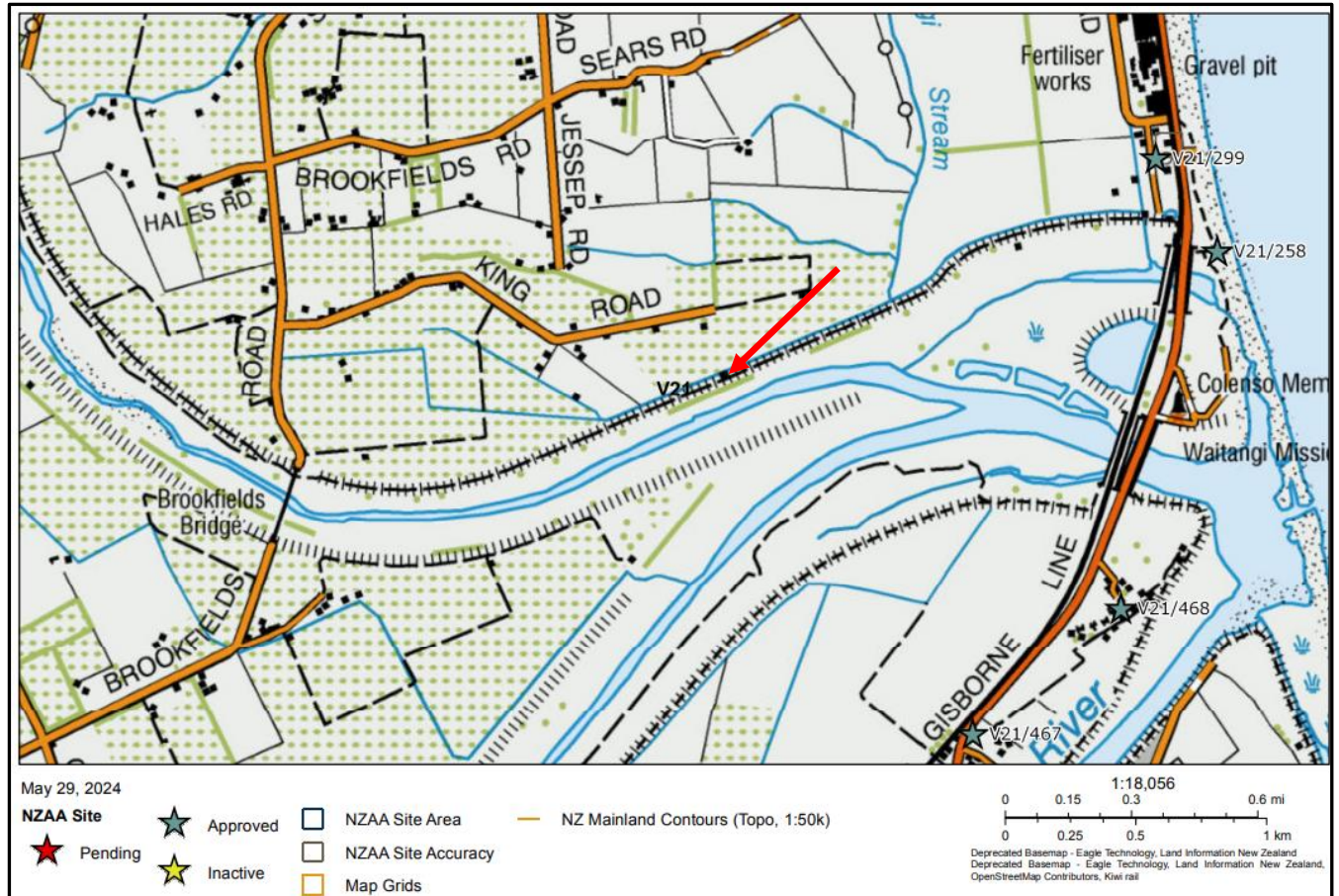
Brookfields pump station is located adjacent to the Tutaekuri River corridor. The area is primarily used for horticulture, viticulture and orchards. The redirected Tutaekuri runs to the south, whilst the redirected Ngaruroro joins the Tutaekuri channel to the east (see below).



Brookfields Pump Station location in local context, arrowed red shade indicated project area (Google Earth Pro & kmz data provided by J.P. Neethling).

