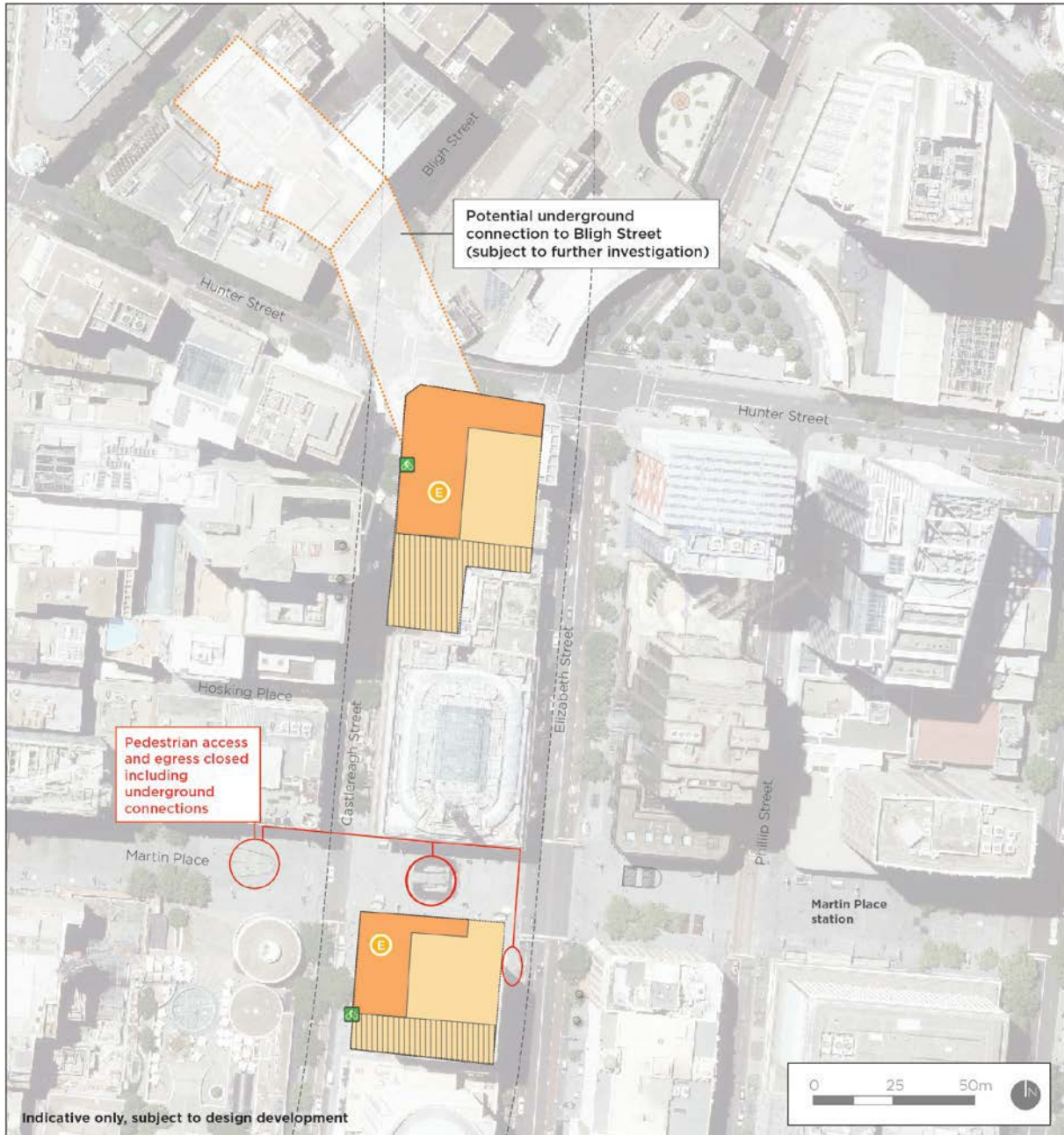


6.8 Martin Place station

Martin Place is a major urban public open space within the heart of the Sydney Central Business District, and it provides an important pedestrian connection between George Street and Macquarie Street (see Figure 114). Martin Place has an existing station that serves the primary business district of the city.

Figure 114: Location of southern and northern entry locations.



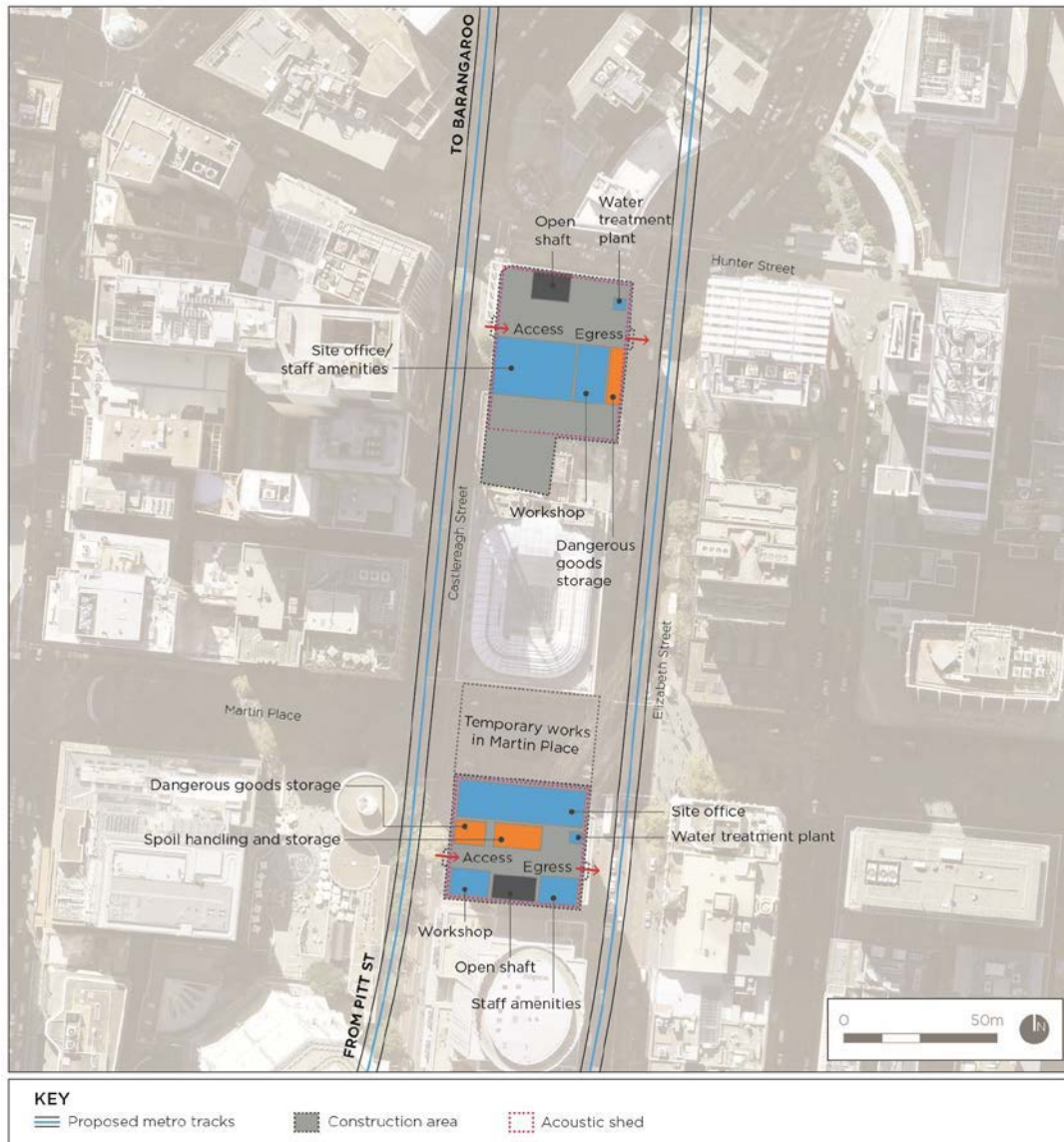
KEY	
	Metro entry
	Pedestrian plaza/station lobby
	Operational area
	Proposed cycle parking
	Services
	Metro alignment

6.8.1 Construction

The cut and cover construction of the proposed southern entrance/service building shaft link across the top of the existing ESR tunnels would necessitate temporary closure of the existing open plaza and diversion of pedestrian traffic to the south (Figure 115). The proposed construction of the southern shaft / cavern / adits entails the following:

- Demolition of Prudential Building to Ground Floor.
- Establish a re-routed pedestrian traffic route from Martin Place Plaza over the demolished Prudential Building.
- Close Martin Place Plaza.
- Demolish Existing Plaza and subway structures.
- Construct metro concourse structure and new pedestrian subway structure.
- Install new pedestrian subway building services and systems.
- Reopen Plaza and pedestrian subway to traffic, decommission alternative route.
- Demolish remaining basement structure in Prudential Building (if necessary).
- Form working platforms for piling rigs (backfilling pits if necessary) over Prudential Building footprint.
- Piling works – short and long piles.
- Initial excavations to allow for the construction of working platform.
- Construction of working platform.
- Construction of acoustic shed where necessary and site infrastructure i.e. site office, staff amenities, workshop.
- Shaft excavation to required depth.
- Establish road headers in base of shaft.
- Excavate top headings, followed by removal of benches.

Figure 115: Martin Place Station construction site layout.



6.8.2 History of the study area

Soon after the arrival of Europeans at Sydney Cove in 1788 the Tank Stream was recognised as being a vital source of fresh water in the colony. The stream, today located below present-day Pitt Street, is reflected in the layout of the streets in the vicinity of the study area. George Street (originally High Street), Pitt and Castlereagh Streets (originally Camden Street) were all laid out parallel to the stream. By the early 1800s the study area began to be subdivided and developed. The 1802 plan of Sydney, whilst it has been demonstrated to contain a number of inaccuracies, indicates that the study area at this time was dominated by large blocks containing buildings, and likely utilised for agricultural purposes (Figure 116).

By the early 1830s many of the early landholdings and leases had been formerly granted, and plans indicate that numerous buildings were located within the study area at this time (Figure 117 and Figure 118). It is not known what the buildings on these early land grants were used for, but it is likely that they were associated with commercial, residential and small-scale industrial uses.

Figure 116: Detail from Charles Alexandre Lesueur's 1802 Plan de la ville de Sydney. Source: NLA MAP F 307.

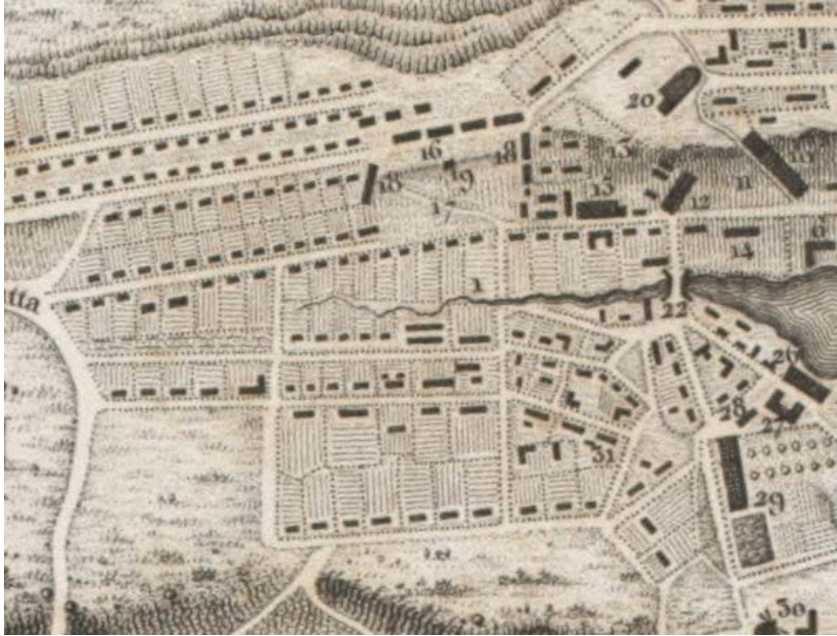


Figure 117: Detail from the 1822 Plan of the town and suburbs of Sydney. NLA MAP F 107. Study area boundary shown in red.

