

# QUEEN STREET WASTEWATER DIVERSION PART 3: ARCHAEOLOGICAL ASSESSMENT

Prepared for WSP New Zealand and Watercare Services Ltd



August 2023

By

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## INTRODUCTION

### Purpose of Report

Watercare Services Limited ('Watercare') is a lifeline utility providing water and wastewater services to a population of 1.7 million people in Auckland. Its services are vital for life, to keep people safe and help communities to flourish. More specifically, Watercare is the council-controlled organisation of Auckland Council responsible for municipal water supply and wastewater treatment within Auckland, and the provider of bulk water and wastewater services to Pokeno and Tuakau in the Waikato District.

Watercare are proposing to upgrade the wastewater network within the upper catchment (southern) of Auckland City Centre. It has been established by Watercare that the existing network does not have sufficient capacity to meet future demands. WSP New Zealand (WSP) has been engaged by Watercare to design and consent a new wastewater mainline through Auckland city centre (the Project).

This project involves a new wastewater pipe being positioned under Queen Street, going from the intersection at Mayoral Drive to the intersection at Victoria Street. Manholes for the new wastewater pipe will be provided at the Mayoral Drive intersection, Wellesley Street intersection and Victoria Street intersection (Figure 2). During construction, the manhole locations will be temporarily used as construction shafts.

The project also includes construction of the Part 3-Part 4 connector tunnel and shaft. This involves the early construction of a section of pipeline to enable the tunnelling works required for the Part 4 alignment of wastewater pipeline. These works will consist of constructing one shaft (P4MH4), and a 43m length of tunnel from this shaft to the Part 3 launch shaft at the intersection of Mayoral Drive and Queen Street (Mayoral Shaft) (Figure 3).

This report has been commissioned by WSP on behalf of Watercare and provides an assessment of effects on archaeological values report in relation to Part 3 of the Queen Street Wastewater Diversion Project and the construction of the Part 3-Part 4 connector tunnel (Figure 1). It has been prepared as part of the required assessment of effects accompanying a resource consent application under the Resource Management Act 1991 (RMA) and to identify any requirements under the Heritage New Zealand Pouhere Taonga Act 2014 (HNZPTA). Recommendations are made in accordance with statutory requirements.

### Existing Environment

The project is located within Auckland City Centre, a dense urban environment with a mixture of commercial, civic and residential activities and uses. The built form is predominately made up of multi-level buildings that generally align to the street. The majority of buildings are provided with verandas, overhanging the footpath area of the roads. The built form along Queen Street is a mix of modern buildings as well as important heritage structures. At street levels, the majority of buildings provide retail stores/units.



The project area is linear along Queen Street, between Victoria Street and Mayoral Drive. During construction, the area subject to project works will extend onto sections of Victoria Street, Wellesley Street and the surface carpark at 329 Queen Street and 38 Greys Avenue.

Figure 4 shows the geographic area for the project, however construction activity at surface level will be focused on the Queen Street intersections of Mayoral Drive, Wellesley Street and Victoria Street, and the Greys Avenue carpark.



**Figure 1. Queen Street Wastewater Diversion Project (Part 3 shown in yellow, Part 4 in green)**

The Queen Street road corridor has been subject to layout changes, with a reduction in the number of general traffic provided and footpaths being extended. The section between Mayoral Drive and Wakefield Street have been reduced to three vehicle lanes and the footpath being extended on the western side of the corridor (removing a vehicle lane).

Between Wakefield Street and Wellesley Street, the road corridor is ‘limited access’, with general traffic being excluded. This section retains 4 vehicle lanes plus bus stops, being an important bus interchange location in the city centre.

Between Wellesley Street and Victoria Street, the footpath has been extended out on the eastern side of the corridor, with two vehicle lanes remaining.

All intersections are provided with traffic signals and pedestrian crossing facilities. Along the length of Queen Street, a number of street trees are provided along with other streetscape elements.

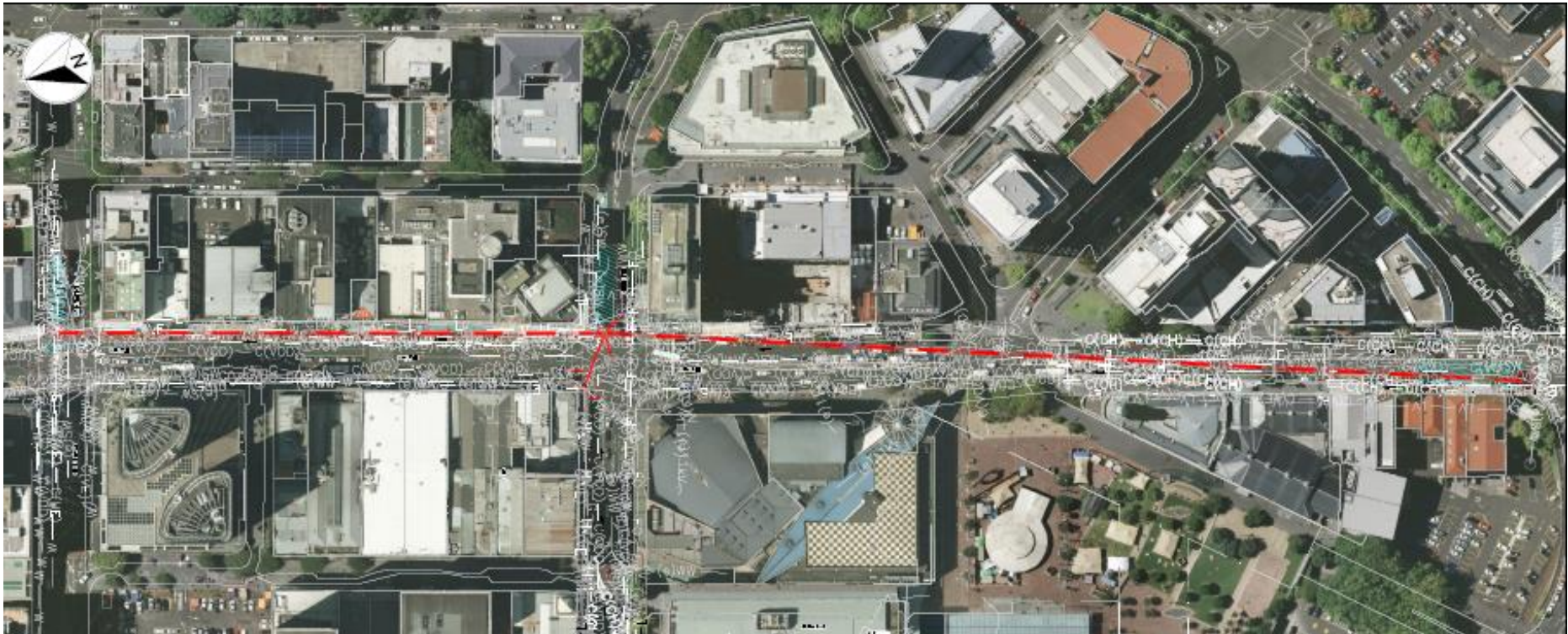


Figure 2. Aerial view of alignment along Queen Street





Figure 3. Aerial view showing location of the Part 3-Part 4 connector tunnel and shaft (P4MH4)

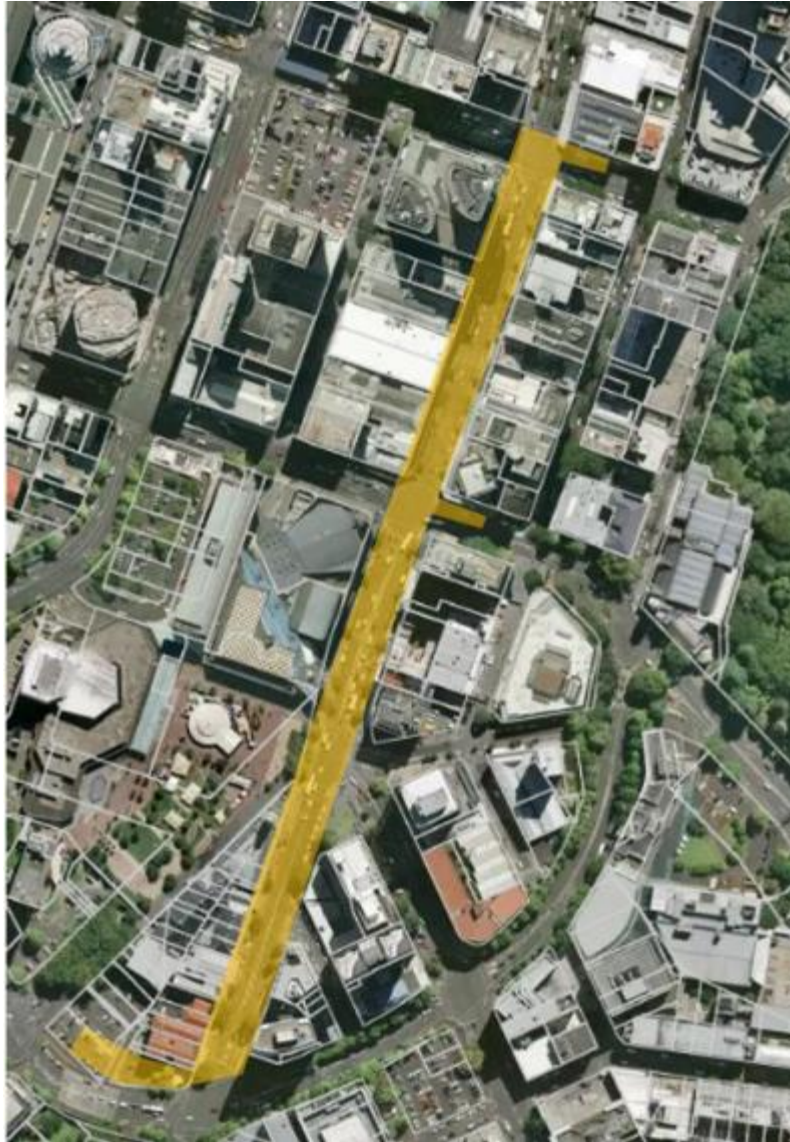


Figure 4. Project area

## Project Works

The Project works will see the construction of a new wastewater pipeline under Queen Street, running between Mayoral Drive and Victoria Street. Connections to the existing wastewater network will be provided at Mayoral Drive, Wellesley Street and Victoria Street.

To provide for the new pipe, three temporary shafts will be provided along Queen Street (located at Mayoral Drive, Wellesley Street and Victoria Street). Once the shafts are constructed, tunnelling works will commence from Mayoral Drive, heading north along Queen Street towards Victoria Street. The Micro-Tunnel Boring Machine (mTBM) will be extracted at Victoria Street. Once tunnelling works are completed, the three shafts will be back filled and converted to manholes.

The Project works also include the P3-P4 connector comprising a temporary shaft within the Greys Avenue carpark and a tunnel connecting to the Mayoral Drive shaft. Once



tunnelling works are completed the temporary shaft will be backfilled to become a manhole on the Part 4 wastewater alignment.

The following is a summary of the project works, with a more detailed description provided within the WSP Design and Construction Statement (Appendix C of the resource consent application).

### ***Temporary Construction Shafts on Queen Street***

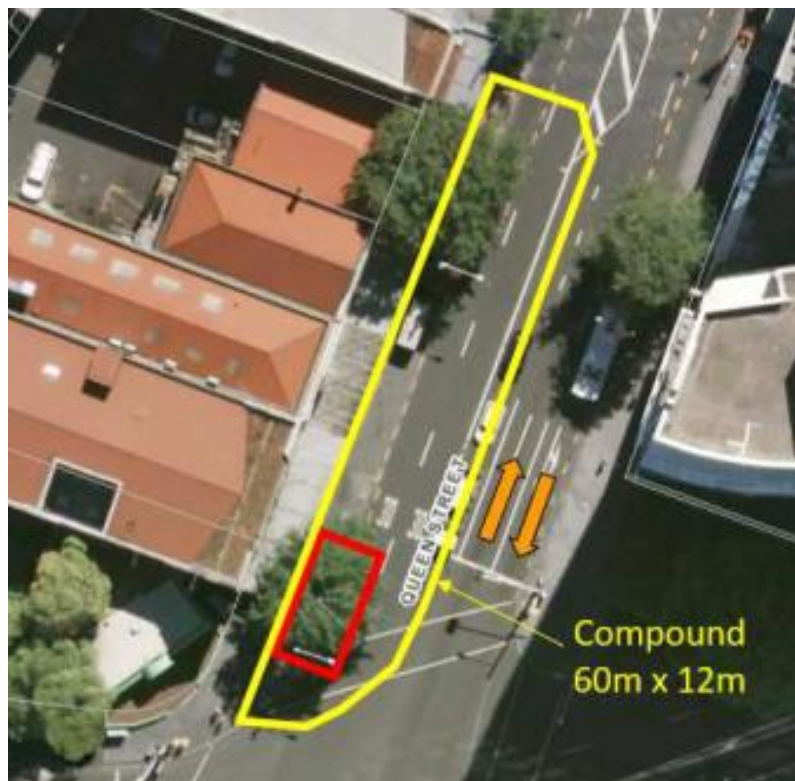
Three temporary shafts are to be provided along the alignment that will be used for access during construction works.

