Transport
for NSW

Sydney Terminal Building Revitalisation

Aboriginal Cultural Heritage Assessment

PRELIMINARY FINAL Report

February 2023

NSW GOVERNMENT

transport.nsw.gov.au

Acknowledgement of Country

We respectfully acknowledge the Traditional Custodians of the land of Central Precinct and the Sydney Terminal Building, the Gadigal. From time immemorial, this Country has been a place where people come to connect and reconnect. We pay our respects to all Aboriginal people who have journeyed and will journey through this place and acknowledge their ongoing connection to Country and culture. We pay our respects to members of the Stolen Generations and their descendants for whom the Sydney Terminal Building will always hold significance. We acknowledge that Platform One played a key role in Aboriginal children being removed from their families and communities.

Consultation is in progress.

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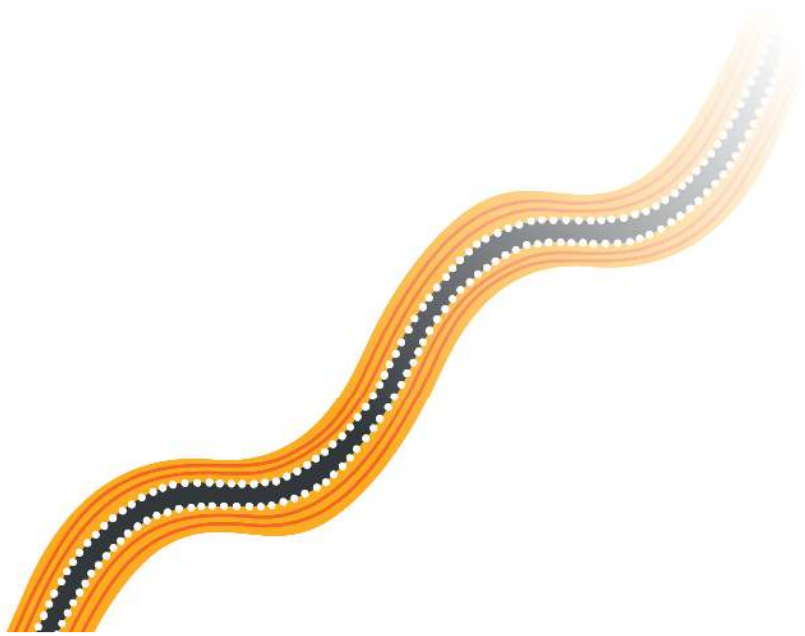

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Document control

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Abbreviations

Abbreviation	Definition
ACHAR	Aboriginal Cultural Heritage Assessment Report
AHIMS	Acronym for 'Aboriginal heritage information management system'. AHIMS is a register that contains information about NSW Aboriginal heritage, and it is maintained by DECCW
AHIP	Aboriginal Heritage Impact Permit
ALR Act	Aboriginal Land Rights Act 1983
Artefact	Artefact Heritage Services Pty Ltd
ASR	Archaeological Survey Report
CHL	Commonwealth Heritage List
Code of Practice	Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales
Consultation Requirements	Aboriginal cultural heritage consultation requirements for proponents 2010
CwC	Connecting with Country, Government Architect, NSW
DECCW	Department of Environment Climate Change and Water (now Heritage NSW, DPC)
DPIE – Heritage	Department of Planning, Industry and Environment – Heritage (now Heritage NSW, DPC)
EIS	Environmental Impact Statement
EP&A Act	Environmental Planning and Assessment Act 1979
EPBC Act	Environment Protection and Diversity Conservation Act 1999
GANSW	Government Architect New South Wales
Guide	Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (OEH 2011)
Heritage NSW, DPC	Heritage NSW, Department of Premier and Cabinet
LALC	Local Aboriginal Land Council
LEP	Local Environmental Plan
LGA	Local Government Area
NHL	National Heritage List
NPW Act	National Parks and Wildlife Act 1974
NTSCorp	Native Title Service Provider for Aboriginal Traditional Owners in New South Wales and the Australian Capital Territory
OEH	Office of Environment and Heritage (now Heritage NSW, DPC)
PAD	Potential Archaeological Deposit (see Definitions below.
RAP	Registered Aboriginal Party
SEARs	Secretary's Environmental Assessment Requirements
TfNSW	Transport for New South Wales
yBP	Archaeological Survey Report

Definitions

Term	Definition
Aboriginal cultural heritage	The material (objects) and intangible (mythological places, dreaming stories etc) traditions and practices associated with past and present-day Aboriginal communities.
Aboriginal object:	Any deposit, object, or material evidence (not being a handicraft made for sale), including Aboriginal remains, relating to the Aboriginal habitation of NSW.
Aboriginal place	Any place declared to be an Aboriginal place under section 94 of the NSW *National Parks and Wildlife Act 1974*.
Aeolian	Aeolian processes refer to the wind's alteration of the landscape.
AHIMS	Acronym for 'Aboriginal heritage information management system'. AHIMS is a register that contains information about NSW Aboriginal heritage, and it is maintained by Heritage NSW.
Alluvium	A deposit left by the flow of water. It can include sediments of gravel, mud, or sand.
Archaeological object	Any object that was made, affected, used, or modified in some way by humans in the past and has been discarded.
Archaeology	The scientific study of human history and through the excavation of sites and the analysis of artefacts and other physical remains.
Area of archaeological sensitivity	A part of the landscape that contains demonstrated occurrences of cultural material. The precise level of sensitivity will depend on the density and significance of the material.
Artefact	An item of cultural material created by humans.
Artefact scatter	Where two or more stone artefacts are found within an area of potential archaeological deposit or a site.
Basalt	A common volcanic rock. It is fine grained (approximately 45-50 per cent silica) and rich in iron and magnesium.
Bedrock	A consolidated rock that is unbroken and unweathered, located beneath soil or rock fragments.
Bioturbation	Disturbance in soil profiles caused by living organisms, such as ants and roots.
Chert	A fine-grained rock composed of a crystalline structure silica. It exhibits a range of textures and colours including red, green. or black. Chert is easy to work and retains a sharp edge for an extensive period before resharpening is required. It has a low-to-medium fracture toughness.
Clay	A type of sediment with particles less than four microns in size and that is composed of clay minerals (Keary, 2001, p. 49).
Conglomerate	Is a geological term used to describe clasts (a type of rock) that are cemented in a fine-grained matrix. It is a sedimentary rock.
Core	A stone piece from which a flake has been removed by percussion (striking it) or by pressure. It is identified by the presence of flake scars showing the negative attributes of flakes, from where flakes have been removed.
Cortical platform	This term is used to describe a platform that has cortex present and may indicate that the core's surface (where the flake was struck) was previously un-worked.
Cortex	The outer weathered surface of stone; if smooth, it can indicate the source of stone was a pebble.
Crenation	Refers to a flaked artefact's vitrified surface appearance. This appearance is caused by heat exposure and materialises as relatively uniform patterns.
Crushed platform	This term is used to describe an artefactual flake that has a damaged platform and where the platform's attributes cannot be recorded as a result.
Dibris	Small, unmodified flakes produced as part of the flaking process, but discarded unused.
Distal	A broken flake with the presence of a termination and the absence of a platform or impact point.

Term	Definition
Dorsal	The side of a flake that was originally part of the core's outer surface (often referred to as the 'dorsal surface').
Edge damage	Where the edge of a tool has been used, resulting in microscopic fractures along the surface.
Exposure	The level of ground exposure based on the whether the landform is eroding, aggrading or stable.
Fine grained siliceous material	A rock that has a high content of silica and that is fine grained in appearance without any further identifying characteristics.
Flake	A stone piece removed from a core by percussion (striking it) or by pressure. It is identified by the presence of a striking platform and bulb of percussion, not usually found on a naturally shattered stone.
Flake scar	Often called a 'negative flake scar', it is the remnant of a previous flake that was struck from the core. This appears on the dorsal surface of a flake.
Flaked fragment	This is a chipped stone artefact that cannot be classed as a flake, core or retouched flake, the reason being that the defining attributes are missing. This often happens when a core contains several incipient fracture planes. Artefacts that are heavily weathered, or which have been shattered in a fire, are also difficult to categorise
Flaked platform	A platform that has been worked previously; one or more flakes were removed prior.
Floodplain	The area covered by water during a major flood and/or the area of alluvium deposits laid down during past floods.
Fluvial	Pertaining to or produced from a river.
Focalised platform	A small platform that is intentionally prepared for percussion by overhang removal.
Footprint	The scale, extent, or mark that a development makes on the land in relation to its surroundings.
Geometric microliths	Backed at one end, the other end or both, these tools are made on geometric shaped flakes, <80 mm maximum dimension.
Geomorphic	Relating to the structure, shape, and development of landforms.
Holocene	The Holocene epoch forms part of the late Quaternary period and extends from about 11,000 years ago to the present day.
Humic	Soil that contains organic matter (from 'humus').
Igneous	Referring to magma or lava that cools and solidifies forming an igneous rock. This can happen in volcanic and plutonic (under the surface of the earth) scenarios. An example of this is basalt.
In situ	A description of any cultural material that lies undisturbed in its original point of deposition.
Ironstone	A type of sedimentary rock that contains iron.
Knapping	The removal of flakes and flaked pieces from a stone core using percussion.
Layer	Used to describe a horizon (soil, rock, charcoal) that is distinct from its surrounds.
Manuport	An unmodified piece of stone transported to a site by humans.
Mechanical trench	A trench that is excavated for archaeological purposes with a mechanical excavator. Machine excavation allows for a greater sample size to be studied in PADs of low-to-moderate sensitivity. Due to the large amounts of soil produced from a mechanical excavator, the soil is sieved mechanically.
Medial	Term of view referring to the intermediate section or middle section of a broken flake.
Metamorphism	The process where an existing sedimentary or igneous rock is transformed into another mineral through the application of temperature and pressure.
Midden	The term midden is a Danish word meaning a mound of kitchen refuse. In archaeological terms, a midden refers to an accumulation of shell deposited after people had collected and eaten shellfish. These could contain estuarine and freshwater shellfish species in addition to faunal remains, stone artefacts,

Term	Definition
	and charcoal from cooking fires. In northern NSW in many areas, burials have been recorded in direct association with midden deposits.
Mudstone	A sedimentary rock formed from mud/clay.
Muller	A large stone artefact that differs in construction depending on the environment. These were used as an aide for processing seeds and other low return plant material or ochre.
Multi-platform core	Is a core with more than one identifiable platform.
Overhang removal	This occurs when a platform is prepared for striking; small flakes are struck before a flake is detached, leaving visible scars behind.
Potential Archaeological Deposit (PAD)	A PAD is a location that is considered to have a potential for subsurface cultural material. This is determined from a visual inspection of the site, background research of the area and the landform's cultural importance.
pH	A measure of the acidity or alkalinity of the soil. Neutral is indicated by a pH of 7, with strongly acidic being 0 and strongly basic (alkaline) being 14. The 'pH' is said to stand for 'potential of hydrogen'.
Platform	On a flake, this is a core remnant from where the flake was struck off the core.
Platform width	In artefact analysis, this is a measurement taken across the width of a platform between the two lateral margins of a flake.
Platform thickness	This is a measurement taken from the ventral to dorsal surfaces of a flake (beginning at the point of impact/percussion).
Pleistocene	The Pleistocene is an epoch within the early Quaternary period, extending from about 1.6 million years ago to about 11,700 years ago. The end of the Pleistocene is marked by the last of the great ice ages.
Proximal	The upper portion of a flake in respect from where it was initially struck off a core.
Proximal flake	A broken flake with the presence of a platform, but the absence of a termination.
Quarry	A native source of stone that was mined by Aboriginal peoples in the past. Rock from these sites could be used to make artefacts.
Quaternary	Relating to geological time periods and comprising the Pleistocene and Holocene epochs.
Quartz	A mineral composed of silica with an irregular fracture pattern. The quartz used in artefact manufacture is generally semi-translucent, although it varies from milky white to glassy. Glassy quartz can be used for conchoidal flaking, but poorer quality material is more commonly used for block fracturing techniques. Quartz can be derived from water worn pebbles, crystalline or vein (terrestrial) sources.
Quartzite	A form of metamorphosed sandstone. It is often white or grey in colour but can occur in other shades due to mineral impurities
Residual soils	Soil material which is the result of weathering and decomposition of rocks, and which has not been transported on a site
Resource zone	An area of the landscape or part of the environment that provides a resource, be it food or material items such as a source of stone for making artefacts, for Aboriginal people. Swamps are good examples of rich resource zones.
Retouch	A flake, flaked piece or core with intentional secondary flaking along one or more edges.
Sand	A material composed of small grains (0.625-2.0 mm, Keary 2001: 233). Sand is formed from a variety of minerals and rocks, but commonly contains silica, such as quartz.
Scarred trees	Trees that feature Aboriginal derived scars are distinct due to the scar's oval or symmetrical shape and the occasional use of steel, or more rarely, stone axe marks on the scar's surface. Scarred trees are identified by the purposeful removal of bark for use in the manufacture of artefacts such as containers, shields, and canoes. The bark was also used for the construction of shelters. Other types of scarring include toeholds cut in the trunks or branches of trees

Term	Definition
	for climbing purposes and the removal of bark to indicate the presence of burials in the area.
Sediment	Is a mineral that has undergone erosion or weathering and that is then deposited via aeolian, glacial or fluvial means.
Sedimentary	Sedimentary rock is formed through the accumulation of sediment deposits that are then consolidated. An example of this is mudstone.
Shale	A sedimentary rock of well-defined layers comprised of small particles (less than 4 microns in size, Keary 2001:16) sourced from weathered or eroded materials.
Silt	A sediment with grains ranging from 4.0-62.5 microns in size (Keary 2001, p. 245). It can be found as a soil or in water.
Single platform core	Is a core with one identifiable platform.
Scraper	A stone tool, usually with steep retouch along its edges that was ethnographically used to make wooden implements or process foods and other resources.
Silcrete	Soil, clay, or sand sediments that have silicified under basalt through groundwater percolation. It ranges in texture from very fine grained to coarse grained. At one extreme it is cryptocrystalline with very few clasts. It generally has characteristic yellow streaks of titanium oxide that occur within a grey and less commonly reddish background. Used for flaked stone artefacts
Spit	Refers to an arbitrarily defined strata of soil removed during excavation (often 50 millimetres to 100 millimetres in depth).
Step termination	This occurs when a 'flake terminates abruptly in a right-angle break' (Holdaway and Stern ,2004).
Stratification	The study of soil stratification (layers) and deposition.
Stream order model	A method of assigning a numeric order to links in a stream network. Tributaries are numbered commencing with 1 at their emergence.
Subsurface testing	An archaeological method used to determine the cultural sensitivity of an area by excavating small (0.5 metre x 0.5 metre) pits and recording the stratigraphy, material remains (such as stone tools) and disturbance.
Survey	Walking over a surface while studying the location of artefacts and landmarks. These are then recorded and photographed.
Termination	The shape of the distal end of a flake.
Tool	A stone flake that has undergone secondary flaking or retouch.
Use wear	A pattern of wear that is left on a stone artefact due to utilisation.
Visibility	The degree to which the surface of the ground can be observed. This may be influenced by natural processes such as wind erosion or the character of the native vegetation, and by land use practices, such as ploughing or grading. It is generally expressed in terms of the percentage of the ground surface visible for an observer on foot.

Non-technical summary

[Note: Consultation is not completed. Sections of this report are subject to revision following review and comment by registered Aboriginal parties]

This report documents the Aboriginal heritage impact assessment conducted to support the Sydney Terminal Building Revitalisation ('the project'). The assessment was completed to support the environmental impact statement (EIS) and address the relevant Secretary's Environmental Assessment Requirements (SEARs) as they relate to Aboriginal heritage.

This ACHAR considers the impacts the proposed construction might have on Aboriginal cultural heritage and the potential archaeological resources within the construction footprints. The report includes:

- Assessment of the Aboriginal cultural heritage values of the study area and identification of any specific areas of cultural significance
- Assessment of archaeological potential for the study area
- Aboriginal stakeholder consultation

The following results and recommendations are based on consideration of the requirements of Aboriginal heritage guidelines including:

- The Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW 2010a) – known as The Code of Practice
- Guide to investigating and assessing and reporting on Aboriginal Cultural Heritage in New South Wales (OEH 2011) – known as ACHAR guidelines.
- The Aboriginal Cultural Heritage consultation requirements for proponents 2010 (OEH 2010b)-known as Consultation Guidelines)
- The SEARs issued for the proposal (DPIE) on 17 October 2022 (SSI-45421960).

The assessment found the following:

- an extensive search of the Aboriginal Heritage Information Management System (AHIMS) which revealed one site (AHIMS [redacted]) partially overlaps the southern construction footprint
- No ground disturbing activities for the project will take place within the southern construction footprint. There will be no harm to identified Aboriginal objects or areas of archaeological potential in the southern construction footprint
- The northern construction footprint includes areas of nil and low archaeological potential
- A portion of the Devonshire Street Cemetery overlaps with the northern construction footprint

Recommendations

The assessment makes the following recommendation:

- Key heritage management plans/documentation relating to Aboriginal heritage required prior to construction which relate to the AHCAR will include:
    - Construction Environmental Management Plan (CEMP)
    - Aboriginal Construction Heritage Management Plan (ACHMP) (Aboriginal Heritage sub-plan)

- The CEMP and ACHMP must include implementation details for the archaeological management measures recommended in this report, including:
    - An unexpected finds procedure
    - Involvement in any sieving program implemented during the historical archaeological program
- Heritage site inductions for all workers. This ACHAR is based upon the project information available in the EIS. Any significant changes to the design that extends outside the current project site will be assessed by an archaeologist in consultation with the RAPs. Any changes that may impact on Aboriginal sites not assessed during the current study may warrant further investigation and result in changes to the recommended management and mitigation measures:
    - AHIMS ID 45-6-3654 is in the southern construction footprint and in an area where no ground disturbing works are proposed. AHIMS ID [redacted] must not be harmed
- An Archaeological Work Method Statement (AWMS) must be prepared in consultation with registered Aboriginal parties outlining the methodology for any sieving program implemented during the historical archaeological program or unexpected finds identified during the historical archaeological program. That document will outline:
    - Location of sieving
    - Temporary storage of any retrieved Aboriginal objects
    - Reporting on retrieved Aboriginal objects
    - Long-term care and management of Aboriginal objects
- [PLACEHOLDER -the consultation process with RAPs has not been completed].

1. Introduction

1.1 Purpose of this report

This report documents the Aboriginal heritage impact assessment carried out to support the Sydney Terminal Building Revitalisation ('the project') environmental impact statement (EIS) and address the relevant Secretary's Environmental Assessment Requirements (SEARs).

This Aboriginal Cultural Heritage Assessment Report (ACHAR) considers the impacts the proposed construction might have on cultural values and potential archaeological resources within the construction footprint and the operational footprint. The report:

- Assesses of the Aboriginal cultural heritage values and identifies cultural significance
- Assesses archaeological potential
- Undertakes consultation with Aboriginal stakeholders.

This ACHAR has been prepared in accordance with:

- Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales 2010 (DECCW, 2010a)
- Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH, 2011)
- Aboriginal Cultural Heritage Consultation requirements for proponents (DECCW, 2010)
- The Australia ICOMOS Burra Charter 2013

This ACHAR has been undertaken as a separate process to the Connecting with Country (CwC) report which focuses on the cultural values of the revitalisation of the project (see 1.2).

NOTE: This version of the report has been issued prior to the completion of the registered Aboriginal party consultation period. The final version of this report inclusive of the complete consultation record, comments from registered Aboriginal parties, and responses to comments and any associated revisions to reporting, will form part of the submission report. A redacted version for public viewing will be provided once the consultation process has been completed.

Figure 1-1and Figure 1-2 illustrate the construction areas.

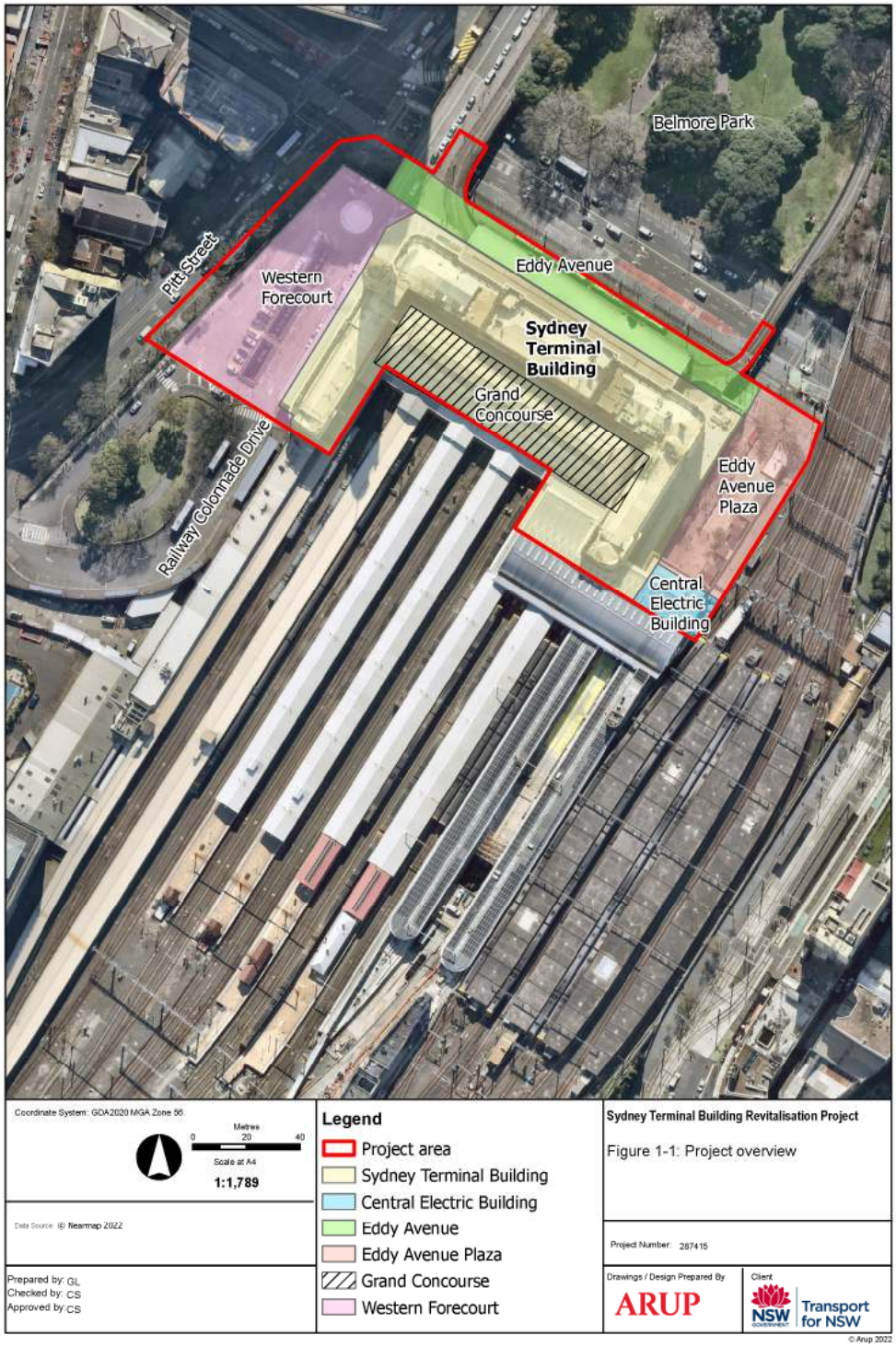

Figure 1-1 Project overview.

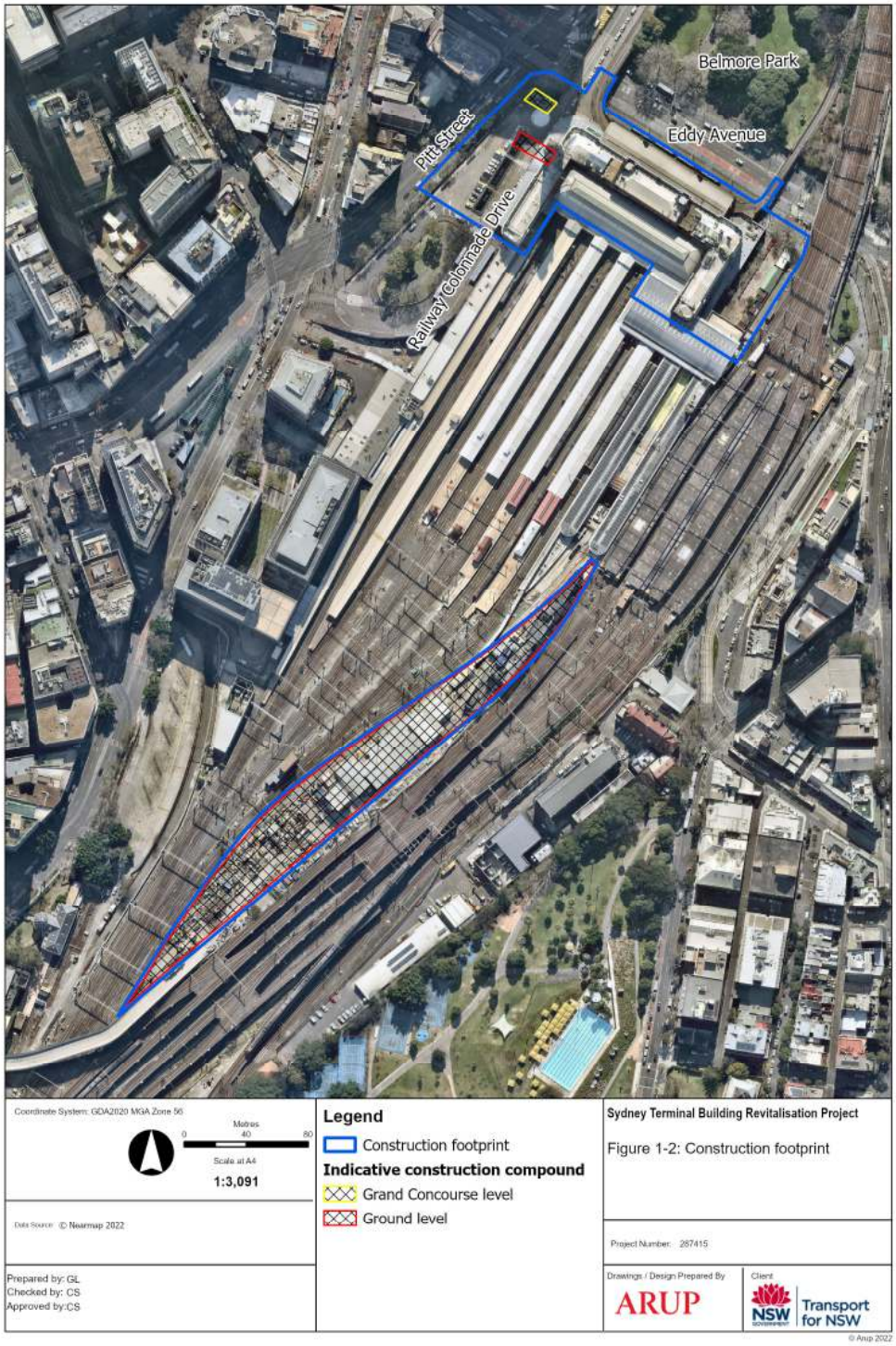

Figure 1-2 Project overview

2. Project overview

The project comprises the revitalisation of the Sydney Terminal Building and its public domain interfaces, Eddy Avenue Colonnade, Eddy Avenue Plaza and the Western Forecourt at Central Station (the project). The project would provide:

- Improved pedestrian connections and integration with the adjacent public domain areas
- Improved lighting, wayfinding, safety and accessibility
- Improved customer amenity, public art and interpretation
- Improved activation of spaces, including high quality retail and community uses that are complementary to the function of the transport interchange
- Heritage conservation and enhancement.