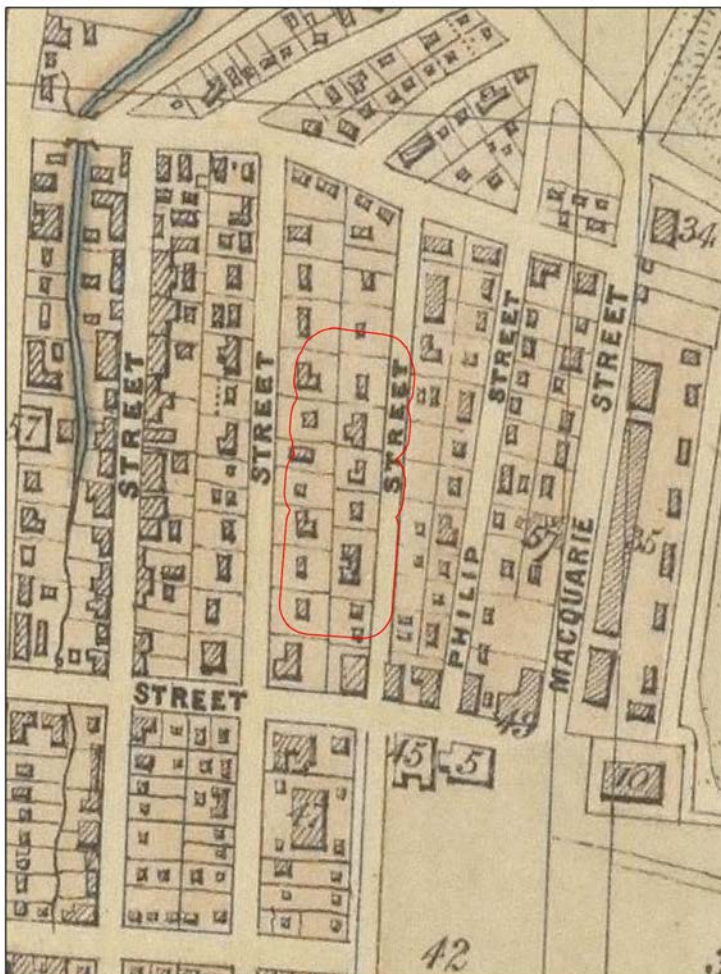
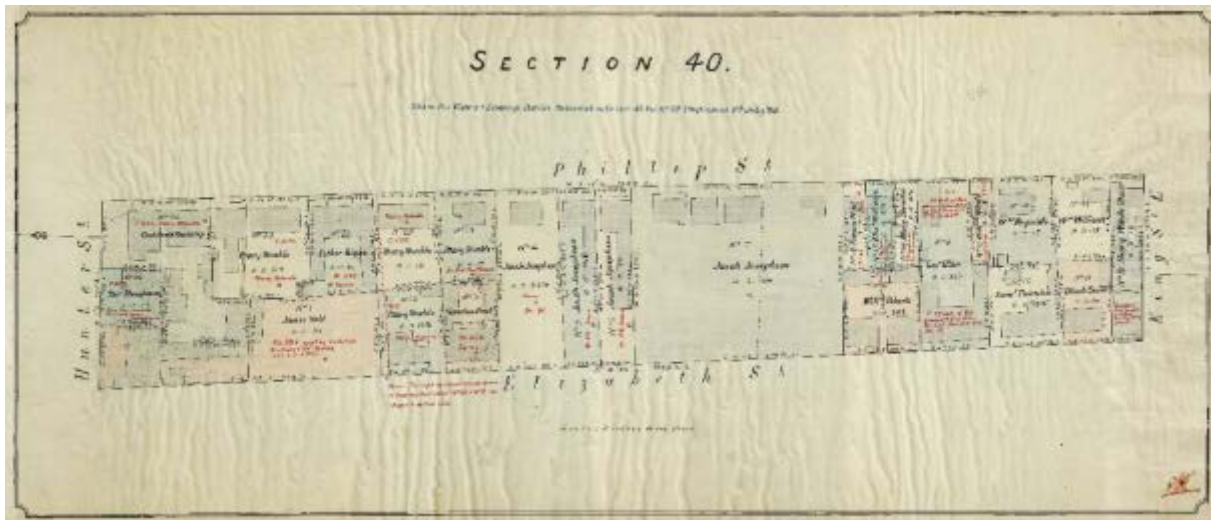
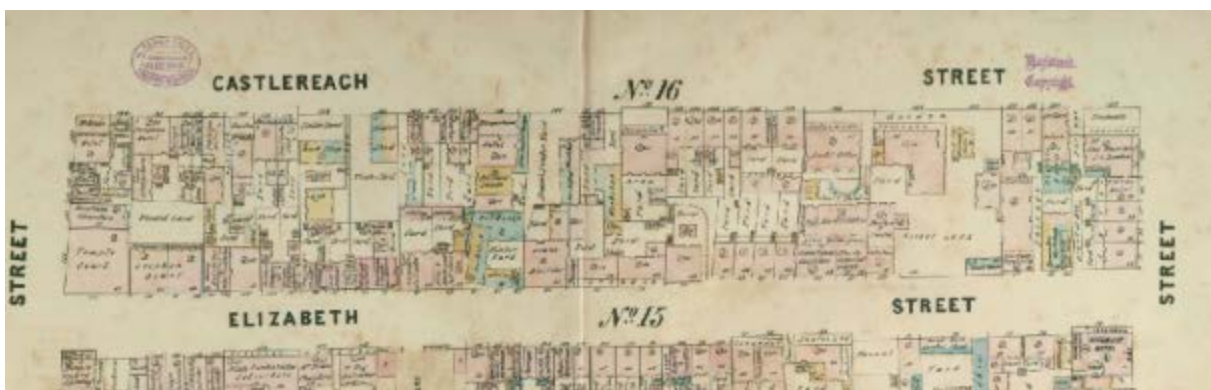


Figure 118: City Survey Section Plan of 1833 showing the number of buildings that were constructed within the study area by this time. Source: The Historical Atlas of Sydney.



By the 1850s, as Sydney became increasingly urbanised, many of the large land grants within the study area were gradually subdivided. By 1880 the study area contained numerous structures, including workshops, offices and commercial interests. According to Dove's plan of 1880, the study area contained hotels, timber yards, a billiard saloon, solicitor's offices, auditing offices and the office of a "Bushell sign writer", amongst many others (Figure 119).

Figure 119: Detail from Dove's plan of 1880, showing the increasing urbanisation of the area.



The construction of the General Post Office on the corner of George and Pitt Streets between 1870 and 1880 saw the first phase of urban planning for what would become Martin Place.¹⁰⁷ The building was designed to be viewed from the north from a grand open space, although, at this time, only a narrow road existed between the GPO and the buildings to the north. By the mid-1860s a narrow roadway, originally known as Foxlow Place, had also been established between Castlereagh and Pitt Streets, connecting with the public area to the front of the GPO.¹⁰⁸ This was renamed 'Moore Street' in the 1870s.

¹⁰⁷ GML Heritage, *20 Martin Place Interpretation Strategy*, Report to Charter Hall, May 2014: 5.

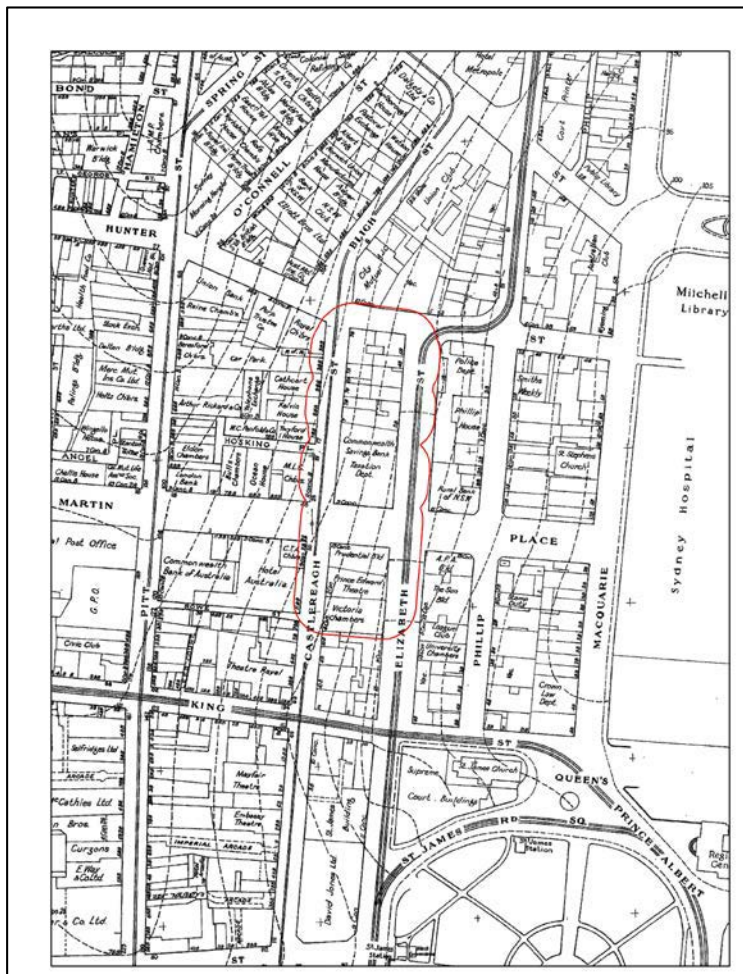
¹⁰⁸ GML Heritage May 2014; 5.

In October of 1890 a fire broke out, destroying many of the properties between Pitt and Castlereagh Streets, immediately west of the study area. This provided the opportunity for council to demolish buildings on George Street, and widen the frontage of Moore Street further north. Between the 1890s and early 1900s a number of new buildings were constructed on Moore Street, and the street was renamed Martin Place in 1921.¹⁰⁹

Sydney Municipal Council resolved to proceed with a further extension in 1923 but this section required extensive demolition of properties in the way of the line of the street, and it faced concerted opposition from land owners, with legal action taken to prevent the resumption of their land.¹¹⁰The extension of Martin Place from Castlereagh Street to Macquarie Street was not completed until 1935, and later suggestions to carry it even further, involving partial demolition of Sydney Hospital, were never carried out.¹¹¹

Sydney City Council began to promote Martin Place as the major financial and insurance centre of Sydney, resulting in many prominent banking, financial and insurance companies establishing themselves in the area from the 1900s (Figure 120).¹¹²Martin Place also became the focal point for civic and ceremonial activity in the city. In 1979 the entirety of Martin Place became a pedestrian precinct, and the Martin Place Railway Station was opened.

Figure 120: Detail from the 1938-1950 Civic Survey, showing the main buildings within the study area. Source: Historical Atlas of Sydney. Study area boundary shown in red.



¹⁰⁹ "Martin Place" Dictionary of Sydney

¹¹⁰ *ibid*

¹¹¹ *ibid*

¹¹² *ibid*

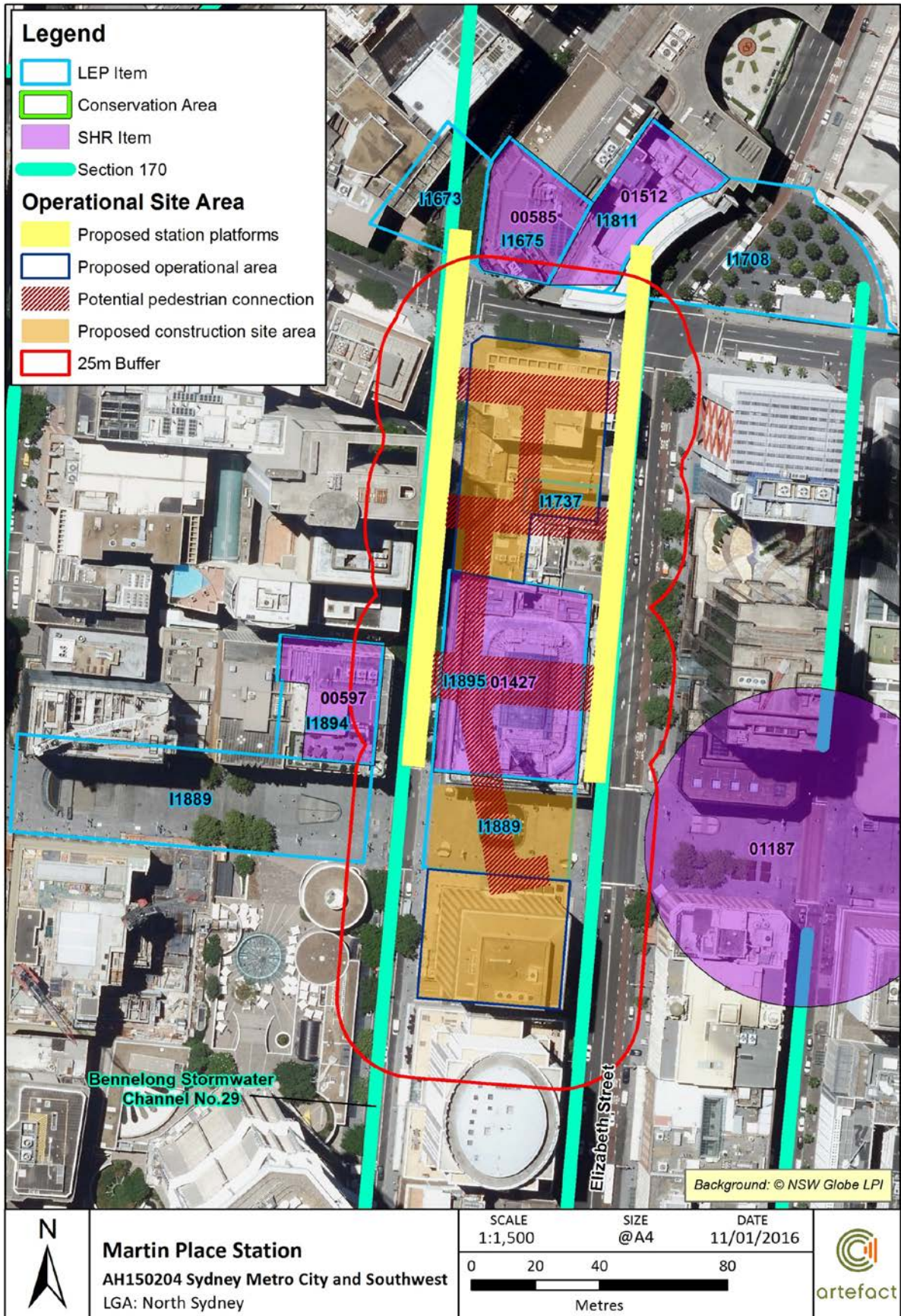
6.8.3 Heritage listed items

The following table outlines the heritage listed items within the study area which are shown in Figure 121.