#### ***Queen Street/Mayoral Drive Shaft***

This shaft will be located on Queen Street, outside 323 Queen Street and once constructed will have a depth of around 13.72m. The shaft dimensions will be 4m by 8m (internal shaft dimensions 3m by 7m) and it will be of post and panel construction. This shaft will be used as a launch shaft for tunnelling works. The shaft will be of post and panel construction and as such will require continual dewatering to be undertaken whilst the shaft is in use.

Once tunnelling works are completed, the shaft will be backfilled and will be used as a manhole.

Figure 5 shows the position of the shaft (marked red) and the surrounding construction support area.



**Figure 5. Mayoral Drive Shaft position and construction support area**

### *Queen Street/ Wellesley Street Shaft*

This shaft will be located on Wellesley Street, adjacent to 290 Queen Street and will have a total depth of around 7.24m. The shaft will be constructed using concrete ring beams. The diameter of the shaft will be 4m externally and 3.5m internally. This shaft will be used for service connections as well as support to tunnelling works. This shaft will be sealed when constructed and as such ongoing dewatering will not be required.

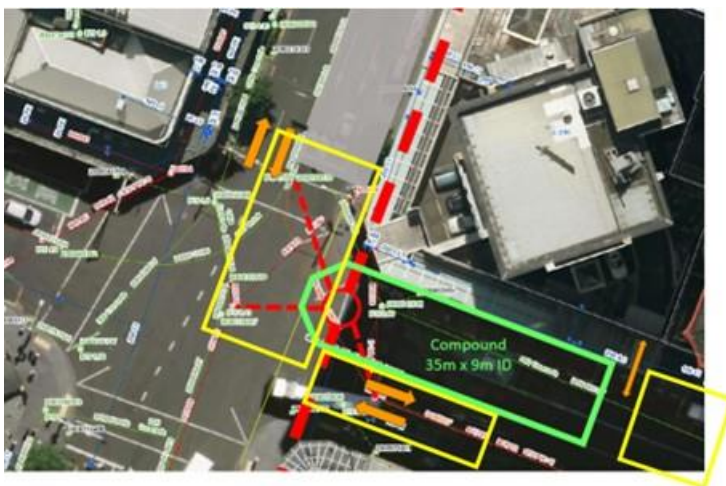
Open cut trenches will be needed around the shaft to connect local wastewater lines into the shaft, with up to 300m<sup>3</sup> of earthworks required. About 40m of trenching will be required, with trenches 1.4m wide and up to 4m deep, with trench shields used for any trenches over 1.5m deep.

Once tunnelling works are completed, the shaft will be backfilled and will be used as a manhole.

Figure 6 shows the position of the shaft (marked red) and the surrounding construction support area on Wellesley Street. Figure 7 shows the area within which the open cut trenching to connect local wastewater lines will be required.



**Figure 6. Wellesley Street Shaft position and construction support area**



**Figure 7. Area within which open cut trenching to connect local wastewater lines to the shaft will be required**

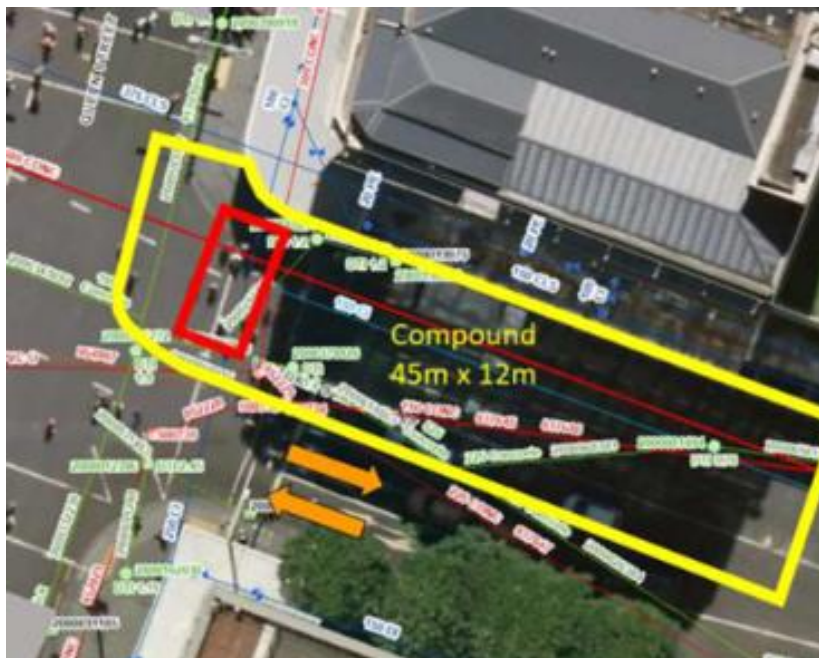
### *Queen Street/ Victoria Street Shaft*

This shaft will be located on Victoria Street, adjacent to 210 Queen Street and will have a total depth of around 6.35m. The shaft dimensions will be 5.5m by 11m (4.5m by 10m internally). Figure 8 shows the position of shaft (marked red) and the surrounding construction support area on Victoria Street.

This shaft will be used to provide a connection to the Ōrākei Main Sewer as well as for the recovery of the mTBM. The shaft will be of post and panel construction and as such will require continual dewatering whilst the shaft is in use.

Support will be provided to the Ōrākei Main Sewer (OMS) during construction to avoid its potential collapse. The structure will be supported externally by a reinforced concrete shell dowelled into the existing OMS blockwork arch. Excavations below the manhole base slab level will be required to enable connection to the southern side of the OMS. A staged cut and break methodology will be developed to limit vibration into the OMS from rock breaking. The exposed wall of the OMS will be externally supported with an in-situ concrete wall fixed to the OMS with dowels, which will be poured in stages. A new connection will be made into the side of the OMS with a seal core barrel. An enclosed 'hot tap' machine, with 1000mm diameter concrete-cutting core barrel, would be bolted to the gate valve Z brackets. Once sealed the hot tap machine would core the opening through the OMS wall (Figure 9). Upon removal of the hot tap machine, a permanent new concrete manhole would be formed, incorporating the new OMS wall.

Once tunnelling works are completed, the shaft will be backfilled and will be used as a manhole.



**Figure 8. Victoria Street Shaft position and construction support area**



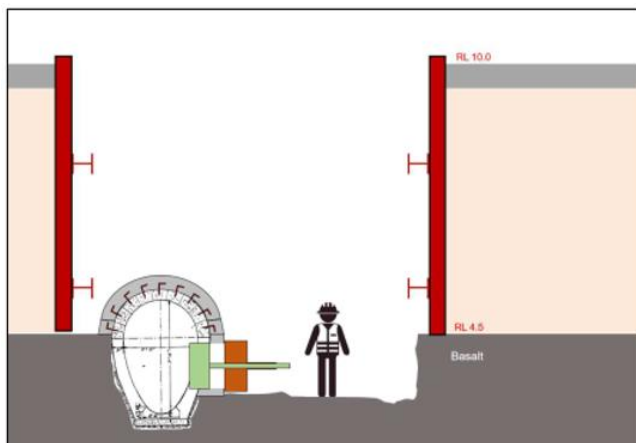


Figure 9. Section view of a hot tap machine coring through the OMS wall

### ***Tunnelling Works along Queen Street***

Tunnelling works will commence from the shaft at Mayoral Drive to the shaft at Victoria Street using a mTBM.

To support tunnelling works, a Construction Support Area (CSA) will be established on part of the public carpark at 38 Greys Avenue and 329 Queen Street that will contain ancillary equipment and functions for tunnelling. Figure 10 shows the proposed layout for the Greys Avenue CSA and how it relates to the construction shaft on Queen Street.

Between the Greys Avenue and the Mayoral Drive CSAs will be a 2m wide service corridor, connecting the operations at the two sites together. The services will be laid on the ground and covered with a walkway to maintain pedestrian access between Queen Street and Mayoral Drive.

Some excavation to level the ground at the Greys Avenue CSA will be required adjacent to Greys Avenue, covering an area c.20 by 25m (Figure 10). The depth of excavation will be an average of 1m to a maximum of 2m, although if Auckland Council requests the clearance of voids present in the carpark the works may be up to 3m deep in isolated locations.

Once tunnelling commences, extracted material will be transported in a slurry medium to the separation plant at the Greys Avenue CSA. Once liquid has been removed from the spoil (solid material), it will be loaded onto trucks and disposed off-site.

As the mTBM progresses, 6m long sections of pipe will be installed. As the jacking rig is retracted, the next pipe section is lowered by a crane from the surface and placed into position. The cycle continues until the drive is complete.

Once tunnelling is completed, the mTBM will be recovered at the Victoria Street Shaft.



**Figure 10. Greys Avenue CSA during tunnelling works, with red outline showing area where levelling earthworks will be required**

### ***Part 3-Part 4 Connector Tunnel and Shaft***

Establishment of the P3-P4 connector comprises two main construction activities, being a post and panel shaft and a 43m length of tunnel below ground (Figure 11). The temporary shaft will then be backfilled to become a manhole on the Part 4 wastewater alignment.

The purpose of this tunnel is to service the Tunnel Boring Machine (TBM) which will be used to construct the Part 3 alignment of pipeline from the Mayoral Shaft down Queen Street. During the Part 3 construction phase, the P3-P4 connector tunnel will carry all required power, hydraulic and other fluid cables and hoses from the staging area in the Greys Avenue Carpark into the bottom of the Mayoral Shaft to support the operation of the TBM. Upon completion of the Part 3 construction works, the P3-P4 connector tunnel will no longer be needed to service the TBM. The tunnel will then assume its primary role as the section of sewer pipe which will convey wastewater from the new Mayoral Drive wastewater pipe (Part 4) into the newly installed Queen Street wastewater pipe.

The 4m by 4m temporary shaft (P4MH4) will be constructed within the carpark at 329 Queen Street to a depth of 5.5m. The construction methodology will involve the drilling of 300 to 400mm diameter holes, with steel H beams set into each with sand or concrete backfill. The shaft will be excavated from the top using an excavator at surface level to a depth of 5.5m, approximately 1m below pipe invert. Steel road plates or timber lagging will be installed between H beams as the excavation advances. The shaft base will be lined out with 500mm of aggregate or blinding concrete to provide a solid and level working platform. If dewatering is required, a 2 to 4 inch submersible pump will be used to remove water from excavation. Following completion of the tunnelling required for the P3-P4 connector tunnel and the Part 3 construction works, the shaft will be backfilled to become a manhole for any necessary servicing of the pipeline in future. A concrete pump will be used to backfill the shaft with GAP65 or low strength concrete.

A trenchless laser guided pilot bore construction methodology will be followed to create the tunnel from the P4MH4 shaft to the Mayoral Shaft.

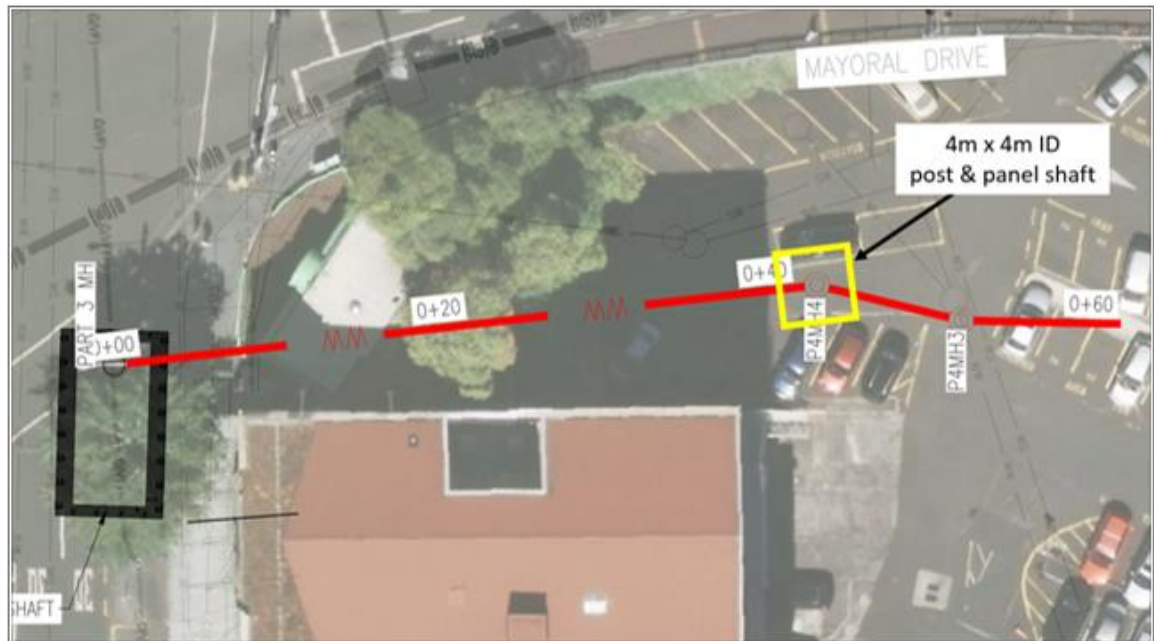


Figure 11. Plan of the P3-P4 connector tunnel and shaft (P4MH4)

