Canterbury Station Catchment and Construction Site

Archaeological method statement

Prepared for HSEJV
May 2021

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17 May 2021

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17 May 2021

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1.1 Overview

EMM Consulting Pty Ltd (EMM) has been engaged by Haslin Stephen Edwards Construction Joint Venture (HSEJV), on behalf of Sydney Metro, to prepare archaeological method statements (AMS) for proposed excavation works that form part of the Sydney Metro City & Southwest Sydenham to Bankstown Project (the project). The Sydney Metro City & Southwest Sydenham to Bankstown Project is a Transport for NSW project.

This AMS has been prepared to guide the management of archaeological resources (or remains), that may be present in the construction impact zones within the Canterbury Station Catchment and Construction site (Canterbury site) for work being carried out after the weekend 38 Possession (WE38). This AMS summarises the previously approved archaeological actions for the Metro Services Building (MSB), which has been addressed in the archaeological method statement for weekend 38 (WE38) (EMM 2021).

For the purposes of this report, the term "archaeological resources" includes 'relics' (i.e., archaeological resources of local or State significance) and buried 'works', which include historical infrastructure. This AMS provides an archaeological impact assessment for the remaining works and outlines specific archaeological management measures based on the Archaeological Assessment and Research Design (AARD) prepared for the project (Artefact 2018). It is anticipated that the majority of the archaeological resource, if surviving, will be related to the rail functions at Canterbury Station. AMS reports have also been produced for the Marrickville Station and Lakemba Station Catchment sites.

Project details are provided in the table below:

Project	**Sydney Metro Southwest**
Date	14 May 2021
EMM Project	J210114
Location	Canterbury Station
Activity dates	May 2021 to completion
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Client	HSEJV
Client review	Georgia Wright, Sydney Metro

1.2 Background

1.2.1 Purpose of this document

This AMS has been prepared to guide the management of archaeological resources in the construction impact zones identified in this report (Plate 1.1). It is a response to the 'Revised Mitigation Measures' in the *Sydney Metro City & Southwest Sydenham to Bankstown Upgrade – Submissions and Preferred Infrastructure Report,* (nd) approved by the Department of Planning Industry and Environment (DPIE). Specifically, Condition NAH12 which states that:

> The archaeological research design, including any mitigation measures identified in the Archaeological Assessment and Research Design report, would be implemented (SPIR p.16.13).

This AMS covers the management of archaeological resources, including relics and works, that may be unearthed during construction activities that occur after the Weekend 38 Rail Possession (WE38). It is the second AMS to be prepared for Canterbury Station for the project. The aim of the archaeological program is to identify all archaeological resources and manage them according to this AMS.

Undocumented and unexpected finds will be recorded as per the TfNSW Unexpected Finds Procedure, which has been included as Appendix D. Recording procedures for each archaeological field activity will be conducted following the methodology detailed in this document. An unexpected finds procedure that addresses Aboriginal heritage will also apply to the work.

The methods presented in the AMS are in accordance with the following documents:

- Artefact Heritage 2018, *Sydney Metro City & Southwest Sydenham to Bankstown Upgrade Historical Archaeological Assessment & Research Design* (AARD, Section 4.0); which forms part of the *Submissions and Preferred Infrastructure Report* 2018 (SPIR);
- Sydney Metro Integrated Management System (IMS) 2020, *Southwest Metro – Marrickville, Canterbury and Lakemba Station Upgrades Heritage Management Plan*; and
- *Revised Environmental Mitigation Measures within the Sydney Metro City & Southwest Sydenham to Bankstown Upgrade Submissions and Preferred Infrastructure Report* (DPIE 2018).

1.2.2 Project area

Canterbury Station is located on Canterbury Road, Canterbury, in the Parish of Petersham, County of Cumberland and sits within the Canterbury-Bankstown local government area. The station area is bounded by Broughton Street to the north, mixed urban tower blocks to the south and Canterbury Road overbridge to the east. The station is accessed via Canterbury Road.

The Canterbury Station Catchment works are proposed within the boundaries of:

- Lot 1 DP828270, which includes Canterbury Station and the rail corridor west of the station;
- Lot 5 DP1184346, the Canterbury Road overbridge;
- Lot 11 DP1002980, the rail corridor east of the station; and
- Lots 3 and 21 DP876254, north of the rail corridor.

The Canterbury Station construction site is located within the boundaries of:

- Lot 1 DP818683, 15 Close Street, Canterbury, a former bowling club (to be demolished); and

- A small corridor along the eastern boundary of Lot 2 DP818683, which travels south from the above lot to the Cooks River.

The location of the project area is shown in Plate 1.1. The areas of archaeological potential, as identified by the AARD, are overlaid on the civil drawings are shown in Plate 3.3.

1.2.3 Definitions

This report refers to archaeological resources, archaeological remains, works and relics. The use of these terms is to capture all potentially buried evidence of past use, whether they fall into the category of relics or of works. "Archaeological resources" and "archaeological remains" are interchangeable.

The following definition of a 'relic' is included in the *Heritage Act 1977* (Heritage Act):

> any deposit, artefact, object, or material evidence that— (a) relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, and (b) is of State or local heritage significance (Section 4 of the Act).

'Works' are generally accepted in heritage management in NSW to be the results of previous infrastructure projects, such as rail line, roads and water supply. The Heritage Act includes the following definition for 'works':

> a work includes a reference to any physical activity in relation to land that is specified by a regulation to be a work for the purposes of this Act but does not include a reference to any activity that is specified by a regulation not to be a work for the purposes of this Act (Section 4(5c1) of the Act).

1.2.4 Report Limitations

This report was prepared with the information made available at the time of its preparation. It is based on the historical and archaeological research in the project's AARD. Further research and interpretation of specific archaeological resources will inform interim and final excavation reporting.

Plate 1.1 The Canterbury Station Catchment project area. Source: Sixmaps 2021.

1.3 Archaeological phases and potential

1.3.1 Summary

Artefact Heritage (2019, pp.142-143) identified that the proposed Canterbury Station Catchment and Construction Site works had the potential to disturb non-Aboriginal (historical) archaeology. To further understand the nature and extent of the potential archaeological resource, the history of the project area was divided into five historical phases, which are summarised in subsections 1.32 to 1.36 below. The excavation works associated with the construction of station platforms, tracks, service building, services and utilities and retaining walls, as well as clearance of the construction site, have the potential to impact State and locally significant archaeological resources associated with these five phases.

This AMS fulfils the requirement of NAH12 in relation to rail possessions at Canterbury Station following Weekend 38 (WE38 – 20 to 21 March 2021). Additional archaeological management will be required for future construction work and will be added to this document.

Section 1.3.2 to Section 1.3.6 includes a summary of each historical phase and the type of archaeological evidence that can be expected to be found. The predicted archaeological resource will likely reflect the range and type of historical activities that took place during each phase.

1.3.2 Phase 1 (1788–1841) – Early settlement and farming

One thousand acres of land were originally granted to the Reverend Richard Johnson in the late eighteen century and was periodically added to until it was sold to William Cox in 1800. Johnson named it *Canterbury Vale* and, with the use of convicts who cleared the property, it was successfully farmed and grazed.

Archaeological features expected to be present with this type of land use include:

- tree boles;
- post holes denoting fence lines and sheds;
- field drains; and
- isolated artefacts.

Plate 1.2 is a detail from an undated map of the Canterbury Estate (*Manuscript cadastral map of allotments along the Cook's River near the village of Canterbury, New South Wales*) from the State Library of NSW. As shown by this map, Prouts Bridge had been constructed, represented as a solid line, and is labelled as "Prouts new bridge". The line of what is now Canterbury Road is dashed (blue arrow) suggesting that it had been surveyed but not formalised. To the right (east), the dashed lines of the "Sugar House" are visible but other buildings on this map are shown with solid lines and labelled (Plate 1.3) suggesting the 'Sugar House' may have been planned but not constructed. The map shows the plans for the road and for the Works (referred to by various names – refer to paragraph below). This information would date this plan to just before 1841 when the mill was built, and the village sprung up around it. No structures are shown in the project area to the east of the road alignment.

The Australasian Sugar Company building is variously named in different documents and plans. It is described as the 'Sugar House' on an early undated plan; the 'Old Sugarmill' on the SHR, the 'Canterbury Sugar Works' on the *Canterbury Local Environmental Plan 2012*, and the 'Canterbury Sugarworks' in *The Dictionary of Sydney* (online). The name of the company and building that processed sugar at Canterbury is referred to in this report as the Sugar Works, as per Corkill (1993); however, where other names with 'sugar' occur in this report, it should be taken to mean the Sugar Works.

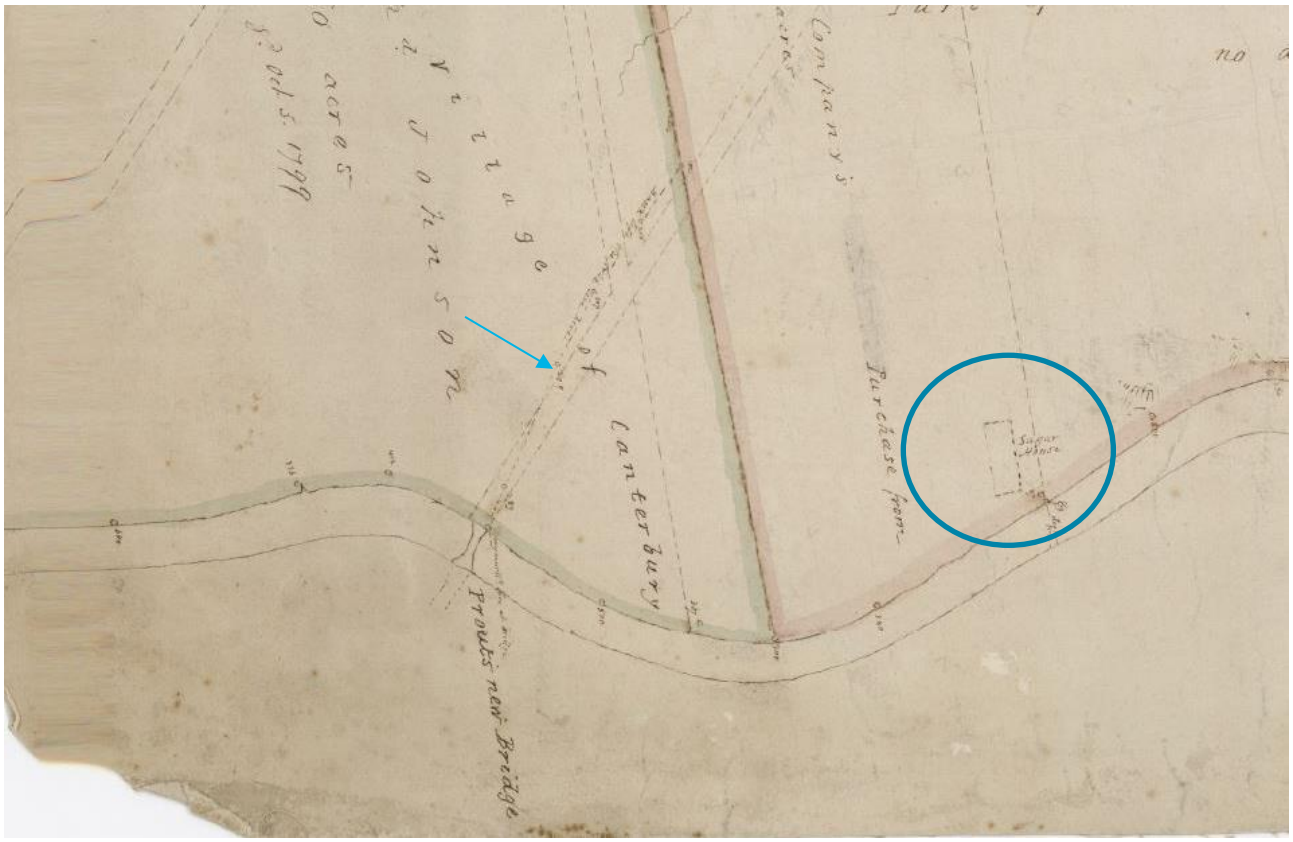

Plate 1.2 **Detail from an undated plan of the Canterbury Estate showing the outline of the 'Sugar House' circled blue (Source: Manuscript cadastral map, NLA).**

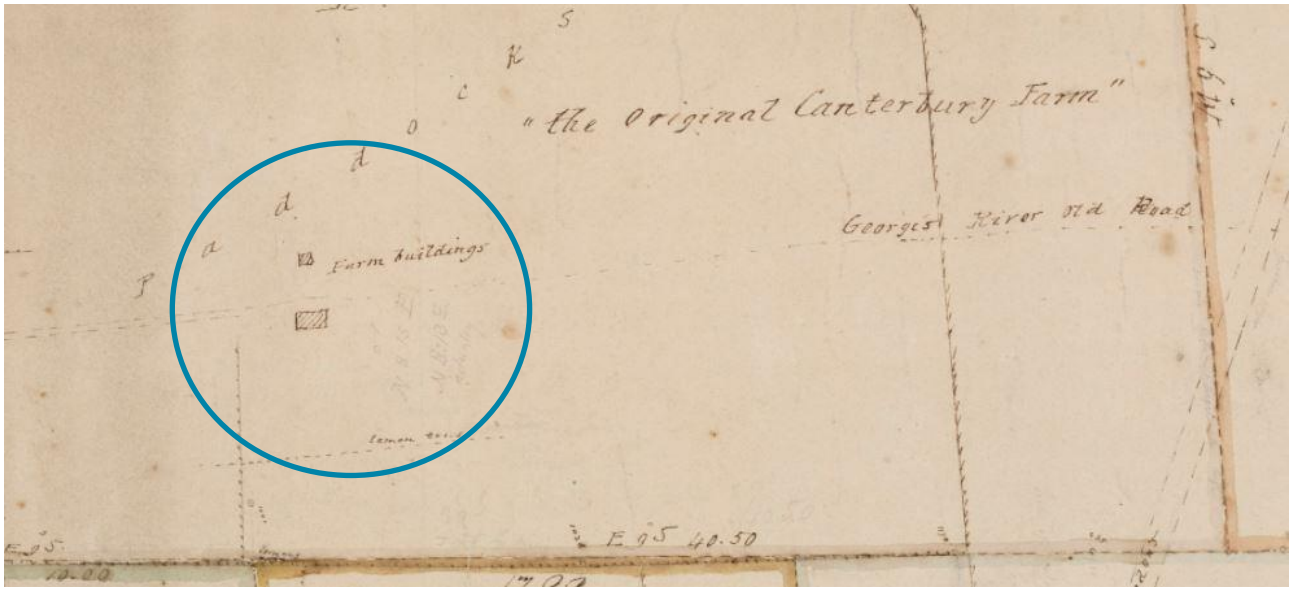

Plate 1.3 **Detail from another section of the Manuscript cadastral map, with drawings of existing farm buildings drawn with solid lines (circled blue). (Source: Manuscript cadastral map, NLA)**

1.3.3 Phase 2 (1841–1855) the village of Canterbury and the Australasian Sugar Company

In c.1841, the Australian Sugar Company built its factory on 60 acres (24 ha) of Campbell's *Canterbury Estate* on the banks of the Cooks River. The establishment of the factory stimulated the creation of the village of Canterbury, which was established between 1841 and 1855. Other developments in Canterbury at the time included timber cutting, wool[1] washing and mining. The company changed its name to the Australasian Sugar Company in 1842 when refining began (Corkhill 1993, p.4).