Table 65: Overview of heritage items within the Martin Place study area

Heritage item	Register listings	Significance	Relationship to study area
Richard Johnson Square including monument and plinth	Sydney LEP 2012 I1673	Local	Partially within buffer zone
Former “MLC” building including interior	State Heritage Register 00597 Sydney LEP 2012 I1894	State	Partially within buffer zone
Former “City Mutual Life Assurance” building including interiors	State Heritage Register 00585 Sydney LEP 2012 I1675	State	Partially within buffer zone
Former “Qantas House” including interiors	State Heritage Register 01512 Sydney LEP 2012 I1811	State	Partially within buffer zone
Chifley Square	Sydney LEP 2012 I1708	Local	Partially within buffer zone
Commonwealth Bank of Australia including interior	State Heritage Register 01427 Sydney LEP 2012 I1895	State	Adjacent to construction area, within buffer zone
Flat building including interior	Sydney LEP 2012 I1737	Local	Within construction area
Martin Place	Sydney LEP 2012 I1889	Local	Partially within construction area and buffer zone
Martin Place Railway Station	State Heritage Register 01187 Sydney LEP 2012 I1891 Sydney Trains S170	State	Partially within construction area
Bennelong Stormwater Channel No.29	Sydney Water S170	Local	Partially within buffer zone

Figure 121: Heritage items within Martin Place study area.



6.8.4 Detailed heritage impact assessments

Heritage items

Table 66: Richard Johnson Square including monument and plinth heritage impact assessment

Richard Johnson Square including monument and plinth¹¹³

Figure 122: Richard Johnson Square and monument.

Image



Significance	Local
Description	Small paved square on the north-west corner of Hunter and Blight Streets, containing an obelisk monument on tiered plinth.
Statement of significance	Richard Johnson Square is historically and culturally significant as an important example of 20th century civic planning.
Impact type	Indirect impact: Views and vistas
Heritage impact assessment	<p>The demolition of 55 Hunter Street within the Martin Place northern site would result in a neutral visual impact to the heritage item. As there is a direct visual connection between the square and the building to be demolished, the works would be altering the streetscape and setting of the heritage item. However, as the building to be removed is a substantial 20th century multi-storey structure that does not contribute to the setting of the heritage item, its removal would not negatively impact on the square.</p> <p>The heritage item has a direct visual connection with the proposed northern-western station entrance. The station entrances would be designed to minimise the street frontage within important urban areas, such as this one. They would consist of awnings, landscaping and street furniture designed to maintain a high quality urban design outcome. The station north-western entrance would have a minor visual impact on the heritage item.</p> <p>There would be no impact to the historical significance if the item.</p> <p>Indirect impact: Minor</p>

¹¹³ Description and Statement of significance extracted from State Heritage Inventory sheet “Richard Johnson Square including monument and plinth” last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=2424648> on 22/10/2015.

Table 67: Former “MLC Building” including interiors heritage impact assessment

Former “MLC Building” including interiors¹¹⁴

Figure 123: MLC Building. Artefact Heritage 2015.

Image



Significance	State
Description	Constructed between 1936 and 1938, the former MLC Building occupies a prominent position on the corner of Martin Place and Castlereagh Streets, Sydney. The building has been maintained in good condition since the substantial renovations of the late 1980s. The main assurance chamber on the ground floor of rare scale and high quality finishes survives in substantially intact condition.
Statement of significance	<p>The former MLC Building is aesthetically significant as one of the best inter-war commercial office buildings in Sydney, and the best example in Australia of the exterior use of Egyptian derived motifs in such buildings.</p> <p>Its quality of design and use of materials make it one of the principal contributors to the architectural character of Martin Place which is recognised as one of Sydney's finest urban spaces.</p> <p>The building contains a substantially intact insurance chamber and relocated boardroom, ante-room and lift lobby and relocated remnants of other architectural features. The former MLC Building is historically significant as one of a small group (about a dozen) of major commercial office buildings constructed in Sydney during the second half of the 1930s. It is associated with the well known Melbourne architects Bates, Smart & McCutcheon, and as the winner of a design competition, reflects the architectural taste of the period.</p>
Impact type	Indirect impact: Views and vistas
Heritage impact assessment	<p>As there is a direct visual connection between the southernmost frontage of the heritage item (facing Martin Place), and the Martin Place southern site, the proposed entrance would have a minor impact on the setting of the heritage item. The structures to be demolished within the southern site do not contribute to the heritage significance or setting of the MLC Building.</p> <p>Indirect impact: Minor</p>

¹¹⁴ Description and Statement of significance extracted from State Heritage Register inventory sheet “Former “MLC Building” including interiors” last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=5045268> on 22/10/2015.

Table 68: Former “City Mutual Life Assurance” heritage impact assessment

Former “City Mutual Life Assurance” building including interiors¹¹⁵

Figure 124: “City Mutual Life Assurance” building. Artefact Heritage 2015.

Image



Significance

State

Description

Constructed in 1936, the former “City Mutual Life Assurance” building is one of the best intact example of Art Deco style applied to a commercial office building in the Sydney CBD.

Statement of significance

The City Mutual Life Assurance Building is one of the foremost examples of high quality and well-designed commercial Art Deco architecture in Sydney's CBD and represents the culmination of the work of one of Australia's foremost proponents of this style, Emil Sodersteen. As a largely intact and well maintained late 1930's structure, the building demonstrates through its powerful exterior elevations and dramatic interior spaces the aesthetic and commercial aspects of Art Deco architecture in Australia.

The building occupies a dominant position in the surrounding urban context, serving as a backdrop to Richard Johnson Square and as a landmark in the Bligh and Hunter Streetscapes. Since its completion in 1936, the building has been a symbol of the Mutual Life Assurance Society and the building stands as a monument to the Society's participation in the evolution of Sydney's business and commerce. Significance of the building's individual components is discussed below.

Exterior

Exterior elevations to Bligh and Hunter Streets represent intact and well-maintained examples of late Art Deco commercial detailing and massing. The materials used to differentiate parts of the building and its proportions demonstrate the Art Deco preoccupation with the precision of modern technology and materials. The tower at the corner of Bligh and Hunter Streets is the focal point of the building and serves as a major landmark to the Richard Johnson Square and the Bligh and Hunter Streetscapes. Materials and detailing at

¹¹⁵ Description and Statement of significance extracted from State Heritage Inventory sheet “Former “City Mutual Life Assurance” building including interiors” last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=5045589> on 22/10/2015.

Former “City Mutual Life Assurance” building including interiors¹¹⁵

lower elevations are oriented to the scale and perceptions of pedestrians. Such detailing includes the glossy granite building base at street level, bronze window sashes and sculptures (by Rayner Hoff) over the main entrances.

Interior

The ground floor main business chamber is the largest and most intact Art Deco commercial chamber in Sydney. It demonstrates Emil Sodersteen's considerable design abilities in accommodating a formally proportioned interior space within an irregular external building envelope. The streamlined space is a controlled image of commercial prestige highlighted by sophisticated detailing and craftsmanship. Scagliola wall and column surfacing, bronze window frames and detailed plasterwork emphasise the overall ambiance of the space. Other major interior spaces that reinforce the total building design include the secondary lift foyers on the ground, first and second floors, and the second floor Board Room.

Impact type Indirect impact: Views and vistas

Heritage impact assessment As there is a direct visual connection between the southernmost frontage of the heritage item (facing Hunter Street), and the proposed Martin Place northern site station building entrance, the station entrance would have a minor impact on the setting of the heritage item. The structures to be demolished do not contribute to the heritage significance or setting of the heritage building.
Indirect impact: Minor

Table 69: Qantas House including interiors heritage impact assessment

Qantas House including interiors¹¹⁶

Figure 125: Qantas House. Artefact Heritage 2015.

Image



Significance	State
Description	Constructed between 1955 and 1957, Qantas House is distinguished by its graceful, segmented, curved facade which consists of a 46m high, double glazed curtain wall of green glass with enamelled blue-green steel spandrel panels. It is located on the western side of Chifley Square which itself is located at the intersection of Elizabeth, Hunter and Phillip Streets in Sydney.
Statement of significance	<p>Qantas House, No. 1 Chifley Square, Sydney, designed in 1950 by Felix Tavener of Rudder Littlemore & Rudder, Architects and completed in 1957 represents the highest standard of architectural response to its urban setting and client needs through its form, composition and construction.</p> <p>A variant of the Post-War International style of architecture, Qantas House represents transitional aspects of 'moderate' 1930s European modernism, combined with the latest in post-war curtain wall technologies and materials and is the best design response to its setting in Australia from this period.</p> <p>Although altered internally, its external facade remains largely intact. The graceful double-curved facade is coherently ordered and its shape reflects and visually reinforces the implementation of a long-planned extension to Elizabeth Street. It became the inspiration for the eventual completion of the ironically named, but no less significant, Chifley Square, modelled on a town planned scheme of some eighty years before. Qantas House is a key defining element in this important, planned, urban space; it provides an appropriate visual termination to important vistas and it visually links to adjoining important buildings and streets. Historically significant as the first planned world headquarters for Qantas Empire Airways, at the time Australia's only, and Government-owned, international airline, the building, and in particular the aerofoil-shaped aluminium mullions of its curtain wall, gives form to Qantas' forward looking and expansive image at a time when air travel was taking off. Qantas Airways remained as its sole occupant for twenty-five years and remains associated with the building through its lease of the ground floor. The building is highly regarded by the people of Sydney</p>

¹¹⁶ Description and Statement of significance extracted from State Heritage Register inventory sheet "Qantas House" last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=5049926> on 22/10/2015.

Qantas House including interiors¹¹⁶

for its inherent aesthetic qualities and its association with Qantas, an Australian corporate icon.

Qantas House is a fine example in the Australian context of intact, post-war, multi-storeyed office buildings from the first phase in the 1950s, and is from the small group in Sydney of this group designed prior to the amendments to the Heights of Buildings Act in 1957 that heralded the subsequent 'high-rise' phase. It has particular rarity within Australia for its unique shape, the outstanding quality of its curtain wall facade and its contribution to its urban setting. As such, it is considered to have heritage significance at a national level.

A well known and much loved city landmark, Qantas House is an icon of its time; a quintessential Sydney building that represents a brave future and a strong sense of history and of place.

Impact type Indirect impact: Views and vistas

Heritage impact assessment As there is a direct visual connection between the southernmost frontage of the heritage item (facing Hunter Street), and the proposed Martin Place northern site station building entrance, the proposed entrance would have a minor impact on the setting of the heritage item. The structures to be demolished do not contribute to the heritage significance or setting of the heritage building.

Indirect impact: Minor

Table 70: Chifley Square heritage impact assessment

Chifley Square¹¹⁷

Figure 126: Chifley Square. Artefact Heritage 2015.



Image

Significance	Local
Description	Constructed between 1957 and 1993 the square is characterised by large-scale high-rise tower buildings interspersed with lower scale development. The majority of towers at the edges of the Square are seen as individual elements within the cityscape, however they follow the street alignment at lower levels, with a curved alignment to the north creating a distinct sense of enclosure for the Square. The curved form of the Square and the recent Aurora Place to the east, visible within this setting, create a unique urban landscape within the Sydney CBD and provide a visual relief and break in the intensely built up area of the financial centre.
Statement of significance	Chifley Square is of historical and aesthetic significance as an early 20th exercise in city planning to create a new public open space, and for its naming to honour J.B. Chifley, Australia's prominent and well loved wartime Prime Minister 1945-1949. The construction of the heritage-listed 1957 Qantas House (designed by Rudder Littlemore and Rudder) at 68-96 Hunter Street was integral to the creation of Chifley Square, and adds to the historical and aesthetic significance of the Square.
Impact type	Indirect impact: Views and vistas
Heritage impact assessment	As there is a direct visual connection between the southernmost frontage of the square (facing Hunter Street), and the proposed Martin Place northern site station building entrance, the proposed entrance would have a minor impact on the setting of the heritage item. The structures to be demolished do not contribute to the heritage significance or setting of the heritage building. The historical significance of the item would not be impacted. Indirect impact: Minor

¹¹⁷ Description and Statement of significance extracted from State Heritage Inventory sheet "Chifley Square" last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=2431190> on 22/10/2015.