ARCHSITE

There are currently no recorded archaeological sites within 1 km of the proposed replacement Brookfields pump station. The nearest recorded sites lie > 1.5 km east and include V21/258 and V21/299.



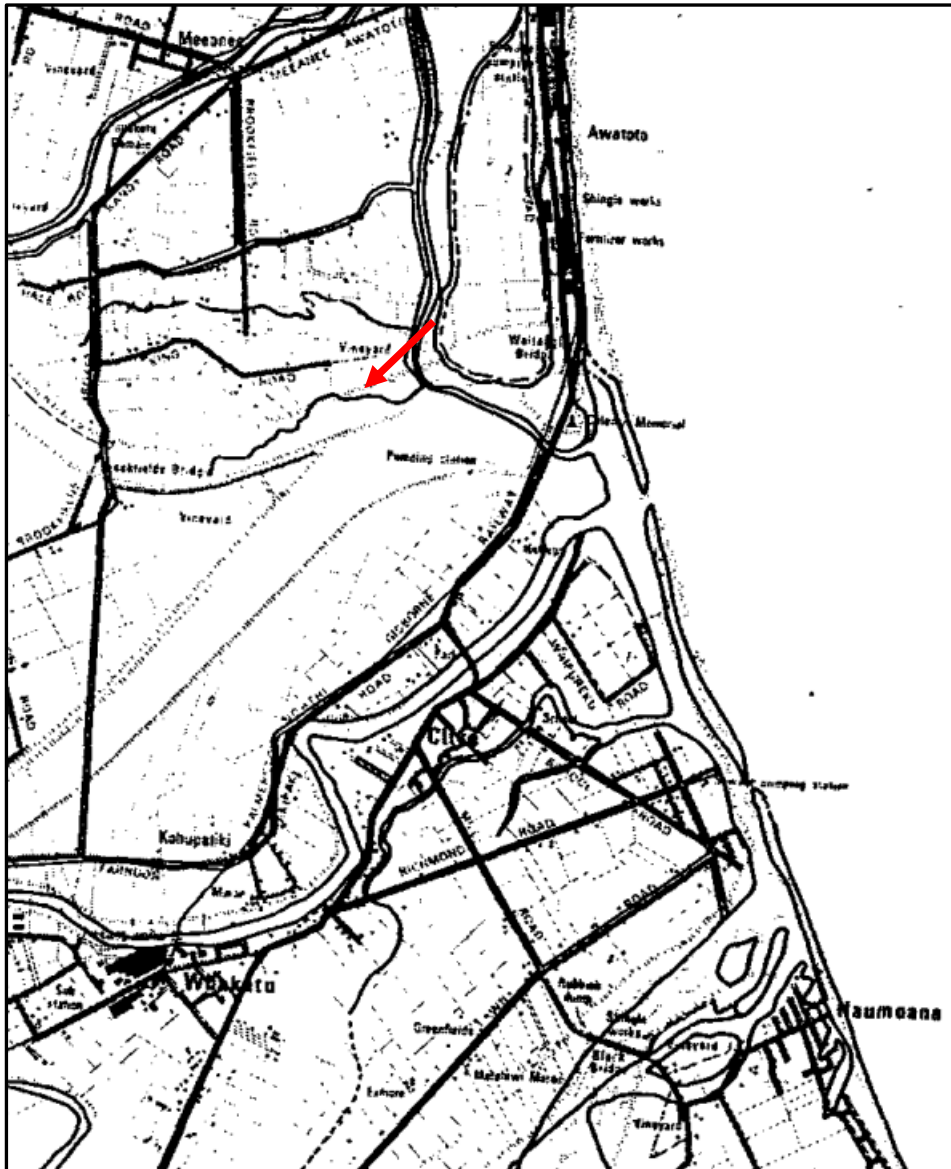
Archsite excerpt showing the recorded archaeological sites in the immediate vicinity of the pump station location (arrowed).

HISTORIC MAPS

Historic maps are very useful for understanding past landscapes, especially in areas such as this where river courses have been significantly modified both by natural and engineered means. A series of Hawke's Bay Rivers Board map excerpts included in the V21/299 Site Record form shows the changes to the river mouth and river corridors between 1875 and 1990. In 1875 the Brookfield pump station location is near a small stream. This environment of meandering streams and wetlands was potentially high in resource value and therefore archaeological risk.

