

# **Southwest Wastewater Treatment Plant Designation: archaeological assessment**

**report to  
Watercare Services Ltd**


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## 1 Project Description

Watercare Services Limited (Watercare) has investigated how best to manage wastewater in the Southwest area in response to the anticipated growth identified in the Auckland Unitary Plan (Operative in Part 2016) (AUP: OP). Through this work, Watercare identified the need for a sub-regional Wastewater Treatment Plant (WWTP) to service the anticipated population growth in the Southwest growth area. The new WWTP is needed to enable Watercare to discharge treated wastewater into the Waiuku Channel in accordance with stringent treatment standards included within a discharge consent granted by the Environment Court in June 2018.

Following an assessment of alternative sites, Watercare has identified the site at 372 Glenbrook Beach Road (Lot 1 DP 367461) as its preferred location for the WWTP and is seeking to designate the full site. Designation of the site will enable construction of the WWTP which will be delivered in stages. The designation provides for a WWTP at full build out that will provide the capacity to service a long-term population equivalent (PE) of 60,000 in the Southwest area. Although it is initially proposed to construct the first stage, a WWTP for 20,000 PE, shortly followed by second stage upgrade to provide a WWTP for 30,000 PE (in line with the SW Discharge Consent population growth).

The site's size and shape provide at least 200m of separation between the main parts of the plant itself and the adjacent properties. The existing planting around the streams, ponds and wet-lands will be retained. The areas not required for the full WWTP are able to be used for farming or will be landscaped which will ensure that the current rural amenity offered by the site is retained.

Information about the design and operation of the WWTP is set out in the Indicative Design and Operational Report, prepared by Stantec dated August 2023 contained as Appendix B to the Assessment of Environmental Effects supporting the Notice of Requirement (NoR).

### 1.1 *The purpose of this report*

This report is an assessment of the archaeology and heritage of the WWTP and supports the AEE that is being submitted with the Notice of Requirement to Auckland Council. It assessed the effects of the designation in relation to the construction of the WWTP and its operation.

### 1.2 *Limitations*

This report is prepared for the Notice of Requirement. It is not prepared for any future earth-works resource consent applications to Auckland Council or archaeological authority applications to Heritage New Zealand Pouhere Taonga (HNZPT) and would need to be updated to support these.

### 1.3 *Statutory requirements*

All archaeological sites, whether recorded or not, are protected by the provisions of the Heritage New Zealand Pouhere Taonga Act 2014 and may not be destroyed, damaged or modified without an authority issued by Heritage New Zealand Pouhere Taonga (HNZPT).

An archaeological site is defined in the Heritage New Zealand Pouhere Taonga Act as:

- (a) any place in New Zealand, including any building or structure (or part of a building or structure), that—
  - (i) was associated with human activity that occurred before 1900 or is the site of the wreck of any vessel where the wreck occurred before 1900; and