Table 71: Commonwealth Bank Australia including interior heritage impact assessment

Commonwealth Bank of Australia including interior¹¹⁸

Figure 127: Commonwealth Bank of Australia. Artefact Heritage 2015.

Image



Significance	State
Description	Constructed between 1925 and 1928, the Commonwealth Bank building fronts Martin Place on the south, Elizabeth Street on the east and Castlereagh Street on the west. The building is an extensive eleven-storey structure plus mezzanine above ground, with three basement levels. Externally the building displays monumental civic scale and precise, symmetrical detailing utilising classical motifs.
Statement of significance	<p>The Commonwealth Bank at 48 Martin Place is culturally significant at a National level as a rare example of Inter-War Beaux-Arts architecture demonstrating outstanding technical accomplishment. It is also of exceptional local and State significance. Located at a prominent address on Martin Place, the building played an important role in the development of the economy in New South Wales during the 1920s. The building was constructed between 1925 and 1928 and is one of the most important examples of its style and type within New South Wales and Australia. 48 Martin Place is one of the finest banking institutions in Australia and the finest in New South Wales. The cultural significance of 48 Martin Place and its setting will be maintained through its association with the Commonwealth Bank of Australia.</p> <p>The item has been assessed as historically, aesthetically and socially significant with rarity values at a state level.</p>
Impact type	Indirect impact: Views and vistas Potential direct impact: Vibration

¹¹⁸ Description and Statement of significance extracted from State Heritage Register inventory sheet “Commonwealth Bank” last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=5045790> on 22/10/2015.

Commonwealth Bank of Australia including interior¹¹⁸

Heritage impact
assessment

The following assessment of heritage impacts is based on the SHR criteria mentioned above.

The historical significance of the item would not be impacted as it will retain its use and character. The fabric of the item would be subject to negligible impacts.

The closest façade of this item would not experience vibration above the 7.5mm/s screening level for cosmetic damage, however demolition of existing adjacent and adjoining structures to the north and south of this item may result in vibration impacts above the screening level for cosmetic damage. The use of roadheaders and rock hammers to be used in the construction of adits and pedestrian connections between platforms and directly below the heritage item have been designed to provide adequate clearance for the foundations and basement of the heritage building. Vibration modelling indicates that this item would not sustain damage due to vibration impacts provided that small equipment is adopted whenever works are occurring in close proximity to the building. The risk of settlement of the building resulting from the construction of Martin Place Station has been identified as being negligible. Vibration modelling indicates that vibration levels resulting from shaft excavation would not exceed the vibration screening level for cosmetic damage.

The aesthetic significance of the item is primarily in relation to its design and materials. These elements of aesthetic value would not be impacted by the project. The structures to be demolished to the north and south do not contribute to the heritage significance or setting of the heritage building, however, their removal would alter the existing streetscape considerably. The position of the item in the streetscape does contribute to its significance. The removal of these buildings, and the introduction of the proposed Martin Place southern site station entrance, would have a moderate impact on setting of the heritage item.

The social significance of the item would not be impacted as it would retain its use as a banking institution and public association with that industry.

The rarity of the item would not be impacted by the project as the fabric of the item would be subject to negligible impacts.

Potential direct impact: Minor

Indirect impact: Moderate

Table 72: Flat building including interiors heritage impact assessment

Flat building including interiors¹¹⁹

Figure 128: Flat building. Artefact Heritage 2015.

Image	
Significance	Local
Description	<p>Constructed between 1939 and 1940, the heritage item consists of a 10-storey apartment building, designed to contain 54 flats with two shops at ground floor level and a basement restaurant.</p>
Statement of significance	<p>The building is historically significant because it is the only block of flats constructed in the City of Sydney during the 1930s to have survived and still fulfil its function as a residential building. The building is aesthetically significant because of its associations with two prominent and influential designers, architect Emil Sodersten and interior designer Marion Hall Best. Emil Sodersten was one of the most important architects to have practised in New South Wales during the 1920s and 1930s. Famous for the residential flat buildings that were designed in his office, this is the only one known to have been constructed in the CBD and shows the influence of the modernist European architecture on his work. As such it has state significance [however, the item is listed as having local significance]. Its interiors were an early and well publicised example of the work of Marion Hall Best, who went on to exercise a great influence on interior design in this state during the three decades after World War II.</p> <p>The building has been assessed for its historical, associative and aesthetic and social significance at a local level. The building is a representative example of an inter war apartment block and rare in the context of the Sydney CBD.</p>
Impact type	Direct impact: Physical; demolition
Heritage impact assessment	<p>The project would require the complete demolition of this building to facilitate the Martin Place northern site. This would result in a total loss of heritage fabric, and de-listing of the heritage item. The historical, associative and aesthetic and social significance of the item would be completely lost.</p> <p>Direct impact: Major – complete demolition</p>

¹¹⁹ Description and Statement of significance extracted from State Heritage inventory sheet “Flat Building including interiors” last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=2428684> on 22/10/2015.

Table 73: Martin Place heritage impact assessment

Martin Place¹²⁰

Figure 129: Martin Place, view to the east. Artefact Heritage 2015.

Image



Significance

Local

Description

Constructed in 1891, Martin Place consists of a streetscape bounded by Macquarie Street and terminated by George Street, characterised by commercial buildings.

Statement of significance

Martin Place has Historic and Aesthetic Significance for ability to evidence the development of Victorian and Interwar Sydney as a prestige address for institutional buildings. Ability to reflect the status of Sydney because of its relationship with Institutional Buildings. It is significant for its ability to contribute to understanding the nineteenth and twentieth century town planning intention. It has ability to evidence key period of building activity during the Victorian period and later the interwar period and post war period in direct response to the Height of Building controls. Martin Place has Historic Association Significance for its association with Sir James Martin, premier and Chief Justice of NSW.

Recommended management¹²¹

RECOGNISE THE HISTORICAL LAYERS Victorian Development These form the character of the city Interwar Development Buildings of the early twentieth century usually have an appropriate scale and are therefore neutral elements although some buildings may contribute to the significance of the area and are therefore contributing elements Interwar development provides a greater range of finishes, greater extent of solid façade and recessed balconies which provide more wall façade than post-60's development. Interwar development provides hierarchical composition to centre, base, middle and top and a stepped skyline Associated planting lessens visual impact of Interwar development Buildings of the Post-War Development were seen to indicate Sydney's progressive status
PROTECTION OF SIGNIFICANCE Protect Subdivision Pattern Retain Victorian, subdivision Do not allow amalgamation of sites within these important subdivisions Retain the block width characteristics of an area Protect Key Period Significant (Contributory) Development and Settings Retain Victorian Public Buildings Retain Victorian Commercial Buildings Retain Interwar Buildings where they contribute to the streetscape Retain significant corner buildings Retain Scale Maintain building alignments Retain pattern of forms Retain finishes and details

¹²⁰ Description and Statement of significance extracted from State Heritage Register inventory sheet "Martin Place" last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=2424652> on 22/10/2015.

¹²¹ Recommended management extracted from SHI listing 'Martin Place.'

Martin Place¹²⁰

Protect Significant Building Type – Warehouse Retain scale and finishes. Remove detracting additions to (Contributory) Development Awnings Airconditioning Dominating signage Large infill shopfront (reconstruction may be required) Reinforce the street character dominant scale Maintain scale of development abutting lanes so that it is complementary to adjacent buildings and encourages pedestrian use by providing for retail or other activity in the lane. Reinforce the dominant street character and scale Retain scale of institutional development Maintain characteristic building alignment Retain characteristic building form and façade composition Retain characteristic building finishes and details Change of Use Retain commercial usage Retain institutional usage Retain an understanding of a former use by not allowing the new use to compromise the significant façade.

ENHANCEMENT OF STREETScape SETTING Landscaping Encourage trees at the end of streets to reinforce landscape vistas and frame views. Encourage trees to screen detracting development Views Protect the close and distant views which are important to the character of the city Reinforce street end vistas with street trees Pedestrianisation Retain role of the space as public open space, by maintaining and enhancing pedestrian access and activity. Street Parking Incorporate street trees. Do not alter street alignment. Car Parking/ Access (CBD) Do allow new car access from the street Generally allow parking access from rear lanes Reduce the impact of below ground garages by narrowing garage door, garage lighting screening, providing appropriate gates and doors and providing landscape screening

ENHANCE SIGNIFICANCE ON REDEVELOPED SITE Redevelopment of Detracting Sites Respect the Established Area Character Encourage appropriate replacement development on detracting sites. Recognise the collective precedent and impact of the proposal. Recognise the verticality of significant City streetscapes Avoid raised podiums Respect the character of precinct Respect the scale and form of significant development Prepare policy for development of former industrial sites (Glebe) or large sites Respect the Established Facade Encourage reinterpretation of Victorian Subdivision in the vicinity Respect building line, scale, form and roof pitch of significant development in the vicinity Encourage façade qualities being multiple finishes, greater extent of solid façade and recessed balconies. Reduce the impact of uncharacteristic scale and large extent of glass Reduce the impact of minimal setbacks for increased building height Encourage streetwalls Encourage reinterpretation of adjacent significant façade composition Encourage rendered and painted finishes Encourage an appropriate level of contemporary decorative detail Avoid Visual Clutter Reduce the impact of A/C, signs etc. Awnings should not occur in street Disallow bridges and projections over the street lane which overshadows the Lane, obstructs a view or vista or diminishes pedestrian activity at ground level Landscape screening Encourage screening (landscape and architectural) to detracting development by appropriate policy Enhance Significance of Area Establish/maintain and enhance street planting to unify streetscapes Encourage render/paint/stone finishes to detracting developments Remove / discourage reproduction of period detail in contemporary development Provide landscape screening to detracting sites Promote public buildings Promote retail strip Promote articles on improvements within the area

RECOMMENDATIONS FOR LEP PROTECTION BOUNDARY ADJUSTMENT Adjust boundary to include areas which do contribute to an understanding of the significance of the Streetscape. Consider extension of the boundary of the Streetscape to Angel Place.

STATUTORY PROTECTION Confirm listing in the LEP Interpretation Interpret Victorian street lane pattern and subdivision Encourage historical interpretation of the laneway.

Impact type Direct impact: Excavation
Indirect impact: Views and vistas

Heritage impact assessment Cut and cover excavation of a portion of Martin Place plaza during construction to facilitate the Martin Place southern site would constitute a moderate impact to fabric of the heritage item. This would not affect the associative or historical significance of the item as it would retain its purpose and relationship with significant historic buildings.
Direct impact: Moderate
The construction of the Martin Place southern station site building may result in a minor to moderate impact on the setting of the heritage item. This would impact its aesthetic significance. Demolition of the existing exit and entry stairs to the station would not have a negative impact on the setting of the item, but would open up public space and improve views across the plaza. There would be a temporary visual impact during construction while the plaza is closed off, but once operational the visual impacts resulting from works within the plaza itself would be negligible.
Indirect impact: Minor to moderate

Table 74: Martin Place Railway Station heritage impact assessment

Martin Place Railway Station¹²²

Figure 130: Station entrance in Martin Place [left] and public concourse [right].

Image	
Significance	State
Description	<p>Constructed between 1973 and 1979 Martin Place Railway Station consists of an underground complex, accessed via stairs from Martin Place and then banks of three escalators to the concourse level. Pedestrian access is via arcades constructed at the same time as the station and leading to adjacent office and retail plazas.</p>
Statement of significance	<p>Martin Place Railway Station is significant as a representative example of the most recent major railway construction undertaken in Sydney city, as part of the Eastern Suburbs Railway (ESR). The design of the Martin Place Station as displayed in its colour scheme particularly, reflects the design ideas of the 1920s city underground stations such as St James and Museum, and the individual colour schemes used for each of the stations on the ESR. Martin Place is a good example of a late Twentieth-Century International style structure which is highly intact with many of its original materials and finishes still in place.</p> <p>Martin Place Station is listed on the SHR for its rarity values. The section 170 and LEP listings for the item also recognise its representativeness, aesthetic, social and historical significance</p>
Impact type	Direct impact: Project connects directly to station
Heritage impact assessment	<p>The historical significance of the item would not be impacted as it would retain its use and character. There are other examples of red ceramic tiling throughout the item, which would not be impacted by the project.</p> <p>Interchange of the project to Martin Place Railway Station would be provided through the excavation of a mined tunnel that would tie into the western extent of the existing Eastern Suburbs Line platform cavern. This connection would break through from the station cross passage beneath Martin Place and Elizabeth Street into the western end of the existing Martin Place station platform. The entrance point to the platform would include the removal of red ceramic tiling from the western end of Martin Place Station as well as altering the configuration and movement of passengers through the station. The red ceramic tiling is a key component of the aesthetic significance of the item. Red tiling is used sparingly within the platform cavern, with the eastern and western ends of the platform a key visible use of the material. These works would result in moderate impact to the heritage item's aesthetic significance through removal of original fabric.</p> <p>The social significance of the item would not be impacted as it would retain its use as a railway station and public association with that use.</p> <p>The representativeness of the item would not be impacted by the project as impacts to fabric would be limited to one discrete area, with examples of similar fabric remaining at other locations within the station.</p> <p>The rarity of the item would not be adversely impacted as only a portion of fabric would be impacted.</p> <p>Direct impact: Moderate</p>

¹²² Description and Statement of significance extracted from State Heritage Register inventory sheet "Martin Place Railway Station" last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=5012097> on 22/10/2015.