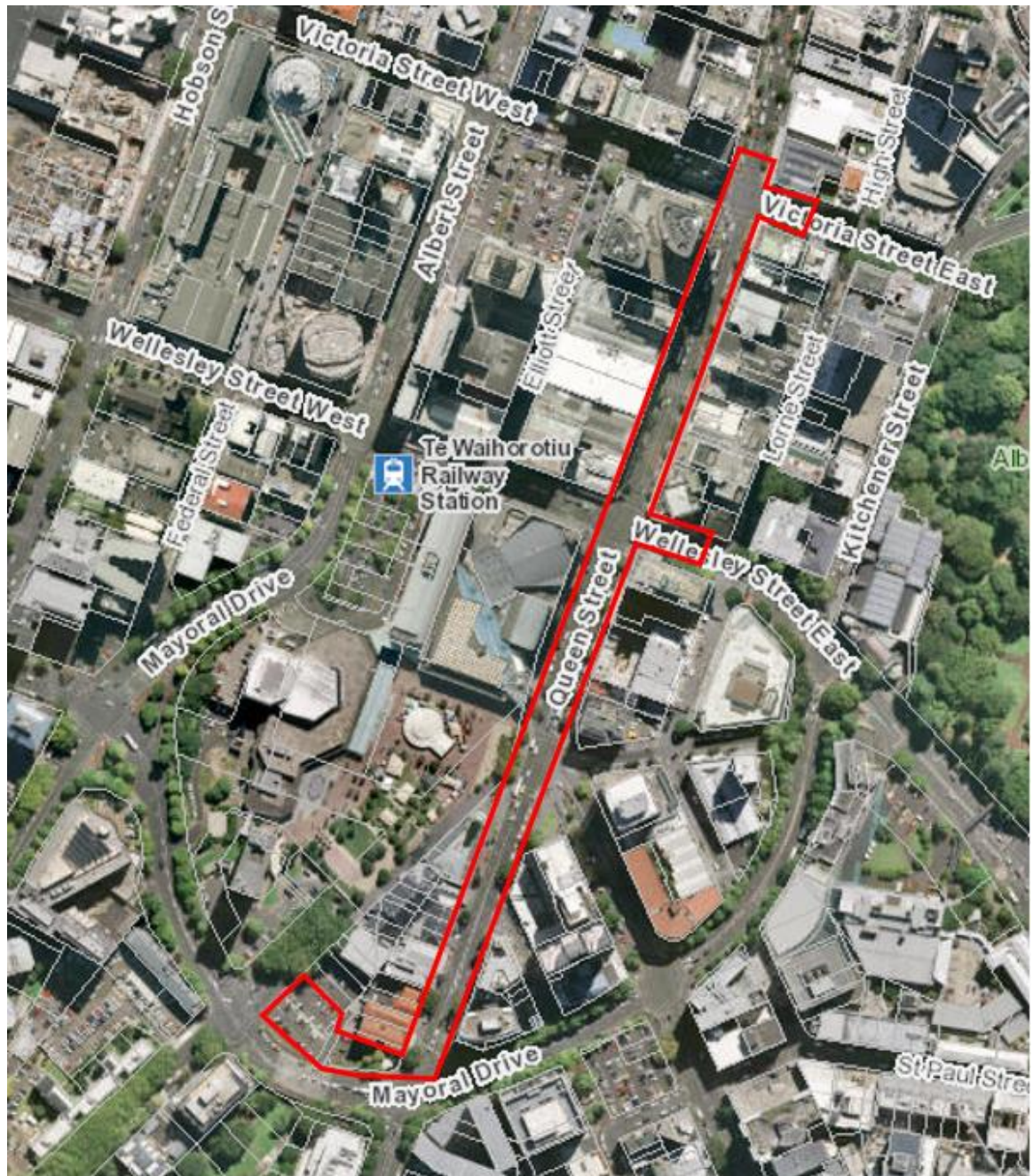
### ***Network Utility Relocation***

Existing network utilities will need to be relocated prior to the shaft construction and commencement of tunnelling works. This will be part of a separate resource consent application but is included in this report for HNZPTA authority application purposes.

The exact services that will need to be relocated and the extent of diversion of network utilities are still to be confirmed. Physical pot holing techniques will be required to confirm the exact location of services. Trenches 400mm wide and up to 1.5m deep will be excavated around each proposed shaft location. Where diversion of services is required, hydro-excavation to confirm that the new diversion route is clear of other unknown services would be required. Open trench excavations to lay down new ducts or pipework are likely to be up to 2m wide and 1.5m deep with lengths to suit each service diversion. Trench shields would be used for any trenches over 1.5m deep.

The diversion works would be located within the overall project envelope shown in Figure 12.





**Figure 12. Project envelope within which all Part 3 works, including network utility relocation works, will be carried out**

## Assessment Methodology

The New Zealand Archaeological Association's (NZAA) site record database (ArchSite), Auckland Council's Cultural Heritage Inventory (CHI), Auckland Unitary Plan Operative in Part (AUP OP) schedules and the Heritage New Zealand Pouhere Taonga (Heritage NZ) New Zealand Heritage List/Rārangi Kōrero were searched for information on archaeological or other historic heritage sites recorded in the immediate vicinity of the proposed works. Literature and previous archaeological reports relevant to the area were consulted (see Bibliography).

Archaeological sites beneath sealed surfaces in urban environments can rarely be identified prior to being exposed in the course of redevelopment work, and the approach to archaeological assessment is therefore to identify historically recorded activities and assess the potential for archaeological evidence to have survived on the basis of later modifications.

## **HISTORICAL BACKGROUND**

### **Māori Settlement**

Tāmaki Makaurau (Auckland) had a long history of Māori settlement prior to the arrival of Europeans. The isthmus offered fertile land, abundant fishing grounds and a temperate climate (Stone 2001: 3). It also boasted a valuable portage at Ōtāhuhu where canoes were dragged across a short distance of land separating the Tasman Sea and Pacific Ocean. The area also offered access to the hinterland through the Awaroa Creek leading into the Waikato River (Stone 2001: 2).

Māori settlement encompassed today's City Centre where, in the immediate Britomart area, a major pa site known as Te Rerengaoraiti was constructed on the point between what was to become Commercial Bay and Mechanics Bay. Another pa (Ngāhuwera) was recorded on the former headland at the end of Albert Street.

A stream known as the Waihorotiu that was at least partly navigable by canoe ran down the valley in what was to become Queen Street and led to the shallow mudflats that typify much of the Waitematā coast. Māori gardening was recorded in the Queen Street valley as late as c.1838-40, and the large village of Te Reuroa once covered what is now Albert Park. Another settlement named Horotiu was recorded in the vicinity of the Town Hall, and a settlement known as Ngā Wharau a Tako was located on the Swanson Street ridge with a track (Te Tarapounamu) leading down to the Queen Street valley. At various times, other settlements and pa were located throughout the Tāmaki Isthmus, notably on Auckland's volcanic cones. (Macready et al. 2016, referencing Stone 2001, Simmons 1987, Kelly and Surridge 1990).

### **European Settlement**

European settlement in Auckland began in 1840 after the first Governor of New Zealand, Captain William Hobson, chose the isthmus as the site of the capital of the new colony. Settlement proceeded relatively quickly, with tents set up for government officials on the eastern side of Point Britomart in what was called Official Bay and further along the coast in Mechanics Bay. As infrastructure developed, Foreshore (Fore) Street, later Fort Street, became the waterfront area with various hotels and businesses. The shallow mudflats along the coast, however, provided poor anchorage for a growing capital and development of the area was quickly deemed essential. The dual factors of improved harbour facilities and the high value of land in the centre of town drove the reclamation of the foreshore area. In less than 50 years, more than 50 hectares had been added to downtown Auckland, with smaller reclamations continuing in the 20th century. (Macready et al. 2016).

The population of Auckland grew rapidly after initial settlement. By 1843, there were 3,000 people living in Auckland. By the end of the 1860s this had grown to more than 12,000 and by the turn of the century the population was almost 70,000 (Bush 1971). From its original centre near the waterfront, the city rapidly expanded up towards the Symonds Street ridge and out into suburban areas, initially into Parnell, Grafton and Ponsonby. The city's first gaol on the corner of Queen Street and Victoria Street West, initially on the outskirts of town, was removed to Mt Eden as early as 1856 (Best 1992). From the 1860s onwards the early timber houses and shops in the central city were gradually replaced with more substantial brick structures, the process accelerated by a number of fires which spread rapidly through the streets of timber buildings.



With the growth of the city came demand for basic infrastructure including sewerage, drainage and water supply systems, but some of these services took many years to establish (Bush 1971). Until the late 1870s drinking water was largely supplied by privately and publicly owned wells. The acquisition of Western Springs in the 1870s allowed access to a reticulated system in some areas, but poor management and declining water quality resulted in a water famine in 1900. The construction of water reservoirs in the Waitakere Ranges solved the problem, but not until 1907.

Little provision was made for rubbish collection until the construction of the Victoria Park refuse destructor in 1905, and much rubbish was disposed of in backyards and other convenient fill sites throughout the 19th century.

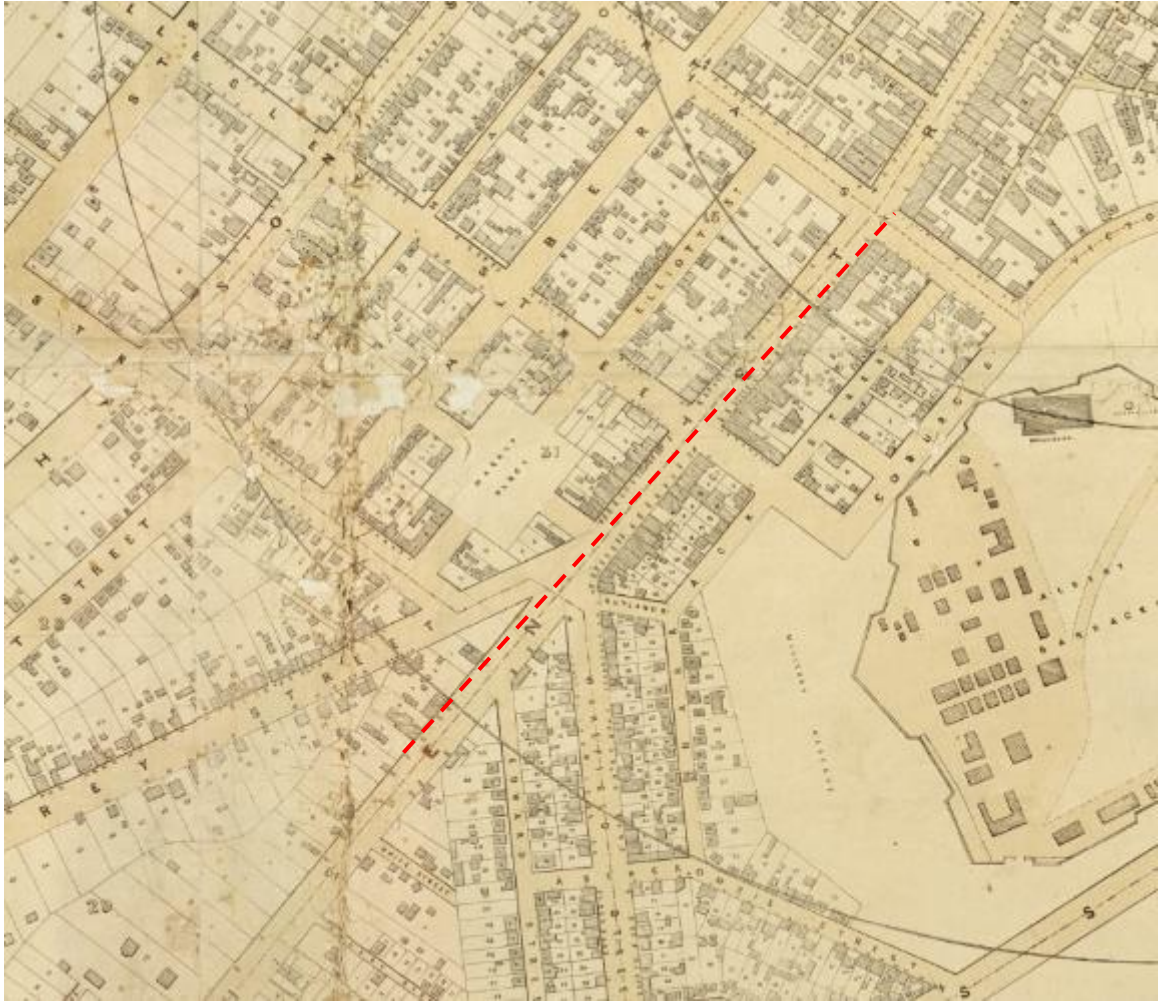
Sewage collection and disposal in the 19th century was based on night-cart collection and the discharge of raw sewage into the Waitematā Harbour at several locations. The Ōrākei Main Sewer was constructed in the early 20th century, taking wastewater from Pt Chevalier across the city to Ōkahu Bay. It was built between 1910 and 1913 in various stages and by different contractors, and was an impressive oval-shaped structure with a brick arch, large enough for a person to walk through (Bickler 2012). The sewage treatment works based at Ōkahu Point were not established until 1914, and even then the sewage discharged into the sea was only roughly screened.