These works would be undertaken as priority works as part of the wider and longer-term Central Precinct Renewal Program. The project is located on Gadigal Country of the Eora Nation, in Haymarket, in the City of Sydney local government area (LGA).

The detailed project description in this chapter is based on the project's concept design and has been developed with consideration of:

- Findings from design, heritage and Aboriginal engagement activities detailed in Chapter 6
- Place making and urban design principles and objectives detailed in Chapter 10
- Stakeholder and community feedback as detailed in Chapter 6 and the Appendix
- Avoiding and minimising environmental, heritage and social impacts.

A description of the design and construction methodology descriptions are provided in sections 5.2 and 5.3 of the EIS.

3. Connecting with Country

The project is located on Gadigal Country. Balarinji (2022) have prepared the Central Precinct Renewal Project: Connecting with Country Framework report for TfNSW to ensure that local Aboriginal voices are embedded at all points of the project and to provide compliance with the Government Architect NSW (GANSW) Connecting with Country Framework. This report provides the project with a basis for an approach to Country-centred design, integrated with mutual community and project benefits. The report forms Appendix 8 of the SSP technical documents (see https://pp.planningportal.nsw.gov.au/central-ssp).

The report emphasised a number of concerns significant to local Aboriginal people:

- the importance of language to country and storytelling and its incorporation into education and the public domain
- the importance of the local landscape and flora in providing great practical use to the Gadigal people
- the coincidence of Central Precinct as a place of convergence, where Aboriginal muru (pathways or travelling/trading tracks) meet
- connection to Sky Country (the place of spirit and ancestors and links to celestial travels)
- the importance of rock art on sandstone through which Aboriginal peoples retold their stories

- the development of the rail industry in Sydney and the history of Aboriginal employment in the railways and significance of unionism in Aboriginal history
- the recognition of the significance of the Central Station precinct, especially platform 1, to those Aboriginal people connected to the Stolen Generation who arrived and departed from this platform.
-
- The report found that, with Aboriginal co-design, the proposed revitalisation of the Central Precinct has the potential to:

Acknowledge the history of Platform 1 and its role as a processing station for the Stolen Generations [and]

Contribute to reconciliation and healing through acknowledging the history of the site and the Country… (Balarinji 2020: 31)

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4. Proposal description and potential construction impacts

The project comprises the revitalisation of the Sydney Terminal Building and its public domain interfaces, Eddy Avenue Colonnade, Eddy Avenue Plaza and Western Forecourt at Central Station. The operational footprint covers about two hectares (see Figure 4-1). The southern construction footprint will be utilized as a holding and will not be subject to ground disturbing impacts. The revitalization program in the northern construction footprint would result in ground disturbing impacts. The nature of the proposed impacts are described below.

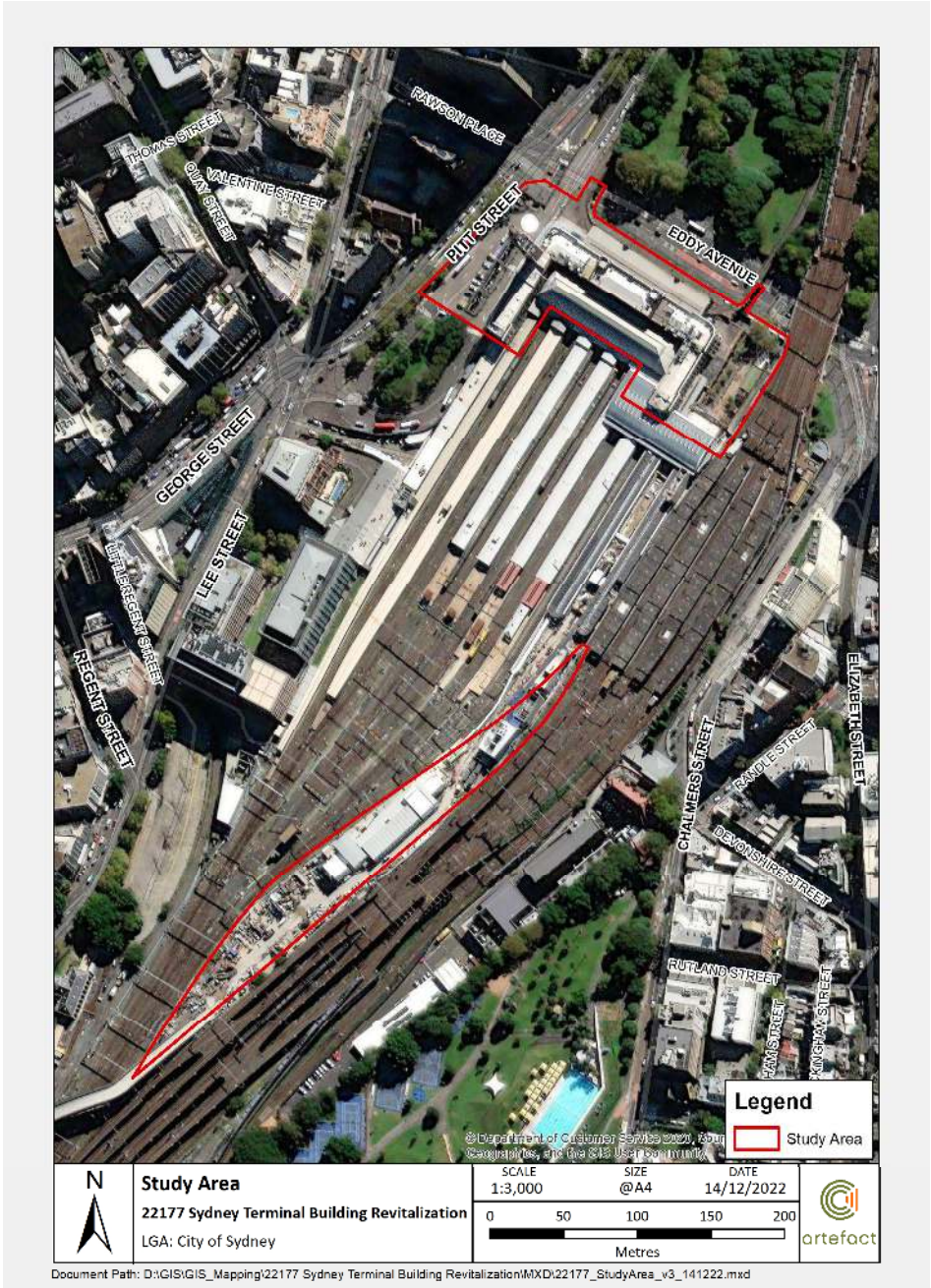

Figure 4-1 Location of the operational footprint, consisting of the northern and southern construction footprints.

The following potential construction impacts within the northern construction footprint have been excerpted from TfNSW's Project Summary Sydney (see also Figure 4-2 and Figure 4-3).

4.1 Excerpts from TfNSW's Project Summary.

Sydney Terminal Building

Demolition of awning and escalators on the eastern side of the Sydney Terminal Building

Removal of concrete floor and associated services to restore the Booking Hall to its original double height space

Western loading dock modification and strip-out works

Realignment of the light rail track under the Porte Cochere of the Sydney Terminal Building to enable platform widening and water proofing corrective works.

Eddy Avenue Plaza

Excavation of the eastern side of Eddy Avenue Plaza and re-grade ground level for improved pedestrian access (remove existing level difference across plaza)

Demolition of the brick retaining wall in the centre of Eddy Avenue Plaza

Demolition of ramp adjacent to the rail line behind the existing retail shops.

Strengthening works to support the Western Forecourt.

Trees requiring removal include six London Plane Trees and two Tuckeroo trees in Eddy Avenue Plaza. These will be replaced as per the Transport Biodiversity Policy

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Utilities

As described in detail completion of the project would require adjustments and relocation of existing services such as electrical and power supply infrastructure, stormwater services and drainage, this includes:

Adjustment, protection and upgrade of existing utilities within the Sydney Terminal Building, Eddy Avenue Plaza and Central Electric Building

Relocation of transformer rooms within the Sydney Terminal Building

Relocation of fire hydrant boosters

No public utility adjustments will be required. Further investigation of the extent of utility adjustments and relocations would be undertaken during detailed design.

All temporary and permanent construction works would be undertaken within the northern construction footprint, which is bounded by the following:

North - Sydney Terminal Building colonnade along Eddy Avenue

South – End of Intercity train lines.

East - Sydney Trains suburban line viaduct and rail lines

Construction ancillary facilities and laydown areas would also be included in the western loading dock and Western Forecourt.

All works will be contained within the Sydney Terminal Building area or adjacent areas. As such there are no permanent or temporary water waterway realignments or access roads. Vegetation clearing will be limited to existing trees within Eddy Avenue Plaza.

4.2 Works located in the Impact Zones of the northern construction footprint.

Those proposed works which might impact the ground surface within the construction footprint impact zones are listed below and relate to areas coded as E1, E2, L1, R2, R3, R5, W1 Eastern and R10.

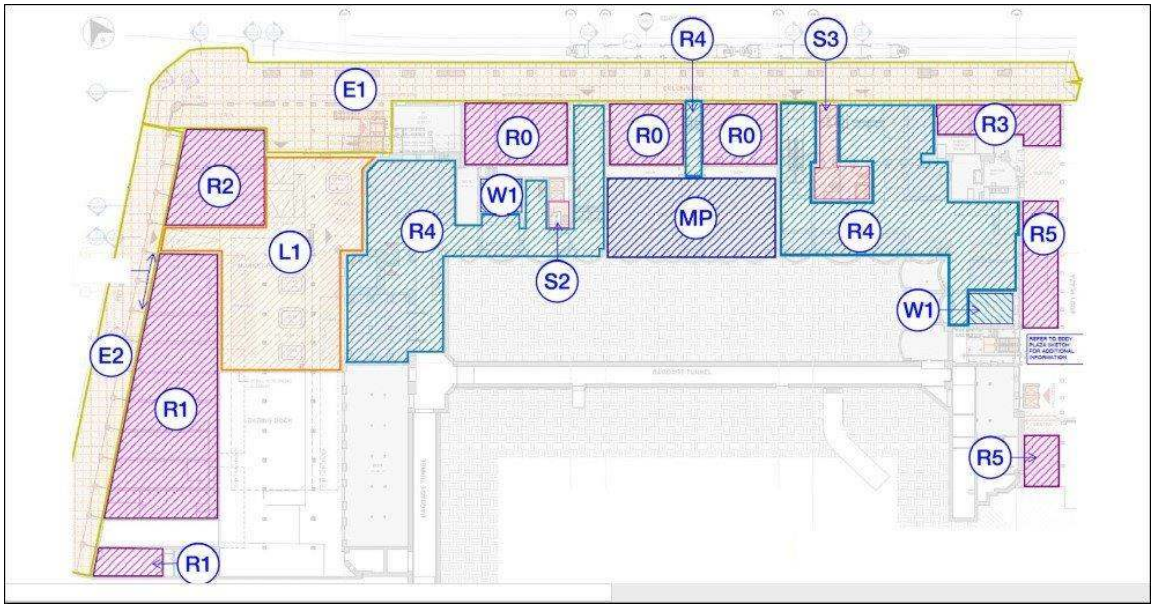

Figure 4-2 Detail of works in the northern construction footprint: street level for eastern impact zone and parts of western impact zone.

Eddy Avenue Location E1

- Demolish concrete paving of footpath, extend footpath by 120m, install new paving.
- New Signage for wayfinding, statutory requirements, retail tenancy
- Install new steel barriers

Pitt Street Arcade Location E2.

- Demolish paving and in stall new.
- New Signage for wayfinding, statutory requirements, retail tenancy
- Install new lighting

Western Market Place (former loading dock) L1.

- Services – demolish redundant services, reroute where required (conduit, pipe work, wiring).
- Install mechanical, fire, hydraulic, electrical and lighting.
- Signage TBC
- Install access ramps and new steel palisade barrier

Multipurpose Space Location MP -

- Services – demolish redundant services, reroute where required (conduit, pipe work, wiring).
- Install mechanical, fire, hydraulic, electrical, and lighting.

Eddy Avenue Retail Tenancies Location R0.

- Installation of new steel (or similar) security gate

Pitt Street Retail Tenancies North-West Corner (nos. 470-474 Pitt Street) Location R2

- Light fixtures, ductwork, pipework and similar demolished and affected surfaces made good.

Retail Tenancies North-East Corner Location R3

- Install new signage

Basement Retail Tenancies and Adjoining Corridors Location R4

- Services (pipework, ducts, cable trays, light fittings conduit and the like demolished and affected surfaces made good.
- Install mechanical, fire, hydraulic, electrical and lighting.

Eastern Retail Tenancies Location R5

- New signage

Eastern WCS Location W1

- Remove floor and prepare slab for new surface; grade floor to wastes
- Install mechanical, kitchen, hydraulic, electrical and make good affected surfaces.

North West WCS Location W1

Eddy Avenue Plaza and Central Electric Building - Street Level (Figure 4-3).

- Located in the eastern side of the northern construction footprint.

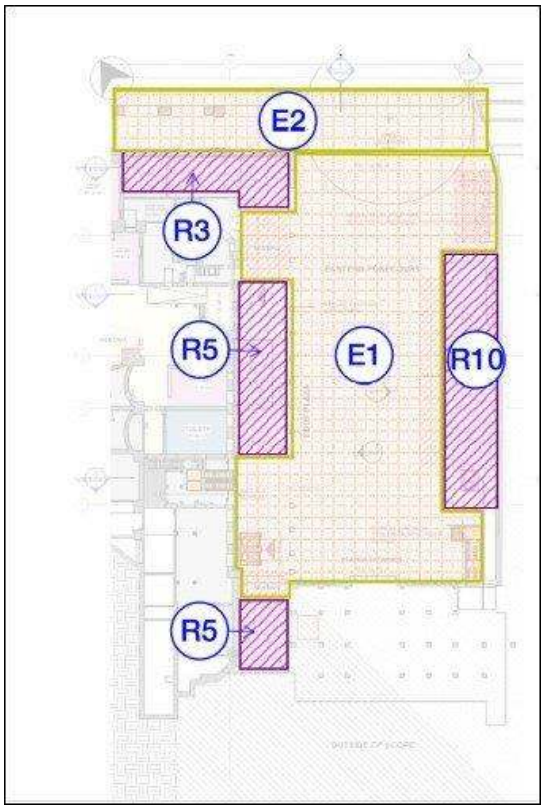

Figure 4-3 Detail of proposed works in parts of eastern impact zone.

Eddy Avenue Plaza E1

- demolish unit pavers and excavate / fill to suit new level.
- relocate hydrant boosters
- new seating, cast in place
- installation of bollards to prevent vehicular access
- landscaping
- install new signage
- install bicycle parking stands.

New Eddy Avenue Plaza Retail Pavilion R10

4.3 Secretary's environmental assessment requirements

SEARs were issued by the NSW Department of Planning and Environment on 17 October 2022 (SSI-45421960).

The Key Issue and Desired Performance Outcome of the SEARs for 3. Heritage includes:

> *The design, construction and operation of the project facilitates, to the greatest extent possible, the long term protection, conservation and management of the heritage significance of items of environmental heritage and Aboriginal objects and places.*
>
> *The design, construction and operation of the project avoids or minimises impacts, to the greatest extent possible, on the heritage significance of environmental heritage and Aboriginal objects and places.*

Table 4-1 outlines the SEARs relevant to Aboriginal heritage and where they have been addressed in this report.

Table 4-1 SEARs relevant to Aboriginal heritage

SEARs relevant to this technical report	Where addressed
1. The direct and/or indirect impacts to the heritage significance of: (a) Aboriginal places, objects and cultural heritage values, as defined under the National Parks and Wildlife Act 1974 and in accordance with the principles and methods of assessment identified in the current guidelines	Section 11
(b) Aboriginal places of heritage significance, as defined in the Standard Instrument – Principal Local Environmental Plan	Section 4.4
(c) environmental heritage, as defined under the Heritage Act 1977	Section 4.4
(d) items listed on the State, National and World Heritage lists	Section 4.4
3. Where archaeological investigations of Aboriginal objects are proposed these must be conducted by a suitably qualified archaeologist, in accordance with section 1.6 of the Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (DECCW 2010).	this report
4. Where impacts to Aboriginal objects and/or places are proposed, the assessment must (a) Demonstrate that the cultural heritage values of Aboriginal people who have a cultural association with the site has been considered and informed by the Central SSP Study;	Section 9, 10
(b) Be undertaken in consultation with Aboriginal people in accordance with the current guidelines.	Section 5

4.4 Legislative Context

4.4.1 Introduction

There are several pieces of legislation that are relevant to the assessment of Aboriginal cultural heritage for the proposal. This chapter provides a summary of these Acts and the potential implications for the proposal.

4.4.2 NSW National Parks and Wildlife Act 1974

The National Parks and Wildlife Act 1974 (NPW Act) provides statutory protection to all Aboriginal places and objects. An Aboriginal Place is declared by the Minister, under Section 84 of the NPW Act in recognition of its special significance with respect to Aboriginal culture. Under Section 86 of the NPW Act Aboriginal objects and places are protected. An Aboriginal object is defined as:

> *any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains.*

The protection provided to Aboriginal objects applies irrespective of the level of their significance or issues of land tenure. However, areas are only gazetted as Aboriginal Places if the Minister is satisfied that sufficient evidence exists to demonstrate that the location was and/or is of special significance to Aboriginal culture.

If it is assessed that sites exist or there is a likelihood of existing within the activity area and maybe impacted by the proposed activity, further archaeological investigations may be required. The SSD requirements state that attempts to avoid damage must be made. Where damage is unavoidable the ACHAR and EIS must outline mitigation measures.

As the project is assessed as an SSDA under Part 4 Division 4.7 of the *Environmental Planning & Assessment Act 1979*, permits issued under the NPW Act are not required for works undertaken in accordance with the SSD Conditions of Approval issued by DPIE.

All Aboriginal objects, whether recorded or not, are protected under the NPW Act.

4.4.3 National Parks and Wildlife Regulation 2019

Under the authority of the NPW Act, the National Parks and Wildlife Regulation 2019 provides regulations for Aboriginal heritage assessment and consultation with registered Aboriginal parties.

Part 5 (Division 2) of the National Parks and Wildlife Regulation sets out the requirements of a due diligence assessment process and provides requirements for more detailed assessment and consultation with registered Aboriginal parties for activities that may result in harm to Aboriginal objects. This includes:

- Clause 60 – consultation process to be carried out before application for Aboriginal Heritage Impact Permit (AHIP)
- Clause 61 – application for AHIP to be accompanied by cultural heritage assessment report.

In order to comply with Clause 60 and 61 of the National Parks and Wildlife Regulation 2019, preparation of an ACHAR and consultation with RAPs must be in accordance with the following guidelines:

- Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales 2010 (DECCW 2010a)

- Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH 2011)
- Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW 2010b).

The current assessment has been carried out in accordance with the above guidelines in order to meet the SEARs which refer to them.

4.4.4 NSW Environmental Planning and Assessment Act 1979

The *Environmental Planning & Assessment Act 1979* (EP&A Act) provides planning controls and requirements for environmental assessment in the development approval process. The EP&A Act consists of three main parts of direct relevance to Aboriginal cultural heritage: Part 3 which governs the preparation of planning instruments; Part 4 which relates to development requiring consent; and Part 5 which relates to activity that does not require consent.

The project is subject to assessment and approval by the NSW Minister for Planning and Public Spaces under Part 4 Section Division 4.7 of the EP&A Act, which establishes an assessment and approval regime for SSD.

An EIS supported by the current assessment has been prepared to assess the impacts of the proposal, in accordance with SEARs.

Section 4.12(8) of the EP&A Act provides that environmental planning instruments (such as local environmental plans and SEPPs) do not, with some exceptions, apply to SSD projects. Notwithstanding, the local environmental planning instruments that are relevant to the proposal have been considered as requested by the SEARs above.

4.4.5 City of Sydney Local Environmental Plan 2012 (LEP)

Planning decisions within LGAs are guided by Local Environmental Plans (LEPs).

LEPs are prepared by councils in accordance with the EP&A Act to guide planning divisions for LGAs. Each LGA is required to develop and maintain an LEP that includes Aboriginal and historical heritage items listed within its schedule and which are protected under the EP&A Act and the Heritage Act 1977.

The study area falls within the Sydney Local Environmental Plan (SLEP 2012)

Under section 5:10 (1) (d) the plan seeks to:

> *(d) to conserve Aboriginal objects and Aboriginal places of heritage significance*

And consent is required under 5:10 (2) as follows:

> *Development consent is required for any of the following—*
>
> *(a) demolishing or moving any of the following or altering the exterior of any of the following (including, in the case of a building, making changes to its detail, fabric, finish or appearance)—*
>
> *(i) a heritage item,*
>
> *(ii) an Aboriginal object,*
>
> *(iii) a building, work, relic or tree within a heritage conservation area,*

(c) disturbing or excavating an archaeological site while knowing, or having reasonable cause to suspect, that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed,

(d) disturbing or excavating an Aboriginal place of heritage significance,

(ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance,

(f) subdividing land—

(ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance.

The SEARs for the proposal request consideration of the Principal Local Environmental Plan.

A search of the City of Sydney LEP on 26 September 2022 did not find any Aboriginal heritage items listed within the study area.

4.4.6 NSW Aboriginal Land Rights Act 1983

The *Aboriginal Land Rights Act 1983* (ALR Act) established Aboriginal Land Councils (at State and Local levels). These bodies have a statutory obligation under the ALR Act to:

- (a) take action to protect the culture and heritage of Aboriginal persons in the council's area, subject to any other law, and
- (b) promote awareness in the community of the culture and heritage of Aboriginal persons in the council's area.
- The study area is within the boundary of the Metropolitan LALC.

4.4.7 NSW Native Title Act 1994

The *Native Title Act 1994* was introduced to work in conjunction with the Commonwealth *Native Title Act 1993*. Native Title claims, registers and Indigenous Land Use Agreements are administered under the Act.

Request for information concerning any determinations in regard to the study area were made to the Native Title Tribunal on the 14 March 2022.

A search of the Schedule of Native Title Determination Applications; the Register of Native Title Claims; the Native Title Determinations; and Indigenous Land Use Agreements (Registered and Notified) carried out on 12 September 2022 did not reveal any Native Title claims currently registered in the study area.

4.4.8 Commonwealth Environment Protection and Biodiversity Conservation Act 1999

The *Environment and Heritage Legislation Amendment Act (No. 1) 2003* amends the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) to include 'national heritage' as a matter of national environmental significance and protects listed places to the fullest extent under the Constitution. It also establishes the National Heritage List and the Commonwealth Heritage List. The *Australian Heritage Council Act 2003* establishes a new heritage advisory body – the Australian Heritage Council – to the Minister for the Environment and Energy and retains the Register of the National Estate. The *Australian Heritage Council (Consequential and Transitional Provisions) Act 2003* repeals the *Australian Heritage Commission Act 1975*, amends various Acts as a consequence of this repeal and allows the transition to the current heritage system.

Together the above three Acts provide protection for Australia's natural, Indigenous and non-Indigenous heritage. The new framework includes:

- A new National Heritage List of places of national heritage significance
- A Commonwealth Heritage List of heritage places owned or managed by the Commonwealth
- The creation of the Australian Heritage Council, an independent expert body to advise the Minster on the listing and protection of heritage places
- Continued management of the non-statutory Register of the National Estate.

4.4.9 National Heritage List

The NHL is a list of places with outstanding heritage value to our nation, including places overseas. So important are the heritage values of these places that they are protected under the EPBC Act. This means that a person cannot take an action that has, will have, or is likely to have, a significant impact on the national heritage values of a national heritage place without the approval of the Australian Government Minister for the Environment and Heritage.

There are no items of Aboriginal heritage listed on the National Heritage List located within the study area for this assessment.

4.4.10 Commonwealth Heritage List

The Commonwealth Heritage List (CHL) is a list of places managed or owned by the Australian Government and not of relevance to this project.

There are no items of Aboriginal heritage listed on the Commonwealth Heritage List located within the study area for this assessment.

5. Stakeholder consultation

[note: Consultation with registered Aboriginal parties is ongoing]

The following section describes the consultation carried out to support the ACHAR. Aboriginal community consultation has been conducted in accordance with the Consultation Requirements (DECCW, 2010a). A consultation log has been maintained which details all correspondence with the registered parties for the ACHAR (see the Appendix).