Table 75: Bennelong Stormwater Channel No. 29 heritage impact assessment

Bennelong Stormwater Channel No. 29¹²³

Figure 131: Curtilage plan for Bennelong Stormwater Channel No. 29.



Image

Significance

Local

Description

Constructed between 1856 and 1856, the Bennelong sewer consists of a combined sewer/stormwater drain. It is oviform in shape with dimensions of 1.5 metres by 1.2 metres. The system is constructed of brick with some sections tunnelled in sandstone along Tarpian Way (Circular Quay East). This Stormwater channel drains an area of 65 hectares in total, with its uppermost point being the Obelisk vent shaft at Hyde Park. From here it works its way down along Pitt, Castlereagh, Elizabeth, Phillip and Macquarie Streets to the outlet at Bennelong Point.

Statement of significance

The Bennelong Stormwater Channel is of high historical and technical significance as it was one of the five original combined sewers built in Sydney around 1857. The other four sewers were; Blackwattle Bay, Hay Street, Tank Stream and Woolloomooloo. These five sewers were responsible for greatly improving public health, hygiene and living standards for the city's residents. This was done by diverting stormwater and sewerage from the streets and discharging it out into the Harbour currents. The introduction of the Bondi Ocean Outfall Sewer in 1889 diverted sewer flow to the ocean and eventually led to the drain being used predominantly for stormwater, hence further improving public health. Of the five combined sewers Bennelong is probably the most significant, as it is the most intact and was originally known as the "main sewer" because it serviced the CBD area. It was also the first oviform sewer to be built in Australia. Furthermore, the Margaret Street Sewer, which was once attached to the Bennelong system, contains the first sewer aqueduct to be built in Australia. This aqueduct runs along Hunter Street, which is part of the Bennelong catchment.

Impact type

Potential direct impact: Vibration

Heritage impact assessment

The demolition of existing buildings, and construction of the proposed Martin Place northern and southern sites, may have a minor impact to fabric as a result of vibration associated with construction. Minor vibration impacts may occur due to the use of roadheaders and rock hammers in the construction of the station and underground adits and pedestrian connections between platforms. This item would experience vibration above the 7.5mm/s screening level for cosmetic damage.
Potential direct impact: Minor

¹²³ Description and Statement of significance extracted from State Heritage Inventory sheet "Bennelong Stormwater Channel No. 29" last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=4570854> on 22/10/2015.

6.8.5 Archaeological assessment

The following archaeological assessment focuses on the proposed northern and southern station sites, the construction of which would require the demolition of existing buildings and construction of new infrastructure, incorporating lift shafts and tunnelled access to the proposed platforms.

6.8.5.1 Previous archaeological investigations in the vicinity

During October and November 2007 Godden Mackay Pty Ltd undertook archaeological investigations in Angel Place, located between Pitt and George Streets.¹²⁴

During a program of archaeological monitoring and testing in areas that were found to have been undisturbed by later development, the archaeologists uncovered remains of early European settlement in the area surrounding the former banks of the Tank Stream. This included palynological evidence of European clearance of the trees and vegetation in the valley of the Tank Stream and evidence of early landscape modification.

A number of drains were also identified, including a substantial sandstock brick barrel drain, interpreted as dating to the period c.1810-15, which drained from the early property into the Tank Stream. The cut for a former well was also identified, although the brick lining had been removed. The fill of the well was found to contain an extensive assemblage of locally-made earthenware vessels, glass and faunal remains. The site was also found to contain archaeological remains dating to the mid and later 19th centuries, including an early sandstone retaining wall and evidence of later buildings.

Martin Place, listed on the Sydney LEP 2012, is also listed as being an archaeological item.

6.8.5.2 Site inspection results

The Martin Place Station site is located across a built environment on a gentle slope down to the west. No areas of surface visibility or intact ground surface were observed. The southern portion of the proposed station site includes the existing access to Martin Place Station.

Figure 132: View east across Martin Place and existing entrance to Martin Place station



Figure 133: View northwest across Castlereagh Street to proposed northern station entrance



6.8.5.3 Known impacts

Subsurface impacts associated with former or current land uses have the potential to remove or damage potential archaeological remains. Previous impacts within the site need to be further understood and identified before more than a preliminary assessment of archaeological impact can be made.

¹²⁴ Godden Mackay Heritage Consultants *Angel Place Project Volume 1 - Final Report*, prepared for AMP Asset Management Australia Ltd. 1997

Based on the initial literature review and site inspection undertaken as part of this assessment, the following preliminary assumptions regarding archaeology at the site can be made:

- Sites within Sydney CBD tend to have been occupied intensively, and therefore have the potential to contain a range of archaeological evidence dating to different periods of use.
- Many large buildings constructed within the vicinity of Martin Place utilised advancing technologies that allowed for the construction of deep and substantial basements. Depth and extent of basement information available indicate that basement excavation has occurred in many locations within the station site excavation areas.

6.8.5.4 Discussion of archaeological potential

Preliminary analysis suggests that the archaeological resource, if it survives within the study area, would be associated with early to late 19th century residences, shopfronts and small scale industrial workshops.

Archaeological remains within the Sydney CBD can be substantially intact, and date from early phases of the development of the colony. Therefore, an intact and early archaeological resource in the study area has the potential to have significance at a State level. This would therefore require further archaeological investigation or assessment in order to mitigate any impacts to the resource that may arise from the proposed demolition, construction and tunnelling works.

6.8.5.5 Preliminary assessment of significance

The following is a preliminary assessment of significance, informed by the NSW Heritage Criteria for *Assessing Significance related to Archaeological Sites and 'Relics'* (2009).

Archaeological research potential (NSW Heritage Criterion E):

- Archaeological remains associated with early development and establishment of the colony would have significant research potential, dependant on the nature and extent of any remains. Although there is a nil-low potential for evidence of early settlement and cultivation such as drains and postholes to remain, any such archaeological remains would be rare and of high significance. There is a moderate potential for remains of pre-1850s occupation and development to be present within the study area. There is limited information available on the use of the structures evident in the study area before 1850, therefore any remains, particularly archaeological deposits associated with yard scatters, cess pits, wells or rubbish pits are likely to have a high research potential.

Association with individuals, events, or groups of historical importance (NSW Heritage Criteria A, B & D):

- It is possible that evidence of early residential development of the study area may have associations with former residents and known local historical figures. Specific associations have not been identified at this stage.

Aesthetic or technical significance (NSW Heritage Criterion C):

- Remains of early buildings may have some technical significance depending on their construction methodology.

Ability to demonstrate the past through archaeological remains (NSW Heritage Criterion A, C, F & G):

- The study area has the potential to demonstrate the past through archaeological remains. It is likely, however that any archaeological remains may be truncated, removed or damaged by later construction on the site.

Overall, the site may contain archaeological remains with potential to reach the local and State significance thresholds.

6.8.5.6 Overview archaeological potential

The study area has low to high potential to contain a substantial archaeological resource with the potential to reach the local and State significance thresholds.

Table 76: Summary of archaeological potential within study area

Potential archaeological resource	Potential	Significance	Heritage impact assessment
Evidence of early establishment of the colony – for example, evidence of land clearance and cultivation, early structures, drains.	Nil-low	Local-State	Excavation works within the study area have nil-low potential to impact on archaeological remains.
Pre-1850s residential and commercial development – stone or brick footings, remnant flooring, drains, rubbish pits, wells, cesspits, occupation deposits and yard scatters.	Moderate	Local - State	Excavation works within the study area have moderate potential to impact on archaeological remains
Late 19th century residential and commercial development – stone or brick footings, basements, rubbish pits, wells, cesspits, occupation deposits and yard scatters.	Moderate	Local	Excavation works within the study area have moderate potential to impact on archaeological remains
Early to mid-20th century commercial development – brick or stone foundations.	Moderate - high	May reach local significance threshold.	Excavation works within the study area have moderate - high potential to impact on archaeological remains.

6.8.5.7 Archaeological impact assessment

Proposed works within the Martin Place Station site with the potential to impact on archaeological remains include:

- Excavation during demolition works
- Excavation of open shafts during construction phase to allow access to the mined tunnels.

The excavation of the open shafts allowing access to the mined tunnels would result in the complete removal archaeological remains within the station box footprint. Therefore, works in these locations would have a major impact on potential archaeological resources.

6.8.6 Overview of constraints

The following table outlines the potential heritage constraints within the study area:

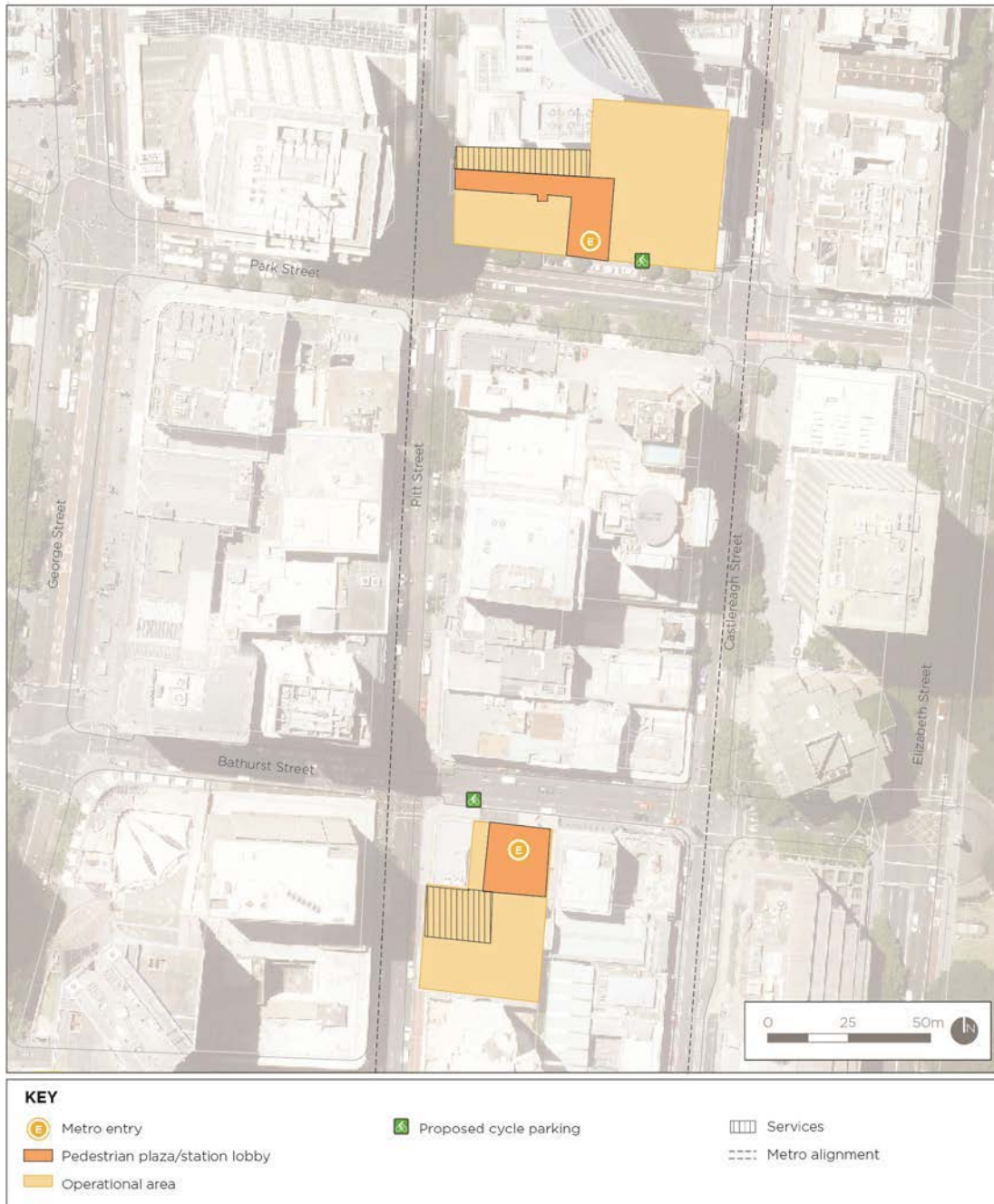
Table 77: Overview of potential heritage constraints for Martin Place study area.