By 1958 the Tutaekuri had been diverted to its current path and the proposed Ngaruroro diversion had been seemingly confirmed. The Brookfield pump station location is now

adjacent to the newly formed Tutaekuri river channel. It is assumed that the creation of the new river channel would have involved extensive invasive earthwork that would have destroyed any archaeological features or horizons in this area.



Hawke's Bay Rivers Board plan excerpt showing 1875 rivers and coastal environment in the Awatoto to Haumoana area, project area arrowed.



Hawke's Bay Rivers Board plan excerpt showing 1958 rivers and coastal environment in the Awatoto to Haumoana area, project area arrowed.

HISTORIC AERIAL IMAGES

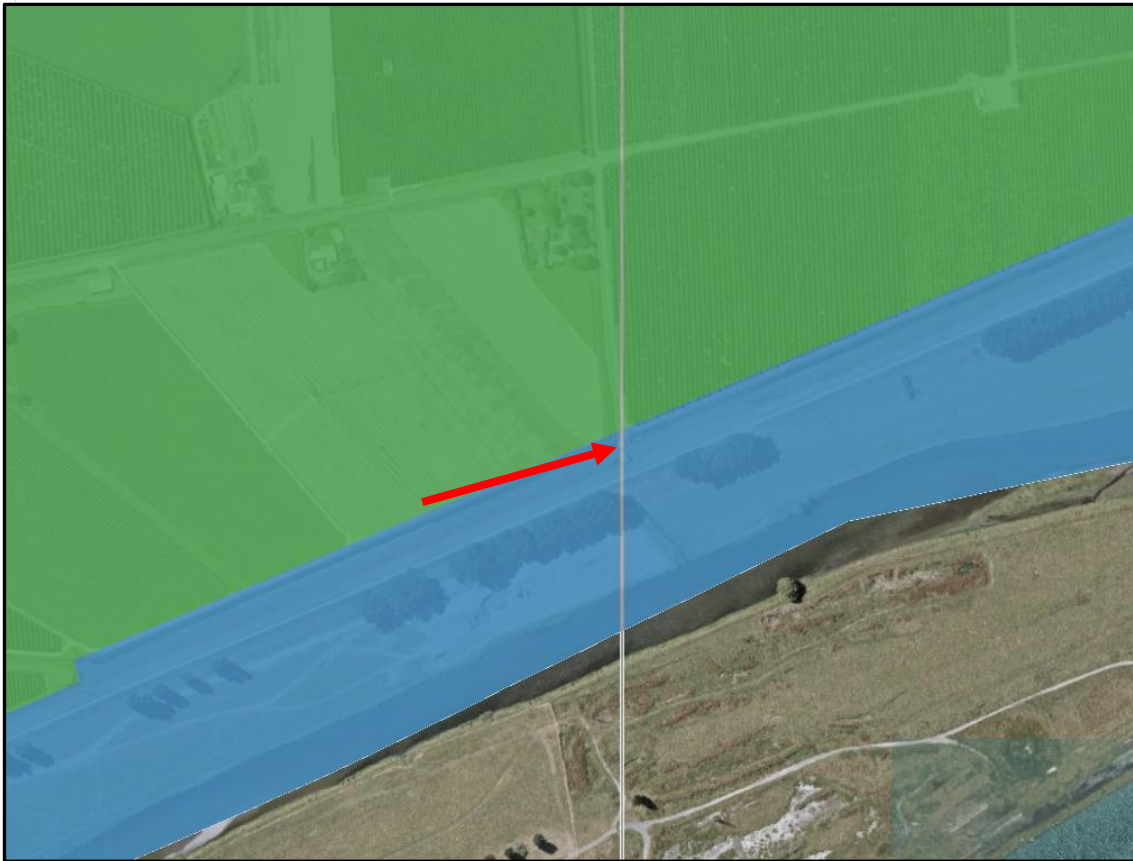
Several Retrolens historic aerial images dating from the 1930s to 1990s were scanned for information relating to the recent history of modifications to the pump station location and for potential unrecorded archaeological sites that might be affected by the proposed work.

Although there are several images that cover the area, none showed anything of archaeological interest.

DISTRICT PLANS

The area of proposed work lies within the Napier City Council region and is zoned as River Conservation. There are no items of cultural or historical significance identified in the immediate area on the Operative District Plan².