5.1 Identification of stakeholders and registration of interest

The consultation for this ACHAR commenced on 7 September 2022.

In accordance with step 4.1.2 of the Consultation Requirements, Artefact Heritage corresponded with the following organisations by email on the 8 September 2022 requesting the details of Aboriginal peoples who may hold cultural knowledge relevant to determining the Aboriginal significance of Aboriginal objects and/or places within the local area:

- Heritage NSW
- Sydney City Council
- Native Title Service Corporation (NTSCorp)
- National Native Title Tribunal
- Office of the Registrar, Aboriginal Land Rights Act 1983
- Metropolitan Local Aboriginal Land Council.

In addition to this, and in accordance with Step 4.1.3 of the Consultation Requirements, an advertisement was placed in the City Hub, on 7 September 2022 inviting the participation of the Aboriginal peoples who may hold cultural knowledge relevant to determining the Aboriginal significance of Aboriginal objects and/or places within the local area.

In accordance with Step 4.1.3 of the Consultation Requirements, emails or letters were sent to all Aboriginal persons or organisations on the 28 September 2022, identified through advertisement or through responses from agencies contacted as part of previous step. The letters provided details about the project's location and nature and they included an invitation to register as a Registered Aboriginal Party (RAP). Sixteen (16) responses were received (see Table 5-1) and these were recorded on the Consultation Log presented in the Appendix.

Table 5-1 Registered Aboriginal parties for the study area

Name
[redacted]

Name
[redacted]

Following registration the ACHAR Assessment Methodology (see the Appendix) was sent to the RAPs on 14 October 2022 and 23 December 2022 for their review over a 28-day period ending (11 November 2022 and 3 February 2023). The Assessment Methodology presented information regarding the proposed works; how the assessment was being carried out and requested any details about cultural significance in the area. Eight (8) of the fifteen (15) RAPs responded: a summary of their comments is presented in Table 5-2.

Table 5-2 Summary of RAP comments on ACHAR Assessment Methodology.

Name	Comments
[redacted]	[redacted] agrees with methodology. If you need anything else, please let me know".
	"Thank you for sending through the details for works proposed at Sydney Terminal Building Revitalisation. We would like to agree and support your methodology".
	"Thank you for the Proposed ACHA Methodology GARI agrees with the Methodology for this project, we understand that due to prior works and construction in the area that other soils could be layered over the original land, where there is no other preferred sites work to be done due to the lack of visible artefacts."
	"I have reviewed the document and support the Information and Methodology".
	[redacted] is Happy with the Sydney terminal building revitalisation project methodology".
	"I have read the project information and ACHA methodology for the above project, I endorse the recommendations made".
	Acknowledged receipt of the Assessment Methodology
	"At this point I do not have anything to add for the proposed works at Sydney Terminal but if I come across any cultural history information on this area, I will let you know"

On 23 December 2022 the draft ACHAR was emailed to the RAPs for feedback and comment over a 6 week period ending on [3 February 2023]. The standard 28 day review period was extended by 14 days to allow for the Christmas public holiday period. Table 5-3 presents the comment of the RAPs who responded.

Table 5-3 Summary of RAP comments on draft ACHAR.

Name	Comments
[redacted]	"I have read the project information and draft ACHAR for the above project, I endorse the recommendations made".
	Acknowledged receipt of the draft ACHAR
	[redacted] agrees with the ACHA Methodology and Draft ACHAR".
	"At this point I do not have anything to add for the proposed works at Sydney Terminal but if I come across any cultural history information on this area, I will let you know".
	"We agree with the review"
	"We agree with the draft

The findings and recommendations of the ACHAR were supported/ not supported.

[PLACEHOLDER | Consultation is ongoing.]

6. Methodology

6.1 Archaeological survey methodology

An archaeological survey for during preparation of the ACHAR was undertaken on 9 September 2022 by Elizabeth Bonshek (Senior Heritage Consultant) and Josh Marr of the Metropolitan Local Aboriginal Land Council (LALC). The archaeological survey was undertaken in accordance with the Heritage NSW 'Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW'. The survey was undertaken on foot and a photographic recording of the landscape and built environment. The aim of the survey was to identify any Aboriginal cultural values associated with the project area including any areas of archaeological potential as outlined in further detail below.

i) Aims of archaeological survey

The aims of the archaeological survey were to:

- Inspect the ground surface of the project area
- Record any surface or potential subsurface sites that have not been recorded in Aboriginal Heritage Information Management System (AHIMS)
- Identify Potential Archaeological Deposits (PADs) that may be present in project area that have had no or minimal disturbance
- Engage with Metropolitan LALC regarding the proposed works and the project area's archaeological potential
- Collect information to ascertain whether further archaeological investigation is required.

Archaeological potential is closely related to levels of ground disturbance in the area. Other factors are also considered, such as whether artefacts are located on the surface, and whether the area is within a sensitive landform unit according to the predictive statements for the area.

6.2 Aboriginal site definition

An Aboriginal site is generally defined as an Aboriginal object or place. An Aboriginal object refers to any deposit, object, or material evidence (not being a handicraft) relating to Aboriginal habitation of the area that comprises NSW (DECCW, 2010). Aboriginal objects may include stone tools, scarred trees, or rock art. Some sites, or Aboriginal places, can also be intangible and although they might not be visible. These places have cultural significance to Aboriginal people.

The Code of Practice states, hat one or more of the following criteria must be used when recording material traces of Aboriginal land use in a site and its boundary:

- The spatial extent of any visible Aboriginal objects, or direct evidence of their location
- Obvious physical boundaries where present, for example mound site and middens, if visibility is good, a ceremonial ground
- Identification by the Aboriginal community based on cultural information.

7. Existing environment

7.1 Geology and soils

Aboriginal archaeological potential is directly related to intact pre-1788 soil profiles. This section discusses the qualities of those soils prior to a presentation and discussion of previous archaeological work in and around the project site.

The northern and southern construction footprints are located within the Sydney Basin, a geological feature that spans the South Pacific Coast from Batemans Bay to Newcastle, and inland to Lithgow.

Ashfield Shale (generally composed of black to dark-grey shale and laminate, Herbert ,1983: 22) caps the underlying Hawkesbury Sandstone (Herbert, 1983: 22). Soils associated with the typically gentler slopes of the Ashfield Shale formation tend to be residual soils (weathered and decomposed rock) developed *in situ* and includes the residual Blacktown soil landscape (Chapman *et al.,* 2009).

The southern construction footprint and half of the northern construction footprint are located across the north-western portion of a large Quaternary sand sheet, often referred to as the Botany Sand Sheet or Botany Sands. The Botany Sands stretch across the Eastern Suburbs to the South Pacific Ocean coastline and originally consisted of an undulating series of sand dunes (see section below currently section 5.7.4).

This area borders the Eastern Suburbs which are 'underlain by Quaternary marine sands, deposited by marine and Aeolian (wind) actions during the Holocene, and are associated with sea level changes since the last Ice Age' (GML 2013: 134). The southern construction footprint, (located in the Sydney Yard) is located on the transition between the Botany Sands to the east, and the shale dominated geology associated with the Cumberland Plain to the west.

The northern construction footprint is located across the same soil scape but also crosses into the Deep Creek soil scape (see Figure 7-1 and Figure 7-2). The Deep Creek soil landscape is a potentially deep and fluvially deposited soil context, associated with Hawkesbury Sandstone, low relief, and gently slopes.

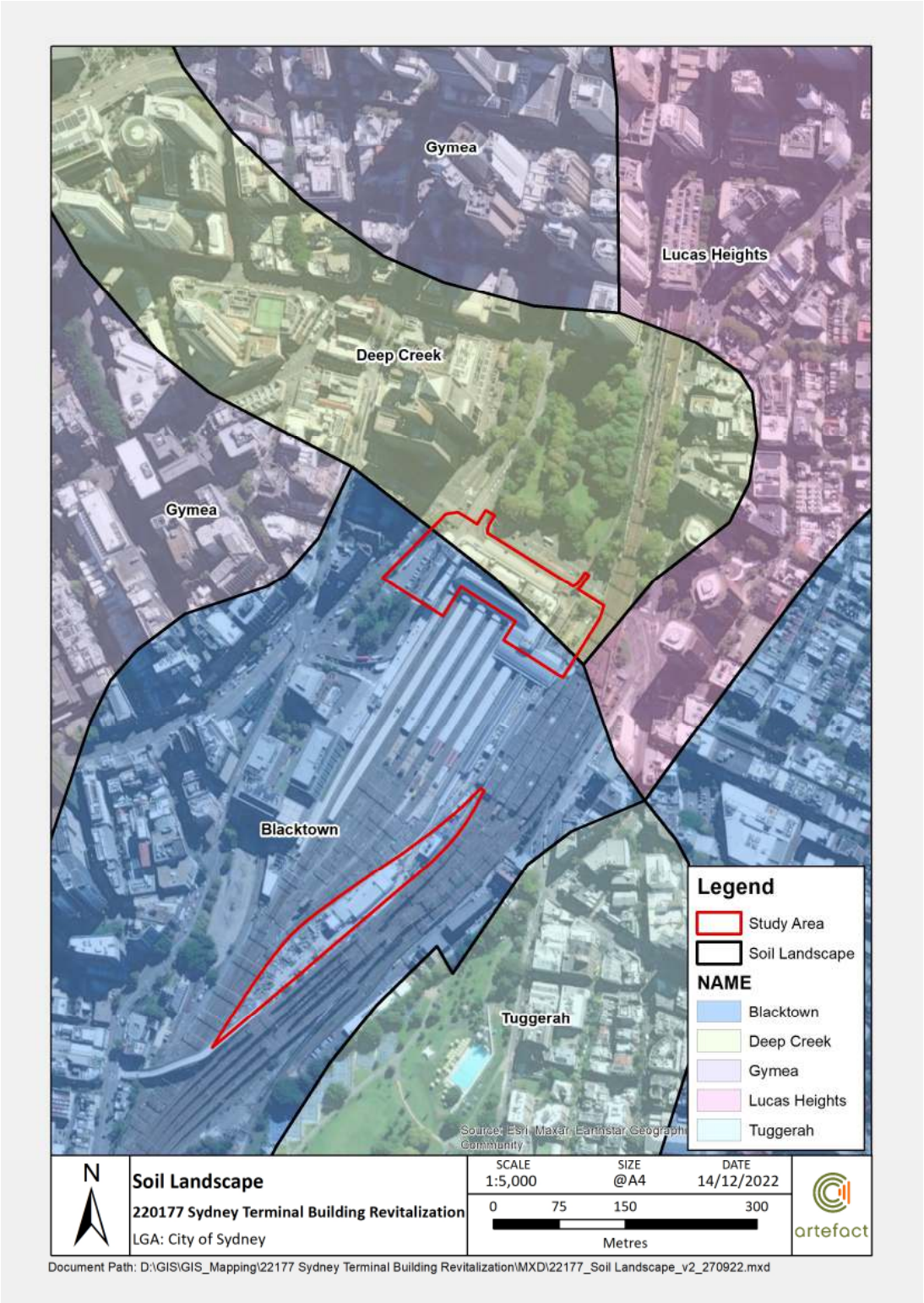

Figure 7-1 Soilscape in relation to the construction footprints

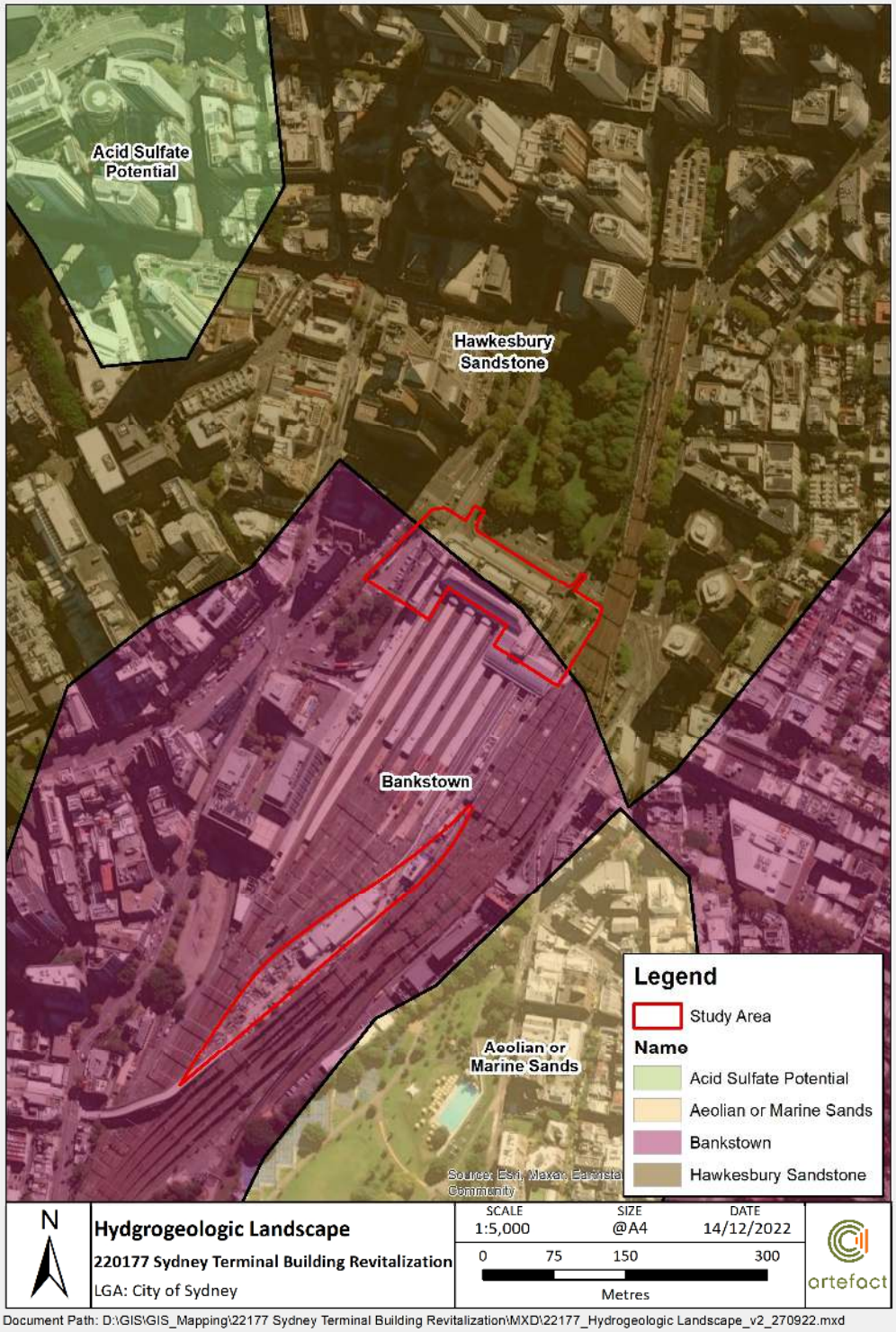

Figure 7-2 Construction footprints and hydrogeological landscape

7.2 Landform and hydrology

Historical records indicate that the Botany Sands were subject to extensive deflation and erosion from vegetation clearance combined with wind and water erosion (Central Parklands Trust, 2014). The area around Central Station may have had a similar landform when vegetation clearance first occurred in this area (Artefact 2022: 5; and Figure 7-5 and Figure 7-6).

Prior to European settlement, it is possible that the project area featured a sand dune network bisected by the shale ridge line associated with Cleveland Street and the ridgeline associated with Lawson Street at Redfern. The study area is also likely to have formed part of the head waters for watercourses that flowed north to Cockle Bay and Blackwattle Bay.

A watercourse running along the Devonshire Street/ Devonshire Street Tunnel alignment is shown in plans from the 1850s. The creek rose in the Strawberry Hills area and discharged into Darling Harbour. The watercourse was shown as running parallel and adjacent to Devonshire Street and it is presumed that the creek was in a channel at that time.

Early historic plans show a stream running east-west across the Cleveland Paddocks rising in the Strawberry Hills area and then joining other streams (1st and 2nd order watercourses in the stream order model) in the Chippendale area before flowing north into Blackwattle Bay. A watercourse through the low-lying area between Cleveland Street and Lawson Street is also likely to have been a tributary of Blackwattle Creek/Blackwattle Swamp Creek.

Blackwattle Creek/Blackwattle Swamp Creek was utilised by the Kent Brewery and various roads had to bridge the stream. At least one portion of the upper reaches of the Blackwattle Creek tributaries that runs through the present-day Sydney Yard was contained within a brick drain when the railway was constructed.

Another watercourse, at the north end of Belmore Park Creek, formerly ran west / north along Hay Street, on the north side of the northern construction footprint. The upper headwaters of a first order tributary of that watercourse are approximately 60 metres north of the northern construction footprint at its closest point. The alignment of the watercourse through Belmore Park as shown in (Figure 7-3) is based on an overlay the 1850 Chippendale Plan (Figure 7-4). There are historical references to the infilling of the valley at the base of Brickfield Hill and Belmore Park. Maclehose (1839: 69-70) notes that a large volume of fill was used to infill the valley to make George Street easily passable by horse drawn carriages, drays, and wagons. Maclehose (1839: 69) indicated that the Paddys Markets was originally established opposite Belmore Park on an infilled area. He (1839: 69) also note historical references to an open gutter running through Belmore Park by the 1860s.

In summary, it is possible that the valley and watercourse through Belmore Park had been modified or altered to some extent by the time the Chippendale Plan was prepared in 1850. Extant topography suggests the centre of the valley was around Hay Street flowing west / north-west.

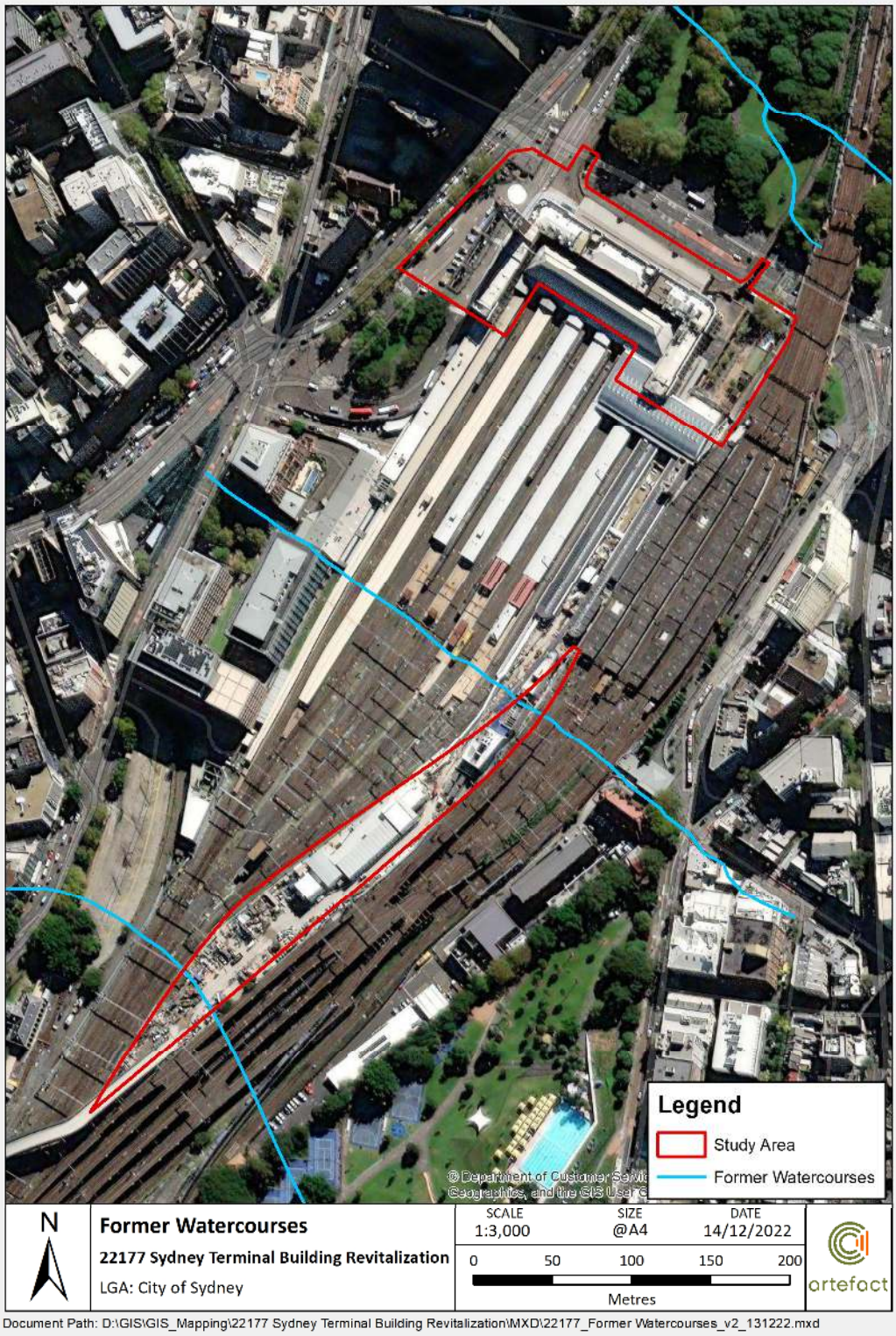

Figure 7-3 Former watercourses in the study area.

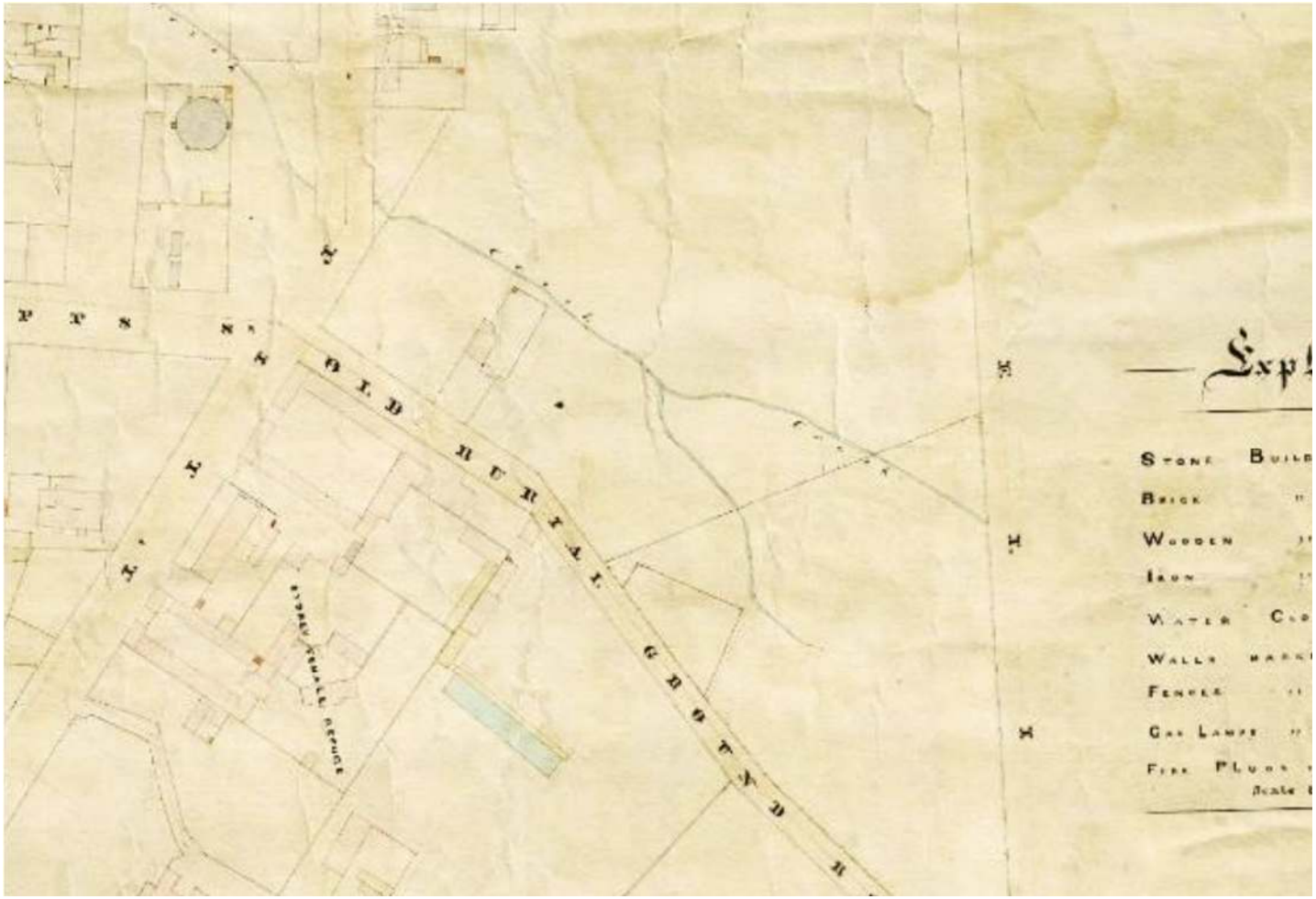

Figure 7-4 Plan - 1850 Chippendale Plan

7.3 European history, land use and vegetation

Early European settlement in the colony of Sydney was predominantly focussed on the foreshores of Port Jackson. Until the 1820s, the southern edge of the settlement was near where Bathurst Street is today (Shirley Fitzgerald, 2009). For the first 20 years of the colony, the area where Central Station is now, consisted primarily of scrub-covered shifting sand dunes, wetlands, sandstone plateau and shale cap which had created farming and drainage issues (Sydney City Council, 2015). The only noticeable settlement in this area prior to the 1820s was the development of the Brickfields, an area used for brick and pottery production, approximately 300 metres to the north-west of the study area.

The sand dunes had been stabilised by various native trees including blackbutts, bloodwoods, angophoras, and banksias. However, following land clearing, sand drifts entered the City, engulfing fences, roads, and houses (Benson and Howell, 1995: 44). These sand drifts were of such a high frequency that the word 'brickfielder', became a slang word, meaning a strong wind identified by a choking dust, that was used within Sydney during the 1830s and 1840s (Morris, 2011: 53).