One of the earliest drainage and sewerage installations was the Ligar Canal in Queen Street, enclosing the Waihorotiu Stream that flowed down the Queen Street gully. Initially a plank-covered ditch structure, it was partly replaced in 1855 by a brick barrel drain known as the Queen Street Main Sewer (Best et al. 1999). Upgrading of the system continued in the following years, and sewerage and drainage systems were gradually extended to other city streets.

## **The Project Area**

Queen Street, Wellesley Street and Victoria Street were among the earliest streets to be established in Auckland, and development in this area was fairly well advanced by the mid-1860s, as shown in the Vercoe and Harding Map of Auckland dating to 1866 (Figure 13).

As can be seen on the map Grey's Street (now Greys Avenue) originally extended as far as Queen Street, the junction being north of today's Town Hall opposite Rutland Street. Mayoral Drive was constructed in the 1970s, crossing Queen Street and Greys Avenue.



**Figure 13. Detail from Vercoe and Harding's 1866 Map of Auckland, showing the street layout and development around the Project Area at that date (source: Auckland Libraries Heritage Collections, NZ Map 18). Approximate alignment of proposed wastewater pipeline overlaid**

## ARCHAEOLOGICAL BACKGROUND

### Recorded and Scheduled Sites

The recorded archaeological and other historic heritage sites in proximity to the Project Area are shown in Figure 14 and Figure 15, and are listed in Table 1.

Most of the recorded archaeological sites are beneath existing buildings either side of Queen Street and have either been destroyed during development or have been recorded on the basis of historical research, with their surviving extents unknown.

The destroyed sites include the reported findspot of a Māori whalebone mere (weapon) found during the construction of the Civic Theatre in 1929 (R11/62), the location of the former Horotiu Pā in the vicinity of the Town Hall (R11/83), and an area of Māori cultivations along the Queen Street valley (R11/68). Site R11/1559, the site of Auckland's first Gaol, also contained shell midden and Māori gardening tools relating to settlement and cultivation on the banks of the Waihorotiu. Another recorded site related to Māori settlement, Ngā Wharau a Tako (R11/528), is mislocated on Figure 14 and should actually be located in the vicinity of Kingston and Federal Streets (where it is scheduled as a Site and Place of Significance to Mana Whenua on the AUP OP – Schedule 12, ID 009).

Other destroyed sites relate to 19th century European settlement and consist of the sites of former commercia, industrial or administrative buildings (e.g. R11/1518, R11/1559, R11/2717), while the presence of surviving remains of other sites is unknown or not stated in the site records (e.g. R11/1494, R11/1628, R11/1630, R11/1644, 11/1936, R11/2734).

The only recorded archaeological sites in close proximity to the Project Area with the potential for surviving archaeological remains are:

R11/2017: European midden in Myers Park near the underpass, but likely to continue within the Greys Avenue CSA. (This is discussed further below under 'Previous Archaeological Work').

R11/1936: the site of a number of 19th century businesses at 36-38 Greys Avenue, in the Greys Avenue CSA. The businesses included a harness maker, carpenter, government clerk, compositor, plumber, gasfitter and shipwright. The information is based on historical research and the extent of any surviving subsurface remains is not known.

Site record forms for the two sites are appended to this report.

In addition to archaeological sites, a number of heritage buildings have been recorded on the Auckland Council's CHI, many of which are scheduled in the AUP OP and included in the New Zealand Heritage List (Figure 15, Table 1). The scheduled buildings are the former John Court's Building at 210 Queen Street (AUP 02037, NZ Heritage List 2619); the Strand Arcade at 233 Queen Street, the lower storey of which dates back to the 19th century (AUP 02038, NZ Heritage List 123, R11/3060); the former Auckland Savings Bank Headquarters at 256 Queen Street (AUP 02039, NZ Heritage List 100); the Civic Theatre at 279 Queen Street (AUP 02040, NZ Heritage List 100); Civic House and the Fergusson Building at 291-297 Queen Street (AUP 02041, NZ Heritage List 4585 and 4573); Auckland Town Hall at 301-317 Queen Street (AUP 02043, NZ Heritage List 549); the Auckland Sunday School Union Building at 323-327 Queen Street (AUP 02045, NZ



Heritage List 2613); and the MCL Assurance Co. Ltd Building at 380 Queen Street (AUP 02046).

The scheduled extent of place of six of these historic heritage buildings extends into the Queen Street road reserve. These are the former John Court's Building (Farmers) at the corner of Queen and Victoria Streets, which extends into both streets; the Civic Theatre at the corner of Queen Street and Wellesley Street, which extends into both streets; Civic House and the Fergusson Building at 291-297 Queen Street; the Auckland Town Hall at 301-317 Queen Street; and the Auckland Sunday School Union Building at 327-327 Queen Street.

Four additional buildings that are included as heritage places in the CHI are not scheduled in the AUP OP. These are the buildings at 263, 319, 321 and 396 Queen Street.

Heritage buildings are not discussed further in this report as any effects are being assessed separately by a built heritage specialist.

Two other historic heritage items included in the CHI are the monument in Aotea Square (CHI 23216) and a 'military building' (CHI 20199) indicated on Figure 15 in Victoria Street West near its junction with Queen Street. The building was a temporary recruiting station dating to 1916 which has no surviving remains.

Myers Park, including the underpass, has been scheduled on the AUP OP as a heritage landscape (AUP 02048) and included in the NZ Heritage List (7008) as a historic area.

There are two scheduled Sites and Place of Significance to Mana Whenua (SPSMW) (Figure 15, Table 1). One is Horotiu, described as a Pā site located above Waihorotiu (Schedule 12 ID 016). The other is Waihorotiu, which has been discussed above, being the former stream that ran down from the Karangahape ridge, through Myers Park and down the western side of Queen Street from its junction with Victoria Street West (Figure 16). In the early years of European settlement part of the stream was used as an open timber-lined drain known as the Ligar Canal, which was later replaced by a brick barrel drain (the Queen Street Main Sewer). The scheduled extent of place is within Queen Street from just south of its junction with Victoria Street, extending north as far as its junction with Shortland Street and Swanson Street.

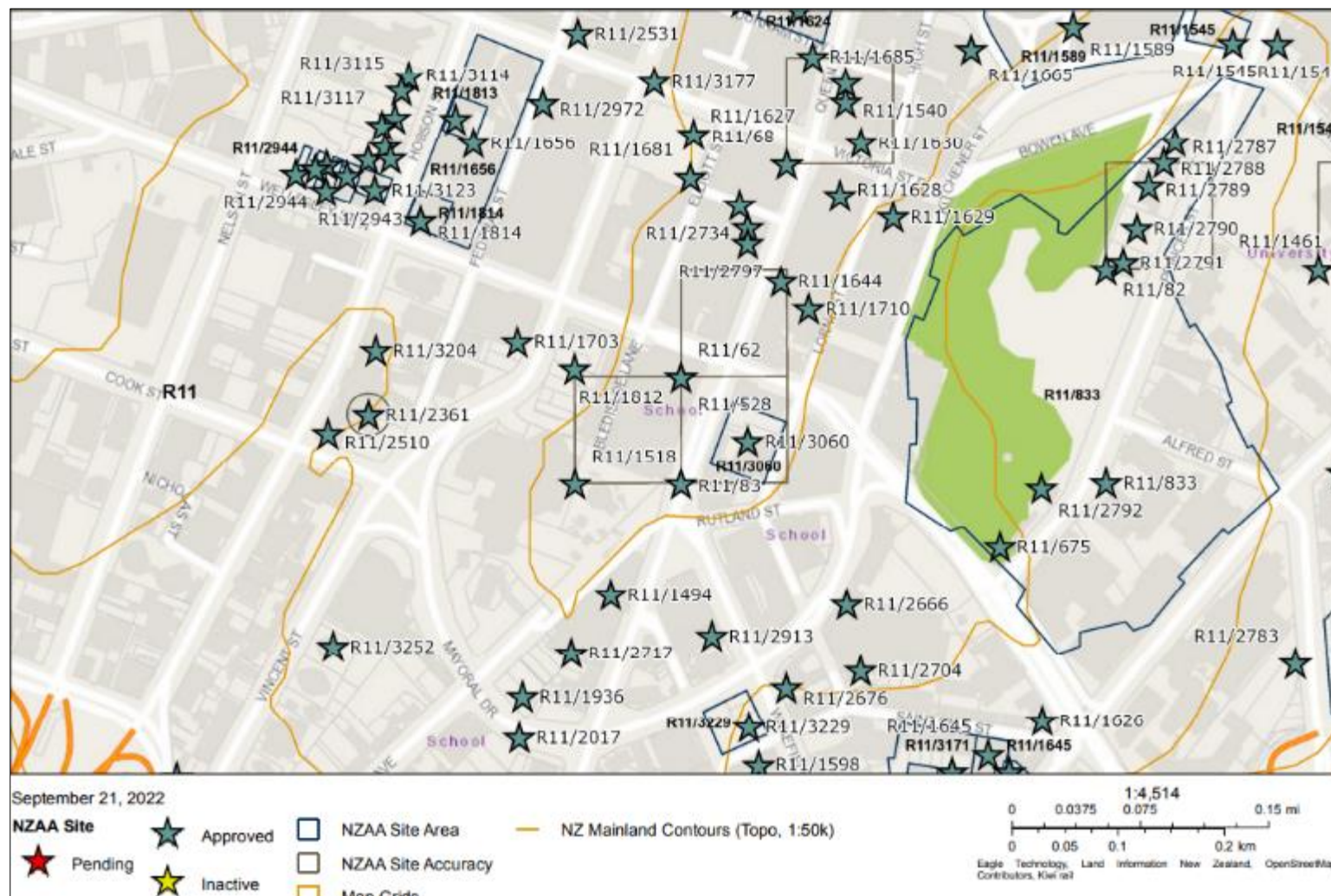
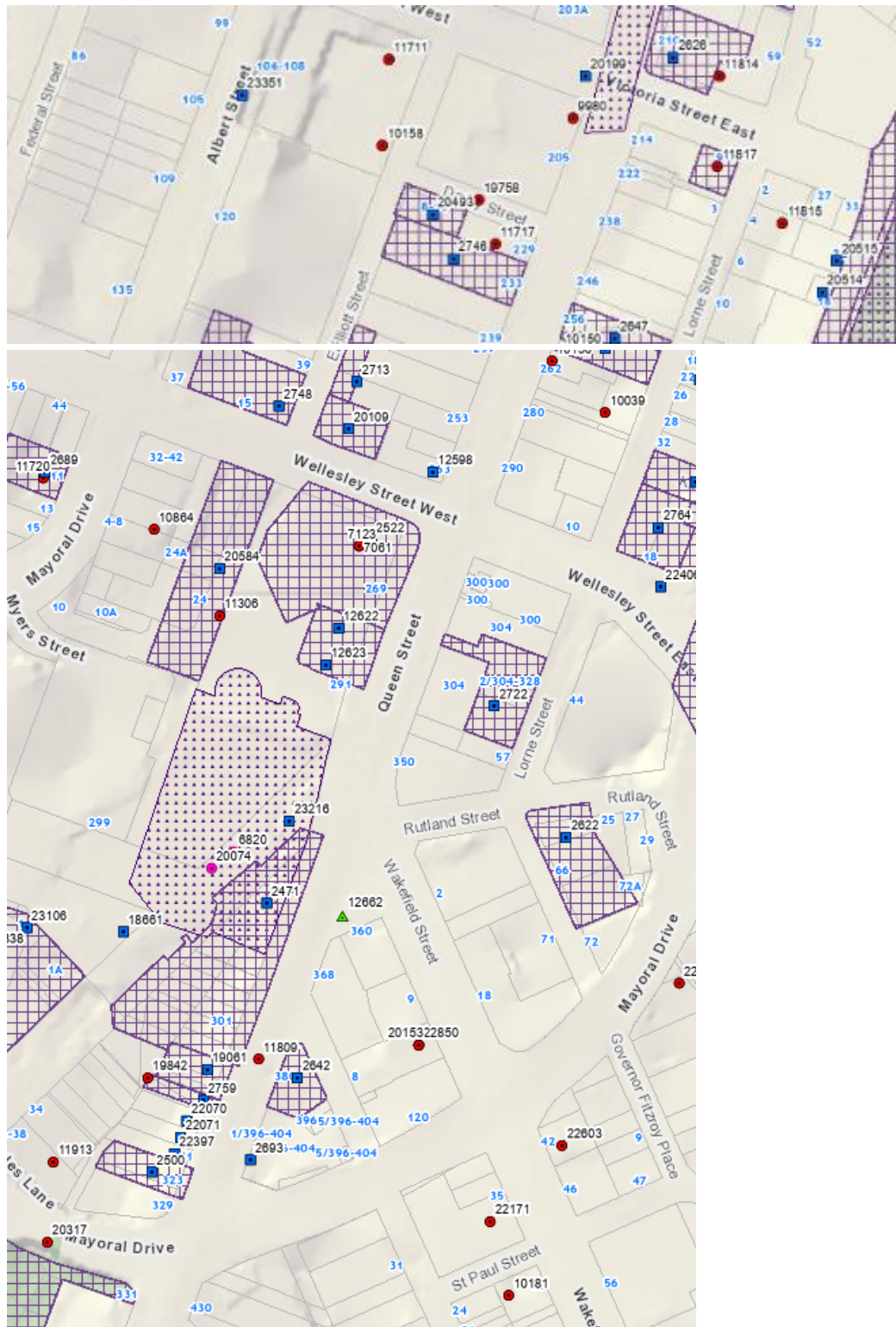