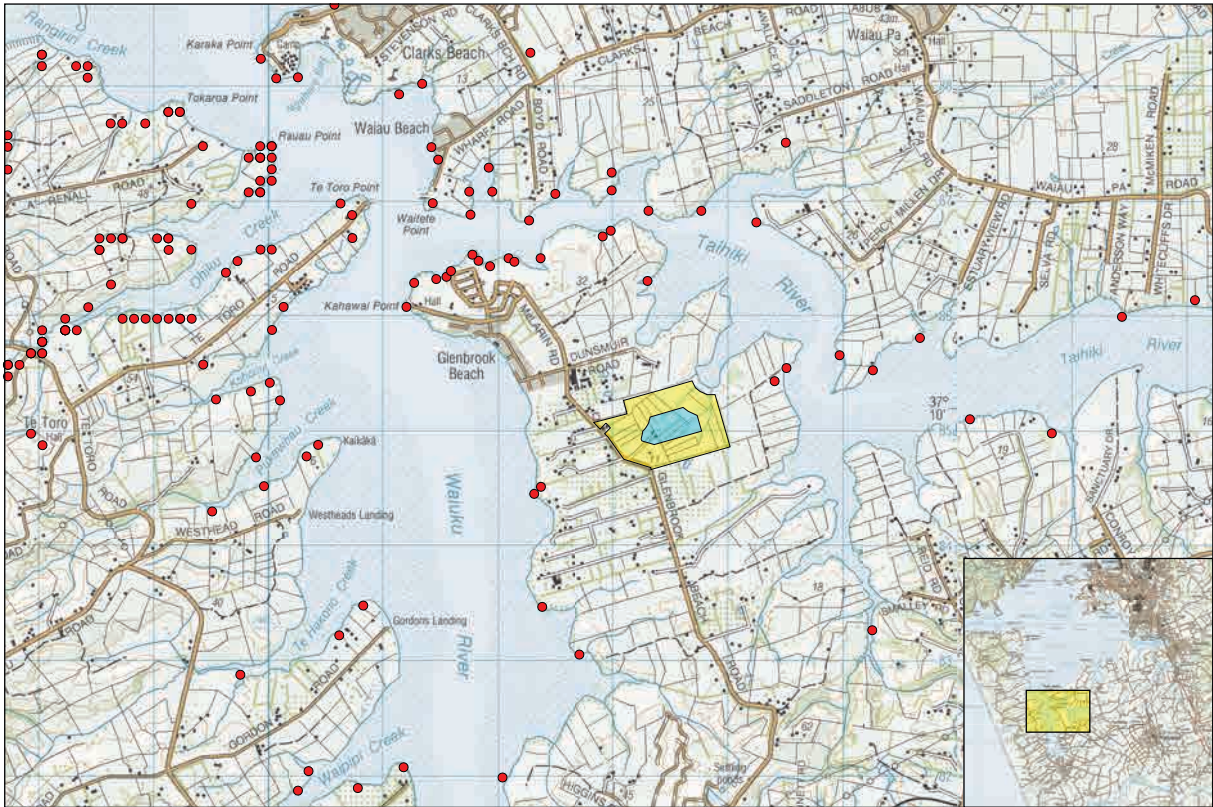


Figure 1. Location of 372 Glenbrook Beach Road, showing construction footprint and archaeological sites recorded in the vicinity.

(ii) provides or may provide, through investigation by archaeological methods, evidence relating to the history of New Zealand; and

(b) includes a site for which a declaration is made under section 43(1).

The Resource Management Act 1991 (RMA) requires City, District and Regional Councils to manage the use, development, and protection of natural and physical resources in a way that provides for the wellbeing of today's communities while safeguarding the options of future generations. The protection of historic heritage from inappropriate subdivision, use, and development is identified as a matter of national importance (Section 6f).

Historic heritage is defined as those natural and physical resources that contribute to an understanding and appreciation of New Zealand's history and cultures, derived from archaeological, architectural, cultural, historic, scientific, or technological qualities.

Historic heritage includes:

- historic sites, structures, places, and areas
- archaeological sites;
- sites of significance to Maori, including wahi tapu;
- surroundings associated with the natural and physical resources (RMA Section 2).

These categories are not mutually exclusive and some archaeological sites may include above ground structures or may also be places that are of significance to Maori.

Where resource consent or a designation is required the assessment of effects is required (where relevant) to address cultural and historic heritage matters.

## 2 Methodology

The following resources were accessed:

- Site records from the New Zealand Archaeological Association (NZAA) Site Recording Scheme (SRS) were obtained from ArchSite (<https://nzarchaeology.org/archsite>).
- Records of previous archaeological investigations in the vicinity were obtained from the HNZPT digital library (<https://dl.heritage.org.nz/greenstone3/library/collection/pdf-reports/>).
- Soil information was accessed through the Manaaki Whenua/ Landcare Research data portals at <https://soils-maps.landcareresearch.co.nz> and <https://soils.landcareresearch.co.nz/topics/soil-classification/nzsc/>.
- Modern aerial imagery (2016–2019) was obtained from Land Information New Zealand (LINZ) (<https://data.linz.govt.nz/data/>).
- Historic aerial imagery was obtained from Retrolens (<https://retrolens.nz/>) georeferenced into the project GIS.
- Historic maps and plans were obtained from QuickMap software.

The site was initially visited on 12 November 2021 by Matthew Campbell as part of the short list optioneering process for the WWTP site selection. This was a visual inspection accompanied by limited probing with a 1.2 m gum spear. Once the property had been selected for the project and acquired by Watercare, a second visit was undertaken by Matthew Campbell on 27 April 2023, accompanied by Anshita Jerath; Beau White and Dennis Kirkwood of Ngāti Tamaoho Trust; and Karen Bell of Stantec. This site visit was undertaken to update those present on the proposal and was a visual inspection only. No intrusive methods were employed.