W. H. Leigh wrote on the subject during the mid- 19th Century "whirlwinds of sand come rushing upon the traveller, half blinding and choking him…the inhabitants call these miseries 'Brickfielders'" (W.H. Leigh cited in Morris, 2011: 53). A valley at today's Belmore Park and Haymarket separated the sand dunes from the brickyards at Brickfield Hill. There are historical references to portions of the valley at the base of Brickfield Hill being infilled with one million cubic metres of 'rubbish', including solid freestone rock, to allow for easier horse traffic upslope north along George Street (Maclehose, 1839: 69). Forsite EDAW (1990: 2-1) note that 'In the late 1860s Belmore Produce Markets and Paddys Markets were built in the filled area opposite Belmore Park.'. EDAW (1990: 2-1) reference a Mitchell Library Newspaper cutting reference to Belmore Park as a:

> *'Receptacle for all the rubbish and street sweepings of Sydney. Running from Gipps Street across the park towards Haymarket, an open gutter was supposed to carry off stormwater from Surry Hill, but didn't, as it lay in the gutter stagnant and noisome. In the summer the plague of flies was something terrible, yet the spot was the only "lung" in Surry Hills youngsters could use as a playground'*

The first European development in the area consisted of convicts clearing the vegetation about 320 metres to the west of the project area to lay out the road to Parramatta from 1789 to 1791. By the early 19th Century the road became a critical thoroughfare between Sydney and Parramatta for commercial movement of goods. Funding to maintain the road and its 37 bridges was through tolls. A tollgate was constructed at the junction of Pitt and George Streets by 1821, about 200 metres to the southwest of the limit of the project area. This tollgate marked the official southern boundary of the township of Sydney (Terri McCormack, 2008).

By 1820, the Old Burial Ground, located on George Street at the corner with Druitt Street (a site now occupied by Sydney Town Hall about 950 north of the project area) had reached capacity, becoming abandoned, overgrown and in areas, a dumping ground, meaning a new burial ground was required. The new burial grounds, originally called the Sandhills Cemetery due to its sandy landscape and later, the Devonshire Street Cemetery following the formation of Devonshire Street, were consecrated in 1820.[1]

The new site had been reserved by Governor Macquarie in 1818 and was chosen due to the remote location of the cemetery at the edge of town, beyond the cattle and hay markets (an area known today as Haymarket). At the time, the new site was located at the farthest outer limit of the town past the Brickfields. It was selected to situate the cemetery away from the gentrifying township. The cemetery was significant in that it provided allotments for various religious denominations. The site is now located

[1] *The Sydney Gazette and New South Wales Advertiser*, 5 February 1820.

within the current Central Station terminal and platforms including the Sydney Yard and the construction footprints sit atop the cemetery.

By 1836, there were seven burial grounds (each denomination had a separate area) within the site, covering eleven acres, with the whole burial ground encompassed by a high sandstone and brick wall (Johnson and Sainty, 2001: 205).

In 1849, the Sydney Railway Company was formed, as the need for a rail link to the farming communities in western NSW became apparent. In 1854, the Sydney Railway Company and newly founded Hunter River Railway Company were purchased by the State Government. Once formed, the Sydney Railway Company constructed the first Sydney station in 1855, creating the first Government-owned railway in the British Empire (Central Station CMP, 2013: 32). The station was named 'Redfern' after surgeon William Redfern. Redfern Station sat south of Devonshire Street, across from the Devonshire Street Cemetery and south of the Cleveland Street subway in the Government Paddocks. The station was about 50 to 60 metres to the west of the northern portion of the southern construction footprint. and incorporated the Sydney Yard (discussed below).

In the early 1870s a lack of facilities identified at the original Redfern Station led to the construction of a new, larger station which was completed in 1874 and called the 'Second Sydney (or Redfern) Station'. It was positioned in the same location as the first Sydney/Redfern Station, its northern frontages faced onto Devonshire Street. This station became known as Sydney Central station. (Eveleigh station, 1.3 kilometers west of Sydney Central station was opened in 1876was renamed Redfern Station in 1906).

At its capacity, the station contained 13 platforms, including the Mortuary platform and the two original 1855 platforms (platforms 5 and 6). Although the station eased congestion for a short period of time, an increase in inland railway construction put further pressure on the station and the size of the structure meant platforms became increasingly congested with passengers and trains, with trains often blocking each other's access to their assigned platforms (Central Station CMP, 2013: 39).

In 1892, the Chief Railway Engineer submitted proposals to the Railway Commission to build a large terminus for country trains on the site of the Benevolent Asylum and Devonshire Street Cemetery, both located opposite the new or 'Second' Redfern Station (subsequently know as Central Station). This proposal was adopted by the Parliamentary Standing Committee on Public Works on 7 June 1900 and, soon afterwards, resumptions began on land for the station.

It was built and modified in a series of phases (four altogether) due to financial constraints associated with the First World War (Oakes 2007: 24). The Terminus, including the main concourse level, was one of the first structures to be completed in August 1906. The piers, ramps, and walls were all built using sandstone quarried from nearby Pyrmont.[2] The second group of buildings to be constructed were the clock tower and upper levels which were built between 1916 and 1921. The Eddy Avenue colonnade which surrounded the tram port-cochere and the Eddy Avenue shops and arcade on the northern façade of the station were also finished during this phase of construction. Later, the main terminus, concourse, booking hall, waiting rooms, dining and refreshment rooms, cloak room, and barber's saloon were constructed. During the second phase of construction, 1914 to 1918, the Parcels Post Office and its associated wings were built.

Soon after phase one and two had been finalised, increased congestion in the City led to a series of public infrastructure changes in Sydney. These infrastructure upgrades would become some of today's most prominent transport landmarks, including the underground eastern suburbs railway, and initial planning for the Sydney Harbour Bridge. During this period, the idea for an electric railway service was introduced by Chief Engineer for Metropolitan Railway Construction, John Job Crew Bradfield, who had recently returned from an overseas trip where he had become familiar with modern transport systems being used in the United States.

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[2] Sydney Trains, 2014. Central Station-In Depth History:
https://web.archive.org/web/20140625215945/http://sydneytrains.info/about/history/central_station_in-depth.

Figure 7-5 Construction of Eddy Avenue and Sydney Terminal, with sand dunes visible.

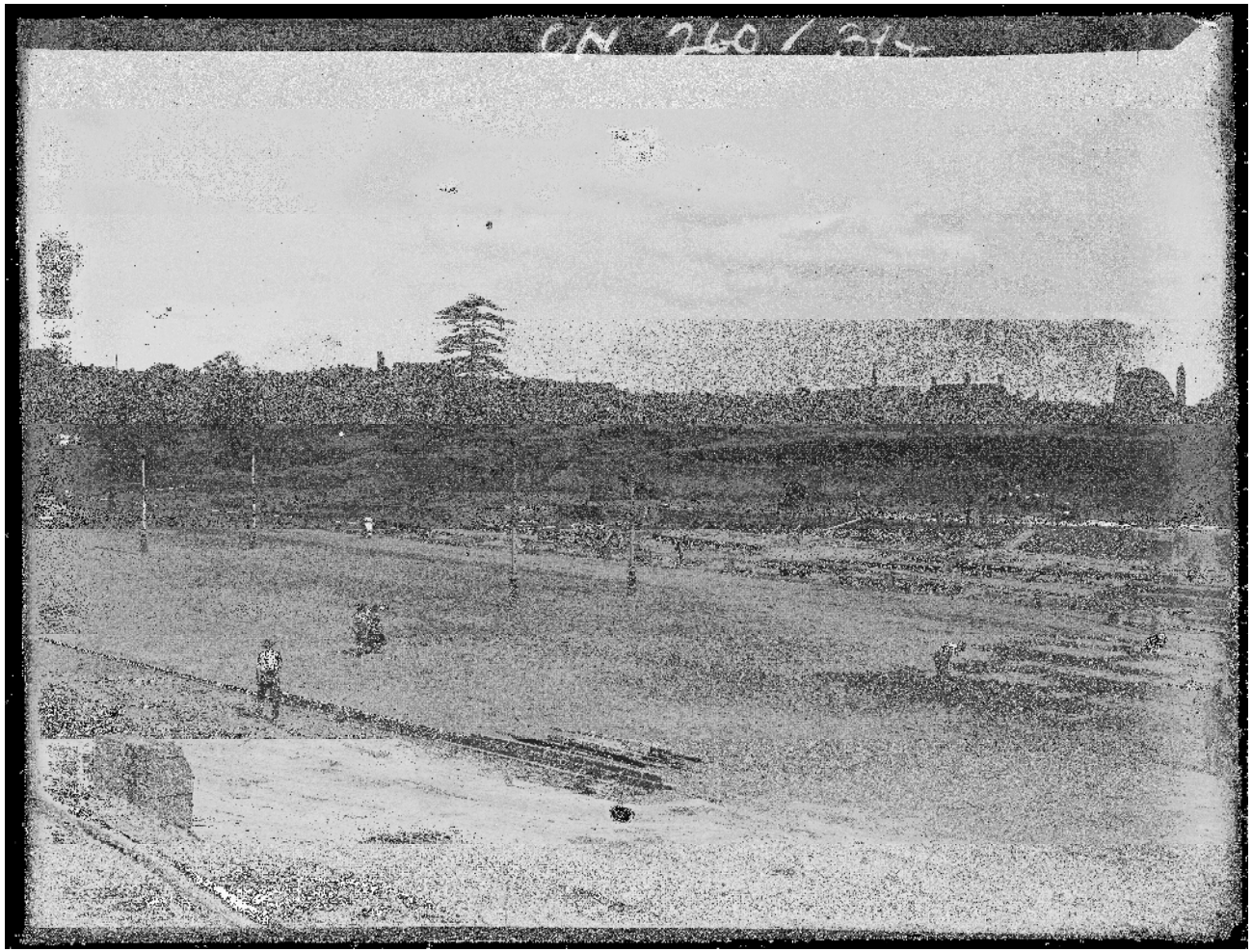

Figure 7-6 Construction of Eddy Avenue and Sydney Terminal.

In 1915, the NSW *City and Suburban Electric Railways Act 1915* was passed, and phase 3 included the construction of a new electric train platform in 1917. The new platform was located on the eastern side of the existing terminal building and involved the demolition of the East Carriage Shed, several storage sheds and an old sewer. The smaller East storage shed was built as a replacement (McKillop *et al*., 2008: 55). In addition, this portion of the station was to be situated above-ground rather than at ground level.

Although work was quick to commence, pressures associated with the First World War stalled construction work in 1917, and it did not resume until 1922. From here, four new double platforms designed to accommodate new electric trains were completed to the east of the original 1906 platforms. These new platforms led to further demolitions at Central Station, including platforms 16 to 19, a horse loading platform, a series of sidings and a goods shed (Central Station CMP, 2013: 54). On 1 March 1926, the first electric train ran from Central Station to Oatley making it the first suburban railway station to be electrified in NSW.

Between 1922 and 1926, the new station took shape adjacent to the Country platforms. Bradfield's design was for four double platforms (16 & 17, 18 & 19, 20 & 21, and 22 & 23) built to the east of the original 1906 platforms and named 'Central'. The new platforms resulted in the demolition of the existing platforms 16 to 19, the horse loading platform, several sidings and a goods shed.

Figure 7-7 Construction of the City Railway, with the Sydney Terminal Building and Eddy Avenue Plaza to the right of the picture (Source: Bradfield 1923)

A new entrance to the electric railway platforms in the Neo-classical architectural style was built on Elizabeth Street and a ramped entrance constructed from Eddy Avenue. A booking office, station master's office and public toilets were built on the north side of the new northern concourse and there were food outlets on the new ramp providing an entrance from Eddy Avenue.

The ramped area was 10m wider than the previous one and on a shallower grade as the original reached platform level but the new ramp reached the entrance that is below the platform. This implies that the ramp area was excavated and regraded.

Photos over the years show the ramped area in a similar form as in the mid-1920s (see Figure 7-8). In the mid-1980s the area was landscaped paved in brick with sandstone planter beds in an attempt to improve the appearance of the area.[3] It is not clear how long these features remained. There was a Central Station Redevelopment Project (aka "Central 2000") underway in 1995 that resulted in the installation of escalators and lifts as well as new colonnades and it may have been that the ramp area was reconfigured at that time.

It is likely that both works had an impact on the immediate subsurface area through excavation to install street furniture and then to regrade the ramp.

Figure 7-8 Eddy Avenue Forecourt c1940 (Source: City of Sydney Archives)

[3] Construction can be seen in an aerial image dated 2/08/1986.

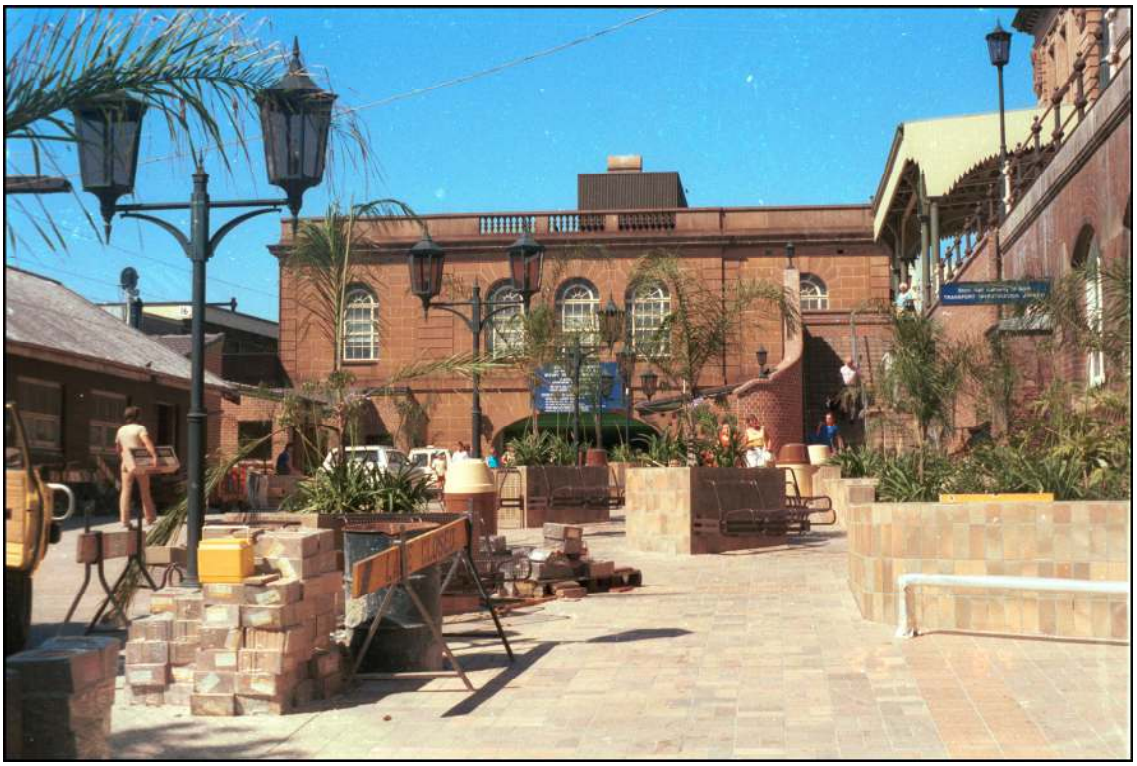

Figure 7-9 Eddy Avenue Forecourt c1980 (Source: City of Sydney Archives)

7.4 Aboriginal Historical and Archaeological Context

7.4.1 Archaeological Evidence

The existing archaeological record is limited to certain materials and objects that were able to withstand degradation and decay. As a result, the most common type of Aboriginal objects remaining in the archaeological record are stone artefacts, bones, and shells. Aboriginal activities occurred across the landscape, meaning that there is potential for Aboriginal objects to remain in a wide range of landform contexts. The nature of the underlying geology and associated geomorphology can determine the potential survivability of Aboriginal objects beneath the ground surface, whilst the results of previous archaeological investigations suggest that the proximity of water sources and raw material sources may also suggest potential for the occurrence of artefact sites and/or midden sites.

Stone artefacts are one of the most common types of Aboriginal objects remaining in the archaeological record. Archaeological analyses of these artefacts in their contexts have provided the basis for the interpretation of change in material culture over time. Technologies used for making tools changed over time, along with preference of raw material. Different types of tools appeared at certain times. It is argued that changes in material culture were an indication of changes in social organisation and behaviour.

7.4.2 Aboriginal history and the contact period

Many Aboriginal people, like other Indigenous or First Nations people around the world, say they have been living on Country for 'time immemorial' – that they have always been here and their origins lie in the creation of the land and animals. Over the last few decades, archaeologists' knowledge of deep human time

in Australia has expanded from just a few thousand years in the 1950s, to 25,000 years in the 1960s, then 40,000 years, to now around 60,000 years or more.[4]

Archaeological evidence of Aboriginal people living in the Sydney region from Shaw's Creek west of the Dyarubbin (Nepean) River is dated at around 14,000 years ago and numerous other sites in the area have been dated at around 15,000 ago. While Cranebrook Terrace, near Penrith in Western Sydney, has been dated to 41,700 years and a site near Parramatta at 30,000 years old, there is growing consensus among archaeologists and historians that people have lived across the Sydney region from around 50,000 years ago.[5]

More ancient sites may lie off the coast and in drowned river valleys, now deep under water. Before the major sea level rise event at the end of the last ice age around 17,000 years ago, Aboriginal people living along the Parramatta River could have walked downstream along the riverbanks to the sea about 30 kilometres beyond the current day coastline. Over generations they would have watched and told stories about the gradual change as the sea rose to fill the 'drowned river valley' of what is now Sydney Harbour until it reached present levels around 6,000 years ago.[6]

Given the devastating impact of violent dispossession and disease upon Aboriginal people in the Sydney region during colonisation, the precise identification of language groups and historical traditional lands or Country for a given area is often difficult today. Early colonial observer Watkin Tench believed there was coastal and inland dialects of the same language and, while this is challenged by some historians who prefer less distinction between what were all 'canoe cultures' around Sydney's coast and waterways, there seems to have been an alignment with inland economies of the rivers, creeks and open forests of the Cumberland Plain, and coastal 'saltwater' focused groups.[7]

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[4] Belshaw et al., Histories of Indigenous Peoples and Canada, 2020 (available online); Griffith, *Deep Time Dreaming*, 2018, p. 112; Karskens, *The Colony*, 25. As Elder Aunty Jenny Munro expresses this, '... from time immemorial, we believe as Aboriginal people, Australia has been here from the first sunrise, our people have been here along with the continent, with the first sunrise. We know our land was given to us by Baiami, we have a sacred duty to protect that land⋯' Jenny Munro, in Currie, *Bo-ra-ne Ya-goo-na Par-ry-boo-go. Yesterday Today Tomorrow*, 2008, p. 4.

[5] Attenbrow, *Sydney's Aboriginal Past*, 2010, pp 18-20; Nanson et al., 'Chronology and Palaeoenvironment of the Cranebrook Terrace' 1987, p. 77; Williams et al., 'The Cranebrook Terrace Revisited', 2017, pp 100-109; McDonald, 'Heritage Conservation Strategy', Report, 2005, pp. 4, 87-94. Val Attenbrow notes questions have been raised about the 40,000 years BP radiocarbon age for stone artefacts from the Cranebrook Terrace and the date of 30,000 years BP at Parramatta. Attenbrow, 'Archaeological evidence of Aboriginal life in Sydney', 2012'. See Williams et al., 'A terminal Pleistocene open site on the Hawkesbury River' 2012 for comparison of site ages along the river. Karskens et al., are confident that 'Aboriginal people were living on Dyarubbin/the Nepean River as long as 50,000 years ago'. Karskens et al., 'Traces in a lost landscape', 2017, p. 4.

[6] There are now at least 21 identified oral stories around Australia that describe ancient sea-level rise. See Nunn and Reid, 'Aboriginal Memories of Inundation of the Australian Coast dating from more than 7000 years ago', 2016, p.11. Attenbrow, *Sydney's Aboriginal Past*, 2010, pp. 154-155; Birch, 'A Short Geological and Environmental History of the Sydney Estuary', 2007, pp217-219.

[7] A frequently used indication of Country is language identity, however, far more complex factors are known to have often taken precedence over language in determining Aboriginal people's definition of Country. For an excellent overview of one area of Sydney see 'Filling a void: History of the word Guringai', Aboriginal Heritage Office, https://www.aboriginalheritage.org/history/filling-a-void-history-of-word-guringai/ See also Stanner,'Aboriginal Territorial Organization: Estate, Range, Domain and Regime', 1965, pp 1-26. There is debate on the extent and name for the language itself, some preferring to use 'The Sydney Language'. The main language spoken across what is now the Greater Sydney Region has been known as Darug (with various alternative historical spellings Dharruk/Dharug/Dharook) after it was first used in written records in 1900 by Matthews & Everitt in 'The Organisation, Language and Initiation Ceremonies of the Aborigines of the South East Coast of N.S.W.', p. 265. Attenbrow believes the Darug

Prior to colonisation, Aboriginal people in the relatively resource rich Sydney region lived in extended family groups estimated at around 30 to 50 people. These groups were associated with certain territories or places that gave clan members particular social and economic rights and obligations. Each of the estimated 30 clans in the Sydney region had a name often associated with a place or resource such as the Cabro (Gabra) gal (people) at modern day Cabramatta. Clan groups moved around a defined area in response to changing seasons and the availability of food and other resources. European observers mistakenly took this as a nomadic lifestyle, when in fact they moved around a 'limited and deeply known' area. There were also forms of more sedentary agriculture and aquaculture, and villages such as those described by early colonial diarists at Kamay-Botany Bay and later accounts of '70 huts' at Bent's Basin on the Nepean River west of Sydney.[8]

Some areas, particularly resource rich ones, had shared boundaries or reciprocal rights with bordering and neighbouring groups. With appropriate permission and protocols, people could travel through and hunt on other groups' lands. On special occasions such as feasts associated with the beaching of a whale; a kangaroo hunt on the open forests of southwestern Sydney; trading or exchanging stone, tools and other items, as well as ceremonial occasions, people would often travel long distances around and from outside the Sydney region.[9]

With several rivers and estuarine coastal areas, the Sydney region sustained a comparatively large population, unlike more arid inland areas. Fish and shellfish were a major part of Saltwater peoples' diets. The nawi (tied-bark canoe) was a common sight both day and night in rivers and creeks and was even dexterously paddled off the coast. There are many accounts by early colonists of Aboriginal people in canoes fishing and cooking their catch on small fires on hearth stones within the vessels. Women were the primary fishers from nawi (men usually fished with spears). Women were highly skilled with shell hooks and twine fishing lines and thus played an important economic role in Sydney. They were noted as cradling their children while fishing, as their songs floated across the waters of Sydney Harbour.[10]

People living inland across the Cumberland Plain focused on hunting small animals, gathering plants and catching freshwater fish and eels. Banksia flowers, wild honey, varieties of yam and burrawang nuts (macrozamia - a cycad palm with poisonous seeds that require processing to remove toxins) were recorded as important food sources. Xanthorrhoea, also known as the grass tree, had many uses - the nectar was eaten, the stalk used as a spear and the resin as a glue. Small animals such as bandicoots and

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language extended from Appin in the south to the Dyarubbin-Hawkesbury River in the north, west of the Georges River, to Parramatta and the Lane Cove River however others have taken it further, following the whole Cumberland Plain region. This historical overview does not seek to contest traditional or current definitions of affiliation with Country and acknowledges that multiple interpretations of such identity may exist. Tench observed that though the coastal and inland men he met conversed and understood each other, many words for common things bore no similarity while other words were only slightly different. Troy*, The Sydney Language*, 1994; Brook and Kohen, *The Parramatta Native Institution,* 1991, p. 3; Attenbrow *Sydney's Aboriginal Past*, 2010, p. 34; Tench, *A complete account of the settlement at Port Jackson*, 1793, p. 122. See for example Goodall and Cadzow, 'Rivers and Resilience' for discussion of 'canoe cultures'.esp., pp. 38-39.

[8] Gapps, *Cabrogal to Fairfield*, 2010, pp. 26-60; Attenbrow, *Sydney's Aboriginal Past*, 2010, p. 78; Karskens, *The Colony*, 36. See Gammage, *The Biggest Estate on Earth*, esp. 'Farms without fences', pp. 281-304.