Heritage item	Potential heritage impacts		
	Direct impact	Archaeological impact	Indirect impact
Richard Johnson Square including monument and plinth	Neutral	Neutral	Minor – views and vistas
Former “MLC” building including interior	Neutral	Neutral	Minor – views and vistas
Former “City Mutual Life Assurance” building including interiors	Neutral	Neutral	Minor – views and vistas
Former “Qantas House” including interiors	Neutral	Neutral	Minor – views and vistas
Chifley Square	Neutral	Neutral	Minor – views and vistas
Commonwealth Bank of Australia including interior	Direct impact: Minor (vibration)	Neutral	Moderate – views and vistas
Flat building including interior	Major – complete demolition	N/A	N/A
Martin Place	Direct impact: moderate (excavation)	See ‘potential archaeological resource’ below	Minor to moderate – views and vistas
Martin Place Railway Station	Direct impact: moderate (interchange)	Neutral	Neutral
Bennelong Stormwater Channel No.29	Potential direct impact: Minor (vibration)	Neutral	Neutral
Potential archaeological resource within the study area	N/A	Major impact – low to moderate potential for local and state significant archaeological remains	N/A

6.9 Pitt Street station

Pitt Street Station is located within the midtown precinct of the Sydney Central Business District, with a strong retail focus, as well as a mix of commercial, residential and civic buildings. The local area includes a number of listed heritage items, including Sydney Town Hall, the Queen Victoria Building and St Andrews Cathedral. It is also near open spaces such as Hyde Park and Pitt Street Mall.

Figure 134: Location and indicative layout of Pitt Street Station



6.9.1 Construction

The design involves a binocular station cavern arrangement with both platforms at the same level under Pitt and Castlereagh Streets. It has two separated entrances with the southern entry on Bathurst Street and the northern entry on the corner of Pitt and Park Street with the entry off Park Street (Figure 134 and Figure 135).

Following the shaft excavation works, roadheaders are proposed to be launched from the northern shaft to excavate the station caverns and adits.

Site specific features of the proposed works for Pitt Street include;

- Contiguous piles encompassing cut and cover boxes extending into competent rock
- Northern open shaft minimum of 15.0 x 20.0m and southern mucking opening minimum of 8.0 x 8.0 metre for the removal of spoil and mobilization of machinery.
- Road headers launched from northern shaft to maximise site area at the southern site.
- Shafts excavated to required depth and backfilled for the launch/recovery of roadheaders to enable top heading, followed by bench excavation (when necessary for sequencing).

Figure 135: Pitt Street Station construction site layout.



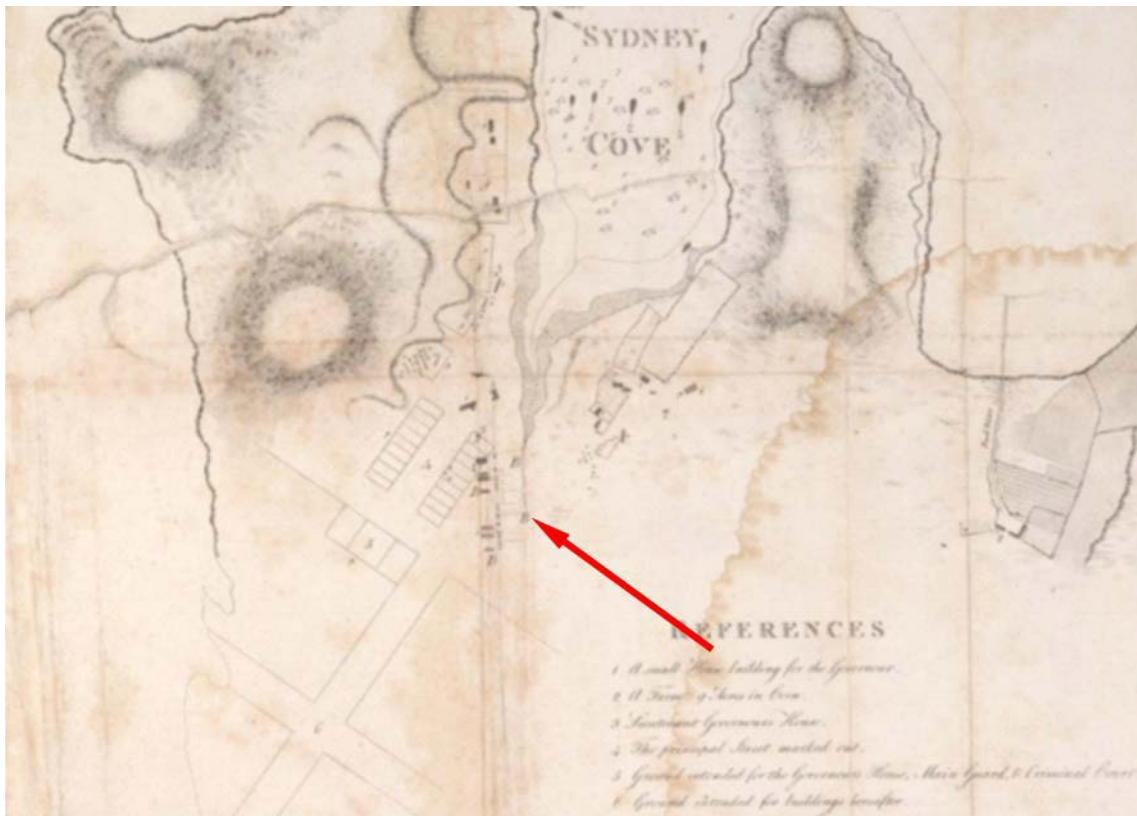
6.9.2 History of the study area

The study area slopes to the west, towards Darling Harbour, although historical modification of this landscape to better facilitate construction of roads and houses, has lessened this incline.¹²⁵ The study area falls just short of the marshy delta containing the Tank Stream.

During the earliest years of settlement, it is likely that the study area was considered to be too far from Sydney Cove to attract substantial occupation. A sketch of Sydney Cove and Port Jackson produced by Captain Hunter in 1788 indicates that the study area was “intended for buildings hereafter” (labelled with a “6” and illustrated in Figure 136 below). By the 1790s the northern portion of Pitt Row, that would later become Pitt Street, had been laid out.

Early plans do not indicate that the study area was occupied in the 1790s (Figure 136), although there is the possibility that occupation had commenced in this area. The presence of the burial ground, in the vicinity of present-day Sydney Town Hall and to the west of the study area, suggests that this area was considered the outer limit of the Town of Sydney.

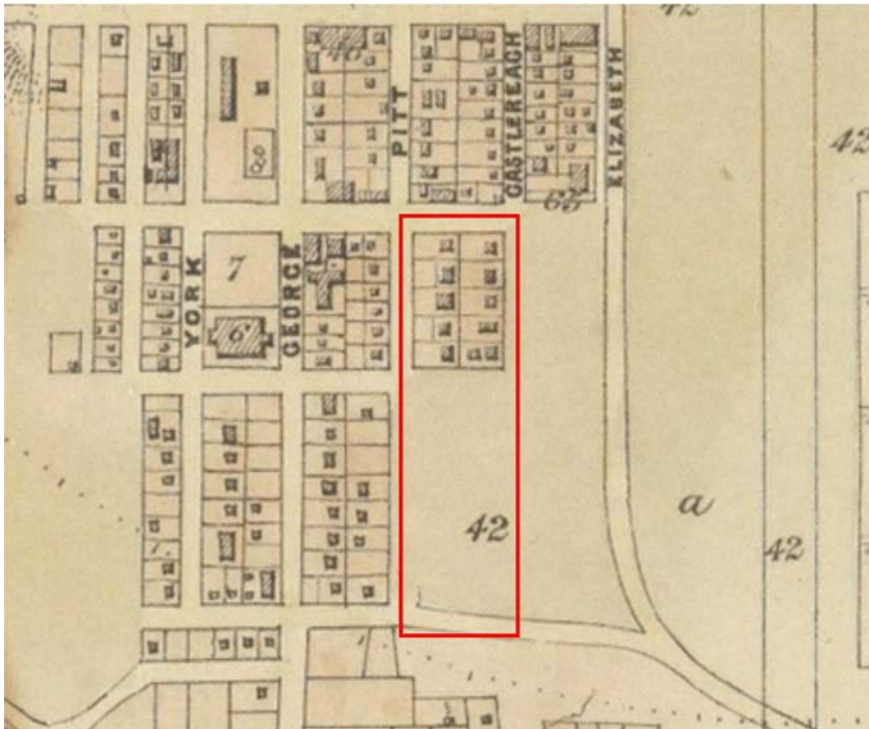
Figure 136: A Sketch of Sydney Cove and Port Jackson by Captain Hunter, 1788, the approximate location of Pitt Street has been arrowed. Source: NLA MAP NK 2456/124.



By 1822 (Figure 137) the northern portion of the study area, north of Bathurst Street, was occupied by small allotments containing one or two timber huts, set back from the street and with yards behind. The southernmost portion of the study area, south of Park Street, was set aside for a ‘race ground’ at this time.

¹²⁵ Thorp, W. for Abigroup *Archaeological Assessment. Former YMCA Buildings, 323-327 Pitt Street, 90-100 Bathurst Street Sydney*. October 1997: 12.

Figure 137: Plan of the Town and Suburbs of Sydney, August, 1822. NLA MAP F 107.
Approximate location of the study area shown in red.



A description of the study area in approximately 1810 was provided by Obed West. He described the land up to Park Street as being unfenced, unoccupied, covered in low scrub and scattered with grass trees. There were a few cottages near the south-western corner of Park Street and its intersection with George Street but between there and Bathurst Street only one cottage was present.¹²⁶

By the 1830s this area of Sydney was characterised as a residential precinct. It was described in 1839;

"From the crossing of Park Street to its southern termination, Pitt Street, although less occupied by expensive buildings, is remarkable for the neatness and cheerful appearance displayed by most of the cottages with which it is lined either side; the small garden plots before them, their shaded verandahs, and the regularity of design which many of them display, taken altogether, not only pleases the eye and gratify the taste, but also have a direct tendency to recall the rustic beauties of Old England to the memory of every one which can think of the land he has left, and rejoice in the land now his Home"¹²⁷

Sydney had greatly expanded by the 1840s particularly due to a massive building boom in the 1830s. Land that once had been on the outer limits of the town was then incorporated into the spreading commercial district.¹²⁸ Pitt Street was included in this expansive period of urban development. By the mid 1840s either the earlier houses had been demolished and replaced by new buildings or they had come to serve new purposes principally for a variety of trades and businesses.¹²⁹

¹²⁶ Obed West in Thorp, W. October 1997: 12.

¹²⁷ The Picture of Sydney and Strangers Guide in New South Wales for 1838; 72.

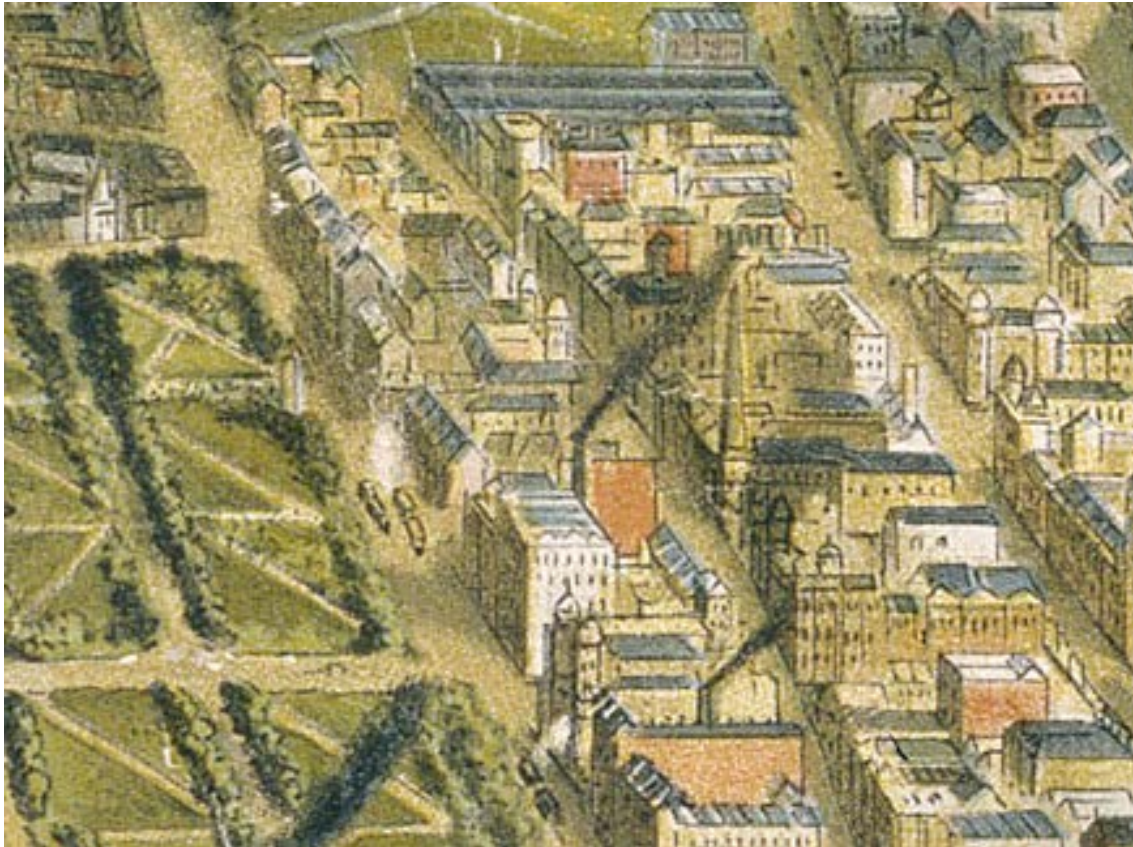
¹²⁸ Thorp, W. October 1997: 15.