² <https://napier.isoplan.co.nz/eplan/property/0/0/42>



Indicative location of proposed work (arrowed) in relation to NCC District Plan.

DISCUSSION

The proposed replacement pump station has no recorded archaeological sites within 1 km, the nearest recorded sites being > 1.5 km distant. Prior to the mid-20th C the Brookfields pump station location sat adjacent to a small stream and potentially within an environment of high archaeological resources. However, with the realignment of the Tutaekuri River through this area any archaeology, even that buried at depth, would likely have been destroyed.

SUMMARY STATEMENT

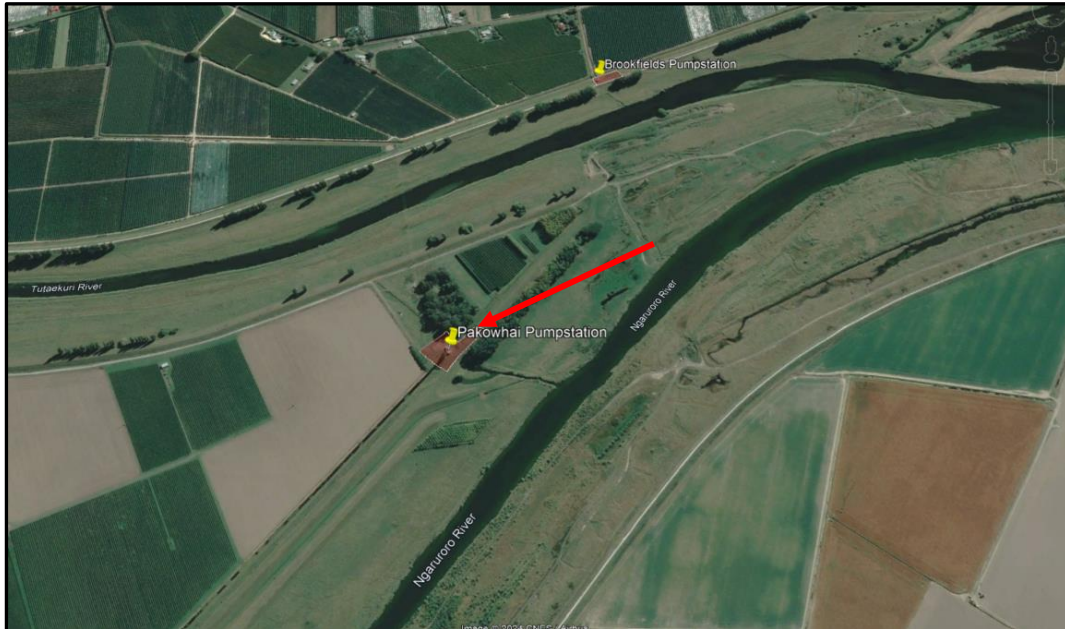
The proposed work does not directly impact any currently recorded archaeology. The realignment of the Tutaekuri River at this location would likely have destroyed any archaeology encountered. Therefore, although the wider landscape carries an unquantified risk of flood buried archaeological horizons being encountered, the 20th C modifications in this location reduce the archaeological risk to low or very low.

RECOMMENDATIONS

The pump station demolition and replacement could be undertaken under Accidental Discovery Protocol (ADP).