[9] Gammage, *The Biggest Estate on Earth*

[10] Banks, *Endeavour Journal*, 1770, p. 55; Collins, *An Account of the English Colony*, 1, 1798, p. 557. Estimates of the population of the Sydney region as a whole vary between 3,000 and 20,000. Attenbrow, *Sydney's Aboriginal Past*, 2010, p.38. It is unclear exactly how many clan groups lived across the entire Cumberland Plain, though several have survived the impact and devastation of colonisation. As Paul Irish (2017) notes, these groups continued. Traditional boundaries have primarily been reconstructed based on surviving linguistic evidence and are therefore only approximations: it is difficult to describe social interaction, tribal boundaries and linguistic evidence in any simple way, and boundaries and interaction across them varied over time.

wallabies were hunted with traps and snares. Watkin Tench noted the skill in cutting toeholds in trees to swiftly climb to hunt possums.[11]

The landscape and environment before Europeans arrived was a finely managed one. In 1790 John Hunter observed people 'burning the grass on the north shore opposite to Sydney, in order to catch rats and other animals'. In 1804 Henry Waterhouse described the land around Cowpastures as 'a beautiful park, totally divested of underwood, interspersed with rich, luxuriant grass ⋯ except where recently burnt'. These forests that had been managed by many generations of Aboriginal people through such methods as what is known as 'firestick farming'. Fire was an important tool and also used to open up tracks, to 'clean country', drive animals into the paths of hunters, cooking, warmth, treating wood, cracking open stones and for a place to gather, dance and share stories and knowledge.[12]

The Sydney region was a landscape rich with the imprints of activity, art and culture such as rock engravings and paintings, scarred and carved trees, ceremonial rock and mound structures, cooking ovens, villages of bark huts, stone tool quarries, grinding grooves and tool-making sites, burial and other shell middens, and other artefacts. All this activity had a lasting impact on the landscape, and many elements such as rock engravings in particular survive or have been kept intact or cared for by community members. Over time, many Aboriginal pathways were taken up by the colonists and made into roads, some still on the same routes today. 'Kangaroo grounds' became colonial estates, fishing creeks became drains, hills and peaks used for communication became signalling stations and lookouts, and shell middens became the limestone for the bricks and mortar of early colonial buildings.[13]

The large swathes of Hawkesbury sandstone across the Sydney region were the canvas for what has been likened to an enormous open air art gallery – engravings of the outlines of spirit creatures, marsupials, birds, fish, weapons, footprints and even European boats alongside people, showing a continuity that carried on beyond the arrival of British colonisers in 1788. This Sydney art tradition was distinctive from other regions such as inland New South Wales where carved trees were more prominent, or further south where painting dominates. There are more than 4,000 known rock art sites and more than 3,000 rock shelters with pigment or painted art, often featuring hand stencils. The Sydney Basin has been compared to Kakadu National Park in terms of the vast numbers of Aboriginal sites that remain today.[14]

The first encounters between the British colonists and the Sydney people were initially based in curiosity, with both sides attempting to comprehend each other. However, misunderstandings or transgressions of Aboriginal law and protocol soon escalated into violence and retribution. Unarmed convicts outside the encampment at Sydney Cove were increasingly targeted during 1788. However, in April 1789, what Sydney Aboriginal people called galgala or smallpox broke out and more than half - possibly even 80 percent - of the population around Sydney Harbour were dead within a month. Captain John Hunter wrote that 'ít was truly shocking to go round the coves of this harbour [seeing] men, women and children, lying dead'. David Collins wrote that those who witnessed the Sydney man Arabanoo's grief and agony could never forget

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[11] Tench, *A Complete Account*, 1793, pp. 82, 230; Kohen, 'An archaeological study', 1986, p. 77; Kohen *Aborigines in the west,* 1985, p.9; Brook and Kohen, *The Parramatta Native Institution*, 1991, p. 3; Attenbrow, *Sydney's Aboriginal Past*, 2010, p. 41.
[12] White, *Journal*, 1790, p. 163; Henry Waterhouse, 12 March 1804, *HRNSW*, Volume 5, p. 359; Gammage, *The Biggest Estate on Earth*, esp. pp. 163-185; Griffith, *Deep Time Dreaming*, p. 240.
[13] Griffith, *Deep Time Dreaming*, 2018, p, 241. Gammage suggests the entire continent as one 'estate', however others have thought of clan or group areas as their own smaller estates. Gammage, *The Biggest Estate on Earth*, p. xix. For an overview of Sydney Aboriginal archaeology see Attenbrow, 'Archaeological evidence of Aboriginal life in Sydney', 2012.
[14] Karskens*, The Colony*, 32; Griffith, *Deep Time Dreaming,* 2018, p, 188; Mulvaney and Kamminga, *Prehistory of Australia*, 1999, p, 284, pp. 376-381. See McDonald*, Dreamtime Superhighway. An analysis of the Sydney basin rock art*, 2007.

either – on being taken on a boat around the harbour Arabanoo 'lifted up his hands and eyes in silent agony [and exclaimed] "All dead! All dead!"[15]

Despite such massive death and disruption to Aboriginal lives across Sydney, in 1794 resistance warfare against the colonisers began in earnest along the new settlements on the Dyarubbin (Hawkesbury) River and was to carry on through the 1790s, largely under the leadership of the famous warrior Pemulwuy. This 'constant sort of war' as one colonist described it, continued until Governor Macquarie ordered the now infamous military campaign across the Sydney region that ended in the Appin Massacre of April 17th 1816.[16]

Sydney Aboriginal society was not static and did not cease after contact with Europeans. Both material and cultural traditions of Aboriginal Sydney continued after the devastation to Aboriginal society, sometimes for example, by incorporating non-Aboriginal materials in traditional elements such as using glass and ceramics to make spear points and other tools. Twenty-nine engraved and pigment art sites have been dated to the period after European arrival. Some creation and other stories told to R. H. Mathews by Gundungurra people in 1901 were carried on for generations and survive today.[17]

As the Cumberland Plain became more closely settled during the 1800s, Aboriginal people continued to live close to their traditional country where they could. Some managed to live in the centre of the growing city of Sydney such as a groups of families who caught and sold fish at Circular Quay and others at Rose Bay, while other families continued to live on the outskirts of populated areas such as at La Perouse and at Salt Pan Creek on the Georges River. From the 1880s, others moved to or were forced on to reserves such at Sackville in the northwest. Families such as the Locks, descendants of Maria Lock, continued to live near Blacktown and descendants of Lucy Leane at Liverpool. All carried knowledge of their ancestors and their Country down to this day. During the 1800s many Aboriginal women married European men. Some families knew of their heritage but often kept it hidden. Others only found out much later through family history work from the 1980s.[18]

While much language spoken across the Sydney region was lost, particularly when Aboriginal people were forced not to speak traditional languages at home or school as their children could be taken away, a number of early colonial word lists such as those given by Sydney woman Patyegarang to William Dawes, form the basis of language revival today. Some Sydney words became widespread across Australia such as corroboree, dingo, cooee, waratah and woomera. In many suburbs across Sydney, Aboriginal placenames were incorporated into suburbs or street names such as Maroubra, Bondi, Turramurra, Cabramatta and Bunnerong to name a few.[19]

Prior to the appropriation of their land by Europeans, Aboriginal peoples lived in small family or clan groups that were associated with territories or places. It seems that territorial boundaries were fluid,

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[15] Gapps, 'They have attack'd almost every person who has met with them', *The Sydney Wars* blogpost 2019, https://thesydneywars.com/ ; 'Karskens *The Colony*, 2009, p. 50. Evidence of smallpox including dead and sick was also found well away from Sydney. Gapps, *The Sydney Wars*, 2018, pp. 55-56.
[16] See Gapps, *The Sydney Wars*, 2018, esp. pp. 125-155, 226-255.
[17] Irish and Gowan, 'Where's the evidence?', p. 61. There are several sites in Western Sydney where flaked glass has been recorded, for example at Prospect and Oran Park. Artefact Heritage, 2022, Aspect Industrial Estate, Aboriginal Cultural Heritage Report to Penrith City Council, p. 18. See also Goward, 'Aboriginal glass artefacts of the Sydney region', 2011, Mathews, *Some Mythology and Folklore of the Gundungurra Tribe,* 1901 (2003) and Meredith, *The Last Kooradgie*, 1989. According to Smith and Jennings, a site near the Wollondilly River has 'post-contact creation or restoration of a traditional subject by Traditional Owners'. Smith and Jennings, 'The petroglyphs of Gundungurra Country', p. 241.
[18] See for example Johnson, *Aunty Joan Cooper*, 2003. For family history work see Kohen, *Daruganora, Part 2, Darug Genealogy*, 2009. As Goodall and Cadzow note, more recent movement of Aboriginal people from outside Sydney into the area has had little attention, particularly investigation of how they may have related to the Sydney Country and to the people who had traditionally lived there. Goodall and Cadzow, *Rivers and Resilience*, 2009, p. 41.
[19] Dawes, *Notebooks*, pp. v-vii; Troy, *The Sydney Language*, 1992; Karskens *The Colony*, 2009, p. 33

although details are not known. The language group spoken across Sydney was known as Darug (Dharruk – alternate spelling). This term was used for the first time in 1900, as prior to the 1900s language groups or dialects were not discussed in the literature (Matthews and Everitt, 1900: 262-281; Attenbrow, 2010: 34). The Darug language group is thought to have covered the area south from Port Jackson, north from Botany Bay, and west from Parramatta (Attenbrow, 2010: 34).

Gadigal People

The name Gadigal and its alternative spellings (Cadigal, Cadi) was used in the earliest historical records of the European settlement in Sydney to describe the Aboriginal band or clan that lived on the southern shore of Port Jackson, from South Head west to the Darling Harbour area. The term Eora is also used as a name for the Aboriginal people south of Port Jackson. The term Eora was likely a word used by the Gadigal People to refer to an Aboriginal person, rather than a reference to a clan or band (Attenbrow, 2010: 35-36). However, it became a widespread term for the Aboriginal peoples on the southern shore of Port Jackson and is currently used by Gadigal People to refer to the central Sydney area – referred to as 'Eora Country' (City of Sydney Council, 2002).

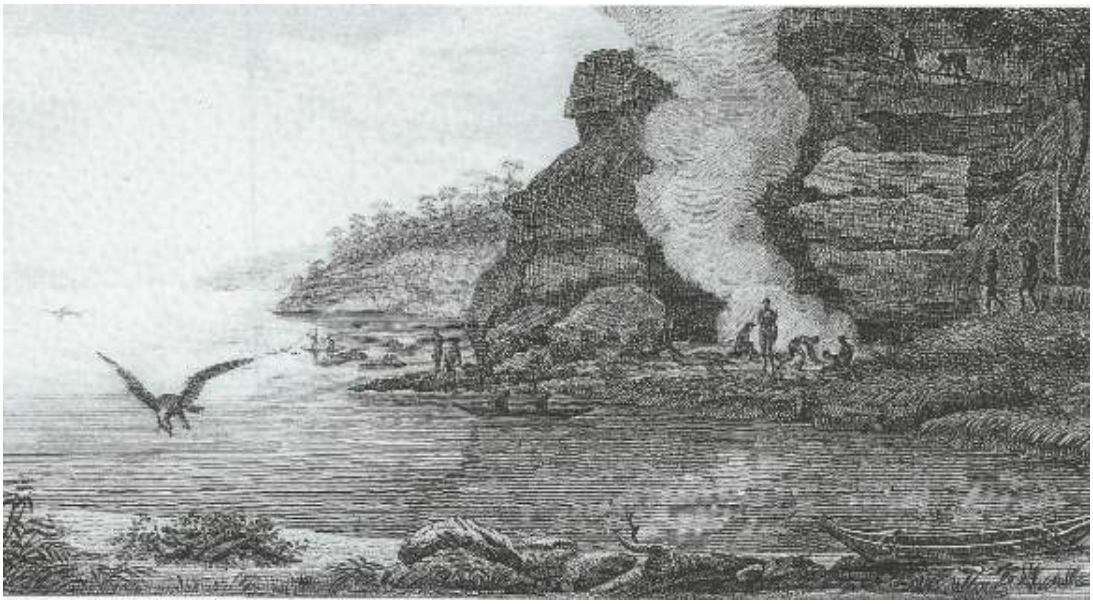

Figure 7-10 Aboriginal activities on the shore of Port Jackson in 1824 (Source: Peron and Freycinet, 1824 in McBryde, 1989: 26)

The project is in an area that had varying subsistence resources. The tidally influenced flats associated with Cockle Bay and Blackwattle Bay were located between 600 and 800 metres from the project area, and freshwater and swampy areas associated with Blackwattle Creek were located between 450 and 600 metres west in the Chippendale area adjacent., or about 600 metres south west of the project area.

Archaeological and historical records indicate that marine and estuarine resources formed an important part of the subsistence activities of the Aboriginal peoples that inhabited the Port Jackson area (see Figure 7-10). Shellfish not only formed an important subsistence resource but were also utilised as tools. Shell tools included fishhooks, shell hafted onto spears in various forms to repair spears, and as a cutting edge (Attenbrow, 2010: 118). Other locally available raw materials, including quartz, were also favoured for cutting edges (Baker, 2004: 31).

7.5 Registered Aboriginal sites

The locations and details of Aboriginal sites are considered culturally sensitive information. It is recommended that this information, including the Aboriginal Heritage Management System (AHIMS) data and GIS imagery, is removed from this report if it is to enter the public domain.

The nature and location of the registered sites reflects past Aboriginal use of the land, but is also influenced by historical land-use, and the nature and extent of previous archaeological investigations. Although Aboriginal people used the resources found in all areas of the landscape, the availability of fresh water, and associated resources, was a significant factor in repeated and long-term use of specific areas within the landscape. Certain site types, such as culturally modified trees, are particularly vulnerable to destruction through historical settlement while others, such as stone artefacts, are more resilient. The distribution of registered sites is also influenced by the distribution of development, as sites are often registered as part of the development process areas of intense development are subject to greater scrutiny than areas subject to less development.

The AHIMS search provides archaeological context for the area and identifies whether any previously recorded Aboriginal sites are located within or near the study area.

An extensive search of the Aboriginal Heritage Information System (AHIMS) database was undertaken on 25 August 2022 (Client ID: [redacted] .

An area of approximately one kilometre was included in the search. The parameters of the search were as follows:

GDA 1994 MGA 56

Buffer

Number of sites: [redacted]

20 AHIMS sites are registered within the AHIMS search area (see Figure 7-11). One AHIMS site ID [redacted] was found near to the southern construction footprint and encroaching onto its border (see 7-11and Figure 7-12).

Two sites were listed as “not a site”; one was a midden; one was a PAD; one site (an artefact) was listed as “Partially Destroyed”; and one AHIMs site was recorded abutting the project area.

Heritage NSW lists 20 standard site features that can be used to describe a site registered with AHIMS, and more than one feature can be used for each site. The frequency of the recorded sites is shown in Table 7-1.

The distribution of the recorded sites is shown in Figure Table 7-1. The most frequently occurring site types are PAD (50%) followed by Artefacts (30%).

Table 7-1 Frequency of recorded site types

Site feature	Frequency	Per cent (%)
Aboriginal Ceremony and Dreaming	1	5
Artefact	6	30
PAD with Artefact	1	0.5
PAD	10	50

Site feature	Frequency	Per cent (%)
Not a site - (midden)	1	5
Not a site. PAD	1	5
Total	20	100

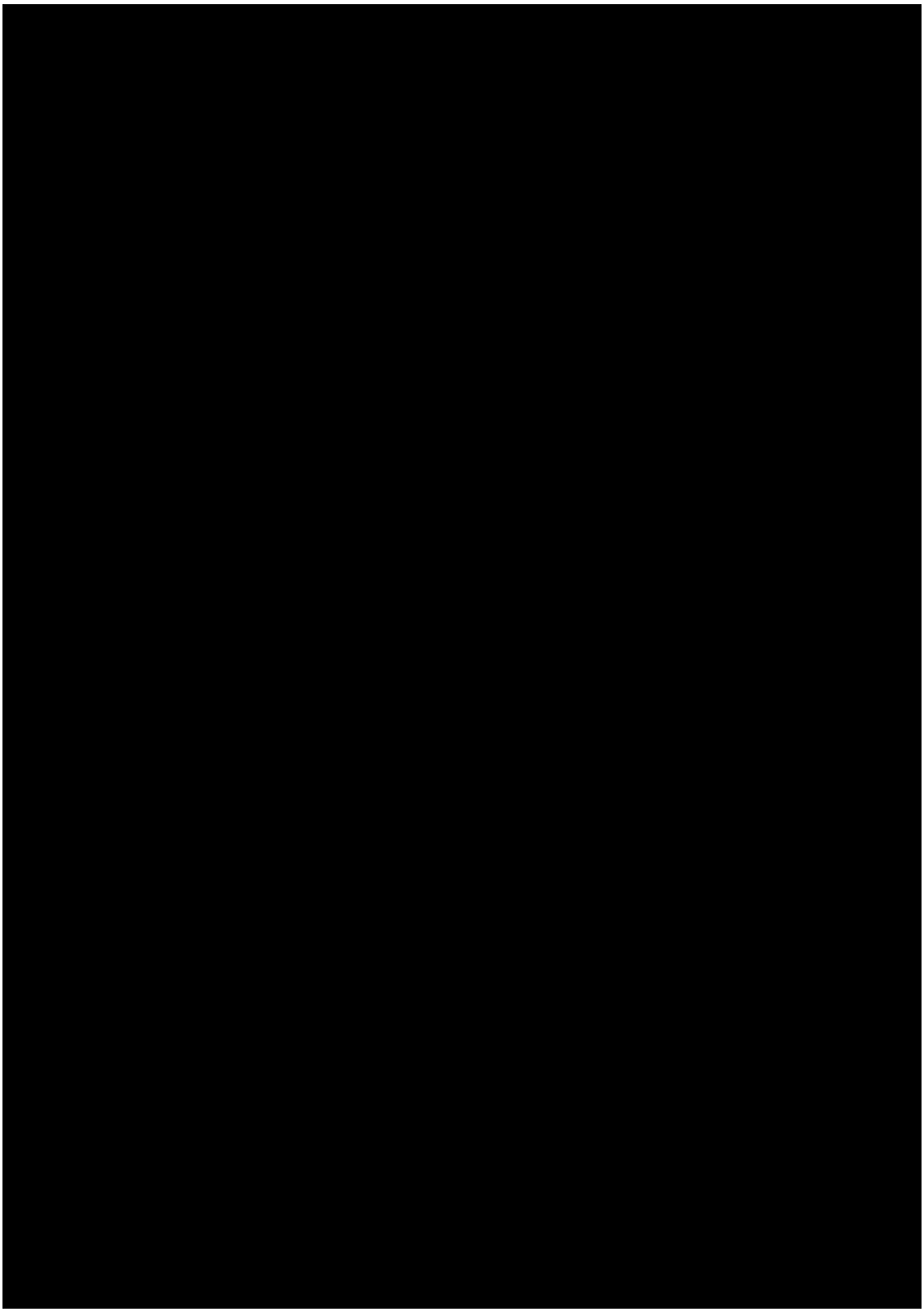

Figure 7-11 Results of the AHIMS search with search parameters of up to one kilometre in relation to the construction footprints.

7.5.1 AHIMS site ID [redacted]

AHIMS site ID [redacted] was lodged with the AHIMS site register on 8 J [redacted] ological excavation (Artefact, 2022). The original site card documented the location as consisting of a small artefact scatter retrieved from a sand dune context (see Figure 7-11). AHIMS ID [redacted] is located within Sydney Yard and overlaps with the southern construction footprint.

The artefact bearing deposit at AHIMS ID [redacted] was described as a grey colour and associated with intact Botany Sands within the Tuggerah Soil Landscape. The identification of Botany Sands at that location extends the reach of the Aeolian or Marine Sands which, in Figure 7-2, appear as limited to the eastern side of Sydney Yard. Other Aboriginal sites have been identified within the Botany Sands (see Section 7.6.4).

The identified extent of AHIMS ID [redacted] is described on the site card as:

> *Subsurface artefact scatter below rail ballast. Comprises of both in situ artefacts within intact sands and artefacts within redeposited sands. An associated area of potential based on the former creek location and areas where artefacts identified*

With regards to previous disturbance in Sydney Yard and depth of sand, the site card notes:

> *There is a lot of disturbance in Sydney Yard, from former building footprints and intersecting services. Intact sand was generally found about a metre below the ballast with the redeposited sand above it. Note that the landform is undulating and therefore depths are approximate.*

The investigations within the Platform 9 and Platform 10 extension footprints for Central Station Main Works (CSMW) and More Trains More Services 2 (MTMS 2) demonstrated a general cross-section of layers at Sydney Yard which has resulted in the expansion of understanding the context of AHIMS [redacted].

The ballast and sub-ballast were found to be around 500 millimetres deep. Below this, deposits of mixed dark grey/light brown sand and an orange sandy clay were identified. Those layers represent the original sand dune and underlying clay that had been excavated and redeposited as a result of past works within Sydney Yard. The redeposited sands and clay were not distributed evenly and were interpreted to vary in depth, extent, and stratigraphic sequence. While the redeposited clay was archaeologically sterile as it predates Aboriginal use of the area, Aboriginal objects have been recovered from the lenses of redeposited sand.

At Platform 9 intact natural sand was found at approximately 1.6 metres depth below the top of ballast. At platform 10 intact natural sand was found at approximately one metre depth below the top of ballast. The dark grey/black stained sand 'pan' colour of the upper sand profile (the A1 level or A1 horizon) was likely caused by water saturation and induration. While excavations at Platform 9 did not extend below the top level (the A1 horizon), at Platform 10 the A2 horizon (located below the A1 horizon) consisted of a light brown to very light brown sand. Piling investigations confirmed that this overlaid sterile orange sandy clay.

The presence of intact buried sand (Botany Sands) and redeposited sand was interpreted as the area hold potential to retain Aboriginal objects. The archaeological management program in which the above archaeological excavations were undertaken were carried out under AHIP 4539 issued 27 August 2020.

The excavation identified an area of high potential for Aboriginal archaeology associated with AHIMS ID [redacted] (see Figure 7-12) and the site card was updated. The boundaries of the area of high potential were delineated based on observations of a truncated landform across the north and south of the CSMW

project area and the localised portion of sand surrounding the former Devonshire Street Creek (now Devonshire Street Tunnel) and the associated Aboriginal site (AHIMS ID [redacted]). That area overlaps with the southern construction footprint.

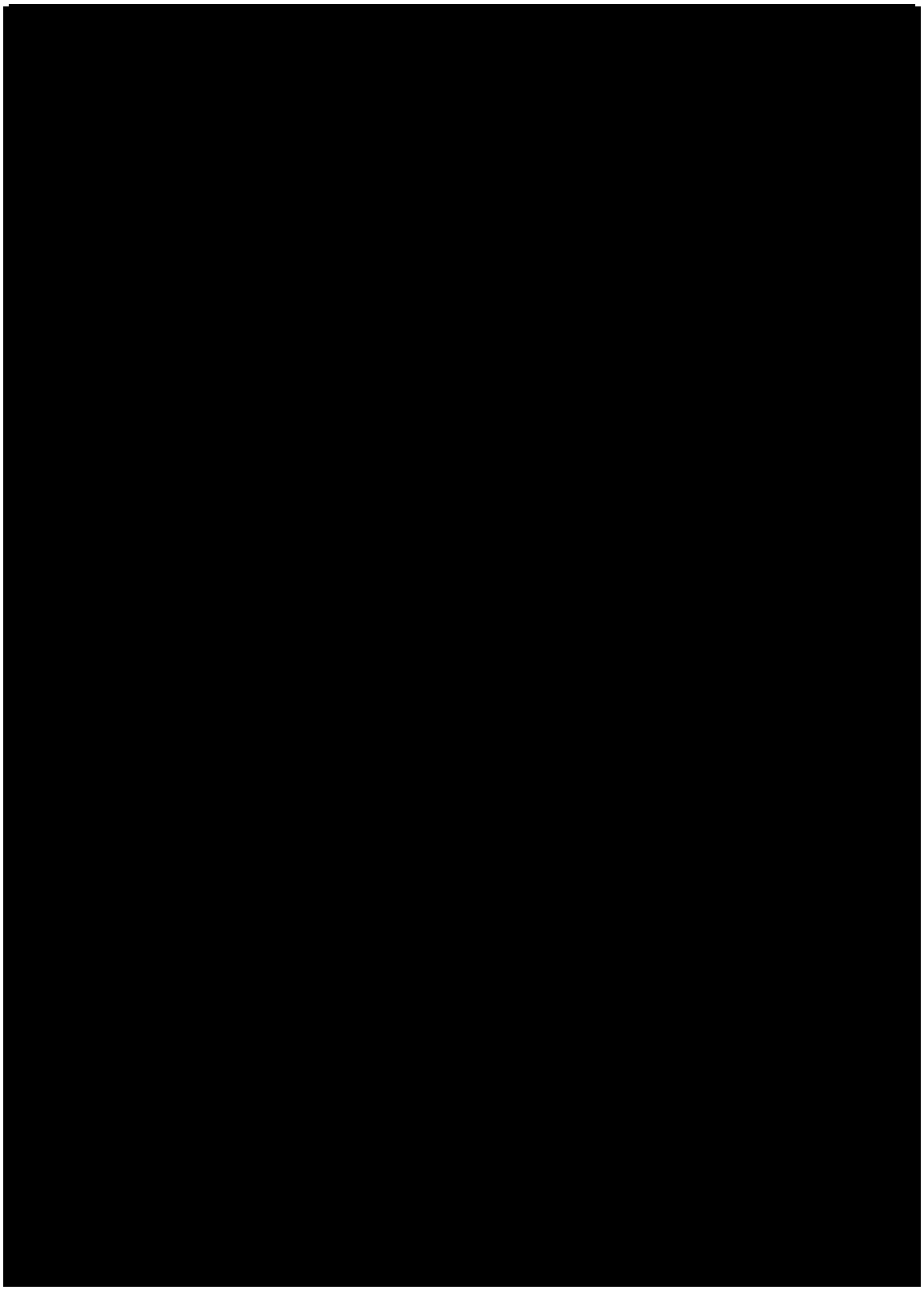

Figure 7-12 Updated location of AHIMS ID [redacted] and associated area of potential.

7.6 Previous archaeological investigations

Artefact has carried out a series of investigations within the Sydney Yard and the Grand Concourse including within the current operational footprints and in proximity to it. Those archaeological excavations have demonstrated the presence of Aboriginal objects in surviving natural and redeposited contexts located beneath buildings and within fill. The retrieved Aboriginal objects have been located in intact and redeposited Botany Sands which have potential to hold Aboriginal objects. This section reviews previous archaeological investigations which have investigated the archaeological potential of the area. This is pertinent to the current study as the southern construction footprint partially overlaps with AHIMS ID [redacted], and the northern construction footprint is located immediately north of the area investigated for CSMW.

A review of previous archaeological works is presented in five sections. The northern and southern construction footprints are located within areas discussed in sections 1 – 3; and, they are located on the Botany Sands (item 4). The results of previous excavations in close proximity to the construction footprints are included in item 5 by way of comparison and to complete a fuller understanding of the former broader landscape in which the construction footprints sit, and in so doing investigate possible land use patterns (ie types of occupation such as campsites or areas used for ranging in the acquisition of food or tool making) by Aboriginal people in the past. The areas discussed include:

1. The Sydney Yard
2. The Grand Concourse
3. Central Precinct (Central Station Precinct)
4. The Botany Sands (city -Eastern Suburbs)
5. The City and in near proximity.

7.6.1 The Sydney Yard.

The southern construction footprint is located in the Sydney Yard.

Sydney Metro City & Southwest Chatswood to Sydenham Project, Central Station (CSMW).

Artefact prepared an ACHAR in 2016 for upgrades to the underground Metro lines. Aboriginal archaeological excavation was completed in three areas within the station box portion of CSMW project area, which overlaps with the southern construction footprint, and is adjacent to the northern construction footprint.-The archaeological investigation areas were referred to as: Test/Salvage Excavation Area 1; Test Excavation Area 2 and Plunge Column Testing.