¹²⁹ Thorp, W. October 1997: 15.

By the mid 1850s the area was densely occupied by a number of residences and retail frontages. The majority of the buildings are likely to have been constructed of brick, and consisted of one or two storeys.

By the 1880s, the study area was occupied by coach factories and workshops, an auction room, numerous hotels, ironmongers, fruit sellers, florist, dentist, churches, a bakery, private school chemist, sadler, photographer and undertaker, among others (Figure 138).

Figure 138: Detail from the 1888 panorama – The City of Sydney a bird's-eye view. MLNSW M3 811.17s/1888.1A



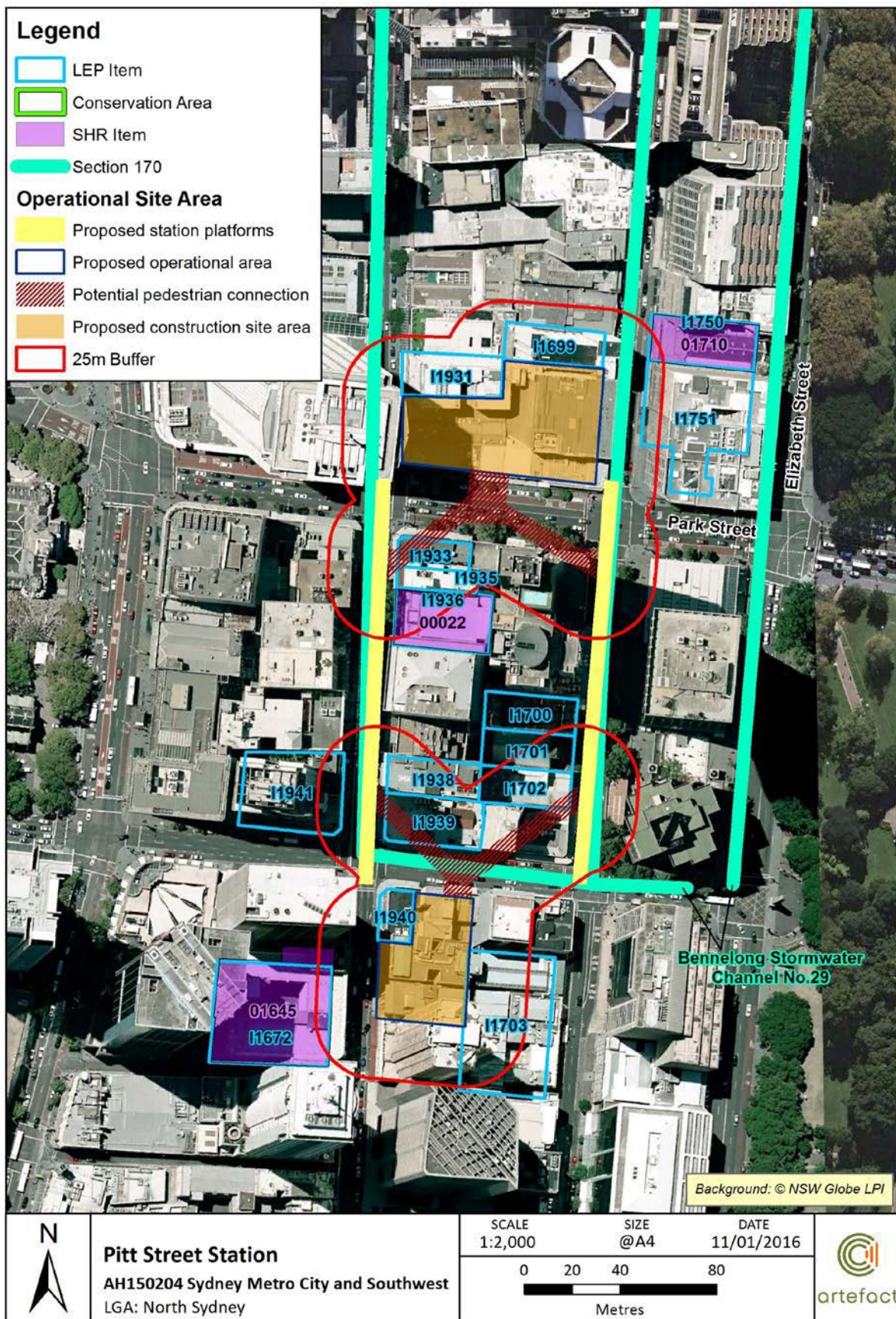
6.9.3 Heritage listed items

Table 78 outlines the heritage items that lie partly, or wholly, within the study area and buffer zone. These items are illustrated in Figure 139.

Table 78: Heritage items within the Pitt Street study area.

Heritage item	Register listings	Significance	Relationship to the study area
“National Building” including interior	Sydney LEP 2012 item no. I1931	Local	Adjacent to the construction area, within buffer zone
Masonic Club (this site has an archaeological component)	Sydney LEP 2012 item no. I1699	Local	Partially within buffer zone
Great Synagogue including interior	SHR no. 01710 Sydney LEP 2012 item no. I1750	State	Partially within buffer zone
Criterion Hotel including interior	Sydney LEP 2012 item no. I1933	Local	Partially within construction area and buffer zone
“Pilgrim House” including interior	Sydney LEP 2012 item no. I1935	Local	Partially within construction area and buffer zone
Former “CENEF House” including interiors	Sydney LEP 2012 item no. I1700	Local	Partially within buffer zone
St George’s Church including interior and forecourt	Sydney LEP 2012 item no. I1701	Local	Partially within buffer zone
“Porter House” including interior	Sydney LEP 2012 item no. I1702	Local	Partially within construction area
“Lincoln Building” including interior	Sydney LEP 2012 item no. I1938	Local	Partially within buffer zone
Former “YMCA”: building including interiors	Sydney LEP 2012 item no. I941	Local	Partially within buffer zone
Former “Speedwell House” including interiors	Sydney LEP 2012 item no. I1939	Local	Partially within construction area
Edinburgh Castle Hotel	Sydney LEP 2012 item no. I1940	Local	Adjacent to the construction area, within buffer zone
Metropolitan Fire Brigade building including interior	Sydney LEP 2012 item no. I1703	Local	Adjacent to the construction area, within buffer zone
Pitt Street Uniting Church	SHR no. 00022 Sydney LEP 2012 item no. I1936	State	Within construction area
Former “Australian Consolidated Press” façade	Sydney LEP 2012 item no. I1751	Local	Partially within buffer zone
Former Sydney Water Building	State Heritage Register 01645 Sydney LEP 2012 item no. I1672	State	Partially within buffer zone
Bennelong Stormwater Channel No. 29	Sydney Water S170	Local	Partially within buffer zone

Figure 139: Heritage items within the Pitt Street station study area and buffer zone.




6.9.4 Detailed heritage impact assessments

Heritage items

Table 79: “National Building” including interior heritage impact assessment

“National Building” including interior¹³⁰

Figure 140: “National Building.” Artefact Heritage 2015.

Image	
Significance	Local
Description	<p>Constructed between 1923 and 1926, the National Building is a prominent high rise building within its Pitt Street block. The twelve storey facade comprises a three storey rusticated base incorporating shopfront below the awning and two storey arched steel windows with rondels and a central cartouche.</p>
Statement of significance	<p>National Building is a twelve storey reinforced concrete commercial building constructed in the Interwar Commercial Palazzo style and having a prominent position due to its height relative to the streetscape. The building has historic significance as a reflection of the history of building societies and other investment institutions in the commercial life of Sydney. It is an important building in the professional work of the architectural firm of Joseland & Gilling. The building has a high aesthetic significance as a fine and largely intact example of the style and includes many of the identifying elements such as the arched windows, antique cornice and terrazzo plasterwork.</p>
Impact type	<p>Potential direct impact: Vibration and demolition of adjoining structures Indirect impact: Views and vistas</p>
Heritage impact assessment	<p>Demolition of adjoining buildings to facilitate construction of the Pitt Street northern site station entrance may result in minor physical impacts to the heritage item through vibration. The closest façade of this item would experience vibration above the screening level for cosmetic damage. The façade of the heritage building would not be affected by the proposed demolition.</p> <p>Potential direct impact: Minor The removal of the adjacent buildings that are low in form and date from the early to mid-twentieth century, and introduction of the proposed Pitt Street northern site, would have a minor to moderate impact on the setting of the heritage building. The visual impact of the heritage item being located adjacent to an operational station entrance would be minor, as the heritage item is oriented to the west (Pitt Street) and the proposed entrances to the south (Park Street).</p> <p>Indirect impact: Minor</p>

¹³⁰ Description and Statement of significance extracted from State Heritage Register inventory sheet “National Building including interior” last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=2424046> on 22/10/2015.

Table 80: “Masonic Club” including interior heritage impact assessment

“Masonic Club” including interior¹³¹

Figure 141: “Masonic Club” Artefact Heritage 2015.

Image



Significance

Local

Description

Constructed in 1925, the Masonic Club is a twelve storey sandstone building constructed in the Inter-war Commercial Palazzo style.

Statement of significance

The Masonic Club is significant as a fine example of the Inter-war Commercial Palazzo style. It is a twelve storey sandstone building, symmetrical in its massing with three distinct sections that are fundamentally classical in composition. Designed and built by the Masonic Lodge in 1925, it is socially and historically significant for its continued associations with this nationally influential social organisation. Its skilfully designed sandstone façade is an important contributor to the streetscape and reflects an important period of urban growth during the 1920s. Its interiors are both aesthetically and historically significant. The double volume main Dining Room is a fine example of a classically derived interior pertaining to the Gentleman's Club and features large recessed arched windows and a plaster ceiling with a deep, elaborate cornice incorporating classical dentils. The conversion of the upper levels to hotel type rooms reflects a growing need in the city during the later decades of the 20th century.

Impact type

Potential direct impact: Vibration and demolition of adjoining structures
Indirect impact: views and vistas

Heritage impact assessment

Demolition of adjoining buildings within the Pitt Street northern site may result in minor physical impacts to the heritage item through vibration. The façade of the heritage building would not be affected by the proposed demolition.
Potential direct impact: Minor
The demolition of nearby buildings to facilitate the construction of the Pitt Street northern site station entrance may have minor impacts on the setting of the heritage item through the alteration of the existing streetscape. The building to be demolished to the south of the heritage item does not contribute to the significance of the Masonic Club. The construction of station mechanical and electrical services immediately south of the heritage item would have a minor to moderate impact on the heritage item.
Indirect impact: Minor to moderate

¹³¹ Description and Statement of significance extracted from State Heritage Inventory sheet “Masonic Club including interior” last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=2423976> on 22/10/2015.

Table 81: The Great Synagogue including interior heritage impact assessment

The Great Synagogue including interior¹³²

Figure 142: The Great Synagogue. Artefact Heritage 2015.

Image



Significance State

Description Constructed between 1874 and 1878 from Pyrmont stone, the Great Synagogue consists of two main sections with a ladies' gallery at the Elizabeth Street end, and a five storey modern section at the Castlereagh Street end behind an earlier façade.

Statement of significance The Great Synagogue is of state and potentially national significance as the earliest surviving synagogue in NSW still in use, which has represented the centre of Jewish worship and culture in central Sydney since the 1870s. The Great Synagogue is associated with the Mother Congregation of Australian Jewry, together with many subsequent leading members and families of the Jewish faith. By its prominent situation and presence in Central Sydney, its magnificent architectural grandeur, its rich symbolism, and its important collection of Hebrew documents and other religious artefacts, the Great Synagogue also embodies and demonstrates the early development and importance of the Jewish faith and culture in New South Wales during the 19th Century. The Great Synagogue is a major landmark of Sydney. It is the only high Victorian style Synagogue in Australia and represents one of the most elaborately decorated Victorian buildings in Sydney, internally and externally. The building also represents one of the finest works of the leading NSW architect, Thomas Rowe. It contains excellent examples of the best quality decorative work in moulded plaster, carved sandstone and timber, metalwork, tiling and stained glass that is remarkable for its richness, originality and the degree of craftsmanship by leading decorative firms of the High Victorian period from Australia, Great Britain and the United States. Apart from its architectural excellence, the Great Synagogue provides a rich townscape aspect to Hyde Park and is an iconic building of Elizabeth and Castlereagh Streets.