The area of the rail corridor located within the boundary of the Sugar Works encompasses an area between Tincombe Street to the north and Close Street to the south. The 1841 W H Wells survey plan (Plate 1.4) illustrates the subdivided Lots 85 to 89 fronted Tincombe Street in this area, with the "quarry" to the south. Lot 85 is noted to have been purchased by an individual named 'Poles'. A triangular block to the west, fronting 'George Street/The Liverpool Road' (now Canterbury Road), which is not numbered is within the project area and was owned by 'Garrett'.

In addition, the 1841 W H Wells survey plan (Plate 1.4) indicates that slab huts for Sugar Works employees were built inside what is now the rail corridor. Some of these huts are shown on the 1843 Plan (Plate 1.5) and although shown in very close proximity to the project area, it is clear that the main Sugar Works factory building is not distanced accurately and that the huts on the Sugar Works side are not in the project area.

By 1843 Garrett's land had been subdivided into five lots. The three northern lots had been fenced and buildings fronting George Street, outbuildings and fenced paddocks are present. A building is illustrated in the vicinity of Lot 85; however, the plan is not in scale beyond the western border of the Australasian Sugar Company land.

The following archaeological resources associated with the village of Canterbury and Australasian Sugar Company may have survived in the project area:

- outbuildings including footings, timber slab remnants, underfloor deposits, post holes, artefacts, cesspits, wells, cisterns and yard surfaces;
- landscape modifications;
- fence lines;
- drains; and
- structural features.

Evidence of small-scale mining activities may survive as:

- quarries for local stone.

Evidence of farming activities may survive as:

- post holes for fences and sheds;
- brick or paved yard surfaces;
- field drains; and

[1] The AARD includes "wall washing" but it is assumed that this is a typo.

- isolated artefacts or artefact scatters.

Evidence of residential cottages may survive as:

- wells and cisterns;
- footings; and
- refuse pits.

Plate 1.5 is a detail of the plan of the village of Canterbury, part of the Canterbury Estate on Cook's River immediately adjoining the Australian Sugar Company's establishment to be sold by auction by Mr. Stubbs, on Wednesday next, the 31st. May 1843 (source State Library NSW M Z/M2 811.1829/1843/1). Refer also to Section 3.2 and Plate 1.10.

Plate 1.4 **W.E. Wells c.1841 Plan of 95 allotments at Canterbury adjoining the Australasian Sugar Company's works. Approximate boundary of the project area outlined in blue (Source: National Library of Australia)**

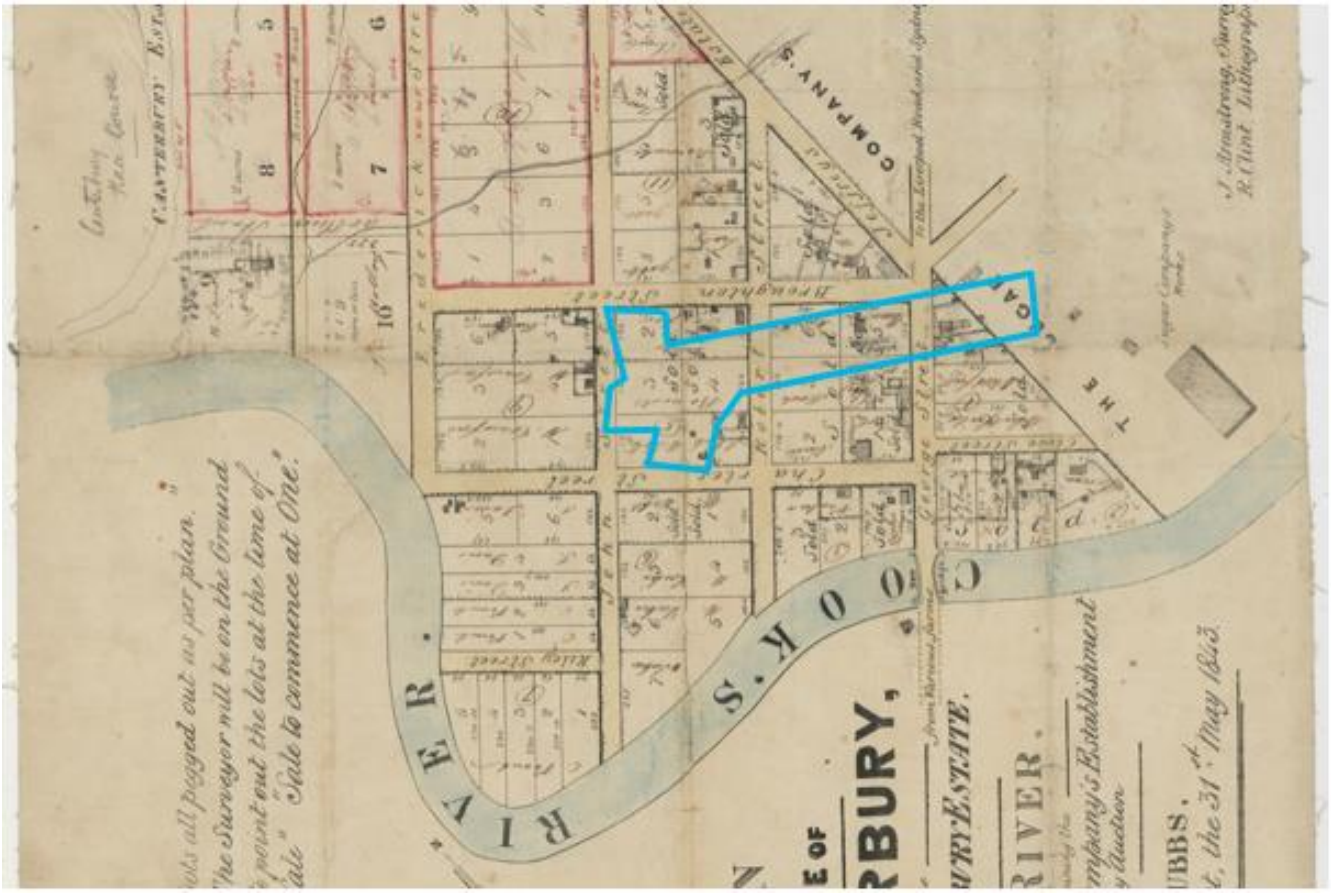

Plate 1.5 **Plan of the Village of Canterbury, May 1843. Approximate boundary of the project area outlined in blue (Source: SLNSW, M Z/M2 811.1829/1843/1).**

1.3.4 Phase 3 (1855–1895) Urban development

With the closing of the Australasian Sugar Company works in 1855, urban growth in Canterbury stagnated with little change occurring for over two decades. Urban development began in the 1880s but was slow. Even up to 1888, residents expressed opposition to piped water due to the expense and opted to keep using their wells and tanks (cisterns).

An 1859 plan of the Canterbury Estate illustrates the three or four northern lots of Garrett's block were under the same ownership and two substantial buildings were present. It is likely these buildings represent some of those depicted on the 1843 plan. No structures are mapped in the area of Lots 85 to 89.

A new industrial enterprise, Blackett & Co Canterbury Engineering Works, took over the premises of the former Australasian Sugar Company, specialising in ironwork for the railways. Blackett & Co was established sometime after 1881 and declared bankruptcy in 1886. It is possible that operations ceased in 1890. Urban development may have increased during this time.

As per Phase 2 with the addition of the Blackett & Co Canterbury Engineering Works, archaeological resources may include:

- the remains of former outbuildings;
- landscape modifications;

- evidence of fence lines (such as post holes);
- drains;
- and other structural remains.

Plate 1.6 The project boundary over a detailed section of the 1859 plan of the Canterbury estate and village (Source: NLA, MAP F 322).

1.3.5 Phase 4 (1895–1943) Canterbury Station, resumptions and development

Until the railway line was introduced, Canterbury remained relatively undeveloped. Land to the west of the former Australasian Sugar Company building (later Blackett & Co) was occupied by cottages and their associated structures.

Land was resumed for Canterbury Station in 1895. Dwellings formed part of the resumption, indicating that archaeological resources relating to residential use may be present. During this time, the Australasian Sugar Company was converted to the Canterbury Bacon Factory and later 'Hutton's Bacon Factory', a process that may have removed early outbuildings to the west of the main structures.

Evidence of this phase may survive as:

- building platforms;

- rails and timber sleepers;
- refuse pits;
- storage sidings;
- post holes;
- brick footings;
- former floor surfaces; and
- early infrastructure such as ceramic service pipes, brick drainage pits, electrical conduits and pits and stanchion bases.

1.3.6 Phase 5 (1943–present)

Urban growth in Canterbury was rapid from 1943 onwards (Plate 1.7). The industrial buildings that originally began as the Australian Sugar Company had fallen into disuse and surrounding buildings between the Cooks River and Close Street had been cleared and grassed. Small to medium sized warehouses were built and are now being replaced by apartment blocks.

Evidence of this phase may survive as:

- industrial features such as utilities and drainage; and
- station upgrades.

While these items would have limited research potential, their presence will be recorded as one of the phases of the project area.

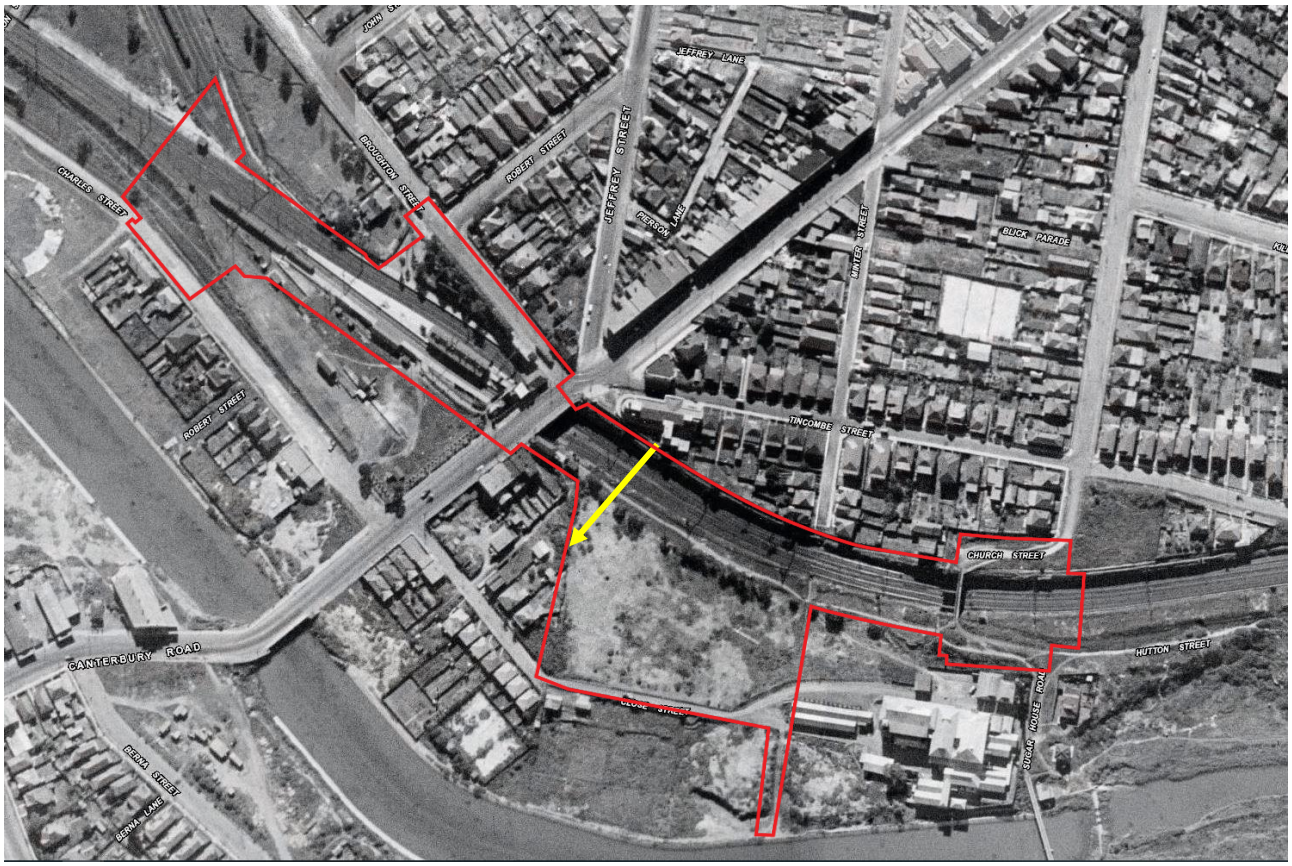

Plate 1.7 **The project area overlaid on the 1943 aerial photograph of Sydney. Note: the early boundary line of the sugar works is indicated by a yellow arrow (Source: Sixmaps).**

1.4 Evidence from the geotechnical testing

Geotechnical information for the project area was interpreted from various sources (Parsons Brinckerhoff *et al* in Metron T2M internal technical memorandum 2019). The data from the Metron report has been extrapolated for this report, as testing was not completed specifically in the area of the proposed GST fencing, which is an area of interest in this AMS. The detail from SRT BH523, located in the former bowling club grounds approximately 11 m south and 40 m west of the area of interest (Plate 1.8), indicates that the general area has a shallow (approximately 450 mm thick) layer of fill above Hawkesbury Sandstone (Parsons Brinkerhoff *et al* in Metron T2M, p.57 and Plate 1.9).