## 3 Background

The property is located on the south side of the Taihiki River, which is a tributary of the Waiuku River flowing into the Manukau Harbour. Soils are Karaka complex water sorted volcanic tephras of medium natural fertility, responding well to topdressing, imperfectly to well drained (DSIR 1954; S-MapOnline). These soils would have suitable, though not ideal, for pre-European Māori kūmara horticulture.

### 3.1 Pre-European Māori

There are numerous pā and other associated occupation areas along the peninsula and on the rolling hills around the Waiuku / Glenbrook area.

The main influence on Māori and later European settlement in the vicinity was the Te Pai o Kaiwaka portage (Hooker 1997), which used the Awaroa Stream between the Waikato River and present day Waiuku, where waka were dragged the final 2 km to the Waiuku Inlet. This was a vital transportation route between the interior of the North Island and Tāmaki Makaurau, avoiding the need to navigate the treacherous waters of the Tasman Sea between the mouth of the Waikato River and the Manukau Bar. Waiuku and the Te Pai o Kaiwaka portage remained one of the most strategic communication and trading routes in South Auckland prior to the creation of the Great South Road in the 1860s and North Island Main Trunk (NIMT) a decade later.

From 1821 Hongi Hika and musket armed Ngāpuhi undertook a series of attacks throughout the North Island. Hongi and his tauā of approximately 3000 fighters intended to use the Te Pai o Kaiwaka Portage to gain access to the Waikato River. Tainui scouting parties had learned of his intention, and felled trees along the Awaroa River to slow them down. This, combined with the winding nature of the river, being unnavigable for the size of waka required for the large war party delayed them for two months (Ballara 2003). This gave the Tainui time to build the pā at Mātakitaki on the Waipa River, but overwhelming firepower meant that Ngāpuhi prevailed (Crosby 2020; <https://nzhistory.govt.nz/media/photo/matakitaki-pa>).

### 3.2 Historic settlement

As with many other places around Tāmaki following the Ngāpuhi raids, the Māori population was still absent from Waiuku when the first European settlers began to arrive and set up around Auckland in the 1830s. In 1835 Te Wherowhero of Ngāti Mahuta in the Waikato personally escorted Ngāti Te Ata back to Tāmaki and assisted in setting up trading posts at Onehunga and Awhitu (O'Malley 2016). In 1837 Ngāti Te Ata Chiefs sold 600 acres of land to the Church Missionary Society (CMS) at Moeatoa on the west bank of the Waiuku River, opposite Ohurua Pā to help provide protection from further raids (Harris 2011). The presence of the CMS at the Waiuku Inlet and the assurances provided by Te Wherowhero encouraged Ngāti Te Ata to return to the area, closely followed by Europeans.

Missionary James Hamlin bought 2200 acres in Glenbrook (then Kahawai) from Māori land-owners in 1837, at what is now Missions Bush (previously Te Tumu) (Hodgkinson 1957), and the majority of land at Glenbrook begun to be granted to Europeans in 1854, mainly to absentee owners in Auckland (Morris 1965). The first recorded European settler in Glenbrook was William Gearon, who arrived in 1856.

By 1859 Ferdinand Von Hochstetter (1867: 268) noted that Waiuku, the main settlement in the area, was already sporting a "...cluster of houses, among which several mercantile shops and two taverns presents the first start of the town of Waiuku." He also noted the extensive trade that was being undertaken by Māori along the portage, getting produce to Waiuku before embarking to Auckland.

Crown grants of 'abandoned' land after the Ngāpuhi raids meant many Māori living around the Manukau remained alienated from their land, as they were throughout much of the country by this time, and unease had been forming from the 1850s. By the middle of the decade the Kingitanga movement proposed that Māori should have their own king, and opposed the further sale and alienation of any Māori land. In 1858 Te Wherowhero of Ngāti Mahuta was crowned the first king, taking the name Pōtatau. He died in 1860 and was succeeded by his son Matutaera, who took the name Tāwhiao. The Crown saw the Kingitanga as a direct threat to British rule with many settlers advocating war and confiscation of Māori land.