Figure 14. Previously recorded archaeological sites in proximity to the Project Area (source: NZAA ArchSite 2023)



**Figure 15. Showing scheduled and recorded historic heritage places on the Auckland Council CHI within and near the Project Area (source: Auckland Council GeoMaps 2023). Red dots = archaeological sites; blue squares = historic structures; purple circles = Māori heritage sites; green triangles = heritage trees. Purple hatching indicates scheduled Historic Heritage Places and purple stippling scheduled Sites and Places of Significance to Mana Whenua on the AUP OP**



**Table 1. Recorded archaeological and other historic heritage sites in proximity to the Project Area**  
(source: Auckland Council CHI and NZAA ArchSite)

NZAA #	CHI #	AUP Schedule/ NZ Heritage List	Site Type/Name	Grid ref. (NZTM)	Current Status/ Location
R11/62	7123	-	Artefact findspot	E 1757265 N 5920202	Destroyed. Whalebone mere found 7m below Queen Street, Civic Square 1929
R11/68	9980	-	Māori horticulture	E1757635 N5920403	Destroyed. Cultivations, Queen Street
R11/83	12598	AUP SPSMW ID 015	Pa, Horotiu	E 1757265 N 5920102	Destroyed 299 Queen Street,
R11/528		-	Former Māori village Ngā Wharau a Tako	E 1757265 N 5920202	<b>Mislocated.</b> This is a scheduled SPSMW (AUP 009) located on Kingston and Federal Streets
R11/1494	11809	-	Commercial	E1757199 N5919998	Largely destroyed. Site of former 19th century buildings beneath Auckland Town Hall
R11/1518	11306	-	Industrial/Commercial	E1757232 N5920187	Destroyed. Site of former industrial/ commercial buildings
R11/1559	11717	-	Administrative	E1757328 N5920343	Destroyed. Site of Auckland's first courthouse & gaol. Also contained evidence of Māori settlement. Block bounded by Queen, Victoria, Derby & Elliot Streets.
R11/1628	11817	-	Commercial	E1757415 N5920373	The site of former commercial buildings. 214, 223-28 Queen St & 9-17 Victoria St.
R11/1630	11814	-	Commercial	E1757435 N5920423	The site of former commercial buildings. 195-200, 202 Queen St & 61 High St
R11/1644	10150	-	Commercial	E1757359 N5920292	Site of historic pharmacy/chemist shop.
R11/1936	20317	-	Commercial	E1757116 N5919902	Site of 19th century businesses. 36-38 Greys Avenue

NZAA #	CHI #	AUP Schedule/ NZ Heritage List	Site Type/Name	Grid ref. (NZTM)	Current Status/ Location
R11/2017		-	Midden (historic)	E1757113 N5919863	European midden just below Mayoral Drive in Myers Park, associated with Waihorotiu Stream and drainage
R11/2717	19842	-	Historic land parcel	E1757162 N5919943	Behind (south of) Town Hall. Former 19th century corrugated iron building. Leather, brick& wood drains found. Beneath Q Theatre
R11/2734	19758	-	Historic - domestic	E1757320 N5920364	Historic rubbish dump beneath surface of Derby St. Found during trenching works
R11/2797		-	Commercial	E1757328 N5920328	Strand Arcade incorporating pre-1900 structure
	2626	AUP HHP ID 02037 NZH List 2619	Historic Structure – John Court’s Building (former)		210 Queen Street
R11/3060	2746	AUP HHP ID 02038 NZH List 123	Historic Structure – Strand Arcade		233 Queen Street. Incorporates pre-1900 building
	2647	AUP HHP ID 02039 NZH List 5454	Historic Structure – Auckland Savings Bank Headquarters (former)		256 Queen Street
-	2522	AUP HHP ID 02040 NZH List 100	Historic Structure – Civic Theatre		279 Queen Street
	12622 12623	AUP HHP ID 02041 NZH List 4585 & 4573	Historic Structure – Civic House and Fergusson Building		291-297 Queen Street
	2471 19061 2759	AUP HHP ID 02043 NZ List 549	Historic Structure – Auckland Town Hall		301-317 Queen Street
	2500	AUP HHP ID 02045 NZ List 2613	Historic Structure – Auckland Sunday School Union Building		323-327 Queen Street
	2462	AUP HHP ID 02046	Historic Structure – MCL Assurance Co. Ltd Building		380 Queen Street
R11/2669	12559	AUP HHP ID 02048 NZ List 7008	Historic Landscape – Myers Park		331 Queen Street

NZAA #	CHI #	AUP Schedule/ NZ Heritage List	Site Type/Name	Grid ref. (NZTM)	Current Status/ Location
	20074	AUP SPSMW ID 016	Sites and Places of Significance to Mana Whenua - Horotiu		299 Queen Street
	12922	AUP SPSMW ID 084	Sites and Places of Significance to Mana Whenua – Horotiu Stream		Queen Street from Victoria Street to Shortland Street intersections
-	2693		Building - Tavern		396 Queen Street
	22397		Building - Commercial		321 Queen Street
	22071		Building - Commercial		319 Queen Street
	23216		Monument		Aotea Square
	12598		Building - Commercial		263 Queen Street
	20199		Military Building		Victoria Street West road reserve – former temporary 1916 recruiting station

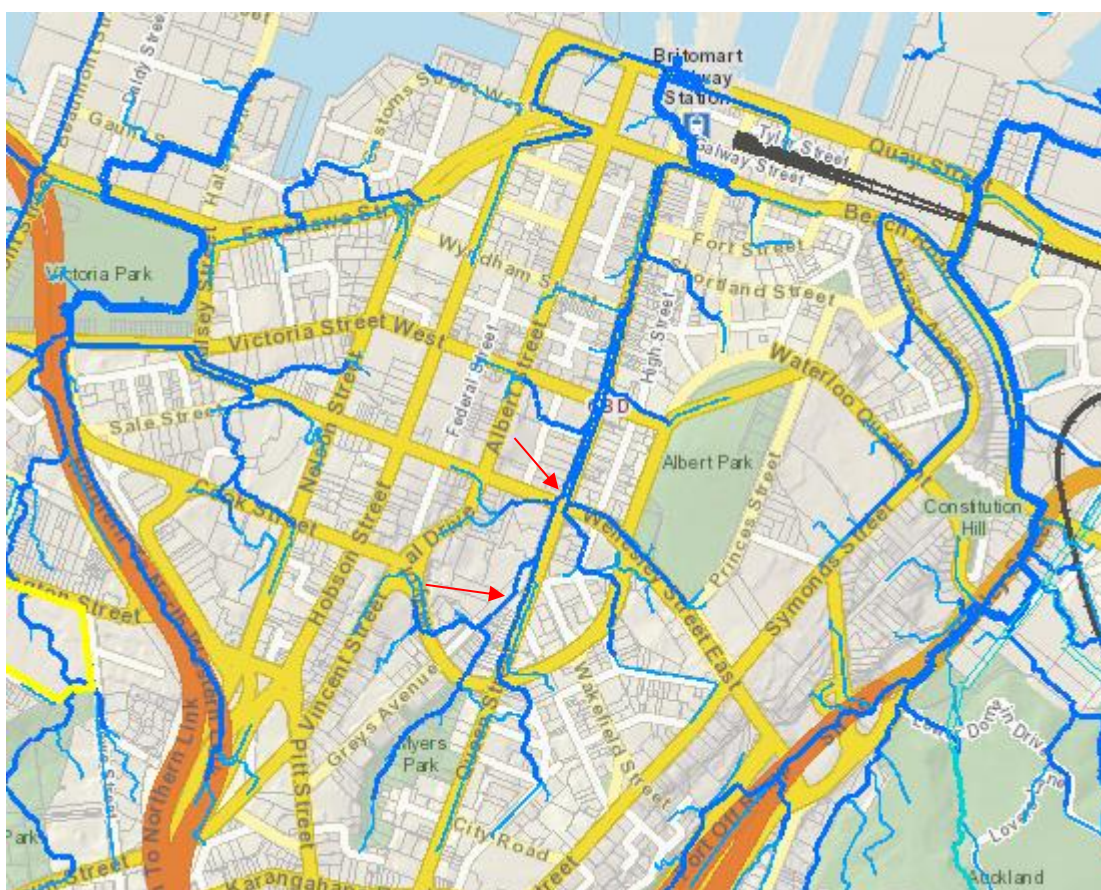


Figure 16. Hydrology overlay showing flow paths in the vicinity of Queen Street, including the Waihorotiu Stream (red arrows) through Myers Park, beneath Mayoral Drive and the Town Hall and along Queen Street (source: Auckland Council GeoMaps)



## Previous Archaeological Work

Over the past 30 or so years several archaeological investigations have been carried out in the City Centre which have demonstrated the potential for the survival of archaeological remains beneath buildings and city streets. These have included the Britomart Transport Centre investigations within the Commercial Bay reclamation area (Bickler et al. 2005); Auckland's early gaol site at the corner of Queen Street and Victoria Street West (Best 1992); an early hotel site on Fort Street (Brassey and Macready 1994); the site of His Majesty's Theatre on Queen Street (Felgate 1998); Browns Mill in Durham Lane (Brassey 1990); an area of early European settlement around the former Mechanics Institute, Chancery Street (Macready and Robinson 1990); and more recently works for the City Rail Link's Aotea Station which have exposed early building foundations, wells and infrastructure remnants (Low et al. 2021; Clough-Macready et al. 2022).

These investigations were carried out following archival research and consideration of the extent of post-19th century modifications, which indicated the potential for archaeological remains to have survived. The majority of discoveries have been in former city allotments with only a few isolated discoveries made within road reserves.

Few remains relating to earlier Māori settlement have been encountered in central Auckland, but there have been exceptions, notably Māori gardening implements and shell midden in the Queen Street valley during the construction of 205 Queen Street and investigation of the early gaol site (Best 1992), close to the original course of the Waihorotiu Stream, which ran parallel to Queen Street, midway between Queen and Elliot Streets. The discovery of a whalebone mere was also reported during the construction of the Civic Theatre in 1929 at a depth of 7m.

Investigations within road reserves have included excavations at the intersections of Queen Street with Fort Street and Queen Street with Swanson Street (Best et al. 1999), which exposed the city's earliest wooden drainage system down Queen Street (the Ligar Canal) and its successor, a substantial brick barrel drain (the Queen Street Main Sewer). Other investigations have also exposed sections of the drain (e.g. Bickler et al. 2005). During the recent City Rail Link works, excavations in road reserves around Albert Street, Wellesley Street and Mayoral Drive have exposed early infrastructure elements including sections of 19th century brick barrel drains as well as pockets of dumped historic artefacts (Low et al. 2021; Clough-Macready et al. 2022). However, as is inevitable with basic utilities, repair, upgrading and installation of new services will have destroyed many of the earlier infrastructure elements.

Another nearby site was exposed during street upgrade works within the Derby Street road reserve (R11/2734). It consisted of a historic rubbish dump relating to a 19th century residence (Judge et al. 2012) and demonstrates other types of archaeological find that can occur within road reserves. The potential for archaeological remains is increased when (as in the case of Derby Street) the road was part of later development/subdivision cutting across an original city section, or where early roads have been widened, when the foundations of early buildings that extended to the original street frontage may be exposed.

In the near vicinity of the Greys Avenue CSA on Mayoral Drive, excavations in the 1990s in the Mayoral Drive underpass (site R11/2017) for the construction of a dam wall at the northern edge of Myers Park were monitored by Dr Simon Best. This was in the location of the former Waihorotiu Stream that ran down the centre of Myers Park towards the Town Hall (see Figure 16). The excavations located the original stream bed and three drains, one

concrete, one brick and one ceramic running down the stream. The brick and ceramic drains were considered likely to date to the period 1884-1885, when the Council undertook extensive drainage works in the gully between Queen and Grey Streets. European artefacts in the bed of the stream and in fill layers above were also present (Best 1998). The drains were found at depths of 1.6 to 1.8m below current ground levels and the stream bed was estimated to be 2.5m below the ground surface. Artefact-rich layers were exposed at a depth of c.1.6m below the tarmac of the underpass, while buried topsoil of the stream banks was found to be present at depths of >1m below the ground surface on the western side and >0.5m on the eastern.