Test/Salvage Excavation Area 1

Three Aboriginal artefacts were retrieved: one was located within a disturbed sand dune context while the remaining two were located one meter apart within an intact dune system and two meters from the first artefact. The deeper profile of this area was investigated using an auger which identified a truncated Blacktown soil landscape buried under the Aeolian dune (Botany Sands – also known as Tuggerah soils) at around five metres below ground surface. No A horizon soils were identified in association with the buried shale soil landscape, only the underlying B horizon clays. These findings are relevant for understanding the intactness of natural contexts beneath some portions of Sydney Yard and the southern construction footprint.

The buried Blacktown soil landscape was also explored using push tubes. The results identified the basal dune as dating to the Pleistocene Epoch / Marine Isotope Stage 4, with sample dates ranging from 38,000 – 70,000 years ago (38.7 ± 2.1ka to 70.8 ± 5,2ka) (University of Wollongong, 2021). No artefacts were found in the associated basal dune contexts, and the results confirmed that there was no A horizon overlaying the B horizon associated with the underlying buried Blacktown soil scape, see Figure 7-13.

Test Excavation Area 2

Three Aboriginal artefacts were found within redeposited natural sands at 0.3 and one metre depth. The context in which these artefacts were found was interpreted as being the result of redeposited fill following resumption of the old Devonshire Street Cemetery (see archaeological investigation of the old Devonshire Street Cemetery below) in 1901. Portions of the old Devonshire Street Cemetery overlap the eastern section of the northern construction footprint. After resumption of the burial ground in the area was levelled for the construction of the current Central Railway Station building. The upper stratigraphic units of most of the test pits in this area comprised redeposited sand that abruptly transitioned to an intact basal dune profile. As no Aboriginal artefacts were retrieved from the intact basal dune it was considered to be sterile.

However, because fragments of non-Aboriginal skeletal remains were found (remains from the old Devonshire Street Cemetery), a salvage program was undertaken which involved sieving an estimated 1000-2000 kgs of sand that revealed eight artefacts. However, these were considered of **low archaeological integrity** because their provenance was not known. Devonshire Street Cemetery overlaps with both the southern and northern construction footprints.

Plunge column testing (mechanical (pile) testing)

Plunge column testing was carried out at four locations (see Figure 7-13) and any sand encountered triggered hand excavation. The southernmost excavation unit encountered the lower portion of intact basal dune and showed a sterile stratigraphic unit. This confirmed the observations of Test Excavation Area 2. The material from southernmost excavation unit was sieved to confirm these results and no Aboriginal artefacts were retrieved from the lower portion of the intact dune.

The remaining three test pits encountered the upper stratigraphic unit of the intact Botany Sands as evidenced by fine grey sand similar to that found in Test/Salvage Excavation Area 1. One Aboriginal artefact was located within the intact sand profile of a test pit containing the intact upper stratigraphic sequence of the sand dune.

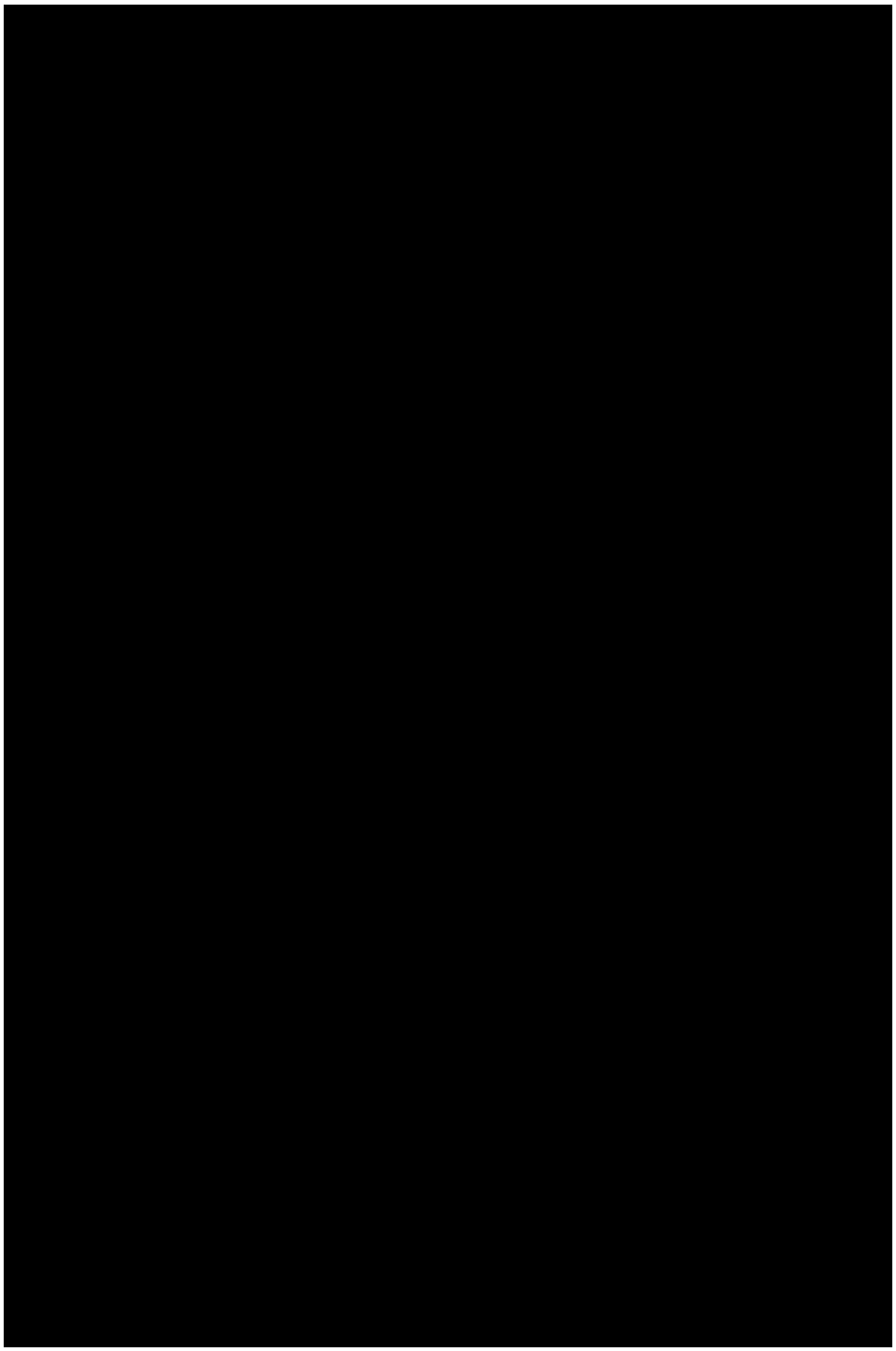

Figure 7-13 Location of Test Excavation undertaken within the Sydney Yard – station box indicated by solid brown line (Artefact 2020a: Figure 12).

A summary of these findings include:

- Test/Salvage Excavation Area 1:
  - Disturbed sand dune contexts
  - Blacktown soil scape (B horizon) buried by wind-blown sands (the Aeolian sands)
  - Pleistocene soils (with A horizon absent)
  - No artefacts found.

Area rendered Nil archaeological potential following excavation.

- Test Excavation Area 2:
  - Three artefacts found between 0.3 to one metre within redeposited sands
  - Redeposited sands interpreted as fill deposited during levelling following resumption of the Devonshire Street Cemetery prior to construction of Central Railway Station
  - Redeposited fill abruptly transitioned to intact basal dune profile
  - No artefacts found within the intact basal dune and area considered sterile.

Area rendered Nil archaeological potential following excavation of the CSM station box.

- Plunge Column testing:
  - No artefacts found
  - Found sterile, intact basal dunes
  - One artefact found within Botany Sands soil context.

Area rendered Nil archaeological potential following excavation.

Once the above excavations had been completed, the ground in which investigation had occurred (within the Station Box area) was rendered sterile. The CSMW Station Box overlaps with a portion of the southern construction footprint and is located adjacent to the northern construction footprint.

As a result of the findings, the CSMW preliminary excavation report identified areas of **high, low and nil** Aboriginal Archaeological Potential were identified within Sydney Yard. Figure 7-14 illustrates the location of those areas of potential and indicates the location of AHIMS site ID [redacted] as registered in AHIMS, rather than its updated location (as shown in Figure 7-12). Those areas rendered sterile are represented on the Figure 7-12 as having Nil Archaeological Potential.

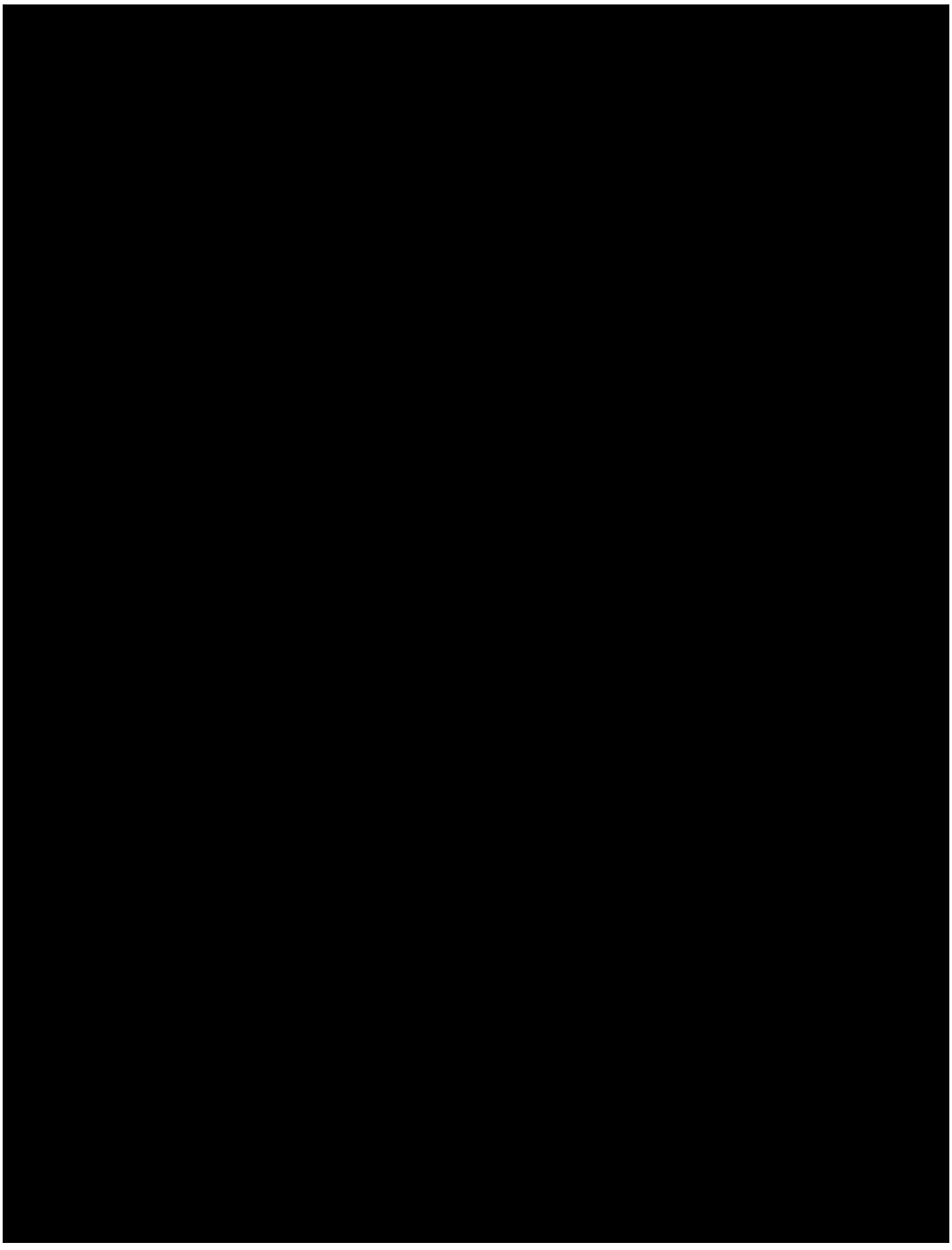

Figure 7-14 Areas of Aboriginal Archaeological potential within Sydney Yard (Artefact Heritage 2020a, figure 13).

MTMS 2 STAR 1. More Trains More Services 2 - Sydney Terminal Area Reconfiguration 1. Aboriginal

The salvage excavation occurred between September 2020 and December 2021 at the concourse end of the rail lines at Platforms 9 and 10 (see the AHIP Area in Figure 7-15). Typically, intact natural sands were found at about one metre below the Sydney Yard surface. Lenses of redeposited sands occurred intermittently beneath the ballast/sub-ballast starting at depths as shallow as 50 centimetres below the yard surface. Excavations at Platform 9 and Platform 10 identified an undulating redeposited sand overlying natural dune sands intersected by numerous underground utilities and live assets. While the redeposited sands were highly irregular in their formation, the natural dune sands beneath were relatively intact and uniform except where there was localised disturbance caused by the installation of utilities.

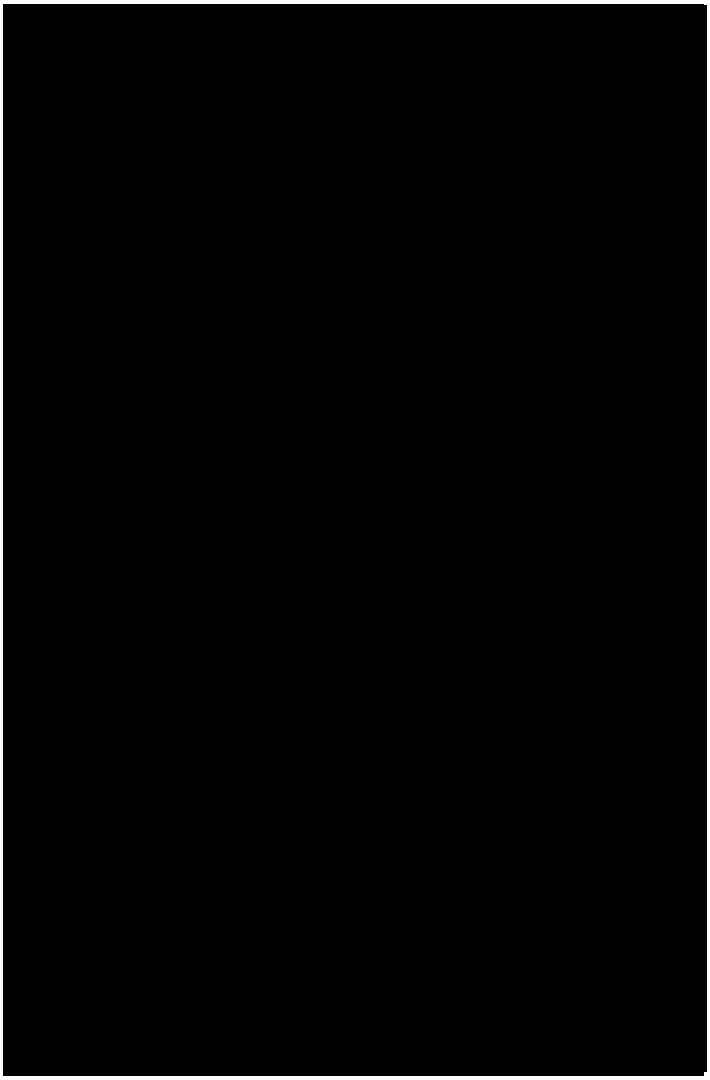

Figure 7-15 Location of archaeological investigations undertaken as part of MTMS 2 STAR 1 (Artefact 2020).

Similar stratigraphy was found across the AHIP area [redacted]: augering identified layers of redeposited sands and intact dune sands underneath station yard fills (the latter comprised of ballast and demolition gravel layers). But additionally, the augering results identified a greater variation in the depth at which the intact sand was present: ranging from 60 centimetres to 340 centimetres.

One artefact was retrieved from the redeposited sands within the Platform 9 area. Three artefacts were recovered from the Platform 10 area following hand excavation of 21 test pits located within intact dune sands.

The findings indicate a very low density of artefacts relevant to understanding the archaeological potential of Sydney Yard. The findings demonstrate a low density artefact context associated with redeposited sands and truncated Botany Sands.

7.6.2 The Grand Concourse

Two archaeological investigations have been undertaken within the northern construction footprint and in adjacent to it. These provide a subsurface view of the remaining soils in the immediate area and proximity.

Casey and Lowe (2009) Results of Archaeological Testing Western Forecourt Central Station, Report to Sydney Metro.

As part of early works for the Sydney Metro Stage 1 project, Casey & Lowe (2009) undertook archaeological testing in the southern half of the Western Forecourt (Figure 7-16) to identify the historical archaeological potential of the area and confirm the accuracy of historical overlays. These identified several institutional buildings from the nineteenth century, including the Benevolent Asylum and the Christ Church Parsonage. The location of the buildings was confirmed during the excavation of two test trenches (T1 and T2) in the Western Forecourt Garden (Figure 7-17) located immediately south of, and adjacent to, the northern construction footprint. Remains of the Benevolent Asylum comprised demolition layers, including pieces of sandstock brick, mortar and demolition material, up to a depth of one metre. The foundations however were found to have been robbed out. The structural remains of the footings of the Christ Church Parsonage were found to have been preserved *in situ*.

Of significance to the Aboriginal archaeology at the site, the excavations of T1 revealed natural soil (sand) under the demolition layers associated with the asylum, and in one instance, a portion of a rectilinear feature was found to cut into the natural sands. In general, the natural sands were relatively intact and uniform. T1 was located in the southern Western Forecourt and outside the northern construction footprint. The uncovering of natural sands fits the nineteenth-century description of the area as the "Sandhills" (Figure 7-18). Further, the fill layers were comprised largely of sandy clay that was heavily disturbed by moderate demolition material inclusions.

For T2, 1.8 metres of fill was encountered under the topsoil. As with T1, this fill included layers of various soils (sandy loam) mixed with demolition material onto a layer of predominately demolition material, with natural sand encountered at the base of the trench. The natural sands were relatively intact and uniform, except for one instance where sandstone blocks were exposed immediately above the sands.

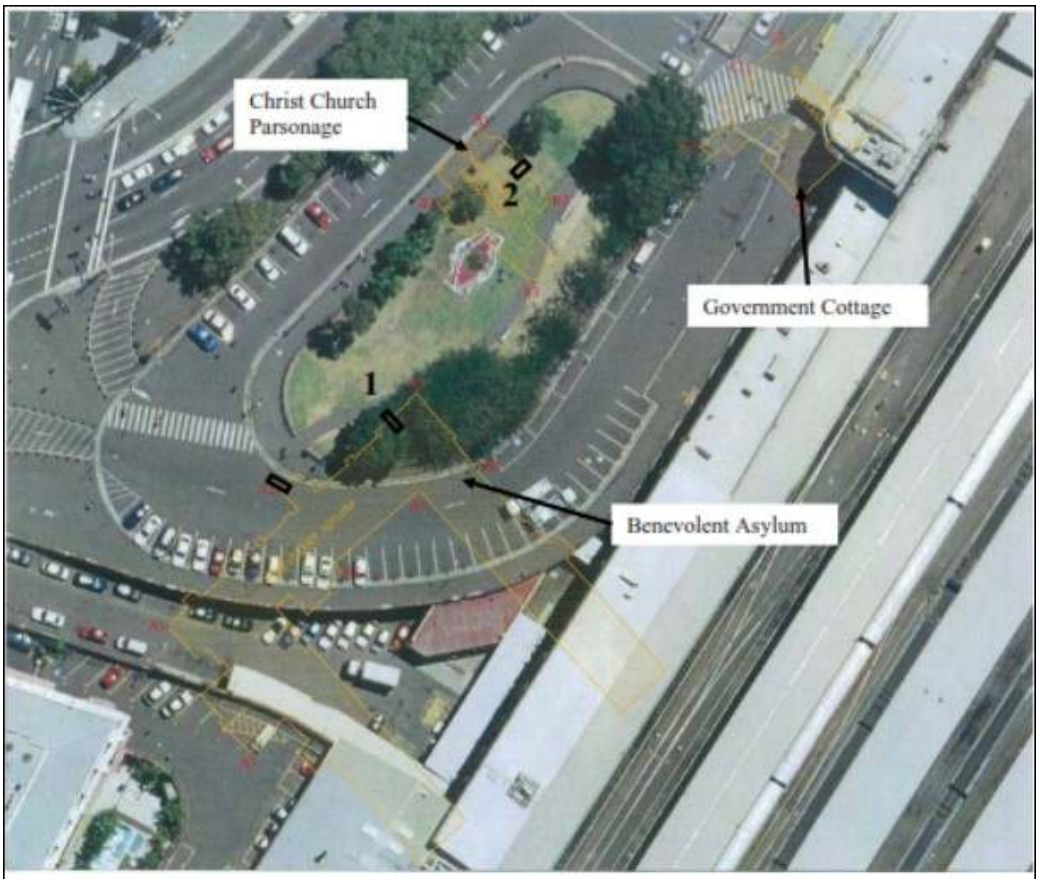

Figure 1: Overlay plan showing location of historic buildings overlaid onto modern aerial. After Whelan Insites Pty Ltd. Note that the un-numbered trench in the roadway was not excavated.

Figure 7-16 Documented location of Christ Church Parsonage, the Benevolent Asylum and Government Cottage within the gardens of the Western Forecourt.

Figure 7-17 Location of trenches in the Western Forecourt

Figure 7-18 Trench 1: demolition deposits under topsoil and over natural sand

7.6.3 Central Precinct

The construction footprints are located with the area investigated by the Central Precinct Renewal. The study demonstrates the extent of the area of low Aboriginal potential in which the construction footprints lie.

Artefact Heritage Services (2022) Central Precinct Renewal, Archaeological Site Plan

Artefact (2022) was engaged by Transport to prepare an Archaeological Site Plan (ASP) for the Central Precinct Renewal study area. The AHIMS search found 18 registered Aboriginal sites within the overall search area including AHIMS ID [redacted] located within the Sydney Yard. No other sites identified within 100 metres. This site has been discussed extensively above.

The ASP provided a long-term management document to guide works planning, site management and heritage assessments, and to minimise the likelihood of unexpected archaeological finds. While the site plan focused on non-Aboriginal heritage items that may have left archaeological traces within the works area, Aboriginal archaeological potential was also addressed.

Aboriginal archaeological potential for the Central Precinct was assessed as follows:

- Low potential for currently unidentified localised areas of intact Tuggerah soils to be present at any location in Central State Significant Precinct (SSP)
- Moderate potential for currently unidentified localised areas of redeposited Tuggerah soils to be present in Central SSP.
- Where localised areas of intact or redeposited Tuggerah soils were present in Central SSP, there was high potential for the presence of low-density archaeological deposits.
- Where Tuggerah soils were not present in Central SSP, there was low potential for the presence of low-density archaeological deposits.
- Where development has removed all Tuggerah soils there was nil potential for the presence of low-density archaeological deposits.

Figure 7-19 maps the Aboriginal archaeological potential from the Central SSP report and is overlaid with the northern and southern construction footprints. The northern and southern construction footprints include sections that appear to overlap with areas identified as having **low and nil** Aboriginal archaeological potential.

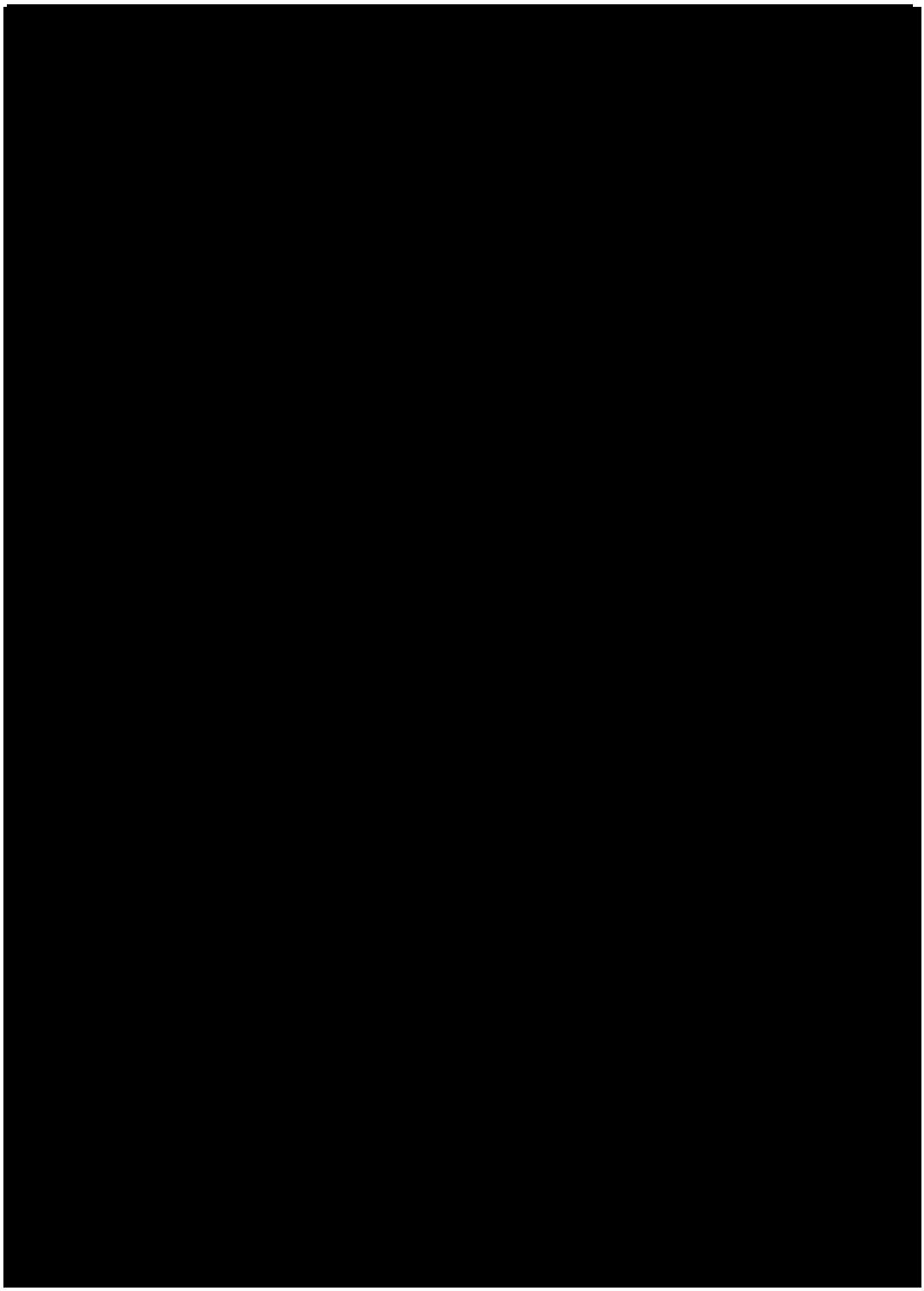

Figure 7-19 Map of Aboriginal archaeological potential at the Central SSP site.