In Waiuku both Ahipene Kaihau and Hori Tauroa wrote letters to Major Speedy informing him of an impending attack on the Pākehā settlers and asking for additional military help to protect the town (*AJHR*, 1863, E-3 Sec. 1: 58–59). Kaihau had sent Ngāti Te Ata fighters to defend Waiuku but the attack never eventuated. It is not entirely clear if it was a result of Kaihau and Tauroa's involvement in the defence of the town, or a general understanding among Māori that the settlement was not to be attacked as it was a vital trade route (Leonard 1986), but fighting that was occurring to the east around Pukekohe and Patumahoe did not affect Waiuku.

The Waikato was invaded on 12 July 1863, and by April 1864 the Kingitanga had been pushed back over the Puniu River into the King Country, effectively ending the Waikato War. The war resulted in the confiscation of highly productive Māori horticultural lands throughout the Waikato, and goods now travelled to Auckland along the Great South Road rather than the Te Pai o Kaiwaka Portage and through Waiuku.

From 1870 railway development became a critical infrastructure project, led by future Premier Julius Vogel, intended to promote growth and immigration (Burgess and Knight 2010). The North Island Main Trunk reached the Waikato River in April 1875, where it linked up with paddle-steamers (Cowan 1928; Merrifield 2009). This cut Waiuku out of the Waikato trade for good. The Waiuku branch line was opened in 1922, but passenger services were stopped in 1948.

The potential commercial value of the iron sands around the mouth of the Waikato River was recognised from early European settlement. Construction on the Steel Mill at Glenbrook began in 1966, the location being chosen due to its proximity to the Waikato North Head iron sand mine. Commercial operations started in 1968 (New Zealand Steel n.d.; Cook 2022).

### 3.3 *Archaeological background*

Although the coast of the Taihiki and Waiuku Rivers and Clarks Beach have been well-surveyed by archaeologists, few sites are recorded away from the coast (Figure 1) and few have been excavated.

In her assessment of priority areas for survey for Auckland Regional Council, Kim Tatton (2001: 29) stated that: "The Waiuku River or inlet is an area that must have held a great attraction to Maori for settlement. It has good soils for horticulture, and an indented coastline along the inlet that accesses

the Manukau Harbour and its vast marine resources... the predicted density of archaeological sites in the area and the low coverage of survey makes it a priority for survey in Franklin District”, and recommended that the area be a priority for survey.

The Manukau lowlands is often seen as an area of limited pre-European Māori occupation, however the Manukau provided good fishing grounds for sharks, many recorded archaeological sites were probably seasonally occupied and supported shark fishing activities.

Susan Bulmer (1983) led an archaeological investigation of Waitete Pā (R12/308) prior to the construction of a boat ramp. The pā was built around 1835. A double row of palisading outside the outer defensive ditch was uncovered and there was evidence of continued occupation after the defences were abandoned. She interpreted it as a seasonal site used as a base for fishing and gardening. Wynne Spring-Rice (1986: 63) suggested that the depth and size of shell middens inside the pā defences, up to 300 mm deep, indicated occupation of the headland before pā construction.

Another substantial piece of archaeological research in the area focused on the nearby Glenbrook Steel Mill, south of the current project area. More intensive survey of the Mill property itself was undertaken by Simon Best and Jan Coates (1985). That survey recorded on the SRS five pā, a number of smaller settlement sites and middens. Matthew Campbell (2014) assessed the proposed extension to the mill landfill as well as site R12/12, Ohurua Pā, which remained in fair condition. It was proposed that the pines be removed to help protect the site. This was again recommended by Arden Cruickshank and Hayley Glover (2021) as part of a project by Ngāti Te Ata to conserve and celebrate the site. Hayley Glover (2022) undertook extensive research into land ownership in the wider NZ Steel holdings and assessed the area north and south of the mill, but did not record any new sites.

Keren Lilburn and Elizabeth McGrath undertook an archaeological survey of a proposed pipeline route. Several new sites were added to the SRS, mostly pre-European Māori middens, and one pre-1900 building (Lilburn and McGrath 1980).