PAKOWHAI PUMP STATION

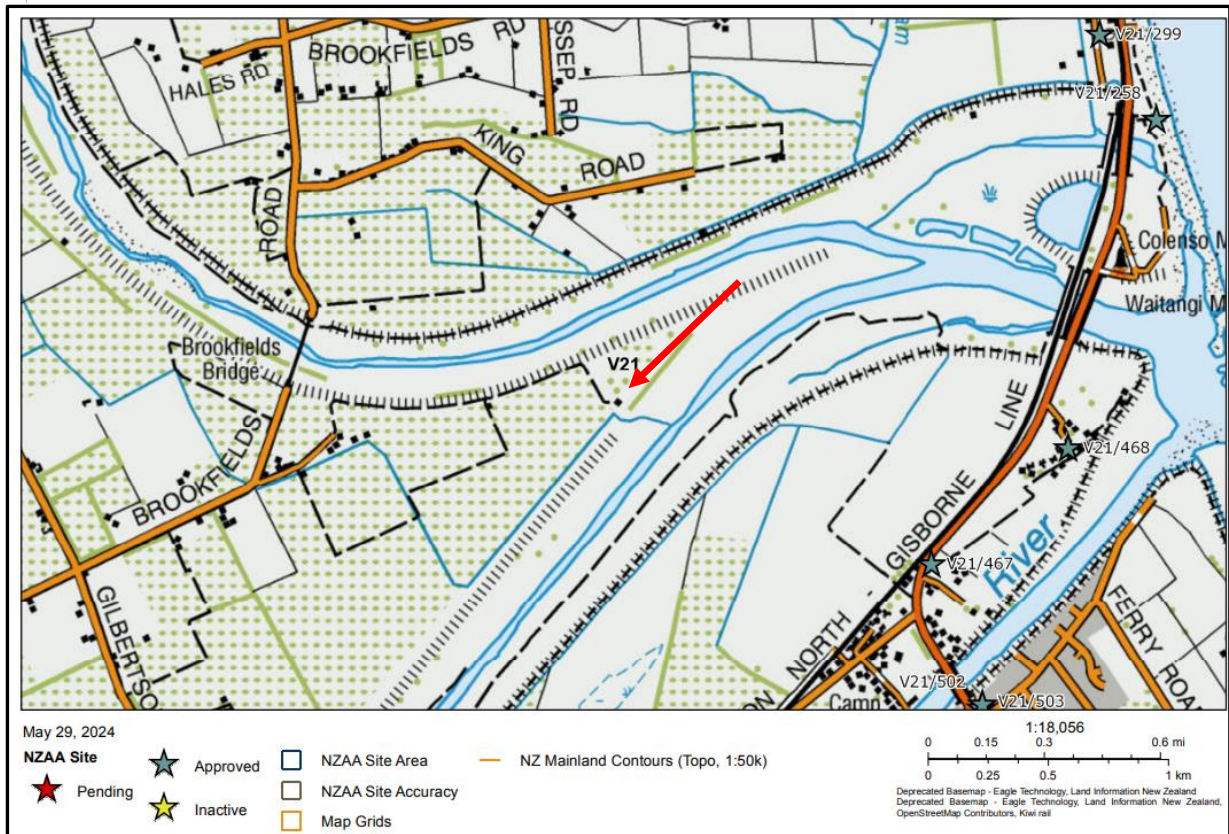
Pakowhai pump station is located between the present day Tutaekuri and Ngaruroro River corridor. The area is primarily used for horticulture, viticulture and orchards. The redirected Tutaekuri runs to the north, whilst the redirected Ngaruroro joins the Tutaekuri channel to the east (see below).



Pakowhai Pump Station location in local context, arrowed red shade indicated project area (Google Earth Pro & kmz data provided by J.P. Neethling).

ARCHSITE

There are currently no recorded archaeological site within 1 km of the proposed replacement Pakowhai pump station. The nearest recorded sites lie > 1.5 km south east and include V21/467 and V21/503.