A combination of test pits and boreholes in the rail cutting indicates that the most dominant material before the natural sandstone, is ballast, and that the platforms are fill with gravelly clay with inclusions such as gravel, brick and concrete fragments (see Metron T2M 2019: pp 95-104). The platform fills vary between silty, sandy gravel to fine clayey sandy gravel but are essentially materials used to build up the platforms. Fill has been deposited in voids created in the platforms at various times and, as evidenced by the survival of the nineteenth century pier footings uncovered during WE38 (WE38 Canterbury Summary EMM 2021), it is possible that historical features were left i*n situ* where they did not interfere with the design and operations of the railway platform.

Plate 1.8 **The location of SRT BH523 on an aerial photograph. The estimated location of the proposed GST fencing is circled yellow (Source: Metron T2M 2019, p.57).**

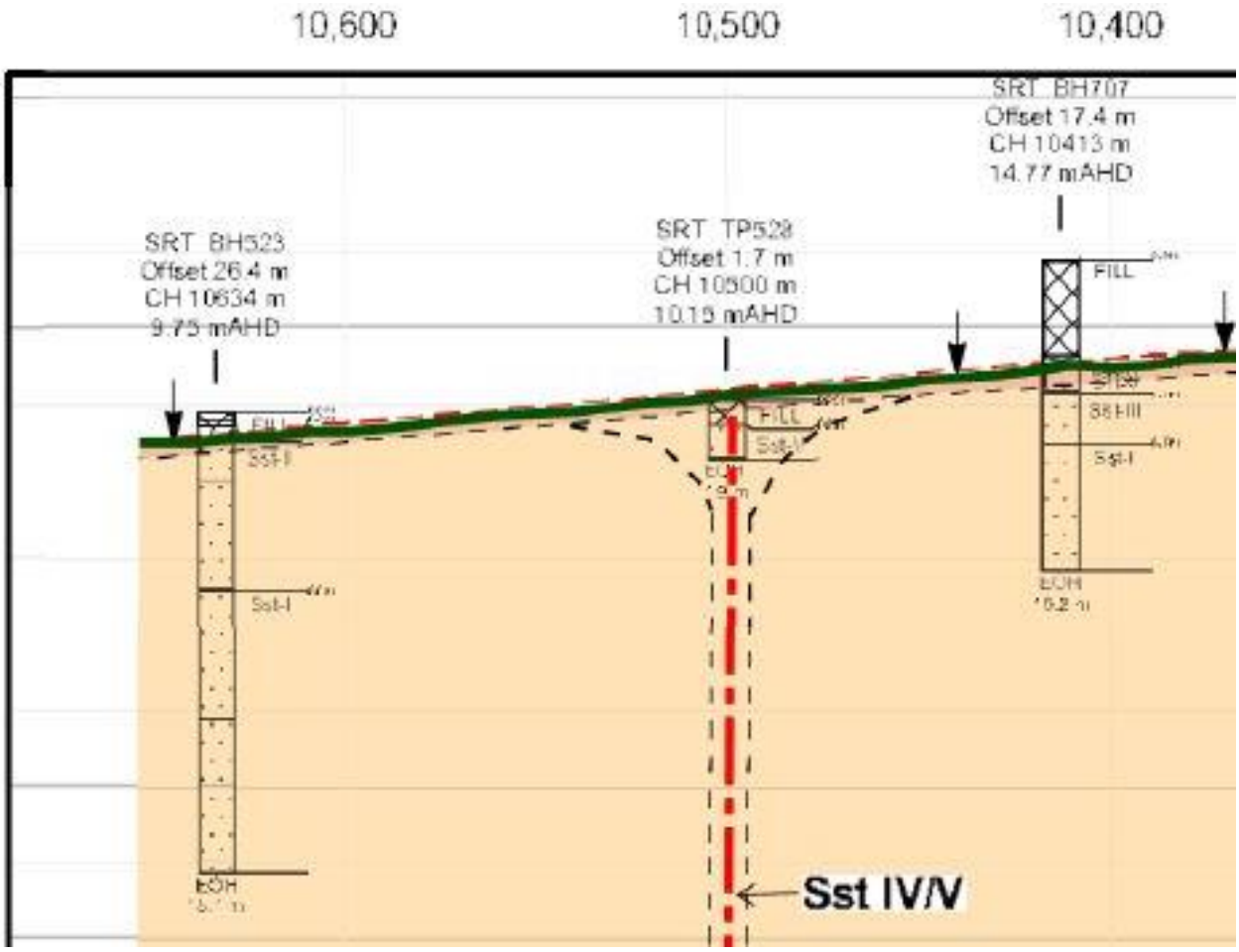

Plate 1.9 **Schematic representation of the geotechnical results in the area closest to the proposed GST fencing (Source: Metron T2M 2019, p.57).**

1.5 Areas of archaeological sensitivity

1.5.1 GST fencing location

The archaeological sensitivity of the project area relates to how likely features described in Sections 1.3.2 to 1.3.6 will occur.

In general, it is possible to predict where most historic elements of the railway (Phase 4) will survive. Conduits and pipelines are anticipated to have been installed adjacent to the trackwork within the rail corridor and below current platform surfaces. Although less likely because of the proximity of Central and then Eveleigh, brick-lined ash pits may also survive. These features will be recorded through monitoring in areas of moderate potential and unexpected finds in areas of low potential.

As is clear from observations of the natural topography at Canterbury Station, much of the railway corridor has been excavated into the natural sandstone. Remnants of original topsoils and subsoils, however, survive on the boundaries of the rail corridor and these are the areas where archaeological remains relating to pre-railway activities are likely to survive.

As demonstrated by the results of archaeological testing at the proposed MSB, the historical landscape on the edge of the rail corridor has been preserved beneath deep fill deposits used to raise the ground level for railway purposes

(report to be prepared by EMM). The results of the archaeological test excavation at the MSB indicates that pockets of early archaeological resources may exist in other locations where impacts have been minimal.

Of relevance to the proposed works covered by this AMS, the 1843 Plan of the Village of Canterbury (Plate 1.11 overleaf) shows a large building in proximity to the current rail corridor. Further overlays indicate that this building, (indicated by the red arrow) and any associated archaeological resources, were removed by the cutting for the railway, but the building to the south (blue arrow) is probably on the elevated land adjacent to the cutting and now beneath the former operations building (weatherboard building on the east side of the road bridge) on the site. Detailed plans dating to the decades after 1843 have not been found and it is not possible to rule out subsequent development in this area.

Despite disturbance to the soil profile and subsequent land use, it is possible that archaeological resources survive in this location, defined by the rail cutting and the fence line to the former bowls club on the east. If archaeological resources have survived, they may relate to Phase 2 – establishment and continuation of the village of Canterbury. The assessment of significance acknowledges archaeological resources associated with the village of Canterbury as being of *local* heritage significance (Table 2.2).

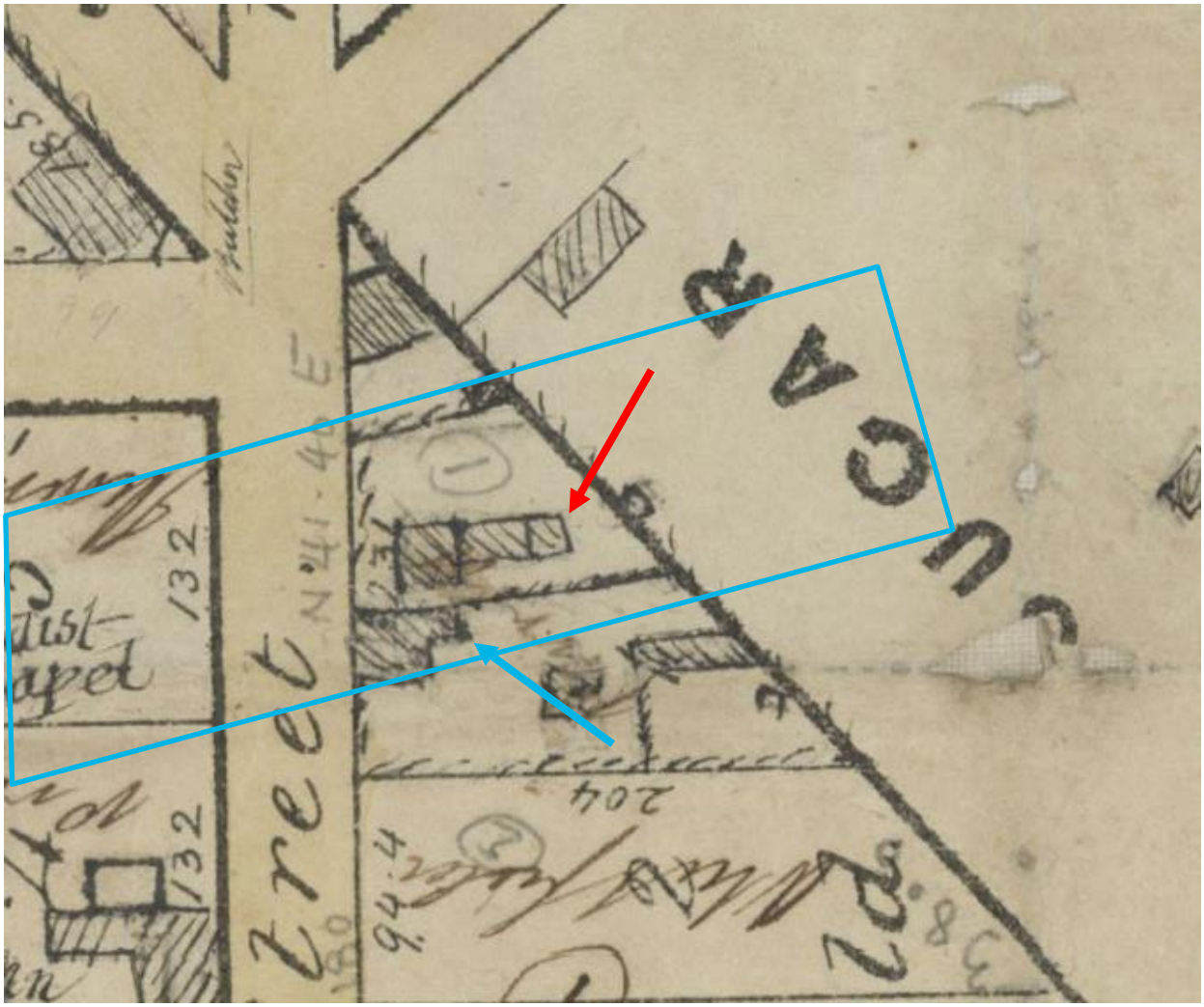

Plate 1.10 **Detail of the 1843 plan of the Village of Canterbury on the eastern side of Canterbury Road. The red arrow points to a structure removed by the rail cutting; the blue arrow indicates a structure on what remains natural ground level (State Library of NSW).**

The location of the proposed GST fencing (GST area), on the east side of Canterbury Road, is considered to be another area of high archaeological sensitivity because of the low level of development in this specific location. The landscape in this area is directly adjacent to the cutting for the rail corridor and on what appears to be the historical ground level. It is difficult to tell if the GST area has been heavily truncated, but it has been disturbed by the installation of a high-pressure gas pipe running east-west. The geotechnical investigations indicate that there is a shallow deposit of fill, approximately 450 mm over bedrock. Given that the GST area is near buildings seen on the 1843 plan (Plate 1.10), structures related to the early and mid-phases of the village of Canterbury (Phases 2 and 3) may survive in this area. If structural remains of former buildings are absent, yard surfaces and deeper subsurface features, such as wells or cisterns may be cut into the bedrock.

As shown in Plate 1.12, impacts to the ground will occur where the GST fencing is installed. The proposed GST and associated fencing are shown in pink and identified as CSR, and the LCR is shown in green. While impacts to install the GST fencing are minor relative to the remainder of the project activities, the archaeological resource in the GST area is likely to be ephemeral and difficult to manage via monitoring. It is also considered to be significant for understanding the historical development of the area and the level of archaeological preservation adjacent to industrial contexts. For this reason, archaeological test excavation along the alignment of the GST fencing will be undertaken prior to construction activities, to assess the level of archaeological preservation, record any identified archaeological remains and provide advice to avoid significant archaeology, where possible.

Similarly, any ground penetrating activities that are proposed for the area east of Canterbury Road should be subject to archaeological test excavation prior to those activities occurring.