Over 2017–2018 earthworks were monitored at 35 McLarin Road by Barry Baquié and Simon Bickler. The work included checks on forestry removal near archaeological sites, and monitoring earthworks behind R12/670 and R12/671. Investigation of shell middens showed the material was heavily modified by 20th century ploughing. Limited sampling was undertaken around R12/670. A single radiocarbon date from R12/670 indicated the site dated to around mid to late 18th century AD (Baquié and Bickler 2019).

Ella Ussher undertook surveys at 137, 161 and 162 Clarks Beach Road on the north of the Taihiki River (Ussher 2021, 2022). Historic homestead R12/1108 was assessed but has since been destroyed along with pit and terrace complex R12/1121.

Jaden Harris assessed the town of Pakington 2 km west of 372 Glenbrook Beach Road, which was surveyed and planned in the 1850s but never built. He recorded two new coastal middens that would not be affected by proposed development and noted that no parts of Pakington were ever built and there was no 1850s archaeology that could be affected (Harris 2010).

## 4 Field assessment

The proposed construction footprint is defined by a 200 m odour set back from the property boundary and a 300 m odour buffer, calculated from the houses on neighbouring properties. Stormwater ponds may be constructed outside these buffers but still at some distance from the boundary. During both site visits the project area was used for market gardening and ground surface visibility was good, either between rows of vegetables or newly cultivated. On the margins of the property, but outside the construction footprint, grass was longer, with long grass and scrubby vegetation in the fenced off area including the salt marsh on the riverbank. During the initial site visit the ground was probed at intervals along the northeast fence line, but no archaeological deposits were located.

The land generally slopes southwest down to northeast, from Glenbrook Beach Road to the Taihiki River. There is a steeper drop off to the river, which is bordered by salt marsh. The current occupants and former owners have made some modifications to the land, particularly the establishment of a stormwater pond on the northern boundary of the property.



*Figure 2. General view across the construction area, looking northeast.*



*Figure 3. Newly cultivated paddocks from the main access track, looking east.*





Figure 4. Looking southeast with the Taihiki River and salt marsh on the left.

## 5 Assessment

The following assessment of values and significance relate only to archaeological values. Other interested parties, in particular mana whenua, may hold different values regarding the proposed development.

Although the site is located on the coast and soils were suitable for pre-European Māori cultivation, no archaeological evidence was observed. The types of archaeology that might be present include midden closer to the river and kūmara storage pits on higher ground. Extensive modern cultivation means garden soils will not survive. There is reasonable cause to suspect that these types of features will be encountered during construction.

### 5.1 Assessment of values

The following assessment of archaeological values is based on the criteria set out in the HNZPT (2019). It assesses the most likely archaeological features and deposits which may be encountered, which are kūmara storage pits and shell midden:

Condition	The overall condition of any archaeological features is not known, but they are likely to have been truncated by cultivation and minor earthworks.
Rarity	Middens and pits are commonly found both regionally and nationally.
Context	Any archaeological features exposed would have high contextual values, as they would relate to pre-European Māori land use and the wider archaeological context in the Glenbrook and wider Manukau lowlands area.
Information	There is potential for scientific information related to pre-European Māori land use to be recovered. Specifically, middens can provide information about the subsistence, resource use, dietary patterns and residential patterns of pre-European Māori popu-