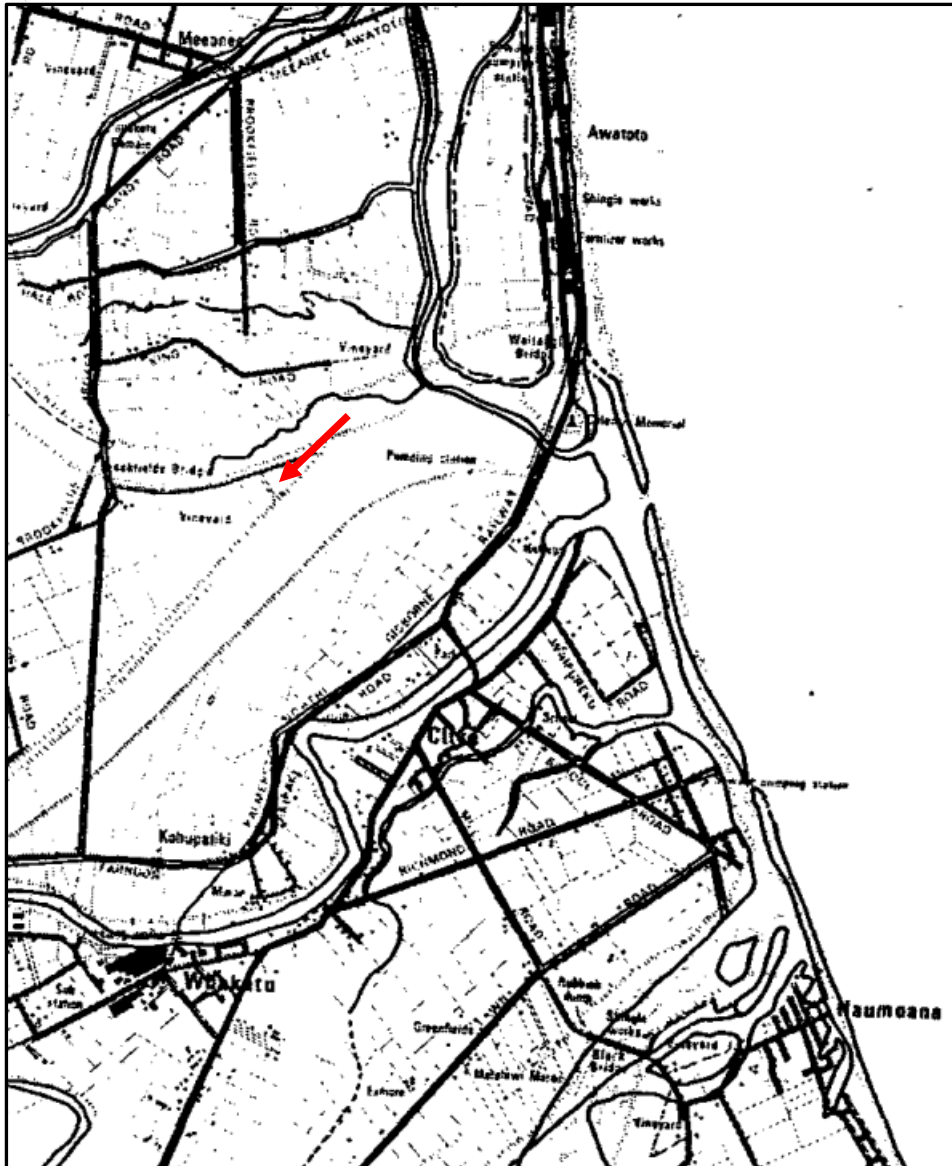


Archsite excerpt showing the recorded archaeological sites in the immediate vicinity of the pump station location (arrowed).