More recent excavations in Myers Park immediately to the south of the underpass have exposed similar stratigraphy and ceramic drains (Harding and Farley 2023).

No archaeological investigations of site R11/1936 in the Greys Avenue carpark, which is the historically recorded site of 19th century businesses, have been carried out. However, some geophysical testing using Infrared and Ground Penetrating Radar, followed by pothole testing, was carried out for Auckland Council in 2019 to identify subsurface voids beneath the carpark (Eggleton 2019). Potholes within the recorded location of R11/1936 adjacent to Greys Avenue found a build-up of fill consisting of brick and concrete demolition rubble (in the area shaded red in Figure 17). This is likely to relate to buildings that were demolished prior to the construction of the carpark. The demolition fill (see Figure 18) extended to 2.1m in depth before more solid obstruction, possibly a basement floor, prevented further exploration. It is possible that pre-1900 remains have survived beneath the rubble and further downslope beneath the basecourse of the carpark.



Figure 17. Aerial overlay showing area of rubble fill (arrow) close to Greys Avenue (from Eggleton 2019)





**Figure 18. Showing pothole excavation (PV1) undertaken by Briton Detection and Inspection in the Greys Avenue carpark in 2019, exposing building demolition rubble (Eggleton 2019)**



## ASSESSMENT OF EFFECTS

The proposed stormwater diversion works are predominantly located within areas that have been extensively modified by previous road construction/maintenance and services installation within the road reserves, reducing the potential for the presence of subsurface archaeological remains. However, previous works within central Auckland road reserves have exposed isolated archaeological features relating to pre-1900 occupation, including the early Ligar Canal and Queen Street Main Sewer, as well as occasional deposits of historic artefacts or building foundations within streets that have been widened, and early 20th century infrastructure remains.

The potential effects of the proposed works are discussed below.

### *Queen Street/Victoria Street Shaft*

The proposed Queen Street/Victoria Street Shaft is located on the northeastern corner of the Queen Street/Victoria Street intersection and will not have any effects on the Ligar Canal/Queen Street Main Sewer, which entered Queen Street on the northwestern corner of the intersection (Figure 16). However, the shaft is located in the Queen Street/Waihorotiu Stream valley, where buried topsoils and potential cultivation soils and artefacts related to Māori settlement have been found in the past a few metres below current street level (Best 1992). It is therefore possible that the shaft may cut into deeply buried topsoils and remains related to Māori settlement, but if so it would not be possible to confirm this during shaft construction. It is also possible that unrecorded isolated elements of pre-1900 or early 20th century infrastructure may be present beneath the road surface and affected by the works. If so it may be possible to observe and record them during the initial stages of post and panel shaft construction.

This shaft will be used to provide a connection to the Ōrākei Main Sewer, which has historic heritage value, although being post-1900 it does not meet the definition of an archaeological site under the HNZPTA. Care will be taken to provide internal support to the Ōrākei Main Sewer during construction to avoid its potential collapse.

It is noted that both the shaft and its CSA are partly located within the scheduled extent of place of the former John Court's Building (Farmers) at 210 Queen Street. Any adverse effects on built heritage, including from vibration effects, are outside the scope of this assessment and will be addressed by the appropriate specialists. It is also noted that the shaft and CSA are in close proximity to a scheduled Site and Place of Significance to Mana Whenua – Horotiu Stream.

### *Queen Street/Wellesley Street Shaft*

The proposed Queen Street/Wellesley Street Shaft is located on the eastern side of the Queen Street/Wellesley Street intersection and will not impact on any known archaeological sites. Nor are there any scheduled heritage buildings or other heritage places in close proximity.

It is possible that unrecorded isolated elements of pre-1900 or early 20th century infrastructure may be present beneath the road surface and affected by the shaft works, but if so the concrete ring beam construction method would not allow any opportunities to confirm this. The open cut trenching required to connect local wastewater lines to the shaft may also impact on pre-1900 or early 20th century infrastructure elements, and if so these could be observed and recorded.

As with the Queen Street/Victoria Street Shaft, it is possible that the shaft may cut into deeply buried deposits relating to Māori settlement in the Queen Street valley – it was noted above that a Māori artefact was found during the construction of the Civic Theatre at considerable depth (7m). If so, however, it would not be possible to confirm this during shaft construction.

#### *Queen Street/Mayoral Drive Shaft*

The proposed Queen Street/Mayoral Drive Shaft is located on the western side of Queen Street, immediately adjacent to the extent of place of the Auckland Sunday School Union Building at 323-327 Queen Street. It will not impact on any known archaeological remains. Any adverse effects on built heritage, including from vibration effects, are outside the scope of this assessment and will be addressed by the appropriate specialists.

Again, it is possible that unrecorded isolated elements of pre-1900 or early 20th century infrastructure may be present beneath the road surface and affected by the shaft works. If so it may be possible to observe and record them during the initial stages of post and panel shaft construction.

#### *Greys Avenue Carpark CSA and P3-P4 Connector Shaft P4MH4*

There are two recorded archaeological sites within the carpark. The first is R11/1936 (the site of 19th century businesses), located on the uphill (western) side of the Grey's Avenue carpark. The Greys Avenue CSA will require some earthworks to create a levelled area, in the location shown in Figure 10. It is possible that archaeological remains in the form of basement foundations or a well may have survived in this area, although adjacent to Greys Avenue these would be buried under c.2m of demolition rubble fill. Levelling earthworks in the recorded location of the site may reach depths of 2m or occasionally 3m if voids are to be removed, and there is therefore some potential for pre-1900 remains to be affected in this area.

The second site is R11/2017, where historic artefacts overlying the bed of the Waihorotiu Stream and three phases of stream channelling/culverting have been recorded adjacent to the Mayoral Drive underpass within Myers Park. The site no doubt extends within the Greys Avenue carpark, and would be in the vicinity of proposed shaft P4MH4. The archaeological remains were recorded at depths below 1.6m, and it is not envisaged that any excavations for levelling purposes relating to the CSA would affect them. However, the proposed shaft is likely to impact on the original course of the stream and/or its banks, and on historic deposits containing artefacts that overlie the stream bed and banks, depending on the extent of previous modification in the location of the proposed shaft. If so it may be possible to observe and features and deposits that are part of the site during the initial stages of post and panel shaft construction.

#### *Tunnelling Works*

The tunnelling under Queen Street is unlikely to impact on any archaeological remains as it is generally below the level at which any remains would be expected (from 6.35mbs at the Victoria Street end to 13.72mbs at the Mayoral Drive end), with the possible exception of deeply buried topsoils, as noted for the Queen Street/Victoria Street and Queen Street/Wellesley Street shafts. It would not be possible to confirm their presence, however.

The tunnelling within the Greys Avenue carpark is also unlikely to impact on any archaeological remains as it is below the level at which any remains relating to site R11/2017 would be expected (4.5m).

### *Network Utility Relocation Works*

The works would involve initial potholing (small trenches c.400mm wide and up to 1.5m deep) to confirm the location of network utilities, followed by open trenching (c.2m wide and c.1.5m+ deep) to relocate them. As noted above, there is some potential for isolated subsurface pre-1900 or early 20th century infrastructure or artefact deposits to be present and exposed by these works. If so it would be possible to observe them in the trench profiles and record them.

Overall, any adverse effects on archaeological values are likely to be minor. If archaeological remains are exposed during the works, the effects can be appropriately mitigated through the recording of information relating to the history of the area under an Authority issued by Heritage NZ.



## DISCUSSION AND CONCLUSIONS

### Summary of Results

Part 3 of the Queen Street Wastewater Diversion Project is located in an area that has been highly modified by road construction and maintenance and services installation. However, previous works within central Auckland road reserves have exposed isolated archaeological features relating to early infrastructure, including the Ligar Canal and its successor the Queen Street Main Sewer (a 19th century brick barrel drain), as well as occasional deposits of historic artefacts, or building foundations within streets that have been widened. It is possible that surface works may expose similar unrecorded remains, although the Queen Street Main Sewer will not be affected.

Two recorded archaeological sites are present within the Project Area. The first is R11/2017, which consists of early drains and deposits containing European artefacts within and above the original Waihorotiu Stream course that runs through Myers Park and into the Greys Avenue carpark in the vicinity of the proposed shaft P4MH4. The other is R11/1936, which is the site of various 19th century businesses that once occupied the western half of the Greys Avenue CSA. There is some potential for deep features relating to R11/1936 to be exposed by levelling works for the CSA, and for deposits relating to R11/2017 to be exposed by the proposed shaft.

### Māori Cultural Values

This is an assessment of effects on archaeological values and does not include an assessment of effects on Māori cultural values. Such assessments should only be made by the tangata whenua. Māori cultural concerns may encompass a wider range of values than those associated with archaeological sites.

The historical association of the general area with Mana Whenua is evident from the recorded sites, traditional histories and known Māori place names. There is a scheduled Site and Place of Significance to Mana Whenua (Horotiu Stream) in close proximity to the Queen Street/Victoria Street Shaft, and another (Horotiu) in the vicinity of the Town Hall. The latter commemorates a former pa/village overlooking the Waihorotiu Stream. A whalebone mere was recovered at considerable depth during the construction of the Civic Theatre in 1929, and evidence of Māori gardening was found under infilling during the construction of the building at 205 Queen Street – rare finds reflecting the city centre's pre-European history and in particular Māori settlement on the banks of the Waihorotiu.

### Limitations

Archaeological sites beneath sealed surfaces in urban environments can rarely be identified prior to being exposed in the course of redevelopment work, and the approach to archaeological assessment is therefore to identify historically recorded activities and assess the potential for archaeological evidence to have survived on the basis of later modifications.

## Archaeological Value and Significance

The AUP OP (section B5.2.2) identifies several criteria for evaluating the significance of historic heritage places. In addition, Heritage NZ has provided guidelines setting out criteria that are specific to archaeological sites (condition, rarity, contextual value, information potential, amenity value and cultural associations) (Heritage NZ 2019: 9-10).

The archaeological value of sites relates mainly to their information potential, that is, the extent to which they can provide evidence relating to local, regional and national history using archaeological investigation techniques, and the research questions to which the site could contribute. The surviving extent, complexity and condition of sites are the main factors in their ability to provide information through archaeological investigation. For example, generally pa are more complex sites and have higher information potential than small midden (unless of early date). Archaeological value also includes contextual (heritage landscape) value. Archaeological sites may also have other historic heritage values including historical, architectural, technological, cultural, aesthetic, scientific, social, spiritual and traditional values.

It is unclear to what extent any subsurface remains will have survived the various modifications that have occurred within the Project Area, with the exception of site R11/2017 (European midden and drainage over the Waihorotiu Stream bed), which has been investigated within Myers Park. As this site has the potential to be affected by the proposed shaft P4MH4, its archaeological values and significance have been assessed against the AUP and Heritage NZ criteria (Table 2, Table 3). Overall, the site is considered to have limited archaeological/historic heritage value under these criteria. Its potential to provide new information in addition to what has already been established through previous archaeological investigations is no more than moderate.

It is not known whether the second recorded site within the Project Area (R11/1936, the site of 19th century businesses located in the western half of the Greys Avenue CSA) has any subsurface archaeological remains as it was recorded on the basis of archival information relating to land ownership and use. It is not therefore possible to assess its archaeological values against the AUP and Heritage NZ criteria. If any remains have survived later development and modification during the construction of Mayoral Drive and the carpark, for example a basement floor or well, they have the potential to provide some, though limited, information relating to the 19th century history of central Auckland.

If remains are exposed by the proposed works elsewhere in the Project Area they are likely to consist of isolated finds relating to early infrastructure, or small deposits of artefacts incorporated into fill. They are unlikely to be extensive and would be of limited archaeological and historic heritage value under the Heritage NZ and AUP OP criteria.