Comparison with the AARD archaeological potential plan shows that the GST area is of 'low archaeological potential' (Plate 1.14), but the discrepancy is likely due to inaccuracies in the mapping.

1.5.2 Metro Services Building location

Project activities associated with the construction of the MSB include excavation to level the site for a building platform as well as a large number of trench excavations to lay CSR, stormwater pipes and pits, sewer pipes.

Existing disturbance in the MSB area includes a sewer pipe approximately 3 m down (HSEJV *pers comm*) and monitoring that occurred in accordance with the approved AMS yielded are archaeological deposit approximately 1600 mm below the current fill deposit. It is anticipated that additional archaeological deposit is present beneath the layers of fill that have been deposited since the railway was built (refer to EMM 2021).

If archaeological resources survive in the MSB project area, it is likely that they will relate to phases 2 and 3 of the historical development of the place. These phases are likely to be truncated to a certain extent and represented by yard surfaces, remnants of wells, cisterns, rubbish pits and cesspits. If evidence of these or other features that can be ascribed to Phase 2 of the place's history, it will be significant and will require archaeological salvage excavation. Refer to EMM March 2021 for a more detailed discussion of potential.

1.5.3 Station platforms

The existing station platforms were built in the place of the earliest versions of the station platforms. The works undertaken during WE38 uncovered footings and other brick features and it is anticipated that more evidence of the earlier platform survives beneath the current platform.

Re-levelling of the station platforms will be archaeologically monitored to record early features and services, prior to their removal.

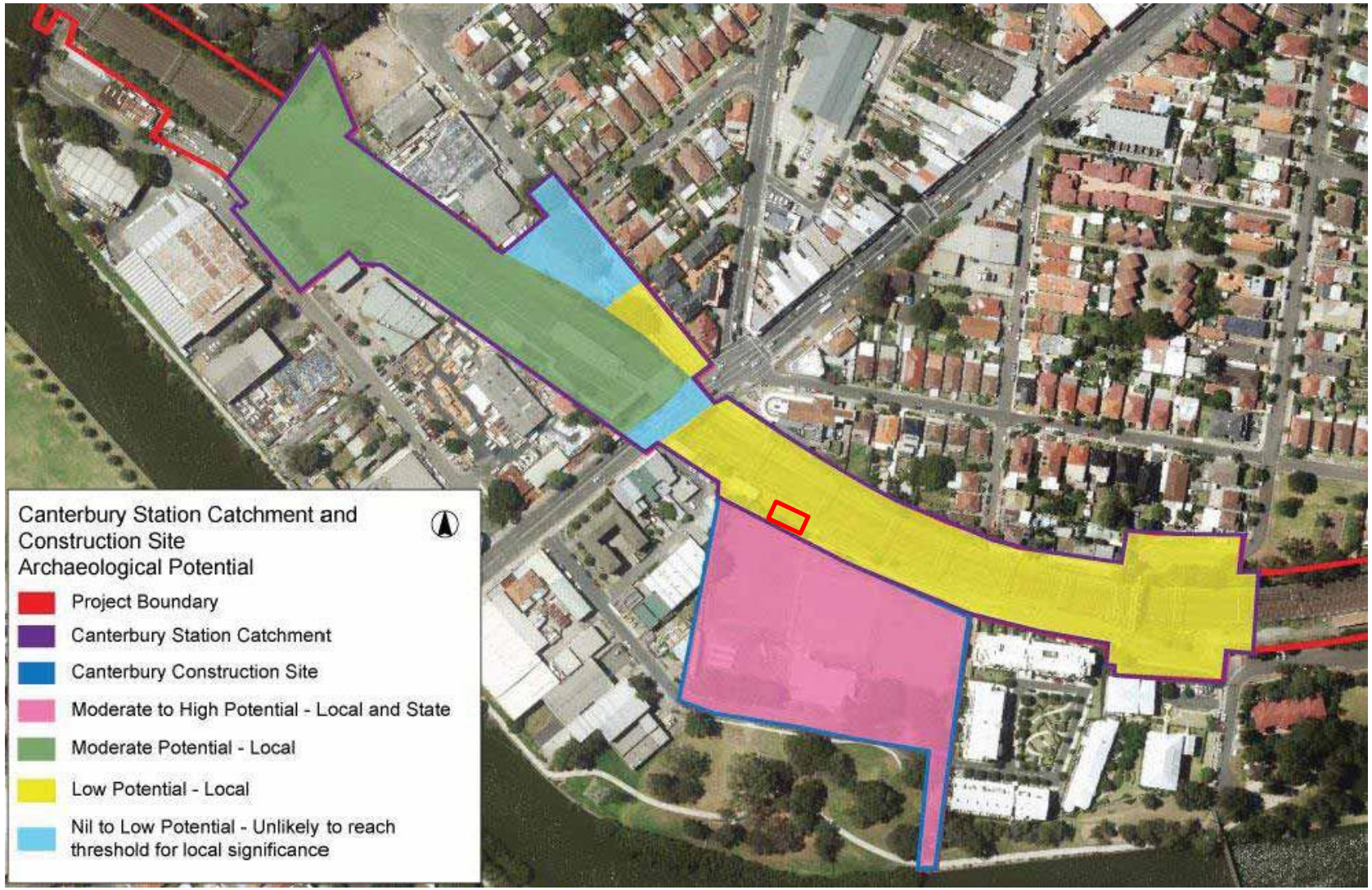

Plate 1.11 **Reproduction of the potential mapping in the AARD showing the estimated location of the proposed GST fencing and CSR (red rectangle). Refer also to Plate 3.4 (Artefact Heritage 2018, p.80).**

2 Heritage significance

2.1 The significance framework

In NSW, historical value is ascribed to buildings, places, archaeological sites and landscapes modified in the Australian historical period for purposes other than traditional Aboriginal use. The assessment of heritage significance is based on the Burra Charter (Australia ICOMOS 2013) and further expanded upon in *Assessing Heritage Significance* (NSW Heritage Manual Heritage Office 2001) and *Assessing significance for historical archaeological sites and 'relics'* (Heritage Branch of the Department of Planning 2009). This guideline lists seven criteria to identify and assess heritage values that apply when considering if an item is of State or local heritage significance. These criteria are set out in Table 2.1. The result of the assessments of significance may determine that an individual element does not meet the threshold for local or State significance as an individual item, but that it does contribute to the significance of the cultural landscape.

Table 2.1 NSW heritage assessment criteria

Criterion	Explanation
a)	An item is important in the course or pattern of NSW's (or the local area's) cultural or natural history (Historical Significance).
b)	An item has strong or special association with the life or works of a person, or group of persons of importance in NSW's (or the local area's) cultural or natural history (Associative Significance).
c)	An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area) (Aesthetic Significance).
d)	An item has a strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons (Social Significance).
e)	An item has the potential to yield information that will contribute to an understanding of NSW's (or the local area's) cultural or natural history (Research Significance).
f)	An item possesses uncommon, rare or endangered aspects of NSW's (or the local area's) cultural or natural history (Rarity).
g)	An item is important in demonstrating the principal characteristics of a class of NSW's (or the local area's) cultural or natural places or environments (Representativeness).

Source: *Assessing heritage significance* (NSW Heritage Office 2001, p.9).

2.2 Canterbury Railway Station Group

2.2.1 Statement of significance

Canterbury Railway Station possesses historical significance as it is a station on the Sydenham to Bankstown Line which was constructed to relieve congestion on the Main South Line as well as to encourage suburban development and the growth of agriculture in the late 19th and early 20th century. The main platform building represents the period of transition from the boom of the 1880s to the standardisation of NSW railway building design from the 1890s onwards.

Canterbury Railway Station is significant at the state level as the Platform 1 Building demonstrates the high level of aesthetic design of the pre-1900 standard railway buildings, which included the use of polychromatic brickwork, decorative dentil coursing, ornate awning brackets and carved bargeboards. This

platform building is relatively intact and is representative of a small group of such ornate platform buildings including Marrickville and Belmore on the Bankstown Line.

The Canterbury signal box is of historical significance as it is representative of the development of railway signalling technology in the first decades of the 20th century. As it was is [*sic*] intact internally it is capable of providing information about the workings of a signal box of this era.

State Heritage Register Item 01109; updated 18 November 2010

2.3 Old Sugarmill

2.3.1 Statement of significance

The Old Sugarmill at Canterbury is of State significance for its involvment [*sic*] in the development of the sugar industry and CSR in Australia, and for its role in the industrial development of the locality of Canterbury - both in its original use as a sugar mill and for its later uses as a foundry, a butter factory and in the manufacture of processed foods. A five-storey sandstone building erected beside the Cooks River in 1841, it is believed to be the oldest surviving industrial building in the Sydney region. Statewide it is a rare example of a pre-1850s industrial building which has retained much of its external form. It is also of State aesthetic significance for its landmark appearance on the river and its symmetrical Georgian styling. It has scientific significance for the site's archaeological potential to reveal information about early industry in New South Wales. Although the Old Sugarmill was a ruin for many years and was further damaged by fire in 1996, it has been recently restored and adapted into a new use as an apartment block within a new residential complex.

State Heritage Register Item 00290; updated 27 March 2007.

2.4 Significance assessment of potential archaeology in the project area

Canterbury Station is identified as an item of State heritage significance on the State Heritage Register (Canterbury Station Group SHR 01109). The Canterbury Station Group is significant as part of the Sydenham to Bankstown Line and the intact nineteenth century platform and early twentieth century signal box are acknowledged to have aesthetic significance as representative examples of historical transport infrastructure.

Artefact Heritage (2018, px) assessed the significance of potential archaeological resources at Canterbury Station, which includes the project area. This assessment is reproduced in Table 2.2 below.

Table 2.2 Assessment of significance

Criterion	Assessment
a) Historical	Early settlement in Canterbury was an integral part of the growth of the colony as land was granted to the new settlers and farmed. Intact and substantial archaeological evidence of Phase 1 would be of **local** significance if it survives. The potential archaeological resources associated with the Canterbury Sugar Works and residential and industrial activities of Phases 2 and 3 may contribute to the understanding of the historical development of Canterbury. If substantial archaeological resources associated with the Canterbury Sugar Works found within the project area, they may fulfil the criteria for **State** significance. It is, however, unlikely that they exist in the project area. The development of the village of Canterbury (Phases 2 and 3) follows a trajectory that played out in many of Sydney's proximal estates – from a colonial perspective, initially the land grants that were

Table 2.2 Assessment of significance

Criterion	Assessment
	approved were farmed, and then subdivided, to create housing for workers at the Sugar Works. The resulting village is likely to have primarily comprised simple cottages of a working-class vernacular. Archaeological resources related to the village would fulfil the criteria to be classified as relics at a **local** level and would therefore be classified as relics.
b) Associative	The potential archaeological resources of Phase 2 are associated with the State significant Canterbury Sugar Company works, which was influential in the growth of Canterbury. Further the site is associated with prominent Sydney merchant Robert Campbell. The potential archaeological resources of Phase 4 are associated with the development of the Sydenham to Bankstown Line. Moreover, Canterbury station is associated with builder J.J. Scouller and the Canterbury racecourse. The resource would fulfil the criteria at a **local** level and would therefore be classified as relics.
c) Aesthetic	It is unlikely archaeological resources of former railway infrastructure will meet the criteria for aesthetic or technological significance. It is possible the archaeological resources of the sugar works and Blackett and Co Canterbury Engineering Works have the potential to represent technological advances in the respective industries and be of technological significance. The resource associated with the former railway infrastructure is unlikely to meet the threshold for local or State significance, nor would they be considered relics as they are 'works', that is, infrastructure. Evidence of the sugar works and the engineering works is likely to meet aesthetic value at a **local** level and would therefore be classified as relics.
d) Social	The growth of the village of Canterbury is of interest on a social level in that a spatial study of the archaeological resource may reveal evidence of the growth of the place, living and working conditions and the relationship of the residents to the Sugar Works. This value, however, cannot be tested on the SMSW project due to the restricted locations of impact. If social values of the early growth of Canterbury and its relationship to manufacturing are evident in the archaeological resource, they would be of **local** significance and therefore be classified as relics.
e) Research	The potential archaeological resource associated with early to mid-nineteenth century residential and industrial (sugar works and mining) activities could offer significant information regarding the early history of Canterbury and its people. Similarly, archaeology associated with the later nineteenth century development of Canterbury, including the iron works, could contribute information about the lifeways and living conditions of the local population as well as provide insights into industrial practices. The potential archaeological resources related the development of rail infrastructure would contribute to additional information not readily available through historical sources. It is unlikely archaeological resources of Phase 1 will fulfil the criteria as the phases are likely to be heavily disturbed. Archaeological evidence of the residential and industrial past of the project area is of **local** significance at least and would therefore be classified relics.
f) Rarity	Archaeological sites representing residential and industrial uses are rare in NSW. Archaeological evidence of the early 1940s village complex would be high value and could possibly reach the threshold of **State** significance. Where evidence survives in fragmented form with low research potential, it would be of **local** significance as other similar examples survive and are therefore classified as relics.
g) Representativeness	Evidence of life in the early phase of the village of Canterbury would be representative of life in the colony at the juncture of large estate to working-class village. Archaeological evidence of the early 1940s village complex would be high value and could possibly reach the threshold of **State** significance. Where evidence survives in fragmented form with low research potential, it would be of **local** significance as other similar examples survive.

2.4.1 Statement of significance

The Canterbury Station Catchment has the potential for relics of **local** heritage significance.

The site has a moderate to high potential for archaeological resources associated with the mid-nineteenth century Sugar Works in the form of the village that grew around this industry. Evidence of the sugar works would have high research value and the connection of the mill to Campbell and the development of Canterbury means relics may be of **State** significance.