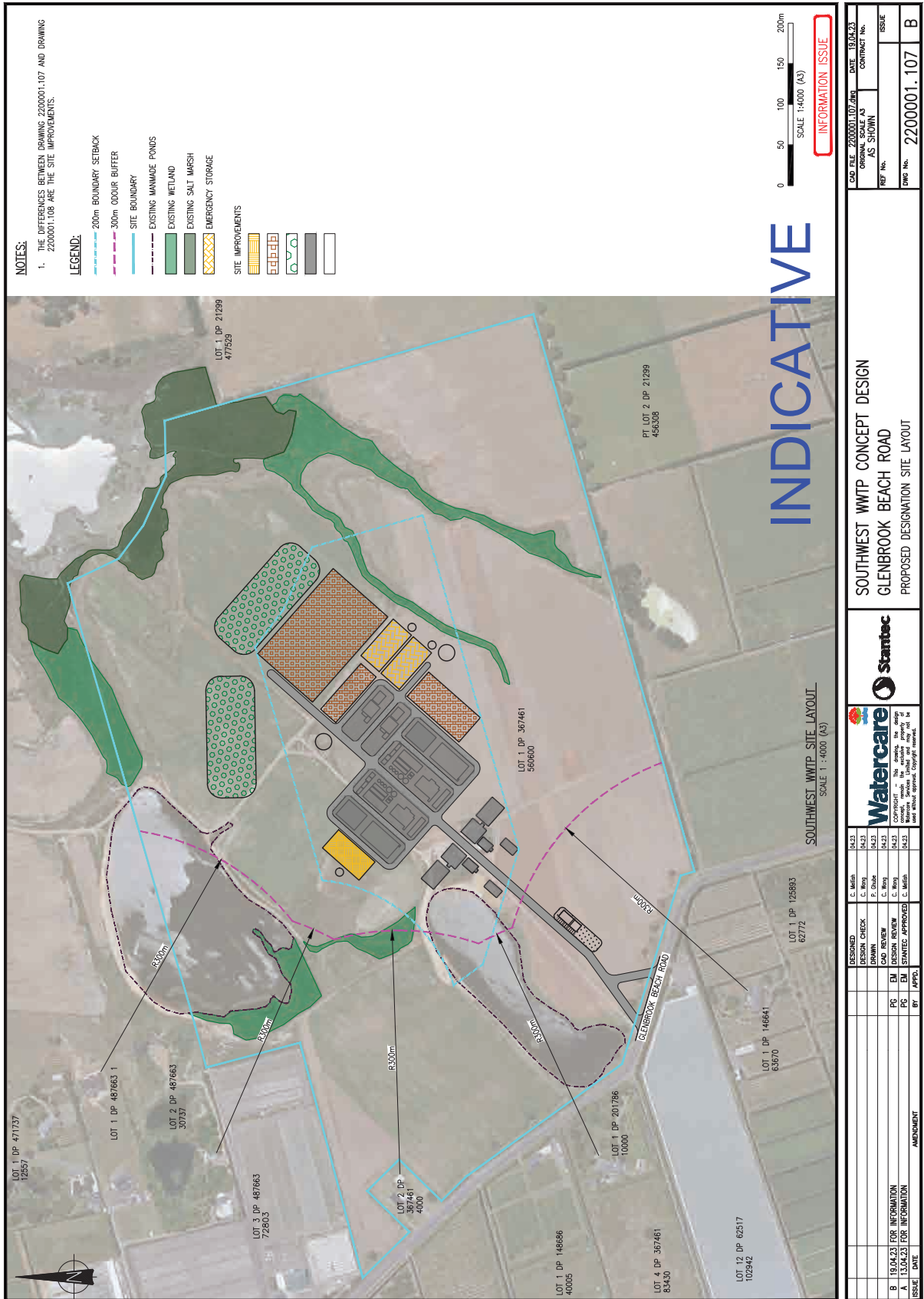


Figure 5. Indicative concept design, including the 200 m boundary set back and 300 m odour buffer.

	lations. Kūmara storage pits imply nearby cultivation and can be an indicator of occupation in the wider landscape. If charcoal or other datable material is found inside a secure context, it could provide temporal information about the use of the features.
Amenity	No amenity values are known. Any potential archaeological information could be presented to the public using interpretive materials and written reports.
Cultural	Any sites found would be pre-European Māori sites.

## 5.2 Assessment of effects

Although final design is not yet available, concept designs are available that indicate construction of the Southwest Wastewater Treatment Plant will require the establishment of a level construction platform through cut and fill, access roads, utilities trenches and deeper excavations for sludge and stormwater ponds. These will have the effect of destroying any potential archaeology in the works area. Until final earthworks plans are developed a full assessment of effects cannot be made..

## 6 Recommendations

These recommendations are only made on the basis of the archaeological values that have been outlined above. Any other values associated with special interest groups, including tangata whenua, can only be determined by them. It is recommended that:

- when final design is available, a full assessment of effects is undertaken in support of an application to HNZPT for an authority to modify or destroy any unrecorded archaeological deposits on Lot 1 DP 367461 that may be encountered inside the identified works area under Section 44 of the Heritage New Zealand Pouhere Taonga Act 2014;
- since archaeological survey cannot always detect sites of traditional significance to Māori, or wahi tapu, mana whenua should be consulted regarding the possible existence of such sites, and the recommendations in this report.

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