**Table 2. Assessment of the historic heritage significance of site R11/2017 (European midden) based on the criteria in the AUP OP (Chapter B5.2.2)**

Criterion	Comment	Significance Evaluation
a) historical: The place reflects important or representative aspects of national, regional or local history, or is associated with an important event,	European artefacts found in the stream bed and subsequent fill layers have no confirmed association with any	Moderate

Criterion	Comment	Significance Evaluation
person, group of people or idea or early period of settlement within New Zealand, the region or locality	person/group of people, but broadly reflect the process of infilling the Waihorotiu Stream	
b) social: The place has a strong or special association with, or is held in high esteem by, a community or cultural group for its symbolic, spiritual, commemorative, traditional or other cultural value	The site is not known to be held in esteem by any community or cultural group, or have any other social value	Little
c) Mana Whenua: The place has a strong or special association with, or is held in high esteem by, Mana Whenua for its symbolic, spiritual, commemorative, traditional or other cultural value	The Waihorotiu Stream is known to be of cultural significance to mana whenua, although the recorded site relates to subsequent infill and channelling. The cultural values of the site should be determined by mana whenua.	Not assessed
d) knowledge: The place has potential to provide knowledge through scientific or scholarly study or to contribute to an understanding of the cultural or natural history of New Zealand, the region, or locality	The site has already been recorded in some detail (Best 1998; Harding and Farley 2023), reducing its information potential through further investigation, but could provide additional information relating to settlement adjacent to the stream and the process of drainage and infilling	Moderate
e) technology: The place demonstrates technical accomplishment, innovation or achievement in its structure, construction, components or use of materials	The drains within the site demonstrate a minor technical accomplishment	Little
f) physical attributes: The place is a notable or representative example of a type, design or style, method of construction, craftsmanship or use of materials or the work of a notable architect, designer, engineer or builder;	The drains within the site are representative of 19th century drainage systems in Auckland	Little
g) aesthetic: The place is notable or distinctive for its aesthetic, visual, or landmark qualities	N/A. The site is subsurface and has no visual or landmark qualities	None
h) context: The place contributes to or is associated with a wider historical or cultural context, streetscape, townscape, landscape or setting	The site contribute in a minor way to the subsurface archaeological landscape of central Auckland	Little



**Table 3. Assessment of the archaeological values of site R11/2017 (European midden) based on Heritage NZ criteria (Heritage NZ 2019: 9-10)**

Value	Assessment
Condition	Remains of the stream bed, 19th century drainage and artefact layers similar to those found by Best (1998) are likely to be present subsurface
Rarity	European midden remains and drainage are not rare in central Auckland
Contextual Value	The site contributes in a minor way to the subsurface archaeological landscape of central Auckland
Information Potential	The site has already been recorded in some detail (Best 1998), reducing its information potential through further investigation, but could provide additional information relating to settlement adjacent to the stream and the process of drainage and infilling
Amenity value	The site is subsurface and has no amenity value
Cultural associations	The site is associated with early European settlement. The Waihorotiu Stream itself was an important part of the pre-European landscape and has Māori cultural associations, the significance of which is for mana whenua to determine.
Other	The site has moderate historical value

## Effects of the Proposal

The potential effects of the Project on archaeological values have been assessed in the previous section.

The proposed works will have no known effects on archaeological values. There is, however, the potential to impact on subsurface archaeological remains relating to early infrastructure and possibly rubbish dumping within the road reserves, but if so this would only be apparent in the potholing and trenching for network utilities relocation, open trenching for the Wellesley Street local connections to the Queen Street/Wellesley Street Shaft, or in the upper levels of the Queen Street/Victoria Street and Queen Street/Mayoral Drive shafts, that are to be installed using a post and panel technique.

The Queen Street/Victoria Street and Queen Street/Wellesley Street shafts in the Queen Street valley could also impact on deeply buried deposits relating to Māori settlement near the Waihorotiu Stream as remains buried at depth have previously been discovered close to these locations. However, there would be no opportunity for archaeological observations of stratigraphic profiles in these shafts. There would be no impact on the channelled stream within Queen Street (the Ligar Canal, replaced by the Queen Street Main Sewer), as this enters Queen Street on the northwestern corner of the Queen Street/Victoria Street intersection, while the proposed Queen Street/Victoria Street Shaft is on the northeastern corner.

At the Queen Street/Victoria Street Shaft there should be no significant adverse effects on the historic Ōrakei Main Sewer, as an appropriate methodology has been developed to support the structure prior to and during the proposed connection works.

Further south, the channelled stream runs through Myers Park (site R11/2017) and below the Greys Avenue carpark. Depending on the extent of previous modification in this area, the proposed shaft P4MH4 could expose remains relating to the site, and if so there may

be some opportunity for archaeological observations during construction of the post and panel shaft. However, as previous investigations have only encountered remains at depths of c.1.6m or more, opportunities for observation during construction would be limited.

Levelling earthworks will be required in the area of the historically recorded 19th century businesses in the western half of the CSA (R11/1936), which could expose deep features such as a basement floor or well.

Overall, any adverse effects on archaeology are likely to be minor as any remains exposed during the proposed works are unlikely to be extensive or of high significance. Any observable effects on unrecorded subsurface remains can be appropriately mitigated through information recovery under the archaeological provisions of the HNZPTA (see below).

## **Resource Management Act 1991 Requirements**

Section 6 of the RMA recognises as matters of national importance: ‘the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga’ (S6(e)); and ‘the protection of historic heritage from inappropriate subdivision, use, and development’ (S6(f)).

All persons exercising functions and powers under the RMA are required under Section 6 to recognise and provide for these matters of national importance when ‘managing the use, development and protection of natural and physical resources’. There is a duty to avoid, remedy, or mitigate any adverse effects on the environment arising from an activity (S17), including historic heritage.

Historic heritage is defined (S2) as ‘those natural and physical resources that contribute to an understanding and appreciation of New Zealand’s history and cultures, deriving from any of the following qualities: (i) archaeological; (ii) architectural; (iii) cultural; (iv) historic; (v) scientific; (vi) technological’. Historic heritage includes: ‘(i) historic sites, structures, places, and areas; (ii) archaeological sites; (iii) sites of significance to Māori, including wahi tapu; (iv) surroundings associated with the natural and physical resources’.

Regional, district and local plans contain sections that help to identify, protect and manage archaeological and other heritage sites. The plans are prepared under the provisions of the RMA. The Auckland Unitary Plan Operative in Part 2016 (AUP OP) is relevant to the proposed activity.

This assessment has noted that there are several scheduled heritage buildings immediately adjacent to the Project Area, and that the Queen Street/Victoria Street Shaft and CSA extent within the scheduled extent of one of these (the John Courts Building/Farmers) (Schedule 14.1 ID 02037). Effects on built heritage, including vibration effects during construction, are being assessed separately and are outside the scope of this report. In addition, there is a Site and Place of Significance to Mana Whenua (Horotiu Stream, Schedule 12 ID 084) in close proximity to Queen Street/Victoria Street Shaft and CSA. Any effects on Māori cultural values are for Mana Whenua to determine.

This assessment has established that the proposed activity has the potential to adversely affect subsurface archaeological remains relating to 19th and early 20th century urban development. However, any remains exposed are likely to be of limited archaeological/historic heritage value and consist of isolated finds relating to early

infrastructure or dumped artefact deposits, based on previous discoveries in central Auckland road reserves.

The discovery of previously unidentified archaeological remains is provided for under the Accidental Discovery Rule (E12.6.1) set out in the AUP OP. Under the Accidental Discovery Rule works must cease within 20m of the discovery and the Council, Heritage NZ, Mana Whenua and (in the case of human remains) NZ Police must be informed. The Rule would no longer apply in respect to archaeological sites if an Authority from Heritage NZ was in place.

It is noted that the Ōrākei Main Sewer, which dates to the early 20th century and has historic heritage value, will be provided with internal support during construction of the Queen Street/Victoria Street Shaft to avoid its potential collapse.

Overall, any adverse effects on archaeology are likely to be minor and can be appropriately mitigated through archaeological investigation and recording to recover information relating to the history of the area. This will require an Authority under the HNZPTA (see below).

## **Heritage New Zealand Pouhere Taonga Act 2014 Requirements**

In addition to any requirements under the RMA, the HNZPTA protects all archaeological sites whether recorded or not, and they may not be damaged or destroyed unless an Authority to modify an archaeological site has been issued by Heritage NZ (Section 42).

An archaeological site is defined by the HNZPTA Section 6 as follows:

**‘archaeological site** means, subject to section 42(3), –

(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

(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)’<sup>1</sup>

Authorities to modify archaeological sites can be applied for either in respect to archaeological sites within a specified area of land (Section 44(a)), or to modify a specific archaeological site where the effects will be no more than minor (Section 44(b)), or for the purpose of conducting a scientific investigation (Section 44(c)). Applications that relate to sites of Māori interest require consultation with (and in the case of scientific investigations the consent of) the appropriate iwi or hapu and are subject to the recommendations of the Māori Heritage Council of Heritage NZ. In addition, an application may be made to carry out an exploratory investigation of any site or locality under Section 56, to confirm the presence, extent and nature of a site or suspected site.

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<sup>1</sup> Under Section 42(3) an Authority is not required to permit work on a pre-1900 building unless the building is to be demolished. Under Section 43(1) a place post-dating 1900 (including the site of a wreck that occurred after 1900) that could provide ‘significant evidence relating to the historical and cultural heritage of New Zealand’ can be declared by Heritage NZ to be an archaeological site.



As the proposed potholing, trenching, shaft excavations and levelling earthworks have the potential to expose subsurface archaeological remains, possibly including remains relating to recorded sites R11/2017 and R11/1936, it is recommended that an archaeological Authority is applied for under Section 44(a) of the HNZPTA to cover all earthworks undertaken for this project, as a precaution. This should be obtained before any earthworks are carried out. The conditions of the Authority are likely to include archaeological monitoring of preliminary earthworks, and procedures for recording any archaeological evidence before it is modified or destroyed. This approach would have the advantage of allowing any archaeology uncovered during the Project works to be dealt with immediately, avoiding delays while an Authority is applied for and processed.

Modification of the Ōrākei Main Sewer does not require an Authority under the HNZPTA as it is a 20th century structure.

## **Conclusions**

Part 3 of the Queen Street Wastewater Diversion Project is located in an area that has been highly modified by road construction and maintenance and by services installation over many years. The proposed works will not affect any known archaeological remains.

However, previous works within road reserves in central Auckland have exposed late 19th/early 20th century infrastructure elements. Surface works, including pothole excavations, open trenching for network utility relocation and connection and the construction of temporary shafts have the potential to expose and affect similar remains. If so, based on previous investigations these are likely to be of limited extent and archaeological value. There is also some potential for levelling earthworks within the Greys Avenue CSA to expose subsurface remains related to the recorded location of 19th century business premises, and for the temporary shaft P4MH4 to impact on historic infill deposits overlying the Waihorotiu Stream bed, if any remains have survived later modifications.

Any adverse effects on archaeology are considered likely to be minor and can be appropriately mitigated under the archaeological provisions of the HNZPTA.

## RECOMMENDATIONS

- There should be no major constraints on the proposed works on archaeological grounds, as no known archaeological remains will be affected and the possibility that archaeological remains may be present can be appropriately mitigated through the provisions of the HNZPTA.
- Because it is possible that subsurface archaeological remains will be exposed during development, an Authority should be applied for under Section 44(a) of the HNZPTA as a precaution prior to the start of earthworks. This would establish appropriate procedures for the management of any archaeological remains discovered, reducing the potential for delays during the construction process.
- Surface works should be monitored by a qualified archaeologist in accordance with the conditions of an archaeological Authority issued by Heritage NZ. This should include monitoring of trenching for existing services relocation and diversion and connections to the Queen Street/Wellesley Street Shaft, the initial Queen Street/Victoria Street and Queen Street/Mayoral Drive shaft excavations, the initial Greys Avenue P4MH4 shaft excavations, and levelling earthworks within the Greys Avenue CSA to establish whether any archaeological remains are present.
- Any archaeological remains affected by the Queen Street Wastewater Diversion Project should be investigated, recorded and sampled in accordance with the conditions of an Authority issued by Heritage NZ.
- If no Authority has been obtained and subsurface archaeological evidence should be unearthed during construction, or if human remains should be discovered, the Accidental Discovery Rule (section E.12.6.1 of the AUP OP) must be followed. This requires that work ceases within 20m of the discovery and notification to the Auckland Council, Heritage NZ, Mana Whenua and (in the case of human remains) the NZ Police, who will determine the actions required.
- Mana Whenua should be consulted regarding the proposed works, which are in close proximity to a scheduled Site and Place of Significance to Mana Whenua (Horotiu Stream).

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#### **City Maps:**



- Vercoe, J. and E.W. Harding. 1866. Map of 'City of Auckland, New Zealand'. Auckland Libraries Heritage Collections, NZ Map 18.