7.6.4 The Botany Sand Sheet

The following is an assessment of the Botany Sands through previous archaeological investigations to present a broader context for the sub-surface soils upon which the construction footprints lie. The Botany Sands have provided archaeological evidence of a long history of occupation by Aboriginal people, including at what is now the Sydney Yard (Section 7.6.1).

Evidence of Aboriginal occupation have identified through archaeological excavations within the Botany Sands at the Prince of Wales Hospital Randwick (Godden Mackay Logan 1997), Long Bay, Prince of Wales Medical Research Institute (Mary Dallas Consulting Archaeologists (MDCA) 2008), Discovery Point Tempe (JMD CHM 2005), and a separate sand sheet at Rose Bay (JMD CHM 2010). These Aboriginal sites are some of the oldest so far recorded in the Sydney Basin with dates for Discovery Point at around 10,000 years Before Present (yBP). In all the cases the cases above, Aboriginal artefacts were located within the A horizon, with the highest density of artefacts in general found in the upper grey sand layer.

The Rose Bay sand sheet is in fact a separate Quaternary formation to the Botany Sands. Archaeological excavation within the Rose Bay sand sheet at the Royal Sydney Golf Club (JMD CHM 2010: i) recovered [redacted] Most of the Aboriginal artefacts were retrieved from redistributed sand layers, while in some portions of the site intact B horizon silicified sands were encountered (M tchel 2009: 3).

Geomorphological and archaeological investigations across the Botany Sands indicated that the basal layers of the sand, associated the B horizon, date to the end of the Pleistocene period (the terminal Pleistocene), between 30,000 to 40,000 years ago (Attenbrow 2002: 9-10). The oldest dated Aboriginal site in the sand sheet is 8,400 +/- 800 yBP (Godden Mackay Logan 1997) at Prince of Wales Hospital.

Attenbrow (2002) outlines information from sub-surface investigations which indicate that following the commencement of aeolian (wind blown) sand deposition across the Botany Bay Basin during the terminal Pleistocene, that there were several differing phases of sand deposition and movement associated with a range of environments (Attenbrow 2002: 9-10). The large sand dunes across the northern portion of the sand layer, associated with the Moore Park area, were likely to have formed across an environment of freshwater creeks and sandstone valleys (Attenbrow 2002: 9-10).

Archaeological excavation by Artefact Heritage (2022) on the Botany Sands at Moore Park for the CBD and South East Light Rail (CSELR) early works retrieved a stone artefact from portions of the sand sheet that had been buried under approximately one metre of nineteenth and twentieth century fill and rubbish. The investigation found that the greyish sand A1 horizon was either absent or very fine, and that underneath the A1 horizon were bleached A2 sands onto coffee rock. The results of that excavation demonstrate the fragility of the A1 horizon. The A1 horizon was fragile because it was the main interface between buried sand deposit and surface disturbances associated with vegetation clearance, erosion, fill and rubbish deposition, and in the case of the Waterloo Station area, construction of several phases of commercial, industrial and residential buildings.

With the exception of archaeological excavation undertaken at the Randwick Stabling Yards (Artefact 2022) and immediately surrounding area, archaeological test excavation across the remainder of the CBD and South East Light Rail (CSELR) route through Moore Park and Randwick retrieved five artefacts. This suggests that although intact sections of the Botany Sands may occur beneath modern fill and infrastructure, the identification of areas of archaeological potential requires consideration of predictive statements that consider the results of previous archaeological investigations for similar landform contexts.

In summary, the presence of Botany Sands in sub-surface contexts does not necessarily indicate moderate-high potential for Aboriginal objects to occur.

7.6.5 The City, and in close proximity

Best practice archaeological investigations routinely consider the broader landscape and environment in which study areas occur. This section briefly reviews archaeological investigations in the urban surrounds.

Central Site Archaeological Excavation, University of Sydney

JMD CHM(2006) carried out archaeological test excavation within an area of archaeological potential at the Central Site, University of Sydney (JMD CHM 2006) located adjacent to City Road, and within the upper reaches of the Blackwattle Creek drainage catchment. Although the geological context at the Central Site was Ashfield Shale with associated shallow residual soils, the site was located in a similar headwaters context of Blackwattle Creek to the study area.

Transects were excavated to expose the original land surface, which varied between 0-0.5 metre in depth beneath introduced layers of fill and building material. Eleven one by one metre test pits were dug by hand and one silicified tuff stone artefact was recovered. Archaeological test excavation demonstrated that the surviving portions of identified A horizon had been significantly disturbed. Based on the ephemeral nature of the water source, distance of the study area from Blackwattle Bay, and the disturbed nature of the A horizon no further investigations of the Central Site were recommended.

The Quadrant Site

Aboriginal archaeological test excavation and monitoring was undertaken by Steele in 2001 at a block ('the Quadrant site') positioned between Broadway and Mountain Streets in Ultimo (approximately [redacted]). Blackwattle Creek once traversed the site and testing in one metre squares was undertaken along the creek bank and upslope of the creek. A five by 15 metre remnant patch of original topsoil was tested. Fourteen Aboriginal flaked stone artefacts were recovered from this, all of which were less than 10 millimetres in maximum dimension, and most of which were could not be classified.

In the final report, Steele and Czastka (2003) suggested that the lack of more substantial Aboriginal archaeological material identified on the Quadrant site may relate to the poorly-drained nature of the Blackwattle Creek landscape. The food and raw material resources of the creek line/swamp environments within and immediately adjacent to the Quadrant site were likely to have been exploited by Aboriginal people. However, Aboriginal people were unlikely to have established long-term occupation sites on land that was low-lying and poorly drained. Rather, the higher site elevations overlooking Blackwattle Creek were considered more likely to contain substantial evidence for past Aboriginal visitation and use.

Darling Walk

An assessment of the Darling Walk study area (Cockle Bay) was undertaken by Jillian Comber (Comber 2009) approximately [redacted] of the study area. Comber concluded that it was likely that Aboriginal objects such as stone artefacts or shell middens may be present along the former shoreline. The western section of the study area was assessed to be of low potential as it was within reclaimed land.

Subsequent archaeological excavations conducted during historical archaeological investigations at the site identified an area of shell midden deposit in the north-west corner of the Darling Walk study area (Casey and Lowe 2009).

The shell midden comprised a grey sandy deposit incorporating shell and stone artefacts. The deposit was found resting directly on sandstone. Comber interpreted the site as being part of a larger midden deposit that had slumped down towards the shoreline.

Wattle Street, Ultimo

Biosis completed an ACHAR for the Urbanest redevelopment on Wattle Street, Ultimo, and approximately [redacted] (Biosis 2012). Biosis determined that, despite significant impact to the area since European occupation, it was likely that substantial and deep portions of alluvial soils would be present across the study area beneath European deposits (Biosis 2012).

Historical layers were identified to a depth of at least 2.5 metres and assessed as having low Aboriginal archaeological potential. However, alluvial soils located underneath extended to a depth of at least 7 metres below the surface and were considered to have moderate to high Aboriginal archaeological potential (Biosis 2012). The potential was considered to be heightened by the proximity of the site to

Blackwattle Creek. The study area was registered with AHIMS as a PAD (AHIMS site 45-6-3064). Test excavations and avoidance of alluvial soils where possible were recommended (Biosis 2012).

Quay Street, Haymarket

Biosis completed a due diligence assessment for The Quay Project at Haymarket, approximately [redacted] (Biosis 2012). The assessment determined that due to extensive modification of the area since the eighteenth century it was considered highly likely that the natural soil profile had been completely removed and with it any traces of Aboriginal activities. The due diligence recommended that the works proceed without further investigation or approvals on the condition that if the works encountered any natural soil profiles work was to cease immediately until further archaeological investigation was undertaken (Higgs and Gibbins 2012).

Cultural Resources Management (CRM) encountered remanent deposits of natural topsoils while completing historical excavations at the site and engaged Biosis to undertake excavations focused on recovering Aboriginal cultural heritage. The excavations comprised five 0.5 x 0.5 metre test pits focussed on areas retaining remnant soil profiles. The excavations revealed that the study area, while containing very shallow and minor portions of the original soil profile, was highly disturbed and no Aboriginal objects were identified (Higgs and Gibbins 2012).

During the historical excavations undertaken by CRM an isolated stone artefact was recovered from the spoil of a European post hole. As the stone artefact, recorded as AHIMS site [redacted], was identified in a highly disturbed context it was assessed as having low scientific significance. The site was considered to have low potential to contain any further Aboriginal cultural heritage and no further archaeological investigation was conducted (Higgs and Gibbins 2012).

7.7 Predictive model

The predictive model comprises a series of statements about the nature and distribution of evidence of Aboriginal land use that is expected in the construction footprints. Survivability of Aboriginal objects largely depends on the extent and nature of subsequent historical construction activities.

These statements are based on the following:

- Landscape context and landform units
- Ethno-historical evidence of Aboriginal land use
- Evidence of historical disturbance
- Distribution of natural resources
- Results of previous archaeological work within the project area
- Predictive statements drawn from other assessments locally.

7.7.1 The Predictive Statements for the Construction Footprints.

The construction footprints have been identified as lying on top of the Botany Sands, which are an archaeologically sensitive landscape / landform unit formed from Tuggerah Soils. The level of sensitivity is subject to the following qualifications:

- There is low potential for currently unidentified localised areas of intact Tuggerah soils
- There is moderate potential for currently unidentified localised areas of redeposited Tuggerah soils
- Where there is intact Botany Sands within the northern construction footprint there is low potential for archaeological deposits to be present based on distance from AHIMS ID [redacted] and the creek along the former alignment of Devonshire Street

- Where there is redeposited Botany Sands there is low potential for out of context Aboriginal objects
- Where Tuggerah soils are absent, there is low potential for the presence of low-density archaeological deposits
- Where development has removed all Tuggerah soils there is nil-low potential for the presence of low-density archaeological deposits
- The proximity to watercourses, such as the former Devonshire Street Creeks and now replaced by the Devonshire Street Tunnel, increases the likelihood of the presence of archaeological remains, although historical conditions which result in the disturbance of soils may reduce the likelihood of deposits remaining
- Historical disturbance has been caused by the development of railway infrastructure, and earlier colonial buildings in the area such as the Devonshire Street cemetery.
- The construction of graves in the Devonshire cemetery has resulted in the preservation of Tuggerah soils below the grave line, effectively capping soils in these locations and providing pockets of redeposited Tuggerah sands as graves were in filled.

The southern construction footprint

The southern construction footprint is located within a rail corridor, which has truncated areas of the original dune landform. The means that these soils hold the potential to hold Aboriginal objects, and this is referred as holding sensitivity, or the conditions that might hold Aboriginal objects (discussed further below in Section 8.2). However, the extant ground surface of Sydney Yard is wholly modified landform context. Previous investigations at Central Station have shown that while the landform is truncated in places by historical activities, areas of intact upper dune are present below the rail corridor that contain the presence of Aboriginal objects associated with AHIMS ID [redacted]. The southern construction footprint partially overlaps AHIMS ID [redacted]. The fact that the former Devonshire Street Creek is located about close to the construction footprint increases the area's archaeological sensitivity. However, archaeological investigations to date indicate that site is limited to a low-density Aboriginal artefact subsurface scatter.

AHIMS ID [redacted] and its associated extent within Sydney Yard is therefore considered to have high potential to contain a low-density Aboriginal artefact subsurface scatter commencing at between approximately [redacted] below the ground surface. Areas that have been subject to previous construction works, such as the CSM station box, now hold nil potential.

The northern construction footprint

The northern construction footprint is located approximately [redacted] AHIMS ID [redacted] and its extent and away from the former watercourse. While remnant soils have been found in the garden portion of the Western Forecourt to the south of the construction footprint, research into the history of building activity in the northern construction footprint shows that extensive disturbance has occurred in that area.

7.8 Site inspection

A visual survey of the northern construction footprint was undertaken on 9 September 2022 by Elizabeth Bonshek (Senior Heritage Consultant) and Josh Marr of the Metropolitan Local Aboriginal Land Council (LALC). The findings were as follows.

7.8.1 Survey inspection

A survey inspection was made of the northern construction footprint. The southern construction footprint was not surveyed because there would be no ground impacts in this area.

No natural soil was observed within in the northern construction footprint. The area has been developed, and consists of station buildings, car parking, light rail, vehicle and pedestrian access, and retail spaces with above ground landscaping (see Figure 7-20 to Figure 7-27).

As can be seen in Figure 7-20, Figure 7-21 and Figure 7-22 the entrance to the station from the Western Forecourt is elevated, and the areas below having been excavated to allow vehicle access and parking, located at current street level.

At Eddy Avenue (see Figure 7-23) additional access to the station is provided by escalators connecting the street level to the concourse. This was achieved through deep excavation below the original natural ground surface along Pitt Street and Eddy Avenue (see Figure 7-27).

Figure 7-20 View downwards to vehicle access space along Pitt Street side of the Western Forecourt.

Figure 7-21 View of the entrance to the station from the above ground.

Figure 7-22 View into the vehicle access space from Pitt Street.

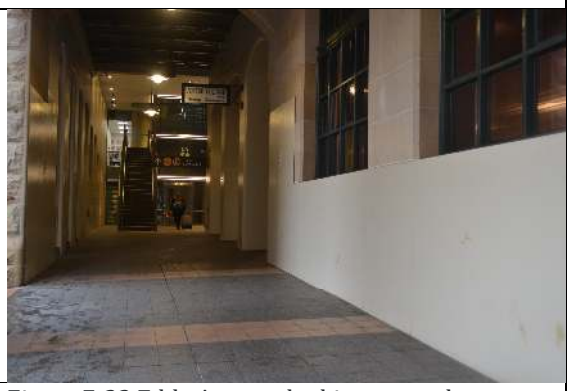

Figure 7-23 Eddy Avenue, looking to escalators from Pitt Street.

Figure 7-24 Eddy Avenue, street view with tram and vehicle access.

Figure 7-25 View to retail area at Eddy Avenue Plaza.

Figure 7-26 Ramp at eastern side of the Sydney Terminal Building.

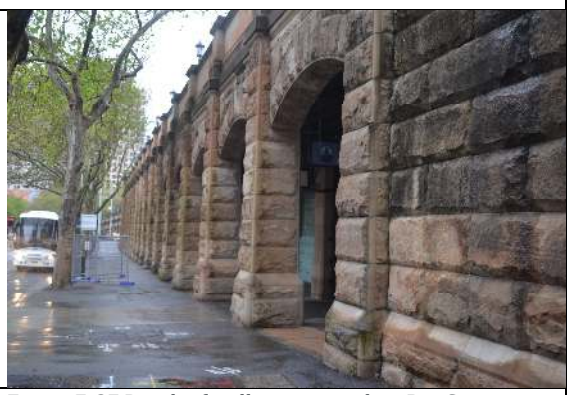

Figure 7-27 Depth of wall constructed on Pitt Street indicating the depth of excavation undertaken to build the ramp up to the Western Forecourt.

In conclusion, no Aboriginal artefacts were identified, and no original soils were observed. The depth of the wall constructed on Pitt Street (see Figure 7-27) indicates that there is no surviving ground surface on the western side of the northern construction footprint.

There was zero visibility and zero exposure.

The Metropolitan LALC agreed that the site was extensively disturbed.

7.9 Archaeological survey coverage

The northern construction footprint comprises approximately 2.05 hectares. It contains buildings, roads, and footpath surfaces with occasional above ground landscaped areas. The external street level areas fronting Eddy Avenue included roads, footpaths, and an outdoor retail area. The internal area was not included in the survey because no ground surfaces were present. Hence, the area of inspection (ie the survey unit) comprised approximately 1.08 hectares (10,800 m^2) of external area, which represented viewable ground surface

The entire northern construction footprint at ground level formed a levelled surface, with the natural landscape having been removed. Table 7-2 below summarises the level of visibility and exposure across the northern footprint to determine the effective coverage. The table also considers the effective coverage of the landform, interpreted here as a flat area (as the original landform has been removed).

Note | While the observed ground surface visibility and exposure was zero, these measures are entered in Table 7-2 as 10% following the Code's requirement to record data to the closest 10%. As a result, effective coverage was 0.1%

The landform effectively surveyed was 0.52% (Table 7-3).

Table 7-2 Effective survey coverage

Survey unit	Landform	Survey unit area (m^2)	Visibility (%)	Exposure (%)	Effective coverage area (m^2)	Effective coverage (%)
1	Flat	10,800	10	10	108	.01

Table 7-3 Landform survey coverage

Landform	Landform area (m^2)	Area effectively surveyed (m^2)	% of landform effectively surveyed	Number of sites identified
Flat	20,500	108	0.52%	0

8. Analysis and discussion

8.1 Analysis of archaeological potential

The archaeological potential of an area is determined by its landform, its location and the level of disturbance. Certain landforms, such as gentle slopes, are conducive to Aboriginal occupation and the survivability of sub-surface archaeological deposit, while others, such as steep slopes, are not. The location of appropriate landforms in relation to natural resources, in particular their proximity to permanent water sources, increases their archaeological potential. Correlations between site location and proximity to permanent water have been proven in previous archaeological investigations where the number of sites and their densities is highest in close proximity to watercourses. In areas where there is a high level of disturbance however, the archaeological potential is lowered.

- High: Intact archaeological material is likely to be found in this area
- Moderate: Intact archaeological material may be found in this area
- Low-Moderate: Limited potential for intact archaeological material in this area
- Low: Unlikely that intact archaeological material will be found in this area.

8.2 Archaeological potential within the operational area

8.2.1 Soil landscape context

Archaeological investigations undertaken to date in Sydney Yard have demonstrated that AHIMS ID [redacted] consists of a low-density artefact scatter associated with intact Botany Sands around a former creek line. In total, five artefacts have been recovered from intact and relatively archaeologically secure deposits of Botany Sand during excavation of approximately 100 square metres for CSMW and MTMS 2 STAR 1 at AHIMS ID [redacted]. AHIMS ID [redacted] partially overlaps with the southern construction footprint.

Archaeological investigations have identified that the ground elevation increases to the north and south of AHIMS [redacted], resulting in residual clays and shale bedrock in areas where Botany Sands have either been removed or heavily truncated. It is unknown if all dune sand north of AHIMS ID [redacted] has been entirely removed. As a result, the CSMW Preliminary Report assessed the area to the north and south of AHIMS ID [redacted] as demonstrating low archaeological potential (Artefact Heritage, 2020a).

Soil landscape mapping (Sections 7.1, 7.2) indicates that Eddy Avenue and Belmore Park are located in the fluvial Deep Creek soil landscape associated with a first order watercourse that was formerly situated in Belmore Park and flowed west/north-west. The identification of clays and shale during CSM along the southern margin of the northern construction footprint in areas where Botany Sands may have situated, and information from soil landscape mapping, suggests the northern construction footprint was situated in or close to a transition between the residual soils associated with shale geology, overlying Botany Sands, and the fluvial Deep Creek soils.

In summary, prior to construction of Sydney Yard and Sydney Terminal, soil landscapes within the southern construction footprint would formerly have included Botany Sands overlying residual soils associated with shale geology. The northern construction footprint is likely to have included Botany Sands, shallower residual soils associated with shale geology, and a transition to fluvial soils to the north associated with the headwaters of a

creek in the area that is now Belmore Park. Archaeological evidence from Sydney Yard indicates that much of the original sand and soil context has been removed or heavily modified, with some lower elevations areas of Botany Sands remaining beneath railway infrastructure in Sydney Yard around the former alignment of a creek.

8.2.2 Impacts to natural contexts during construction of Sydney Terminal

Historical photographs dating to the construction of Sydney Terminal show what appears to be significantly cut natural contexts within the building footprint (see Figure 8-1). Landscape modification for construction of Sydney Terminal and later construction of the City Railway are likely to have resulted significant modification to the soil landscape context in the northern construction footprint.

Figure 8-1: Screenshot of a portion of historical photograph taken from Belmore Park area looking south-east, showing stepped excavation for Sydney Terminal building footprint. [picture]. (nla.gov.au)

Eddy Avenue Plaza, situated immediately adjacent to Sydney Terminal, may not have been cut down to the same extent during the original construction phase of Sydney Terminal. Figure 8-2 shows a zoom in of a photograph taken during construction of Sydney Terminal, and an area adjacent to the heavily modified building footprint that may be the current location of Eddy Avenue Plaza. It is difficult to determine the intactness of the ground surface in that area based on the photograph but it does appear that there are mounds of spoil overgrown with vegetation and a small cutting facing Eddy Avenue.

Figure 8-3 shows a photo taken in c.1903(?) looking south within the cutting for Sydney Terminal. The photo possible post-dates the image in Figure 8-2, as it appears to show a deeper cutting closer to the western extent of the building footprint.

Figure 8-2: Screenshot of a portion of historical photograph taken from Belmore Park area looking southeast, showing western end of Sydney Terminal building in approximate area where Eddy Avenue Plaza is located (red arrow)

Figure 8-3: Unidentified workers cutting sandstone blocks during the construction of Central railway station, Sydney, 1903? [picture]. (nla.gov.au)

Subsequent construction of the City Railway involved construction of the Eddy Avenue Plaza in a similar layout to its extant form. Prior to construction of the City Railway the entrance off Eddy Avenue was a ramp to the Country platform elevation. Construction of the City Railway involved excavation for the new entrance to the suburban platforms and

removal of the ramp. Modification in the 1980s/1990s included further lowering the elevation of the western half of the plaza as part of changes to Sydney Terminal building.

In summary, the former natural ground surface context within the Sydney Terminal building footprint is likely to have been truncated or removed. Historical photographs taken during construction of Sydney Terminal show what appears to be spoil mounds and some excavation in the approximate location of Eddy Avenue Plaza. Although Eddy Avenue Plaza may not have been truncated to the same extent, modifications to that area during construction of the City Railway and in the 1980s/1990s may have removed or disturbed any natural contexts in that area.

8.2.3 Devonshire Street Cemetery

Historical archaeological investigations within the former Devonshire Street Cemetery in Sydney Yard have identified a layer of redeposited sand across some portions of the cemetery. During the CSM investigation, that redeposited sand was primarily identified south of the [redacted], approximately [redacted] of the northern construction footprint. The Botany Sands and redeposited sand were absent / truncated and absent north of that point [redacted].

The redeposited sands across that area originated as Botany Sands that were excavated and mixed with other material then placed back across the Yard following the cessation of use of Devonshire Street Cemetery and construction of the extant Sydney Terminal Building and Yard. As the redeposited sand originated from the cemetery area, it contained fragments of human remains. For the CSM project, the redeposited sand was sieved to retrieve small fragments of human remains. As part of the process, infrequent Aboriginal artefacts were also retrieved. It is assumed that the artefacts originated from the Botany Sands in the local area, but due to the mixing of the redeposited sands with other material, it is also possible some of those Aboriginal objects were brought to site with other materials.

In summary, if there are any historical archaeological contexts in the northern construction footprint that require sieving for human remains within the former extent of Devonshire Street Cemetery, there is low potential for encountering out of context Aboriginal objects during that process.

8.2.4 Summary

The southern construction footprint

The southern construction footprint overlaps with the following areas of Aboriginal archaeological potential (see Figure 7-19):

- A small portion of AHIMS ID [redacted]
- A portion of the CSM station box
- An area of low archaeological potential

As there are no ground impacts proposed in the southern construction footprint, there will be no impacts to AHIMS ID [redacted].

The northern construction footprint

The northern construction footprint has been assessed as demonstrating nil archaeological potential in the areas that were cut down for construction of Sydney Terminal building, and low potential in all other areas. It is likely that the areas of low

archaeological potential have also been subject to substantial modification, including revisions and changing elevation within Eddy Avenue Plaza, and the construction of the double-storey portion of the Western Forecourt within the study area.

While no remnant soil or sand were observed in Eddy Avenue Plaza section of the northern construction footprint the assessment of low archaeological potential with a low likelihood of finding artefacts remains in the absence of evidence to the contrary. The ground surface at Eddy Avenue Plaza could not be assessed as original or not, as ground visibility was zero. The area is assessed as demonstrating low archaeological potential.

9. Aboriginal Cultural Heritage Assessment

[note: Consultation is in progress.]

The cultural assessment in this report includes information collected through desktop assessment and Aboriginal community consultation undertaken in accordance with the Consultation. This information was collected by Elizabeth Bonshek (Senior Heritage Consultant, Artefact Heritage).

9.1 Cultural landscape

The World Heritage Convention of United Nations Educational, Scientific and Cultural Organisation (UNESCO) defines a cultural landscape as one which has 'powerful religious, artistic or cultural associations of the natural element rather than material cultural evidence, which may be insignificant or even absent' (UNESCO and Intergovernmental Committee for the Protection of the World 2015). The relationship between Aboriginal Australians and the land is conceived in spiritual terms rather than primarily in material terms (Andrews et al. 2006). Aboriginal cultural knowledge has been defined as:

> *Accumulated knowledge which encompasses spiritual relationships, relationships with the natural environment and the sustainable use of natural resources, and relationships between people, which are reflected in language, narratives, social organisation, values, beliefs and cultural laws and custom (Andrews et al. 2006).*

Aboriginal cultural knowledge was traditionally bequeathed through oral traditions from generation to generation. Within all Aboriginal communities there was a time of dislocation and upheaval associated with the arrival of colonial settlers. This widespread disruption resulted in much of the detailed knowledge and understanding of many of the elements of the cultural landscape being lost from the Aboriginal community, nonetheless many Aboriginal people maintain a strong connection to the land of their ancestors and collectively possess a wealth of knowledge passed down through the generations.