The presence of relics related to the early phases (Phase 1 and Phase 2) of the village of Canterbury would be of **local** significance for their potential to demonstrate the living conditions of the working-class families who moved to work at the sugar factory. Information about their lives may be discernible from the archaeological resource. Analysis of archaeological remains may provide information about the expansion of an area of the colony that began its historical development as large land grants and swiftly transformed to a village that serviced the Sugar Works.

Archaeological resources of the later nineteenth century residential and industrial activity may contribute to understandings of the development of Canterbury and the lives of its local residents and may be of **local** heritage significance. Archaeological resources associated with the development of the Sydenham to Bankstown railway line, station and Canterbury racecourse has the potential to meet the criteria for local heritage significance.

It is unlikely that significant archaeological remains associated with the first settlement phase of Canterbury survive within the project area. Archaeological resources for Phase 5 are also not likely to meet assessment criteria.

3 Proposed works

3.1 Proposed works

The scope covered by this AMS incorporates a number of activities that must be carried out to deliver the project. The activities that involve excavation are listed above and provide the parameters for impact assessment and proposed mitigation and management strategies presented in Table 3.2. Project activities will occur on site during possession weekends, shutdowns and out of possession periods. Where archaeological investigation is required, the archaeological team must be provided with the space, time and plant required to complete the recording to a high standard and in accordance with this report.

Activities that are relevant to this AMS are listed below. It should be noted some deviations may be made to this plan, at the discretion of HSEJV.

- potholing to locate services for the CSR on station platforms;
- removal of redundant gas pipe near Charles Street footpath for the MSB construction works;
- installation of CSR service pits under stairs on Platform 0;
- piling on station platforms and in the rail corridor;
- cut and fill to construct drainage inside the rail corridor and cess;
- platform re-levelling to a depth of 500 mm including excavation or the installation of new surfaces and the demolition of up to 700 mm of brick coping to install the precast platform edges;
- soil nails will be installed in the MSB area to stabilise the bank to Charles Street;
- replacement of pits on platforms;
- cut and cover to install services;
- installation of NBN services along Broughton and Charles Street and the regrading of footpaths;
- water valve excavation on Canterbury Road;
- excavation for a bus shelter on Broughton Street;
- planting and landscaping across the site (Plate 3.9)
- post installation for fencing, GST support and trackside infrastructure;
- vegetation clearance in preparation for fencing along the southern boundary, near the former Australasian Sugar Company site, which is listed on the State Heritage Register; or
- similar activities which would not have an impact on archaeological resources beyond that already assessed in this AMS as determined by the Excavation Director; and
- bulk earthworks in preparation for construction activities at the Metro Services Building (MSB) site (assessed in a previously approved AMS – EMM 2021).

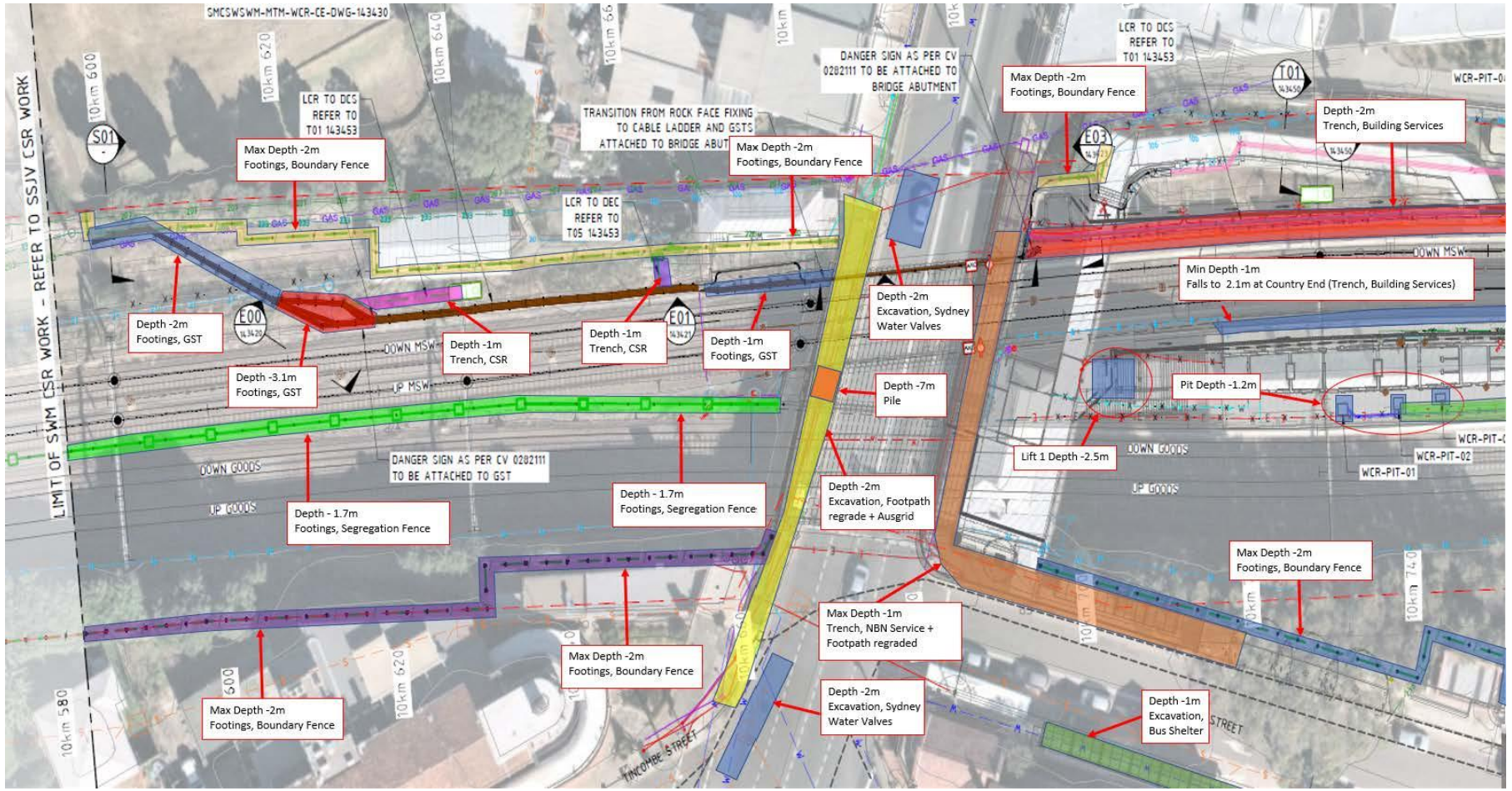

Plate 3.1 **Plans showing the extent of remaining works at Canterbury Station that involve excavation, from the eastern boundary of the project to part-way through the railway station (Source: HSEJV 2021)**

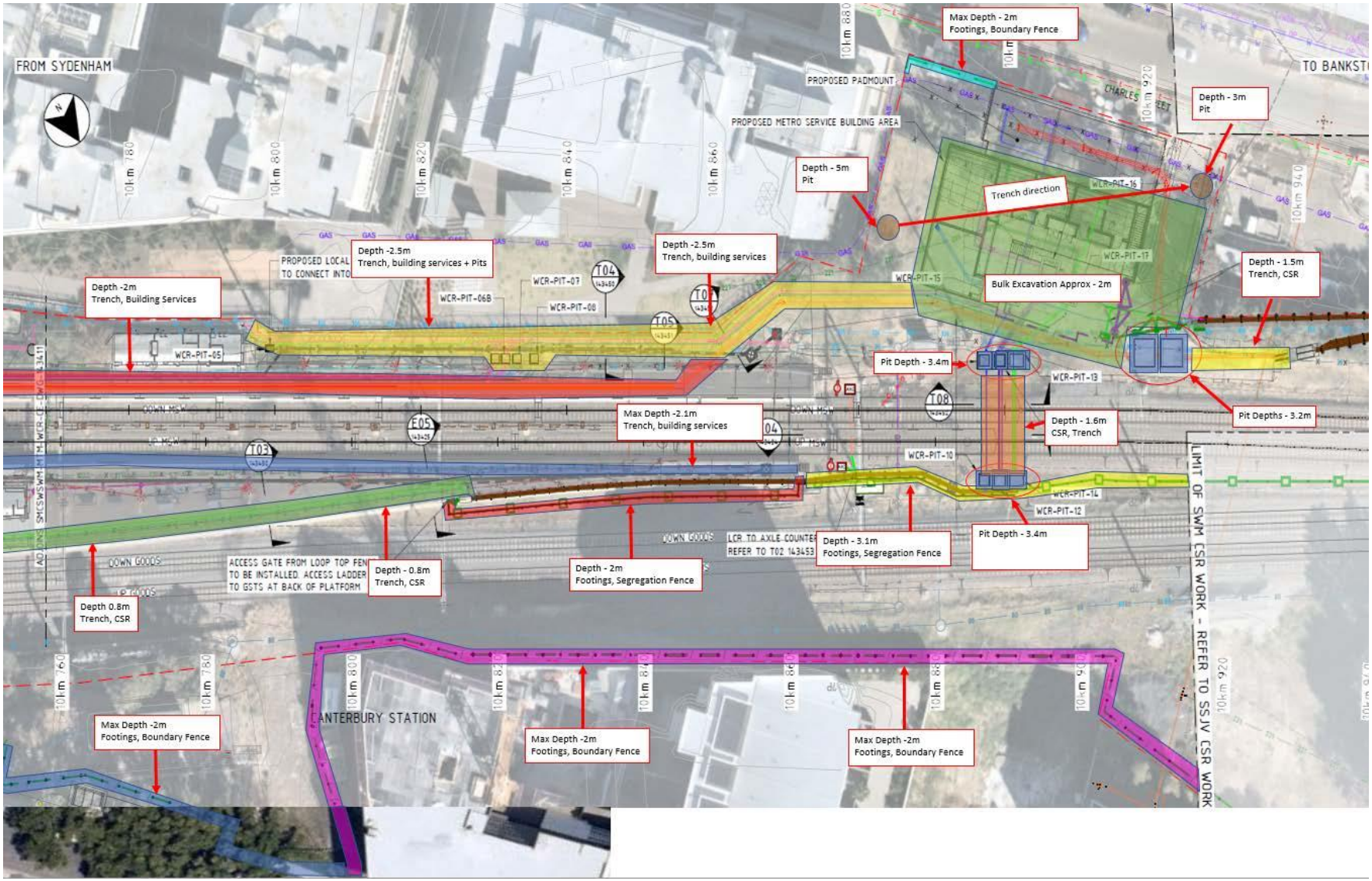

Plate 3.2 **Plans showing the extent of remaining works at Canterbury Station that involve excavation, including the MSB site to the western extent of the project boundary (Source: HSEJV 2021).**

3.2 Archaeological management

The intent of this AMS is to record archaeological resources that are significant at a local or State level (i.e., possess historical, aesthetic, technical, research or representative value or are rare). Such resources have the potential to provide additional information about the past and the development of Canterbury Station and the broader railway system.

Such archaeological resources may be in the form of the early platforms, masonry drainage pits, culverts and other water management features, or services conduits, which are becoming increasingly rare in the archaeological context of Sydney. Making a record of such features will benefit future research and interpretation.

Two (2) archaeological methods are proposed at Canterbury Station:

- Archaeological test excavation in areas of high archaeological potential. This includes the location of the proposed GST fencing on the east side of Canterbury Road (Plate 3.4); and

- Archaeological monitoring of other construction activities so that archaeological resources can be recorded prior to their removal. At least two archaeologists will be present at each activity and the level of recording will be at the Excavation Director's discretion. Where an archaeological resource has been exposed and adequately recorded elsewhere, the Excavation Director *may* choose to sample the feature, rather than fully excavate before removal. Monitoring will be undertaken in all other including the MSB, which is addressed in a separate AMS. Particular attention will be paid to activities at:

    - the bus shelter on Broughton Street (Plate 3.7); and

    - cut and cover activities to install CSR and other services.

The archaeological program will be based on construction impacts and timing. The archaeological team will require adequate notice to mobilise for field work. **At least two weeks' notice is adequate.**

Where the unexpected finds protocol applies in the cess and on the platforms, the Excavation Director will be informed at least two days prior to the works commencing.

The overarching management measures for the predicted archaeological resource were defined in the AARD (Table 4-4, Artefact Heritage 2018) and are presented in Table 3.1 with the most likely, and significant, in bold. Updated archaeological management that responds to known impacts is presented in Table 3.2 alongside the activities that may cause impacts to the resource. The methods for recording are set out in Section 4.6.