#### **Heritage Databases:**

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- New Zealand Archaeological Association ArchSite Database, accessed at <http://www.archsite.org.nz>
- New Zealand Heritage List, accessed at <http://www.historic.org.nz>
- Auckland Unitary Plan Operative in Part 2016, accessed at <http://unitaryplan.aucklandcouncil.govt.nz/>

## APPENDIX A: SITE RECORD FORMS

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

 <p><b>Site Record Form</b></p>	<p><b>NZAA SITE NUMBER:</b> R11/1936</p> <p><b>SITE TYPE:</b> Commercial</p> <p><b>SITE NAME(s):</b></p> <p><b>DATE RECORDED:</b></p>
<p><b>SITE COORDINATES (NZTM) Easting:</b> 1757115      <b>Northing:</b> 5919902      <b>Source:</b> Site Record Form</p>	
<p><b>IMPERIAL SITE NUMBER:</b>      <b>METRIC SITE NUMBER:</b> R11/1936</p>	
	
<p><b>Finding aids to the location of the site</b> 36-38 Greys Avenue.</p>	
<p><b>Brief description</b> Site of 19th C businesses</p>	
<p><b>Recorded features</b></p>	
<p><b>Other sites associated with this site</b></p>	

Printed by: rodclough

27/04/2023

1 of 3

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD HISTORY	NZAA SITE NUMBER: R11/1936
<p><b>Site description</b>  Updated 09/02/2016 (other), submitted by rachelford  Grid reference (E1757116 / N5919902)</p> <p>Site location adjusted based on original SRF (attached).</p> <p>Location of several 19th century businesses including harness maker, carpenter, government clerk, compositor, plumber, gasfitter and shipwright.</p> <p><b>Condition of the site</b>  Updated 03/05/2016 (other), submitted by emmabrooks</p> <p>The site record suggests that a building redevelopment was to take place that would affect archaeological remains. Archaeological monitoring was recommended but there is no information to suggest whether this occurred and what the outcomes were.</p> <p><b>Statement of condition</b></p> <p><b>Current land use:</b>  Updated: 03/05/2016 - Industrial/ commercial</p> <p><b>Threats:</b></p>	



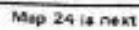
NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD INVENTORY	NZAA SITE NUMBER: R11/1936
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Supporting documentation held in ArchSite

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION <b>SITE RECORD FORM (NZMS260)</b>		NZAA METRIC SITE NUMBER R11/1936 DATE VISITED 26.9.89 SITE TYPE Historic Buildings beneath SITE NAME: MAORI 36-38 Greys Avenue OTHER UN	
NZMS 260 map number R11 NZMS 260 map name Auckland NZMS 260 map edition 1			
Grid Reference Easting 26 6 7 5 5		Northing 6 4 8 1 6	
1. Aids to relocation of site (attach a sketch map) Refer map 17 36-38 Grey's Avenue. DP 81645 Lot 1 and part Lot 2, part Allotments 7, 8, 54 and 55. City Section 29.			
2. State of site and possible future damage Existing building to be demolished.			
3. Description of site (Supply full details, history, local environment, references, sketches, etc. If extra sheets are attached, include a summary here) 1844 - Crown grant of allotments 7 and 54 to Mathew Whytlow, a settler. Allotment 8 a Crown grant to Gilbert Mair, esquire. Buildings shown on allotments 54 and 55 on the 1866 map (Vercoe and Harding Fig. 1 ). Occupants included a harness maker, a carpenter, a government clerk, a compositor, a plumber and gasfitter, and a shipwright. Waihorotiu Stream located at the junction of the Grey's Avenue and the Queen St. allotments.  Attached: Location map, report and recommendations. List of title owners and photographs.			
4. Owner Address	Auckland City Council Private Bag Auckland	Tenant/Manager Address	
5. Nature of information (Purvey, brief or extended visit, etc.) Brief visit and research.  Photographs (reference numbers, and where they are held)  Aerial photographs (reference numbers, and clarity of site)			
6. Reported by Address	Adrienne Slocombe Regional Archaeology Unit Department of Conservation Auckland	Filekeeper Date	B. Seandel 20-12-89
7. Key words Historic premises/Waihorotiu Stream			
8. New Zealand Register of Archaeological Sites (for office use) NZHPT Site Field Code			
Latitude S		Longitude E	
<input type="checkbox"/> CR	Type of site	<input type="checkbox"/> DC	Present condition and future danger of destruction
<input type="checkbox"/> -	Local environment today	<input type="checkbox"/> -	Security code
<input type="checkbox"/> M	Land classification	<input type="checkbox"/> M	Local body

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION		1934													
<b>SITE RECORD FORM (NZMS260)</b>		NZAA METRIC SITE NUMBER R11/1703-													
NZMS 260 map number R11		DATE VISITED 26.9.89													
NZMS 260 map name Auckland		SITE TYPE Historic Buildings beneath													
NZMS 260 map edition 1		SITE NAME: MAORI 36-38 Greys Avenue													
OTHER															
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4. Owner Auckland City Council		Tenant/Manager													
Address Private Bag		Address													
Auckland															
5. Nature of information (hearsay, brief for extended visit, etc.) Brief visit and research.  Photographs (reference numbers, and where they are held)  Aerial photographs (reference numbers, and clarity of site)															
6. Reported by Adrienne Slocombe		Filekeeper B. Seville													
Address Regional Archaeology Unit		Date 20.12.84													
Department of Conservation															
Auckland															
7. Key words Historic premises/Waihorotiu Stream															
8. New Zealand Register of Archaeological Sites (for office use) NZHPT Site Field Code															
Latitude S		Longitude E													
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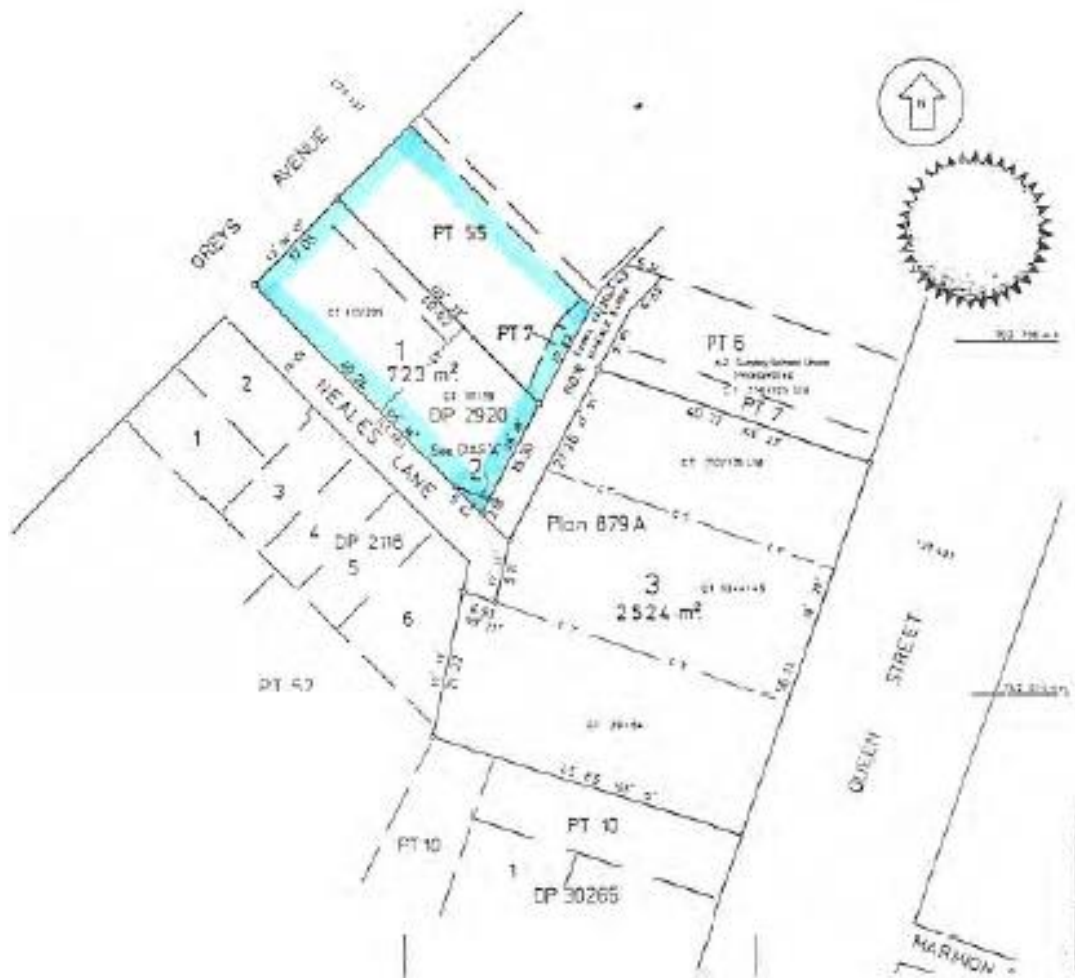


36-38 Grey's Avenue

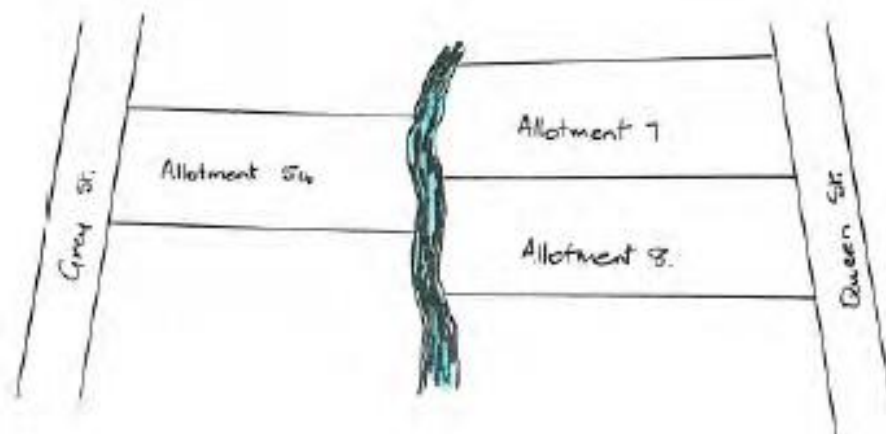
DP 81645, CT 38B 961

(former Salvation Army Headquarters)

For this report the area researched covers 36-38 Grey's Avenue being Lot 1 and part Lot 2 and part Allotments 7, 8, 54 and 55 of City Section 29. The property is owned by the Auckland City Council.



In 1834 Allotments 7 and 54, City Section 28, were made Crown grants to Mathew Whyllan listed as a settler (see p.7-9), and Allotment 8 a Crown grant to Gilbert Blair, esquire, (see p.12 ).



The Deeds of Ownership list the owners of the Allotments through until the Land Transfer Act of 1870 and in some cases beyond. These can be compared with available street directories to identify the actual occupant. These do not always coincide with the owners or lessees recorded in the Deeds owing, presumably, to various informal leasing arrangements.

The first available street directory to include Gray Street (now Gray's Avenue) is the 1862 listing (see p. 4. ). No street numbers are included making the positioning of occupants difficult.

Allotments 54 and 55 correspond to street numbers 30 and 34 on the 1866 Vercoe and Harding map (see Fig. 1 ). Only some of the numbers are shown in the 1866-67 street directory, but by using a process of elimination it is possible that these two allotments were occupied by a combination of the following - a harness maker, a carpenter, a government clerk, a compositor, a plumber and gasfitter, and a shipwright.

The 1866 Vercoe and Harding map schedule lists a one storied wooden dwelling and shed with a shingled roof for No. 30 and a two storied wooden dwelling and workshop with a shingled roof for number 34. It is likely that the workshop was used for one of the occupations listed above.

Some of the plans accompanying the Deeds of Purchase show what appears to be a small stream along the junction of Grey Street and Queen Street allotments. This is probably part of the Waikareiti watercourse which originates in Myers Park.



The 1870-79, 1883 and 1893-4 street lists are also without street numbers. George Gimbel, a printer, who was the occupant of No. 20 in 1866-67 is listed again in 1879-79 giving some idea of approximate positions.

#### Recommendations

Archaeological features relating to the livelihood of the occupants as well as the foundations of the premises they inhabited may still be present preserved beneath the present building. The presence of the Waikareiti Stream "at the bottom of the garden" could also be of archaeological interest.

I would recommend that demolition activities causing disturbance of the ground surface and the early stages of future development of the site be monitored by an archaeologist so that any features which appear can be briefly recorded.

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

 <p><b>ARCH SITE</b> archaeological site recording scheme</p> <p><b>Site Record Form</b></p>	<p><b>NZAA SITE NUMBER:</b> R11/2017</p> <p><b>SITE TYPE:</b> Midden/Oven</p> <p><b>SITE NAME(s):</b></p> <p><b>DATE RECORDED:</b> 27/09/2013</p>
<p><b>SITE COORDINATES (NZTM) Easting:</b> 1757113      <b>Northing:</b> 5919863      <b>Source:</b> On Screen</p>	
<p><b>IMPERIAL SITE NUMBER:</b>      <b>METRIC SITE NUMBER:</b> R11/2017</p>	
	
<p><b>Finding aids to the location of the site</b> Myers Park.</p>	
<p><b>Brief description</b> European midden.</p>	
<p><b>Recorded features</b> Midden</p>	
<p><b>Other sites associated with this site</b></p>	



NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD HISTORY	NZAA SITE NUMBER: R11/2017
<p><b>Site description</b></p> <p>Updated: 27/09/2013 - NZTM E1757199 / N5919863 (On Screen - Approximate only). European midden located just below Mayoral Drive in Myers Park, Auckland. Excavated under Authority 1998/21. Refer to: Best, S.B. 1998. The Myers Park Excavation Dam Wall Site (R11/2017). Final report on the archaeology. Unpublished report, prepared for Metrowater, January 1998. Updated by: Molloy, Nicola.</p> <p><b>Condition of the site</b></p> <p><b>Statement of condition</b></p> <p><b>Current land use:</b></p> <p><b>Threats:</b></p>	

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD INVENTORY	NZAA SITE NUMBER: R11/2017
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Supporting documentation held in ArchSite