9.2 Identified Aboriginal cultural heritage values

Table 4 provides a summary of the Aboriginal cultural heritage values associated with the proposal area.

Table 4: Cultural heritage values identified for the study and surroundings

Cultural heritage value	Description	Source
Language	The importance of language in story telling and cultural reproduction	Balarinji (2022)
Landscape and flora	Use of local resources in everyday life	Balarinji (2022)

Cultural heritage value	Description	Source
Muru - Pathways of connection	Central Precinct is located at a point of convergence where pathways and travelling/trading tracks meet	Balarinji (2022)
Sky Country	Central Precinct is a place of spirits and ancestors with links to celestial travel	Balarinji (2022)
Rock art	Sandstone is the material upon which rock art is made and is a media for retelling stories	Balarinji (2022)
Employment and unionism	Aboriginal people have a connection to the railway industry through employment and the development of activism through union membership.	Balarinji (2022)
Platform 1	Aboriginal children were taken from their families and relocated becoming the Stolen Generation. Thei journeys commenced at Platform 1.	Balarinji (2022)
[PLACEHOLDER to be completed]		

Consultation is in progress.

Further contributions to the cultural heritage values of the study area from RAPs would be welcome as part of the consultation.

10. Significance assessment

10.1 Significance assessment methodology

An assessment of the cultural heritage significance of an item or place is required to form the basis of its management. *The Guide to investigating, assessing, and reporting on Aboriginal cultural heritage in NSW* (OEH, 2011) provides guidelines for heritage assessment with reference to the *Burra Charter* (Australia ICOMOS, 2013). The assessment is made in relation to four values or criteria (see Table 10-1). In relation to each of the criteria, the significance of the subject area should be ranked as high, moderate, or low.

Cultural heritage consists of places or objects that are of significance to Aboriginal people. Cultural heritage values are the attributes of these places or objects that allow the assessment of levels of cultural significance.

Assessing the cultural significance of a place or object means defining why a place or object is culturally important. It is only when these reasons are defined that measures can be taken to appropriately manage possible impacts on this significance. Assessing cultural significance involves two main steps, identifying the range of values present across the study area and assessing why they are important.

Social/cultural heritage significance should be addressed by the Aboriginal peoples who have a connection to, or interest in, Country where the project is taking place. As part of the consultation process the RAPs were asked to provide information on the cultural

significance of the study area. Information on consultation with the RAPs for this project is provided in Section 3.1.

Table 10-1 Burra Charter Heritage significance criteria

Criterion	Description
Social	The spiritual, traditional, historical, or contemporary associations and attachments the place or area has for Aboriginal peoples. Social or cultural value is how people express their connection with a place and the meaning that place has for them. Does the subject area have strong or special association with the Aboriginal community for social, cultural, or spiritual reasons?
Historic	Historic value refers to the associations of a place with a historically important person, event, phase, or activity in an Aboriginal community. Is the subject area important to the cultural or natural history of the local area and/or region and/or State?
Scientific	This refers to the importance of a landscape, area, place or object because of its rarity, representativeness, and the extent to which it may contribute to further understanding and information. Information about scientific values will be gathered through any archaeological investigation carried out. Does the subject area have potential to yield information that will contribute to an understanding of the cultural or natural history of the local area and/or region and/or State?
Aesthetic	This refers to the sensory, scenic, architectural, and creative aspects of the place. It is often linked with the social values. It may consider form, scale, colour, texture and material of the fabric or landscape, and the smell and sounds associated with the place and its use. Is the subject area important in demonstrating aesthetic characteristics in the local area and/or region and/or State?

In addition to the four criteria, Heritage NSW (OEH, 2011; 10) requires the following to be considered:

- **Research potential**: does the evidence suggest any potential to contribute to an understanding of the area and/or region and/or state's natural and cultural history?
- **Representativeness**: how much variability (outside and/or inside the subject area) exists, what is already conserved, how much connectivity is there?
- **Rarity**: is the subject area important in demonstrating a distinctive way of life, custom, process, land use, function or design no longer practised? Is it in danger of being lost or of exceptional interest?

- **Education potential**: does the subject area contain teaching sites or sites that might have teaching potential?

10.2 Socio/cultural significance

Socio/cultural heritage values should be addressed by Aboriginal people who have a connection to, or interest in, the area.

While background research identified socio/cultural significance associated with Central Station and the project area (see Section 6), the RAPs have not identified specific socio/cultural significance for the construction footprints. Contributions of socio/cultural significance from RAPs as part of the consultation would be welcome.

Consultation is in progress.

10.3 Historic significance

Historic values refer to the association of place with aspect of Aboriginal history. Historic values are not necessarily reflected in physical objects, but may be intangible and relate to memories, stories, or experiences.

While background research identified historical significance associated with Central Station and the project area (see Section 6), the RAPs have not identified specific historic significance for the construction footprints. Contributions of socio/cultural significance from RAPs as part of the consultation would be welcome.

Consultation is in progress.

10.4 Scientific significance

Scientific values refer to a site's potential to contribute to our current understanding and information.

No Aboriginal objects were identified in the northern construction footprint. The northern construction footprint is located within an area of low archaeological sensitivity associated with a likely transition between the overlying aeolian sands and alluvial soil landscape to the north. As the area is assessed as demonstrating low archaeological potential, there are no identified scientific values associated with the northern construction footprint.

The southern construction footprint abuts the extent of AHIMS ID [redacted]. As there are no construction impacts within the southern construction footprint, there would be no impacts on the archaeological values of AHIMS ID [redacted].

Table 10-2 Scientific significance assessment

Site Name (AHIMS ID)	Research potential	Representativeness	Rarity	Education potential	Overall significance assessment
No AHIMS sites	None	None	None	None	None

10.5 Aesthetic significance

Aesthetic values refer to the sensory, scenic, architectural, and creative aspects of the place. These values may be related to the landscape and are often closely associated with social/cultural values.

While background research identified aesthetic significance associated with Central Station and the project area (see Section 6), the RAPs have not identified specific aesthetic significance for the construction footprints. Contributions of aesthetic significance from RAPs as part of the consultation would be welcome.

Consultation is in progress.

10.6 Statement of significance

While there are no AHIMS sites within either construction footprint, both lie within the Botany Sands which have been established to hold low archaeological potential for low density scatters.

While the Aboriginal Cultural Heritage vales are discussed in section 6, the RAPs have not identified specific socio/cultural or historic values for the construction footprints.

Consultation is in progress.

11. Assessment of potential construction impacts

11.1 Proposed Works

The proposed construction works (listed in 4 Works located in the Impact Zones of the northern construction footprint, drawn from Outline Schedule of Works P1 26 August for Concept design cost planning) will involve subsurface excavation in the eastern and western portions of the northern construction footprint (see Figure 11-1 and Figure 11-2). This report considers those areas of excavation falling with in the construction footprint.

There are no proposed works for the southern construction footprint which proposed for use as a holding area.

11.2 Impact Assessment

The northern construction footprint has been assessed as demonstrating nil to low archaeological potential. The proposed works will not harm any identified areas of archaeological sensitivity.

As indicated in Section 5, redeposited sands located may be associated with the former Devonshire cemetery and may contain infrequent Aboriginal objects. Where there is a program of sieving for human remains enacted for the portion of Devonshire Street Cemetery within the northern construction footprint, there is low potential for encountering Aboriginal objects during that process.

As there are no planned construction activities other than those relating to amenities or plant and equipment storage indicated for the southern construction footprint, there would be no subsurface impacts. The proximity of AHIMS ID [redacted] that abuts the southern construction footprint would require that the former be protected by a buffer through the installation of protective fencing to avoid unintended harm.

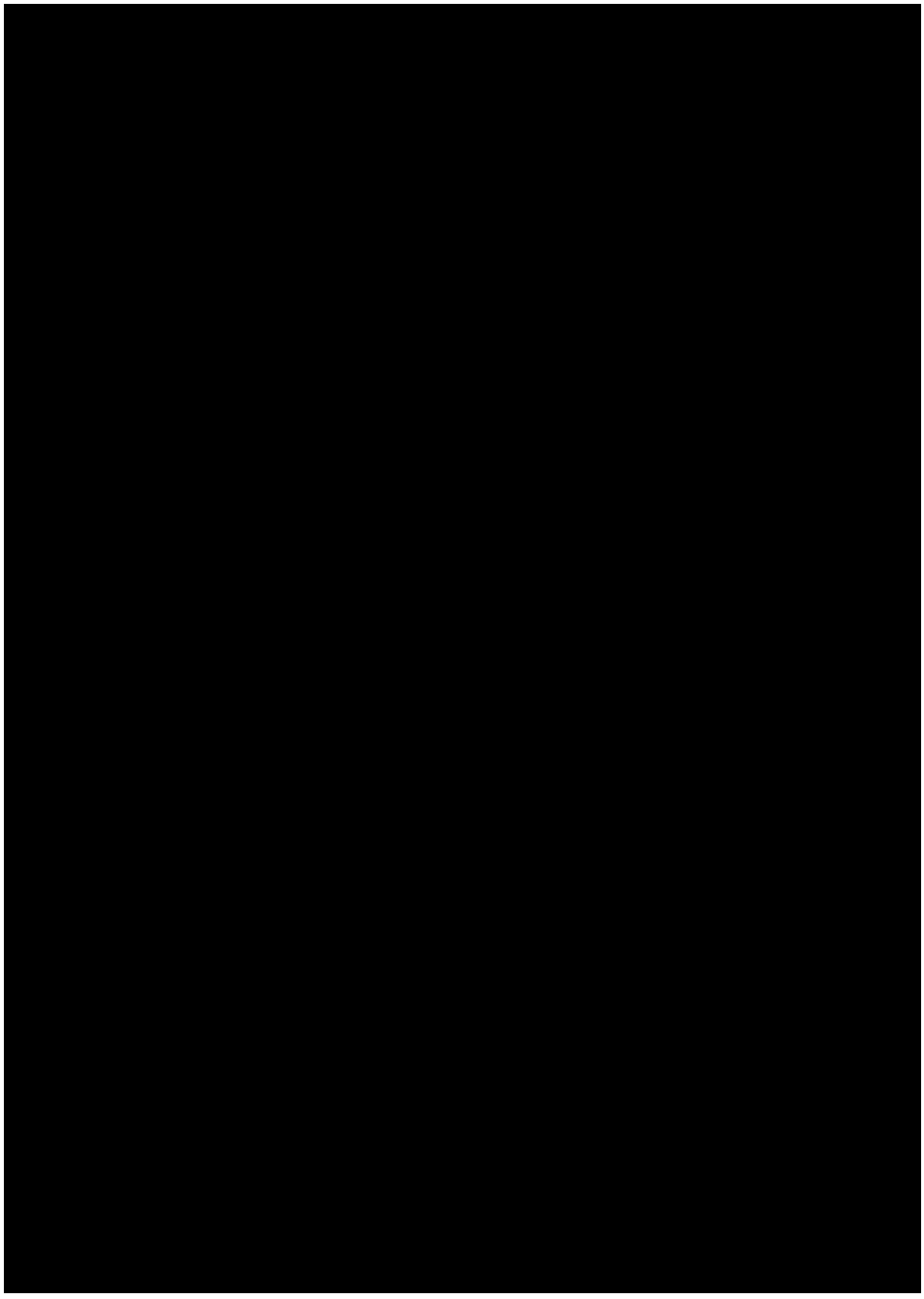

Figure 11-1 Proposed ground excavation within the northern construction footprint on the Grand Concourse level.

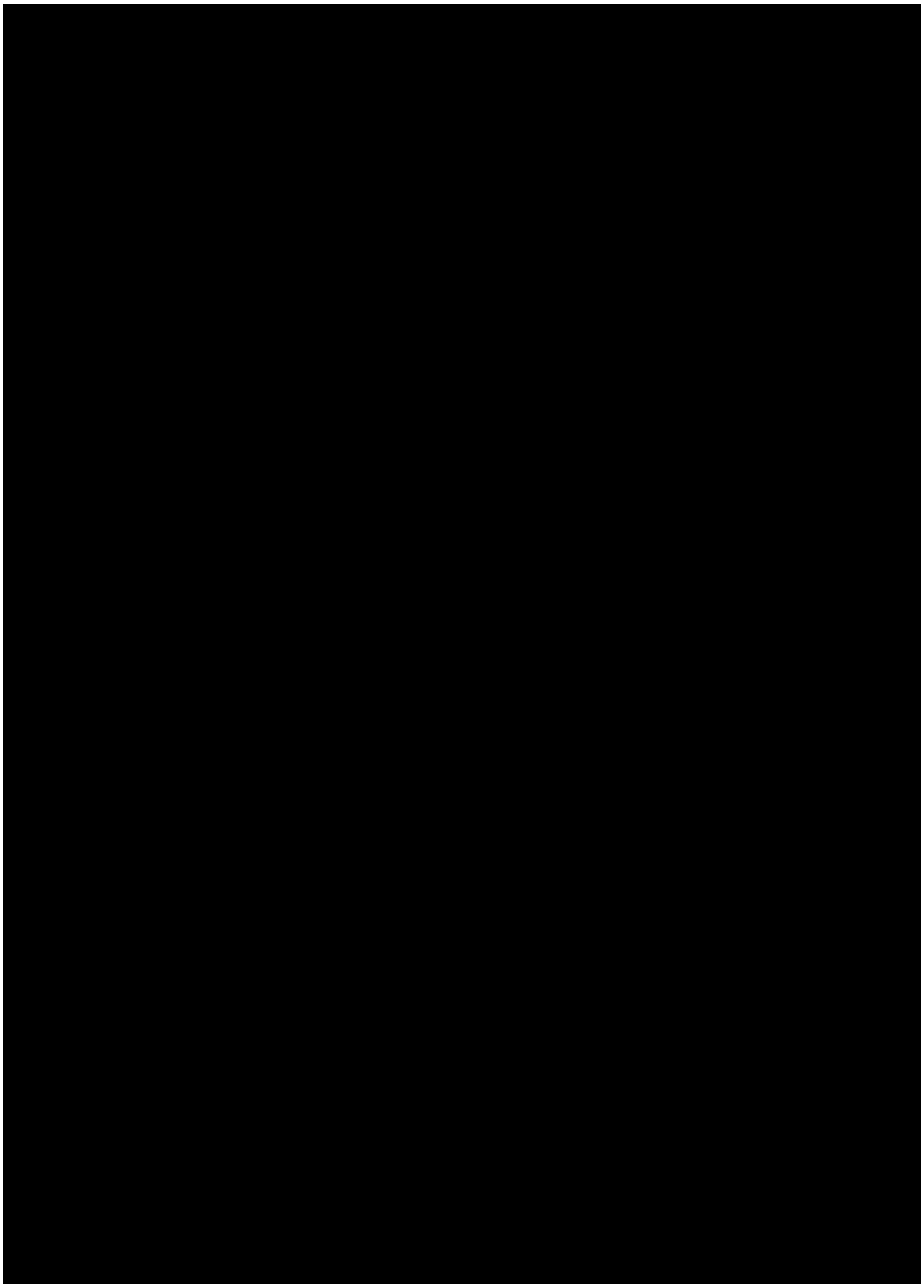

Figure 11-2 Proposed ground excavation within the northern construction footprint on Eddy Avenue level.

12. Assessment of potential operational impacts

The project comprises the revitalisation of the Sydney Terminal Building and its public domain interfaces, Eddy Avenue Colonnade, Eddy Avenue Plaza, and Western Forecourt at Central Station. The operational footprint covers about two hectares.

As described in detail in SECTION 2 the operation of the project would not result in any change of the primary use of the station as a transport interchange. Therefore, there are no potential operational impacts of the works on the northern construction footprint or the southern construction footprint.

13. Cumulative impacts

13.1 Ecologically Sustainable Development principles

In accordance with the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in New South Wales*[20], the principles of ecologically sustainable development have been considered in preparation of this Aboriginal heritage assessment, including options to avoid impacts to Aboriginal cultural heritage, assessment of unavoidable impacts, identification of mitigation and management measures, and taking account of Aboriginal community views. The principles of ecologically sustainable development are detailed in the NSW *Protection of the Environment Administration Act 1991*. Principles of ecologically sustainable development relevant to the assessment of the project as it relates to Aboriginal cultural heritage are considered below.

13.2 The integration principle

Decision making processes should effectively integrate both long term and short term economic, environmental, social, and equitable considerations (the 'integration principle'). The preparation of this ACHAR demonstrates regard for the integration principle by considering Aboriginal heritage values and impacts to these from the proposal during its planning phase. The nature of the proposal is one that contributes to the long term economic and social needs of current and future residents of the area.

13.3 The precautionary principle

If there are threats of serious or irreversible environmental damage, lack of full scientific confidence should not be used as a reason for postponing measures to prevent environmental degradation (the 'precautionary principle'). Archaeological assessment of the study area has been completed in accordance with the Code of Practice which resulted in the conclusion that no Aboriginal objects are present or likely to be present within the study area. In accordance with the requirements of the SEARs and the *National Parks and Wildlife Regulations* (2019), full scientific investigation has been completed to inform this report. As such, further archaeological investigation is not required.

13.4 The principle of intergenerational equity

The present generation should ensure that the health, diversity, and productivity of the environment is maintained or enhanced for the benefit of future generations (the 'principle of intergenerational equity'). Archaeological assessment has been undertaken within the study area in accordance with the Code of Practice. The findings of this assessment have contributed to knowledge of the area for current and future generations.

[20] Office of Environment and Heritage 2011

14. Management and mitigation measures

[note: management and mitigation measures subject to revision following completion of consultation with registered Aboriginal parties]

14.1 Ongoing consultation with registered Aboriginal parties

[PLACEHOLDER – Consultation for the ACHAR has not been completed].

Consultation with Registered Aboriginal Parties (RAPs) would continue throughout the life of the project, if necessary. For instance, ongoing consultation with RAPs would take place in the event of any unexpected Aboriginal objects being identified during works (see Unexpected Finds Policy below).

14.2 Changes to the proposed works

This ACHAR is based upon the project information available in the EIS. Any significant changes to the design that extends outside the current project site will be assessed by an archaeologist in consultation with the RAPs. Any changes that may impact on Aboriginal sites not assessed during the current study may warrant further investigation and result in changes to the recommended management and mitigation measures.

14.3 Devonshire Street Cemetery and historical archaeological investigations

14.3.1 Devonshire Street Cemetery

Historical archaeological investigations for CSM within the former Devonshire Street Cemetery identified a layer of redeposited sand across some portions of the cemetery. The redeposited sand was primarily identified [redacted], with the Botany Sands and redeposited sand truncated and absent north of that point up to the [redacted]

Where there is a program of sieving for human remains enacted for the portion of Devonshire Street Cemetery within the northern construction footprint, there is low potential for encountering Aboriginal objects during that process. The historical archaeological sieving process, if enacted, must involve registered Aboriginal parties (RAPs). The sieving process will include:

- Collection of sands by machine and / or by manual excavation
- Storage and sieving of sands either on site or at an off-site facility
- Collection of any Aboriginal objects retrieved throughout the sieving program

All Aboriginal objects retrieved through the sieving process will be given a unique number and stored in double re-sealable snap lock bags. A permanent marker will be used to record available provenance information, date, and unique number of artefacts in each bag.

The historical archaeology research design will outline the requirements for exhumation management plan(s) and other process for managing the potential retrieval of human remains from the Devonshire Street Cemetery.

14.3.2 Historical archaeological investigations

Any Aboriginal objects identified through the historical archaeological investigation will be collected in accordance with the following procedure:

- Surveyor to mark the location of the unexpected find
- Collected Aboriginal objects will be given a unique number and stored in double re-sealable snap lock bags. A permanent marker will be used to record historical archaeological context information, date, location information, and unique number of artefacts in each bag
- Compliance with the TfNSW unexpected finds procedure, assessment of the find, and identification of whether any additional assessment and investigation is required.

14.4 Collection of unexpected finds

With the exception of Aboriginal objects identified under the procedures in Section 14.3.1 and 14.3.2, any Aboriginal objects identified as unexpected finds during the proposed works will be managed in accordance with the Aboriginal Cultural Heritage Management Plan. That unexpected finds process should be compliant with the TfNSW unexpected finds procedure and also include provisions to:

- Stop works at the find location and notifications process as per the requirements of the ACHMP
- Assessment of the find and identification of whether any additional assessment and investigation is required
- Collection of the Aboriginal object(s) by an archaeologist and representative(s) of the registered Aboriginal parties
- Surveyor to record the location of the unexpected find
- Collected Aboriginal objects will be given a unique number and stored in double re-sealable snap lock bags. A permanent marker will be used to record available provenance information, date, location information, and unique number of artefacts in each bag

14.5 Site clearance

Site clearance(s) would be required from the archaeologist responsible for overseeing Aboriginal heritage management of the program. The ACHMP will outline circumstances where a clearance memo will be required, such as a specific work area or the project site as a whole, depending on stage of works. The clearance(s) would be in the form of a memo or email.

14.6 Reporting and analysis

All Aboriginal objects retrieved during either the sieving program or as unexpected finds will be washed and placed in re-sealable bags for further analysis and recording. The artefact assemblage will be recorded and stored as stipulated in the OEH code of practice. That includes recording key attributes of material, artefact type, platform type, termination type and dimensions, as well as photographic records of representative artefacts. All recorded information will be entered into a Microsoft Excel (or similar) table with detail linked to the available provenance information for each artefact. Once entered, into the Excel table, the data can be readily supplied with associated reporting to RAPs and the proponent in either electronic or hard-copy form. An archaeologist experienced in stone artefact recording will conduct the attribute recording and analysis.

14.7 Temporary and long-term care and management of retrieved Aboriginal objects

The temporary repository of any retrieved artefacts will be a locked cupboard on the premises of the archaeological consultant or on site where suitable locked facilities are available for safe storage of Aboriginal objects. The AHMP will outline a chain of custody process for all collected Aboriginal objects.

Further consultation with RAPs will be required to determine the preferred long-term care and management of any retrieved Aboriginal artefacts.

[Note – Archaeological management measures will be updated and revised following review of the draft ACHAR by registered Aboriginal parties]

14.8 Summary

This section includes the measures to mitigate, monitor, and manage the predicted Aboriginal heritage impacts described above.

Table 14-1 Environmental management measures for Aboriginal heritage impacts

Impact/ uncertainty	Management measure	Responsibility	Timing
Indirect impact on AHIMS [redacted]	Procedures in place to ensure that no ground disturbing activities take place within the extent of AHIMS ID [redacted]- [redacted]	Transport for NSW	Preconstruction and construction
Potential finds during historical archaeological investigation	Enact management measures outlined in Section 14.3	Transport for NSW	During Historic Archaeological program
Potential finds	Unexpected finds protocol	Transport for NSW	During works
Potential finds	Training and awareness for staff	Transport for NSW	Prior to works

14.9 Summary of residual impacts

This section provides a summary of the construction and operational risks, including both pre-mitigation and residual impacts remaining after the implementation of the management measures described in Section 0. Table **14-2** provides a summary of both pre-mitigation and residual impacts.

Table 14-2 Summary of pre-mitigation and residual impacts

Potential pre-mitigation adverse impact	Relevant management measures	Potential residual impact
Indirect impact on AHIMS [redacted]	Procedures in place to ensure that no ground disturbing activities take place within the extent of AHIMS ID [redacted]	No residual impact
Potential finds during historical archaeological investigation	Enact management measures outlined in Section 14.3	Residual impact. Loss of value within area excavated.

15. Conclusions and recommendations

[Consultation is in progress.]

15.1 Conclusions

The following results and recommendations are based on consideration of the requirements of Aboriginal heritage guidelines including:

- The Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW 2010a) – known as The Code of Practice
- Guide to investigating and assessing and reporting on Aboriginal Cultural Heritage in New South Wales (OEH 2011) – known as ACHAR guidelines.
- The Aboriginal Cultural Heritage consultation requirements for proponents 2010 (OEH 2010b)- known as Consultation Guidelines)
- The SEARs issued for the proposal (DPIE) on 17 October 2022 (SSI-45421960).

The assessment found the following:

- an extensive search of the Aboriginal Heritage Information Management System (AHIMS) which revealed one site (AHIMS [redacted]) partially overlaps the southern construction footprint
- No ground disturbing activities for the project will take place within the southern construction footprint. There will be no harm to identified Aboriginal objects or areas of archaeological potential in the southern construction footprint
- The northern construction footprint includes areas of nil and low archaeological potential
- A portion of the Devonshire Street Cemetery overlaps with the northern construction footprint

15.2 Recommendations

The assessment makes the following recommendation:

- Key heritage management plans/documentation relating to Aboriginal heritage required prior to construction which relate to the AHCAR will include:
    - Construction Environmental Management Plan (CEMP)
    - Aboriginal Construction Heritage Management Plan (ACHMP) (Aboriginal Heritage sub-plan)
- The CEMP and ACHMP must include implementation details for the archaeological management measures recommended in this report, including:
    - An unexpected finds procedure
    - Involvement in any sieving program implemented during the historical archaeological program
    - Heritage site inductions for all workers

- This ACHAR is based upon the project information available in the EIS. Any significant changes to the design that extends outside the current project site will be assessed by an archaeologist in consultation with the RAPs. Any changes that may impact on Aboriginal sites not assessed during the current study may warrant further investigation and result in changes to the recommended management and mitigation measures:
    - AHIMS ID [redacted] is in the southern construction footprint and in an area where no ground disturbing works are proposed. AHIMS ID [redacted] must not be harmed
- An Archaeological Work Method Statement (AWMS) must be prepared in consultation with registered Aboriginal parties outlining the methodology for any sieving program implemented during the historical archaeological program or unexpected finds identified during the historical archaeological program. That document will outline:
    - Location of sieving
    - Temporary storage of any retrieved Aboriginal objects
    - Reporting on retrieved Aboriginal objects
    - Long-term care and management of Aboriginal objects

[Consultation is in progress.]

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17. Appendices

Consultation log and correspondence withheld for public viewing.

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