Table 3.1 Canterbury Station archaeological management (Artefact Heritage 2018: pp 142-143)

Phases	Land use	*Significance* & Potential	Potential relics / significance	Potential impacts	Proposed mitigation
1: 1788–1841 Early settlement	• early land grants • land clearance • farming • Canterbury Farm	*Unlikely to reach the threshold for local significance* Nil to low	• features associated with land clearance eg tree boles; • post holes; • drains; and • isolated artefacts.	Excavation for the construction of new station platforms, station service building, retaining wall, tracks, services, utilities, and fencing. Clearing and grubbing of the construction site.	Unexpected Finds Procedure
2. 1841–1855 **Village of Canterbury and Australian Sugar Company**	• **establishment Canterbury and Australian Sugar Company works and associated residential settlement** • **rural subdivision** • **country estates** • **small scale industry**	***State (Potentially)*** **Moderate to high**	• **structural remains associated with Sugar Company works;** • **structural remains associated with early cottages;** • **footings;** • **underfloor deposits;** • **post holes;** • **cess pits, wells, cisterns;** • **artefact deposits;** • **yard surfaces; and** • **small scale mining activities.**	**Excavation for retaining walls, tracks, services, utilities, and fencing.** **Clearing and grubbing of the construction site.**	**AMS (this report)** **Salvage excavations**

Table 3.1 Canterbury Station archaeological management (Artefact Heritage 2018: pp 142-143)

Phases	Land use	*Significance* & Potential	Potential relics / significance	Potential impacts	Proposed mitigation
3. 1855–1895 **Development of Canterbury**	• **closure of Sugar Company works** • **further subdivisions** • **development town** • **public buildings**	***Local (potentially)*** **Moderate to high**	• **structural remains associated with early cottages;** • **structural remains associated with Blackett & Co Canterbury Engineering Works;** • **footings;** • **underfloor deposits;** • **post holes;** • **cess pits, wells, cisterns;** • **artefact deposits;** • **yard surfaces; and** • **landscape modification.**	**Excavation for Canterbury Station Catchment and Construction site clearing works**	**AMS (this report)** **Salvage excavations**
4. 1895–1943 **Canterbury Station**	• **land resumed for railway** • **construction of railway (completed 1895)** • **railway upgrades** • **Canterbury Bacon Factory**	***Local (potentially)*** **Moderate**	• **remains of early railway construction and early railway buildings;** • **rails and timber sleepers;** • **refuse pits;** • **drains;** • **former race platform and retaining wall;** • **storage sidings; and** • **infrastructure and utility services.**	**Excavation for Canterbury Station Catchment**	**AMS** **Test/Salvage excavations**
5. 1943–Present Urban Development	• railway upgrades • industrial, commercial, and residential development	*Unlikely to reach the threshold for local significance* Moderate to high	• remains of construction upgrades; and • utility upgrades.	Excavation for Canterbury Station Catchment	Unexpected Finds Procedure

Table 3.2 Construction methods, potential impacts and proposed mitigation strategies

Technique	Method and purpose	Associated impacts	Archaeological management
Potholing	Potholing involves the use of a vacuum truck (or sucker truck) to remove deposit in localised areas. Water is sprayed, under pressure, to move deposit and stone fragments and the resulting slurry is pulled up through a vacuum and into a tank, which is then emptied elsewhere. This technique is referred to as non-destructive excavation (NDE) or non-destructive digging (NDD). This method is used to avoid strikes on vulnerable features such as services.	Potholing disrupts the ground surface in localised areas and to depths of up to 500 mm generally.	While potholing does not damage fabric, such as archaeological footings or bonded masonry, it will remove archaeological, or artefact-bearing, deposit if applied to archaeological sites. It is impossible to interpret the slurry unless large artefacts are noticed before they are sucked into the tube. Therefore, this process is suitable only for locations where services are anticipated, as it is likely that the fill over the top of those services is not in situ archaeological material. **The Excavation Director must be given at least two days' notice before potholing activities start on the station platforms.** **Archaeological test excavation of:** • **boundary fencing to the east of Canterbury Road (refer also to management for post installation), prior to potholing.** **Archaeological monitoring of:** • **potholing in the MSB site.** • **potholing in the cess; and** • **ULX potholing.** **The Excavation Director will determine the level and duration of monitoring required for each location.** **All other potholing will be subject to the Unexpected Finds Procedure.** **Recording will be in accordance with Section 4.6 in this report and will be at the discretion of the Excavation Director.**
	Where NDD potholing is not practical, service investigations are completed by manual excavation or with the use of small machines.	Manual excavation potholing has the potential to disturb fabric such as services and archaeological features. In areas of potential for the early village, potholing will be archaeologically monitored (refer to archaeological management next column).	
Slit-trenching	Destructive, or intrusive, excavation completed by hand or small mechanical excavator. Slit-trenches are used to confirm underground services. This type of investigation results in the movement of deposit and can remove archaeological fabric such as masonry or timber footings.	Slit trenching is completed by a small machine or by hand, and thus is typically the width of a small excavator bucket ranging between 600 mm and 900 mm. Depths are dependent on the search subject. Above 1500 mm trench width is limited to the bucket width and below that level, trenches must be benched or shored disturbing significantly larger	The process of slit-trenching can be monitored by an archaeologist who will observe changes in deposit colour, consistency, and inclusions. Archaeological monitoring is suitable in locations that have low to moderate potential, and at the discretion of the archaeological Excavation Director. **Archaeological monitoring of:** • **NBN service installation;** • **water valve excavation on Canterbury Road;**

Table 3.2 Construction methods, potential impacts and proposed mitigation strategies

Technique	Method and purpose	Associated impacts	Archaeological management
		areas. The length of the slit-trench is dependent on project requirements.	• **CSR trenching in areas of high and/or moderate potential; and** • **trenching on Platforms for building services.** **Recording will be in accordance with Section 4.6 in this report and will be at the discretion of the Excavation Director.**
Re-levelling	Reducing the level of a surface by small machine and/or hand excavation.	Removal of the top of a surface up to the level of re-surfacing. This technique will remove archaeological resources if they exist. This technique will be applied to the station platforms, which will be reduced by approximately 500 mm before it is built up with engineering fill and graded to design requirements. This technique will also be used following the NBB installation and regrading of the footpaths on Canterbury Road and Broughton Street.	If archaeological resources exist in an area to be re-levelled, the process will remove them. Archaeologically, the station platforms may hold evidence of early railway infrastructure such as posts, early platform surfaces and services. Given that structural remains of former buildings and infrastructure are anticipated below the current railway platforms, the most effective process may be to use a vacuum truck to remove deposit and record the structures under the supervision of an archaeologist. However, if this is not possible, a small machine can be used under the supervision of the archaeologists, who will stop machine excavation to excavate manually where necessary. Proposed excavation for the NBB and associated footpath regrading along Canterbury Road and Broughton Street, on the edges of the rail corridor, has the potential to expose archaeological resources related to former buildings shown in the 1843 plan. **Archaeological monitoring of platform and footpath relevelling. If elements of former buildings or the early platform and platform infrastructure are found, the archaeologists will record them before their removal.** **Recording will be in accordance with Section 4.6 in this report and will be at the discretion of the Excavation Director.**
Cut and cover	The removal of deposit by machine or by hand excavation to create a void, which is then covered over, usually with a concrete slab.	The impact of this type of activity is destructive excavation and will remove archaeological deposit and fabric if excavation is not carefully completed.	Cut and cover activities will remove archaeological resources if they exist in the activity area. Archaeological management can be through monitoring by archaeologists in areas of low to moderate archaeological potential. However, in areas of moderate to high archaeological potential, monitoring is not an effective method to

Table 3.2 Construction methods, potential impacts and proposed mitigation strategies

Technique	Method and purpose	Associated impacts	Archaeological management
		The impact area of cut and cover is dependent on the design of the project.	record archaeological data as works in the area must be stopped so that the archaeologists can work safely and with time to record accurately. Therefore, in locations where archaeological resources are anticipated, the most effective archaeological method is to start the process with test excavation and proceed to salvage if the resource justifies it. Decisions on the archaeological method are made by the excavation director, who will determine the most appropriate project-specific method to employ as set out in this report. **Archaeological monitoring of:** • **trenching for the ULX; and** • **CSR trenching.** **Recording will be in accordance with Section 4.6 in this report and will be at the discretion of the Excavation Director.**
Cut and level/bulk excavation	This process involves bulk excavation to reduce relative levels and can also involve import of new materials and compaction of the new and existing soil deposits. This process will remove archaeological material including artefact-bearing deposits and fabric such as masonry footings.	The impact of this type of activity is destructive excavation and will remove archaeological deposit and fabric if excavation is not carefully completed.	Where any type of bulk excavation is proposed over areas of archaeological potential construction activities will be monitored by an archaeologist. **Archaeological monitoring of:** • **cut and level to prepare the MSB platform; and** • **excavation for the bus shelter on Broughton Street.** **Recording will be in accordance with Section 4.6 in this report and will be at the discretion of the Excavation Director.**
Piling	Used to insert sturdy foundations to considerable depths. Piling is undertaken by impact driving, auguring or screwing piles into the ground. This process compresses and can remove deposits beneath and around the pile location but does not displace deposit above the ground.	The destructive effect of piling is that it compresses deposits beneath and around the pile but does not displace deposit above the ground.	Where piles are proposed in an area of archaeological potential, the level of that potential will guide the archaeological methods. Archaeological test excavation may be necessary across the line of piles to capture archaeological data that would otherwise remain invisible because of the method of construction. Cut and level may be required if a piling rig is used to install the piles. In this situation, if cut and level is necessary, refer to archaeological management of that activity, **Piling will occur on Platform 2 and for the ULX on the western side of the Illawarra Road Bridge.**

Table 3.2 Construction methods, potential impacts and proposed mitigation strategies

Technique	Method and purpose	Associated impacts	Archaeological management
			Piling in the rail cutting inside the corridor will not need the supervision of an archaeologist as the area is of low archaeological potential. **Prior to piling:** • **if cut and level works are undertaken in areas of moderate to high potential they will be monitored by an archaeologist.** **During piling:** • **if resistance if felt, work must cease to inspect the reason. An archaeologist will attend the site.**
Post installation	Mechanically driven into the ground, potholed using NDD trucks or by auguring. In the case of the project, fencing is also used as a support for the Galvanised Steel Troughing (GST), and Ground Level Troughing (GLT) which are installed above ground. Where posts are installed inside the rail corridor, a vacuum truck may be used to avoid services strike. Posts will also be used inside the rail corridor to support trackside infrastructure, such as AXL modules.	Small, localised impacts to the ground.	Where archaeological potential exists, and in particular, archaeological resources of rare of high significance, fence installation will be undertaken after archaeological test excavation, and if necessary, salvage excavation is complete. **Archaeological test excavation of:** • **boundary fence excavation to the east of Canterbury Road where remains of early buildings may survive.** **Post installation in the rail cutting inside the corridor will not need the supervision of an archaeologist as the area is of low archaeological potential. The Unexpected Finds Procedure applies.**
Stockpiling	Displaced soil stockpiles.	Localised deposition of soil to an area of low archaeological potential.	No impacts to the ground surface provided that excavation does not occur. **Archaeological management of this activity is not required.**
Soil nails	Long (up to 4 m) galvanised iron nail inserted into steep banks to stabilise soil. The nail is set in place with a bearing plate, nut and washer and embedded in shotcrete. Shotcrete is also used to seal the interface of the nail with the bank.	Localised impacts to the areas of application.	The nails will be inserted into the steep bank at the MSB site after archaeological test excavation is complete and has been released for construction. **Archaeological management of this activity is not required but the Unexpected Finds Procedure applies.**

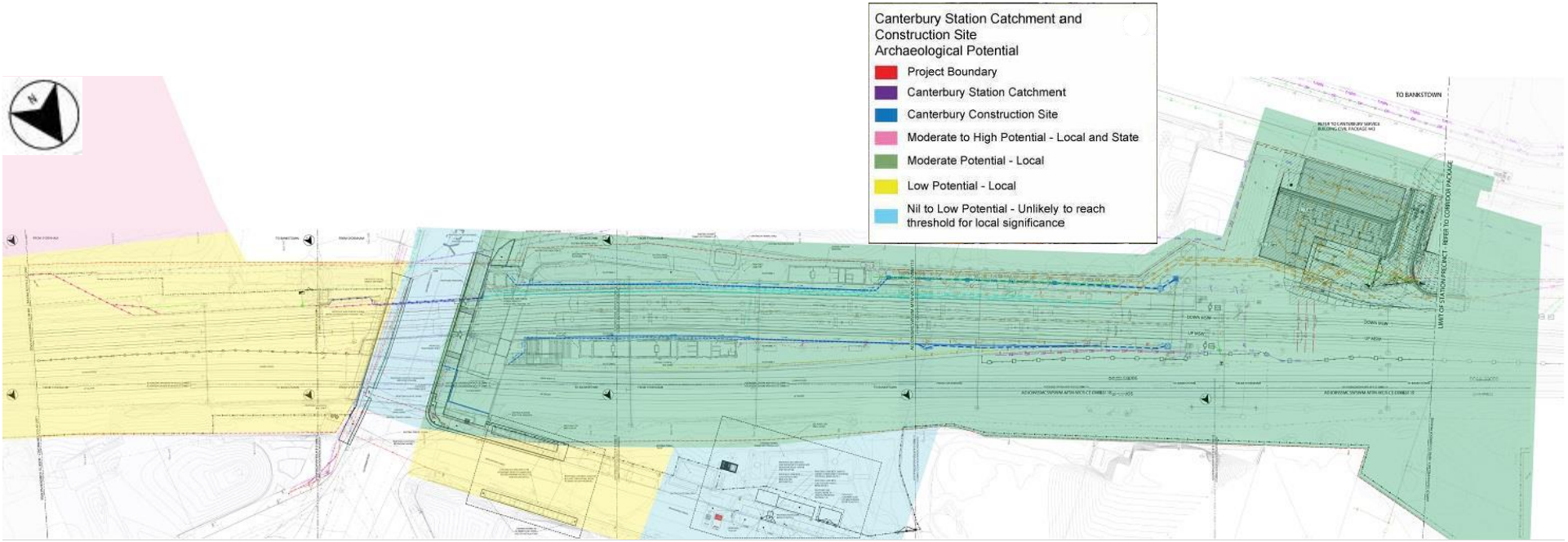

Plate 3.3 **Impacts shown against archaeological potential. Note that north is down. Source: Plans - Metron T2M Civil Engineering Package No.143); archaeological potential shading – Artefact Heritage 2018, Fig 4-4, p.80.**