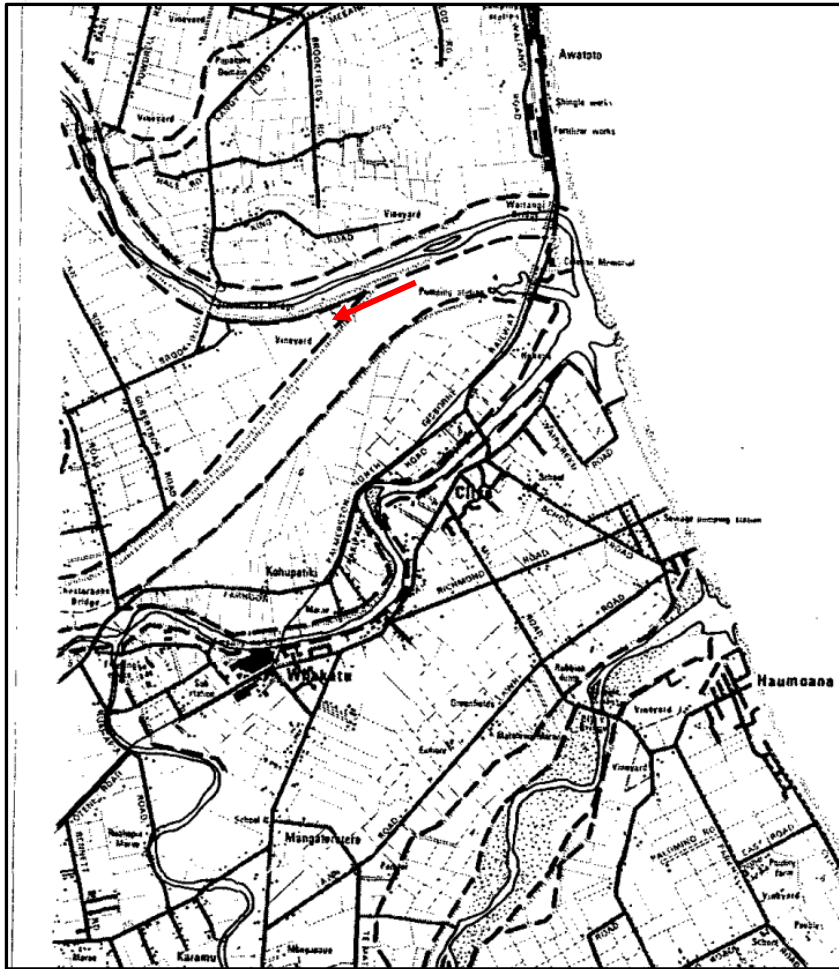
HISTORIC MAPS

Historic maps are very useful for understanding past landscapes, especially in areas such as this where river courses have been significantly modified both by natural and engineered means. A series of Hawke's Bay Rivers Board map excerpts included in the V21/299 Site Record form shows the changes to the river mouth and river corridors between 1875 and 1990. In 1875 the Pakowhai pump station location is near a small stream. This environment of meandering streams and wetlands was potentially high in resource value and therefore archaeological risk.

By 1958 the Tutaekuri had been diverted to its current path and the proposed Ngaruroro diversion had been seemingly confirmed. The Pakowhai pump station location is now between the newly formed Tutaekuri and proposed (later constructed) Ngaruroro river channels. It is assumed that the creation of the new river channels would have involved extensive invasive earthwork that would have destroyed any archaeological features or horizons in this area.



Hawke's Bay Rivers Board plan excerpt showing 1875 rivers and coastal environment in the Awatoto to Haumoana area, project area arrowed.



Hawke's Bay Rivers Board plan excerpt showing 1958 rivers and coastal environment in the Awatoto to Haumoana area, project area arrowed.

HISTORIC AERIAL IMAGES

Several Retrolens historic aerial images dating from the 1930s to 1990s were scanned for information relating to the recent history of modifications to the pump station location and for potential unrecorded archaeological sites that might be affected by the proposed work. Although there are a number of images that cover the area, none showed anything of archaeological interest.

DISTRICT PLANS

The area of proposed work lies within the Hastings District Council region and is zoned as Rural and River Hazard. There are no items of cultural or historical significance identified in the immediate area on the Operative District Plan³.

³ <https://eplan.hdc.govt.nz/eplan/property/2051389/1772783/5702598/5557738/0/1213>



Indicative location of proposed work (arrowed) in relation to HDC District Plan.

DISCUSSION

The proposed replacement pump station has no recorded archaeological sites within 1 km, the nearest recorded sites being circa 1.5 km distant. Prior to the mid-20th C the Pakowhai pump station location sat near a small stream and potentially within an environment of high archaeological resources. However, with the realignment of the Tutaekuri and Ngaruroro Rivers through this area any archaeology, even that buried at depth, would likely have been destroyed.

SUMMARY STATEMENT

The proposed work does not directly impact any currently recorded archaeology. The realignment of the Tutaekuri and Ngaruroro Rivers at this location would likely have destroyed any archaeology encountered. Therefore, although the wider landscape carries an unquantified risk of flood buried archaeological horizons being encountered, the 20th C modifications in this location reduce the archaeological risk to low or very low.

RECOMMENDATIONS

The pump station demolition and replacement could be undertaken under Accidental Discovery Protocol (ADP).

RECOMMENDATIONS SUMMARY

Pump Station	Recommendation	Further Action
Awatoto	ADP / Precautionary Authority	HBRC consider the risks to the project if unrecorded archaeology is encountered vs potentially unnecessary costs of applying for and complying with a precautionary Authority.
Brookfields	ADP	None Required
Pakowhai	ADP	None Required

DISCLAIMER

It should be noted that even where the archaeological risk posed by this project is ultimately determined as low, this does not guarantee that archaeological features or materials will not be encountered.

Any such features or materials encountered are protected under the HNZPTA 2014 and if encountered are required to be reported and dealt with appropriately. This could result in significant delays to the work program. Therefore, HBRC are recommended to consider the completing an Archaeological Authority application process prior to works commencing as a risk management measure.

It is recommended that the individual potential Applicants / Authority Holders are briefed on this process PRIOR to commissioning any Assessment of Effects and Authority Application.

An Archaeology Hawke's Bay Ltd information sheet can be provided at the appropriate juncture, or alternatively the HNZPT website can be consulted for further information:

<http://www.heritage.org.nz/>.