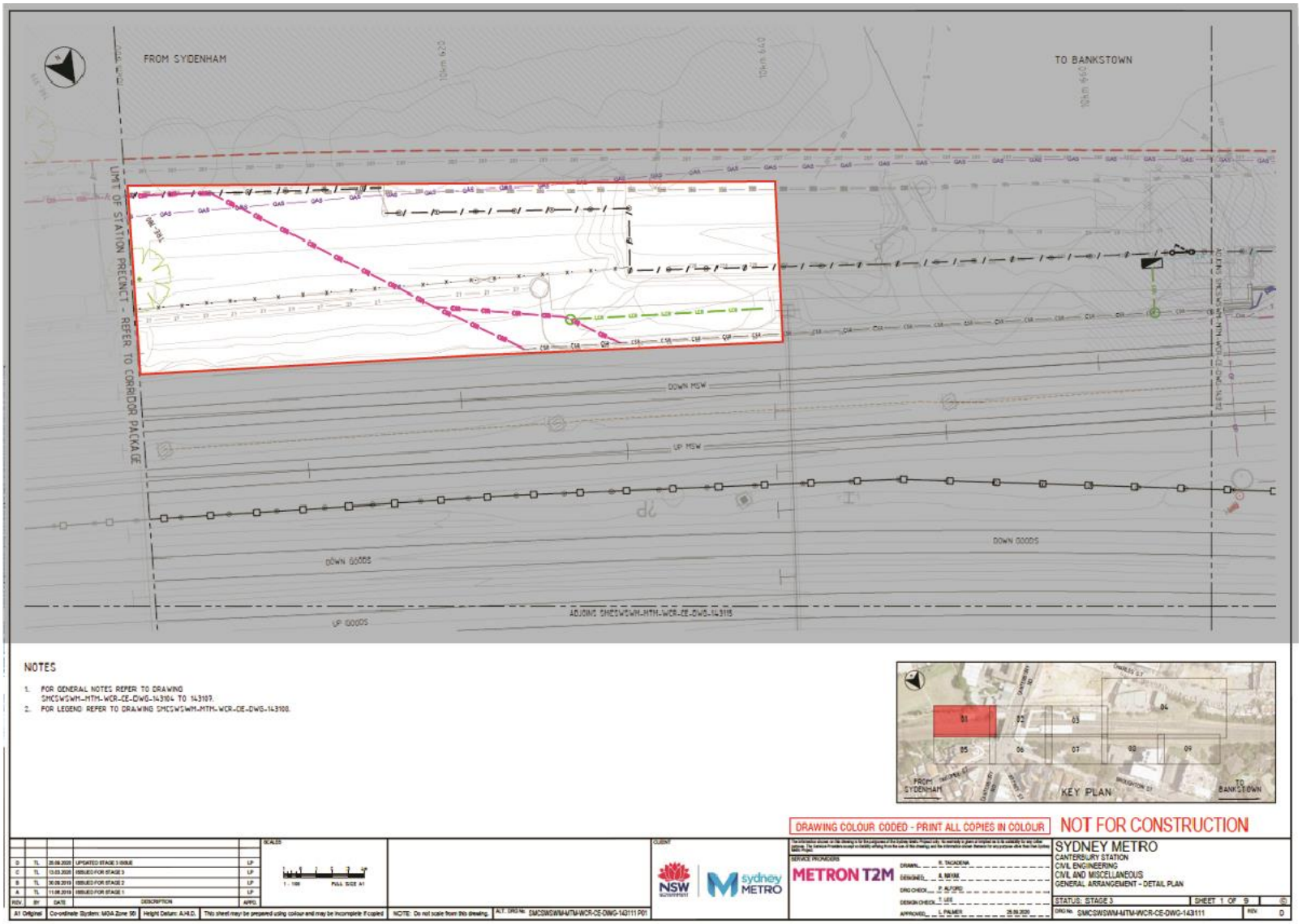

Plate 3.4 **An excerpt from the civil drawing package showing the location of the GST fencing (red rectangle; highlight). Note that north is down (Source: Metron T2M Civil Engineering Package No.143).**

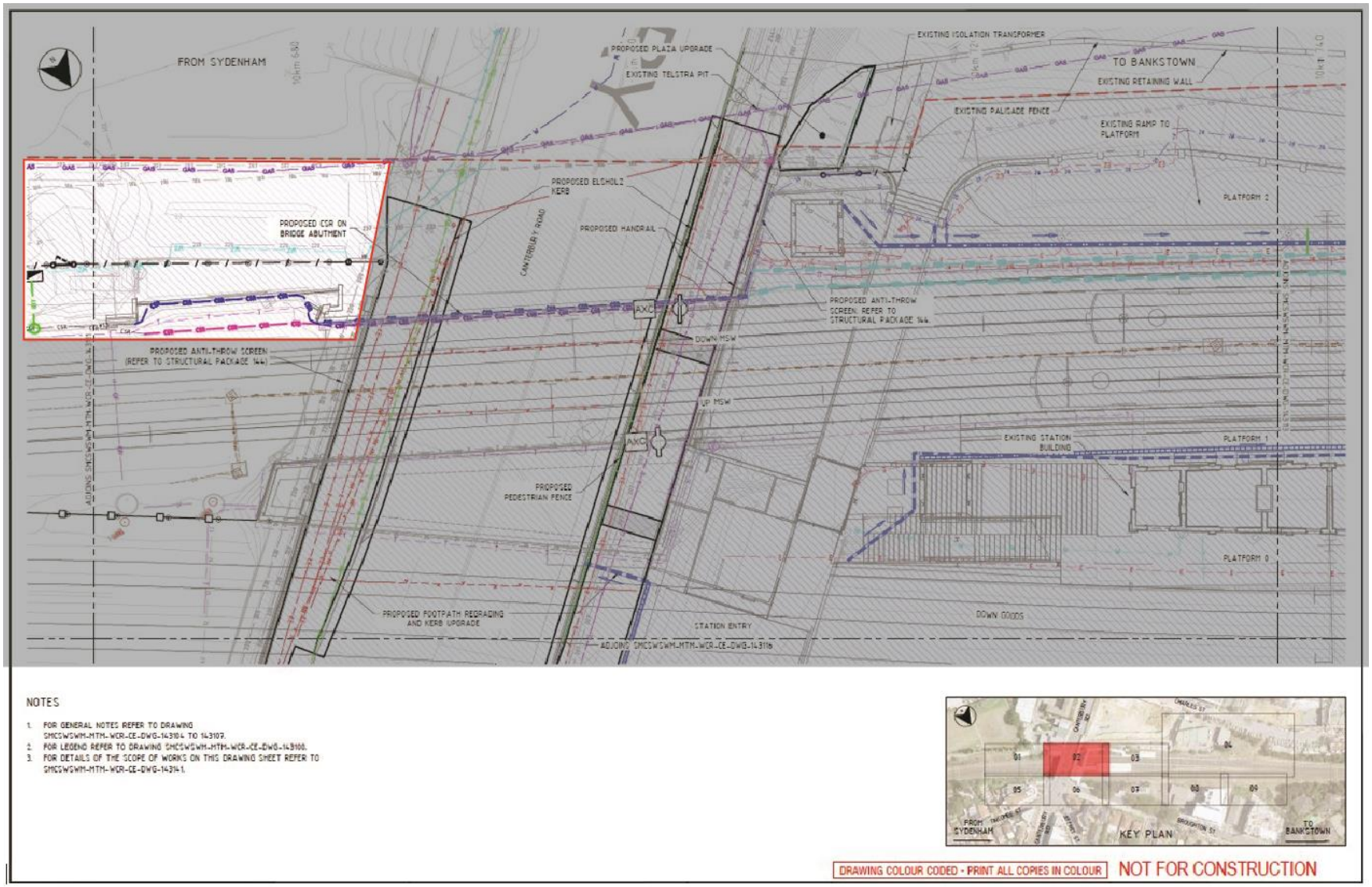

Plate 3.5 **Location of proposed services in the location of c1840s building (red rectangle; highlight) adjacent to the CSR fencing. Note that north is down (Source: Metron T2M Civil Engineering Package No.143).**

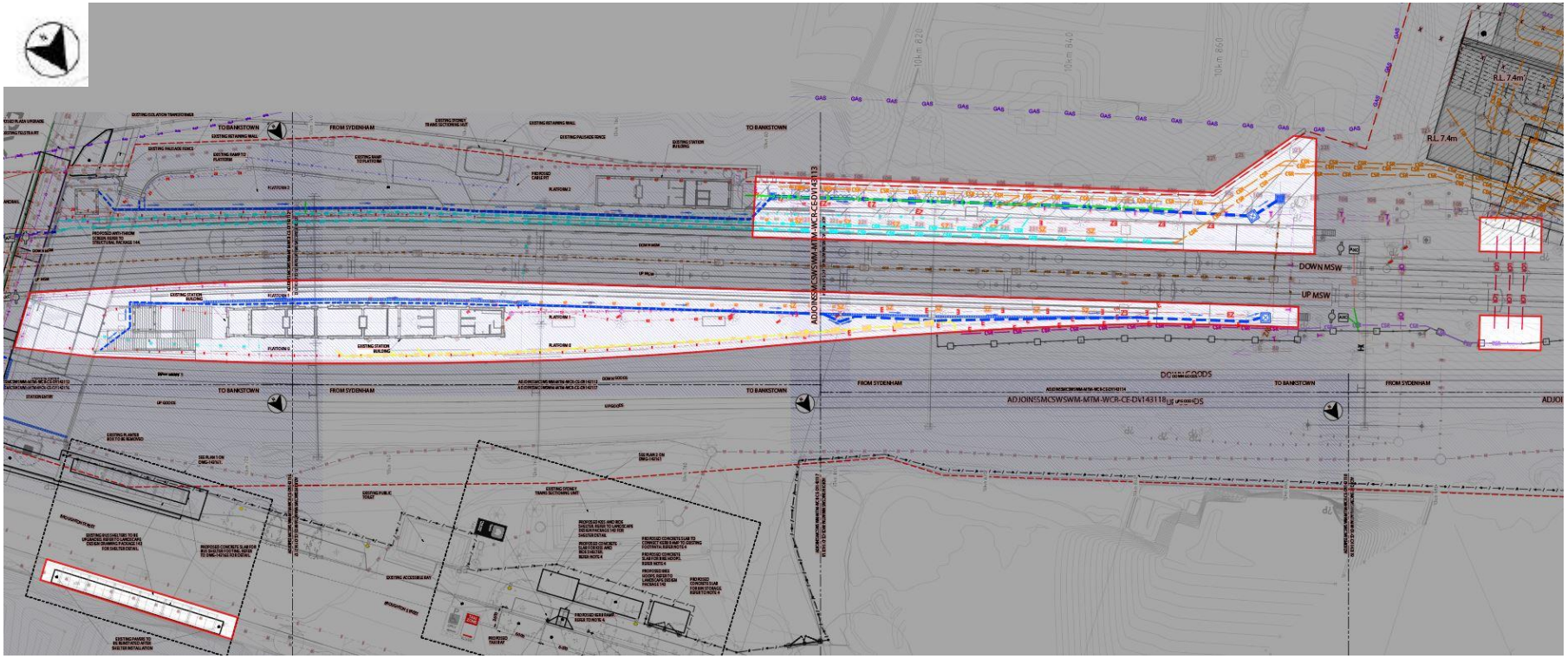

Plate 3.6 Areas for archaeological monitoring. (Source: Metron T2M Civil Engineering Package No.143).

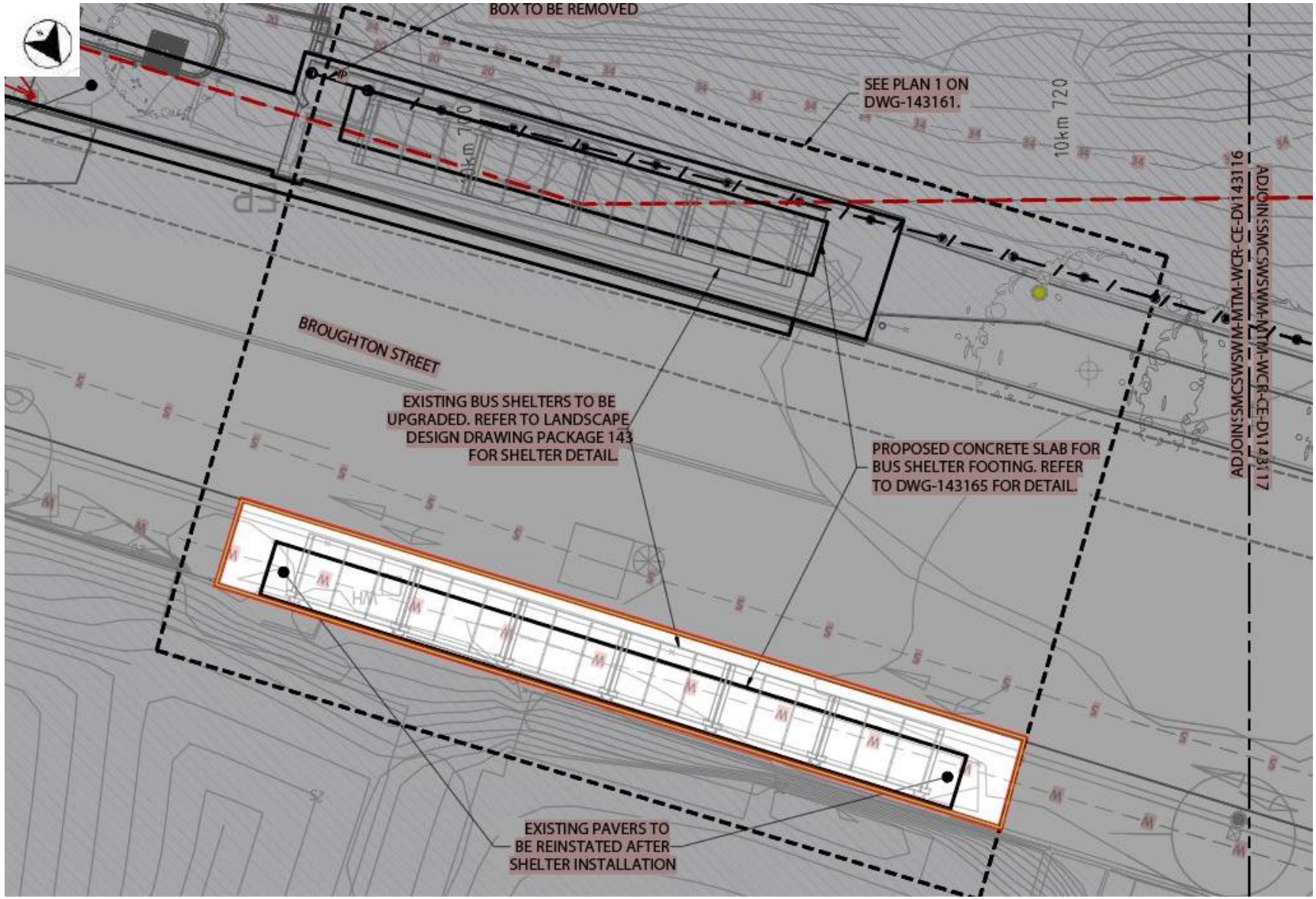

Plate 3.7 Works to the existing bus shelter will be occurring in the highlighted area. (Source: Metron T2M Civil Engineering Package No.143).

Plate 3.8 **The approximate location of cut and cover pit excavation (two rectangles) for the LCR services. (Source: Metron T2M Civil Engineering Package No.143).**

Plate 3.9 **The landscaping plan for Canterbury Station – vegetation to be planted in the green areas (Source: Metron T2M Civil Engineering Package No.143).**

4 Archaeological methods

4.1 Background

The methods presented in this AMS address and expand upon the requirements of Section 4.6.1. of the AARD (Artefact Heritage 2018, p.84).

Monitoring during construction works will be the primary archaeological method at Canterbury Station to adhere to the construction schedule. If archaeological resources are encountered, construction works will cease, and the Excavation Director(s) will determine if test or salvage excavation is the suitable response.

4.2 Heritage inductions

The site safety induction and/or toolbox talks should include information about the history of the project area and raise the possibility that archaeological resources may be present. At a minimum, the induction would include an overview of the project obligations for heritage protection and archaeological management and the role of the archaeological team. Unexpected finds, what they are, and the roles of responsibilities for the Contractor / HSEJV will also be included in the induction and or/toolbox talks before the start of each working day. The Excavation Director or a delegate would present the heritage component of the toolbox talk.

4.3 Monitoring

An archaeologist will be in attendance to supervise construction and excavation work which has the potential to expose and/or impact archaeological resources. Monitoring is generally implemented in areas of low archaeological potential and/or where minor excavation work is proposed in areas of archaeological sensitivity. In many instances, monitoring is the only method by which archaeological resources can be recorded and collected without delaying the construction schedule. Despite this, the works will proceed as described in Section 4.4 under the supervision of the Excavation Director(s).

The archaeological team will communicate with the construction team to ensure that resources and equipment are in place before construction that has the potential to impact on archaeological resources begins. This will be (and has been) achieved by programming archaeological fieldwork as part of the construction schedule.

If archaeological resources are identified during monitoring, localised stoppages of excavation would be required so the archaeologist can record and assess the find. Work will only recommence once the monitoring archaeologist has completed recording and determined that further investigation is not required. The level of recording will be to the discretion of the Excavation Director.

4.4 Archaeological test excavation

Archaeological test excavation is proposed in the area where the GST and boundary fencing are proposed to the east of Canterbury Road. This location has been identified as an area of high archaeological sensitivity. Structures relating to the early and mid-phases of the village of Canterbury (Phases 2 and 3) are shown in this location in historical plans. Whilst archaeological remains may be ephemeral, they may provide some significant information about occupation of the former village and the lives of its former residents.

In this location the following methods will be employed:

- a smooth-bucket machine excavator will remove fills, overburden and/or vegetation followed by topsoil along the alignment of the fencing and GST under the direction of the Excavation Director;

- the excavator will be stopped if archaeological features are identified; if none are detected, machine excavation will continue until the culturally sterile layer is identified or the target construction depth has been reached; and

- if archaeological features or deposits are identified, they will be further clarified by the archaeologist using manual excavation techniques and recorded (see Section 4.6 for recording techniques).

This method of excavation is in accordance with Section 4.6.1 of the AARD (Artefact Heritage 2018, p.84).

4.5 Archaeological salvage excavation

The AARD (Artefact Heritage 2018, p.84) has proposed salvage excavation be undertaken to:

> "investigate and record archaeological remains related to Phase 2 and 3 if impacts were proposed in areas of identified potential" and "investigate and record archaeological remains related to Phase 4 if impacts were proposed in areas of identified potential."

Construction work programmed for the areas of archaeological potential relating to Phases 2 and 3 will be undertaken as required to ensure that salvage excavation is completed prior to construction impacts. Salvage excavation is largely guided by the nature and extent of the archaeological resource. If significant relics are identified, whether through monitoring or test excavation, then further salvage excavation would be required prior to construction. Salvage excavation aims to:

- determine if peripheral or ephemeral and unrelated archaeological resources exist within the construction zone; and

- answer the research questions developed for the project (see Artefact Heritage 2018, p.84–87).

The archaeological excavation process for salvage excavation will generally be as follows:

- a smooth-bucket machine excavator will remove fills, overburden and/or vegetation followed by topsoil under the supervision of a qualified archaeologist;

- the excavator will be stopped if archaeological features are identified; if none are detected, machine excavation will continue until the culturally sterile layer is identified or the target construction depth has been reached;

- if archaeological features or deposits are identified, they will be further clarified by the archaeologist using manual excavation techniques and recorded (see section for recording techniques); and

4.6 Recording method

4.6.1 Excavation recording

The excavation recording methods are as follows:

- a site datum would be established or an existing one will be used;

- a standard context recording system will be implemented whereby a context number will be applied to each element of each feature, cut and deposit; the feature number, assigned to each feature, will be related to the context number assigned on site;

- archaeological features, deposits and cuts will be photographed (RAW format with photo board and scale), planned to scale and sections drawn prior to, and, depending on the remains, after removal by hand. All i*n situ* artefacts will be collected by context for later analysis; and

- features will be recorded by a qualified surveyor and the resulting plan will be tied into the appropriate datum (on advice from the surveyor). This will include recording reduced levels to establish the varying depths of phases across the sites.

4.6.2 Curation of archaeological material

Curation of archaeological material processes reflect strategies outlined in the Salvage and Storage Strategy of the Sydney Metro Integrated Management System (Transport for NSW 2016a: p.5-6). These are summarised below:

- Identify options for *in situ* conservation of archaeological resources (or remains) in the areas investigated;

- artefacts recovered from the site will be managed by a dedicated artefact manager after retrieval from the site;

- large or redundant materials will have samples collected (eg bricks). Hazardous material will be recorded but will not be collected;

- unprovenanced artefacts and other material assessed as being of low significance or future research potential will be discarded upon delivery of the final report;

- artefacts that are retained will be catalogued by using a system that identifies and allows easy retrieval of the item;

- an artefact specialist will produce a summary report, tables and photographs on the results of the artefact analysis. This information will be incorporated into the final Excavation Report for the project;

- once post-excavation analysis and reporting has been completed, Transport for NSW will be responsible for the management, curation and ongoing care of the collection, including items which require special care (ie material prone to deterioration). Artefact management will fall under the project's salvage strategy; and

- if the artefact collection is to be incorporated into an interpretive public display, artefacts may be subject to material conservation.

4.6.3 Public engagement

If substantial relics are discovered Heritage NSW can be invited to attend the site and public engagement opportunities implemented, ie public interpretation displays. Discussion with TfNSW and the HSEJV would be required to determine the most appropriate form of public engagement, which may include heritage interpretation displays at Canterbury Station. Site tours with the general public will not occur during the project due to the nature of the construction site and its proximity to the rail corridor.

Significant archaeological findings would be considered for inclusion in the project heritage interpretation as per condition of approval E12.

4.6.4 Reporting

All archaeological activity, including short field work call-outs will be documented in a **Preliminary Summary Letter Report**. This letter report will include details of the activity conducted, a summary of archaeological resources

identified and will be provided within one month of the completion of the work. If archaeological resources are not found, the preliminary report will take the form of a letter of advice that work can continue without any further constraints and that additional reporting is not required unless additional unexpected finds are uncovered.

In areas where test excavation is proposed, or salvage excavation is required, a detailed archaeological excavation report will be prepared following the completion of archaeological analyses. The report will describe the methods, and results of the archaeological program and present an interpretation of these findings. The report will additionally include artefact analyses and respond to research questions of the AARD. The report will be supported by photographs, tables, and plans.

Significant archaeological finds and what they reveal about the historical development of immediate area would be considered for inclusion in the heritage interpretation project.

The detailed excavation report is a separate stage to the field program and would be submitted to the Planning Secretary and Heritage NSW within two years of completion of the Sydenham to Bankstown Upgrade project works (as per CoA E12).

4.6.5 Aboriginal archaeological heritage strategy

Aboriginal cultural heritage, such as Aboriginal objects or sites, is not anticipated to be found within the project area, due to the level of disturbance during construction of Marrickville Station. This subject has been addressed in a separate report prepared by Artefact Heritage (2018). The unexpected finds procedure will address such an event.

4.7 Team and timing

Up to three archaeologists will be present for monitoring of large areas. The archaeologists will supply recording equipment and limited excavation equipment consisting of trowels and hoes. It is expected that HSEJV will supply plant and survey equipment (with surveyor).

In areas of low potential where archaeological monitoring has been determined to not be required, the archaeological team will be on call in the event that unexpected finds are uncovered. Attendance for unexpected finds will be by one of the qualified archaeologists at Canterbury: Pamela Kottaras, Fiona Leslie, Dr Susan Lampard or Kerryn Armstrong.

5 Research questions

5.1 Introduction

Research questions are formulated to guide the methodology and provide focus to the investigation, at the start of an archaeological investigation, so that the results can add new knowledge to the past. The research questions posed can also help guide how resources will be interpreted.

The research questions relevant to the archaeological excavation in this document are reproduced from the AARD (Artefact Heritage 2018: pp 86-87) and additional questions have been added that are based on the most recent information and relate substantially to the locations of the CSR and boundary fencing. Their purpose is to guide the archaeological excavation by adding a theoretical framework to the enquiry.

5.2 Questions

1. Is there evidence of the former developments shown on the 1843 plan (Plate 1.10)?

2. Did yard surfaces survive the railway development? If yes, in what form?

3. To which phase do the structures shown in the 1843 plan belong (Plate 1.10)? Is there evidence to suggest that they pre-date the establishment of the village?

4. *What evidence of early land clearing and land modification, if any, is present?*

5. *Is there any evidence of former platforms located below or within present-day station platforms?*

6. *What evidence of transport developments and changes in transport technology exist on the site?*

7. *What evidence remains of early services, including early cisterns, tanks, wells, cesspits, in-ground services including sandstone, timber, brick, and ceramic drains?*

8. *Does this provide information about the provision of services and changes in technology?*

9. *What were the living conditions of the people occupying the study area?*

10. *Can the archaeological remains of the buildings inform the internal and external layout of the huts and cottages and the use of space?*

11. *Can the archaeological remains inform changes in building technology, supply of materials and architectural preferences of the period? Do the houses provide evidence of class/status distinction?*

12. *Is there evidence that the employees were engaged in activities outside of their working life? (gaming, smoking, sewing, etc)*

13. *Is there evidence of the conditions in which the employees worked?*

14. *Does the artefact assemblage provide information on the daily life of the occupants of the cottages? Can gender and class/status be discerned from the archaeological record?*

15. *Do any intact under floor deposits provide useful spatial information, identify discrete activity area or provide spatial data on the range of tasks undertaken within the building over time?*

16. *What food were the residence of the huts and cottages consuming? Is there evidence of the cooking methods used?*

17. *Is there evidence of male, females, and children occupying the cottages? Does this provide information about family dynamics in early Canterbury?*

18. *What evidence is there of gardens, and the layout and use of the yard areas? Does this show evidence of recreational activities, eg marbles or games? What can the gardens inform about daily life and food habits?*

19. *Do any refuse deposits indicate a domestic setting? Do refuse deposits inform about daily eating habits?*

20. *Is there evidence of quarrying on the site?*

21. *What evidence is there of the school? Do artefactual remains relate to the provision of education?*

22. *Is there artefactual or architectural evidence related to the sugar works in the study area?*

23. *Is there evidence of the division of labour spaces, yards, and sheds?*

6 Unexpected finds procedure

6.1 Introduction

This section is a summary of the unexpected finds procedure prepared by Sydney Metro (Appendix A) and fulfils Condition NAH14. The Sydney Metro Unexpected Finds Procedure includes the actions required in the event that human remains, historical archaeological resources and Aboriginal objects are found.

In general, however, if any of the above items are encountered, or thought to be encountered during any project activities, works in the immediate area (within a three-metre radius) must cease and the unexpected finds procedure put into action until works can recommence.

References

Documents

Artefact Heritage 2018, *Sydney Metro City & Southwest Sydenham to Bankstown Upgrade: Historical Archaeological Assessment & Research Design*, Report prepared for Transport for New South Wales.

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- ADE Consulting Group 2018;
- ALS Environmental, 2019;
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1943 Aerial photograph, SixViewer, Department of Lands

Armstrong J, Surveyor, 1843, *Plan of the Village of Canterbury, part of the Canterbury Estate, on Cook's River, Immediately adjoining the Australian Sugar Company's Establishment to be sold at Auction by Mr. Stubs on Wednesday next, the 31st of May 1843.* SLNSW, M Z/M2 811.1829/1843/1

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Appendix A

Sydney Metro Unexpected finds procedure

A.1 Sydney Metro Unexpected finds procedure