Impact type Indirect impact: Views and vistas

Heritage impact assessment The Pitt Street northern site would contain a mechanical and electrical services building. There is limited visual connectivity between the heritage item and the proposed services building. The services building would have a negligible impact on views to the south-west from the Castlereagh Street entrance of the heritage item. The setting of the heritage item, including its relationship to Hyde Park would not be affected. The station entrances are oriented to the south, towards Park Street, and would not be visible from the Great Synagogue. The project would not impact the significance of the item as architecturally and historically rare.
Indirect impact: Negligible

¹³² Description and Statement of significance extracted from State Heritage Register inventory sheet "Great Synagogue" last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=5051584> on 09/12/2015.

Table 82: Criterion Hotel including interior heritage impact assessment

Criterion Hotel including interior¹³³

Figure 143: Criterion Hotel.

Image



Significance	Local
Description	Constructed in 1936, the Criterion Hotel is a three storey brick building constructed in the Inter-War Deco style.
Statement of significance	The Criterion Hotel constructed in the Inter-War Art Deco style is situated in a prominent location on the corner of Pitt and Park Streets in the inner city Town Hall precinct, and has aesthetic significance for the quality of its exterior detailing. The Criterion has significance as the finest of the five remaining hotel buildings constructed in this style in the CBD; the others which all remain operational are the Criterion (Sussex Street), the Great Southern, the Tudor Inn, and the Wynyard. It also has aesthetic significance as an important corner element and for its contribution to the streetscape of the immediate area. The hotel has historic significance for carrying on the name of the Criterion Theatre which formerly occupied the site. The hotel has social significance as a fine, largely intact, and fully operational example of a small inner city corner hotel. The building has social significance as part of the network of purpose built hotels which provided social / recreational venues and budget accommodation for the local community.
Impact type	Indirect impact: Views and vistas
Heritage impact assessment	The demolition of nearby buildings on the northern side of Park Street to facilitate the construction of the Pitt Street northern site station entrance may have minor to moderate impacts on the setting of the heritage item through the alteration of the existing streetscape. The buildings to be demolished do not contribute to the significance of the heritage item. The station entrances of the northern station building would be oriented to the south towards Park Street, and would be clearly visible from the heritage item. The construction of the station entrances would have a minor to moderate impact on the heritage item. Indirect impact: Minor to moderate Construction of pedestrian connections and adits underneath this item (at platform level) would not result in vibration levels exceeding the vibration screening level. Potential direct impact: Neutral

¹³³ Description and Statement of significance extracted from State Heritage Inventory sheet “Criterion Hotel including interior” last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=2424127> on 09/12/2015.

Table 83: 'Pilgrim House' including interior heritage impact assessment

'Pilgrim House' including interior¹³⁴

Figure 144: 'Pilgrim House'.

Image



Significance	Local
Description	Constructed in 1928, Pilgrim House is a Commercial Palazzo style building located within the mixed streetscape of Pitt Street.
Statement of significance	Pilgrim House is a seven storey commercial building in the Commercial Palazzo style, which forms part of a varied streetscape within Pitt Street. The building has high historic significance in the history of the Australian Broadcasting Commission as the first Federal head office of the ABC and as a venue for the ABC's live studio broadcasts until 1970. The building has high social significance for its ability to reflect the social justice concerns of the Uniting Church. The building has high aesthetic significance as a rare Commercial Palazzo building with a triumphal arch motif. The building has a high level of exterior and interior fabric with outstanding potential to be restored.
Impact type	Indirect impact: Views and vistas
Heritage impact assessment	The demolition of buildings to the north of Park Street, and introduction of the Pitt Street northern site station entrances, would have a negligible visual impact on the heritage item. There are few direct views corridors between the heritage item and the Pitt Street northern site. Indirect impact: Negligible. Construction of pedestrian connections and adits underneath this item (at platform level) would not result in vibration levels exceeding the vibration screening level. Potential direct impact: Neutral

¹³⁴ Description and Statement of significance extracted from State Heritage Inventory sheet "Pilgrim House including interior" last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=2424128> on 09/12/2015.

Table 84: Former ‘CENEH House’ including interior heritage impact assessment

Former ‘CENEH House’ including interior¹³⁵

Figure 145: ‘CENEH House’. Artefact Heritage 2016.

Image



Significance	Local
Description	Constructed in 1908, the former CENEH House is a five storey building built in the Federation Free Classical Style, modified in the 1940s.
Statement of significance	The former C.E.N.E.F. House, is a five storey building of Federation Free Classical Style modified in the 1940s. The building, together with Porter House at 203 Castlereagh Street, is historically significant for its contribution to understanding the late nineteenth-early twentieth century character of this part of the city as an industrial and warehouse precinct. The building has aesthetic significance as a typical original commercial exterior. The building with the adjacent church and Porter House is an important component of the streetscape. The building is socially significant for the important role it played as a centre for volunteer workers and church organisations in assisting returned servicemen to adjust to civilian life following the Second World War.
Impact type	No impact
Heritage impact assessment	Construction of pedestrian connections and adits underneath this item (at platform level) would not result in vibration levels exceeding the vibration screening level. As works in the vicinity of this heritage item would occur below ground, the work would not result in visual impacts to this heritage item. Potential direct impact: Neutral Indirect impact: Neutral

¹³⁵ Description and Statement of significance extracted from State Heritage Inventory sheet “Former ‘CENEH House’ including interior” last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=2424181> on 09/12/2015.

Table 85: St George’s Church including interior and forecourt heritage impact assessment

St George’s Church including interior and forecourt¹³⁶

Figure 146: St George’s Church. Prior to scaffolding (left), and current condition (right).

Image



Significance	Local
Description	Constructed in from sparrow picked sandstone in 1858, St George's Church is designed in the Victorian Academic Gothic style. The façade is currently being restored.
Statement of significance	St George's Church is historically and socially significant as the only Free Presbyterian church remaining within metropolitan Sydney. It was the site a meeting of the Synod of Eastern Australia on 15 November 1864 which passed a motion that eventually led to the dissolution of the ecclesiastical connections with the Presbyterian Churches in Scotland, and allowed for the formation of the Presbyterian Church of New South Wales. St George's Church is aesthetically significant as a fine example of the ecclesiastical work of the architectural firm of Field & Rowe.
Impact type	No impact
Heritage impact assessment	Construction of pedestrian connections and adits underneath this item (at platform level) would not result in vibration levels exceeding the vibration screening level. As works in the vicinity of this heritage item would occur below ground, the work would not result in visual impacts to this heritage item. Potential direct impact: Neutral Indirect impact: Neutral

¹³⁶ Description and Statement of significance extracted from State Heritage Inventory sheet “St George's Church including interiors and forecourt” last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=2424089> on 09/12/2015.

Table 86: 'Porter House' including interior heritage impact assessment

'Porter House' including interior¹³⁷

Figure 147: 'Porter House.' Artefact Heritage 2016.

Image



Significance	Local
Description	Constructed in 1876, the five storey building has a façade consisting of a repetition of moulded round headed window openings. An additional floor was added to the building in 1909.
Statement of significance	Porter House, formerly Dixson & Sons is five storeys high and has a facade clad with sandstone veneer of Victorian Classical Style. It is historically significant as a rare surviving example of a Victorian factory and warehouse in this part of the city and for its association with the Dixson family, prominent in Sydney business and philanthropic life over a number of generations. The building is aesthetically significant as an interesting example of an 1870s Free Classical inner city commercial building, with exterior painted signs an interesting reminder of late nineteenth century and early twentieth century advertising. The building has streetscape significance due to its relatively sympathetic scale in relation to the adjacent St George's Free Presbyterian Church and Scientology House.
Impact type	No impact
Heritage impact assessment	Construction of pedestrian connections and adits underneath this item (at platform level) would not result in vibration levels exceeding the vibration screening level. As works in the vicinity of this heritage item would occur below ground, the work would not result in visual impacts to this heritage item. Potential direct impact: Neutral Indirect impact: Neutral

¹³⁷ Description and Statement of significance extracted from State Heritage Inventory sheet "Porter House including interior" last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=2424180> on 09/12/2015.

Table 87: ‘Lincoln Building’ interior heritage impact assessment

‘Lincoln Building’ including interior¹³⁸

Figure 148: ‘Lincoln Building.’ Artefact Heritage 2016.

Image



Significance	Local
Description	Constructed in 1924, the Lincoln Building is an L shaped building with identical facades of four and five bays facing Pitt and Bathurst Streets. The three upper levels and cornice are an addition of a similar design by the same architects.
Statement of significance	The Lincoln Building is an L shaped ten storey building of Inter War Commercial Palazzo Style with facades facing Pitt Street and Bathurst Street. The Lincoln Building, together with the 1908 corner building 'Speedwell House', has historic significance for its former long association with the firm of Bennett & Wood. It is an important building in the professional work of the noted architectural partnership of Spain and Cosh. The building is aesthetically significant as an excellent example of a highly intact original commercial exterior with outstanding potential, due to its degree of integrity, to continue in its original state. The building is well resolved in its detailing in its exterior and is particularly noted for its use of classical imagery. The L shaped building plan, is with Culwulla, unusual and one of only two in the city with facades fronting two streets.
Impact type	No impact
Heritage impact assessment	Construction of pedestrian connections and adits underneath this item (at platform level) would not result in vibration levels exceeding the vibration screening level. As works in the vicinity of this heritage item would occur below ground, the work would not result in visual impacts to this heritage item. Potential direct impact: Neutral Indirect impact: Neutral

¹³⁸ Description and Statement of significance extracted from State Heritage Inventory sheet “Lincoln Building including interior” last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=2424130> on 09/12/2015.

Table 88: Former ‘YMCA’ building Including Interiors heritage impact assessment

Former ‘YMCA Building’ including interiors¹³⁹

Figure 149: Former ‘YMCA’ building including interiors. Artefact Heritage 2016.

Image



Significance

Local

Description

The building at 323-327 Pitt Street was constructed in 1907 as the second phase of the existing L-shaped building. The 1907 building has a face brick facade with stone trims and windows of both steel and timber frames. The retained former YMCA includes the front section of the original building, it is at least two rooms deep and includes the original stair and open lift shaft. The hall beyond was fire damaged and was demolished.

Statement of significance

The original front section of the former YMCA building facing Pitt Street, has historic significance as the home of the YMCA movement in Sydney for nearly 100 years, and for associations with a number of prominent people, including founder Sir James Fairfax and architect Charles Slatyer. It is aesthetically significant as a fine and elaborately ornamented example of the Federation Free Style, and retains many fine decorative elements of this period including moulded plaster, carved stonework and coloured leadlight glass. The building has social significance as a physical reminder of the activities and important influence of the Young Men's Christian Association in Sydney, and an exemplar of the typical development pattern of the time with retail uses at street level.

Impact type

No impact

Heritage impact assessment

Construction of pedestrian connections and adits underneath this item (at platform level) would not result in vibration levels exceeding the vibration screening level.
As works in the vicinity of this heritage item would occur below ground, the work would not result in visual impacts to this heritage item.
Potential direct impact: Neutral
Indirect impact: Neutral

¹³⁹ Description and Statement of significance extracted from State Heritage Inventory sheet “Lincoln Building including interior” last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=2424130> on 09/12/2015.

Table 89: Former “Speedwell House” including interior heritage impact assessment

Former “Speedwell House” including interior¹⁴⁰

Figure 150: Former “Speedwell House.” Artefact Heritage 2015.

Image



Significance	Local
Description	Constructed in 1907, the former “Speedwell House” comprises a 7 storey loadbearing brick former warehouse linked to a later steel framed brick commercial building.
Statement of significance	Former 'Speedwell House' has historical significance as the home for over 50 years of Bennett and Wood, a well-known Sydney supplier of motor cycles and parts which is still in business today. It has aesthetic significance as a good and restrained example of the Federation warehouse style, largely intact externally, which achieves prominence because of its corner location, and exhibits the typical curved corner with timber windows curved in plan. Although the curved corner element including its timber windows is intact (unlike other city buildings such as the former Danchen House, Inventory No 2424121), International House is overall less significant than other similar examples such as the Farmers and Graziers Woolstores (Inventory No 6518).
Impact type	Indirect impact: Views and vistas
Heritage impact assessment	The demolition of existing nearby buildings to the south of the heritage item, to facilitate the construction of the Pitt Street southern site station entrance may have a minor impact on the setting of the building. The proposed demolition works would alter the existing streetscape through the removal of the existing buildings on the southern side of Bathurst Street. The proposed southern station entrance would be located on the southern side of Bathurst Street, opposite the heritage item. The station entrance may result in a minor to moderate visual impact. The historical significance of the item would not be impacted. Indirect impact: Minor to moderate

¹⁴⁰ Description and Statement of significance extracted from State Heritage Inventory sheet “Former Speedwell House including interior” last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=2424185> on 22/10/2015.

Table 90: Edinburgh Castle Hotel heritage impact assessment

Edinburgh Castle Hotel¹⁴¹

Figure 151: Edinburgh Castle Hotel. Artefact Heritage 2015.

Image



Significance	Local
Description	Constructed between 1930 and 1931, the three storey hotel has been constructed in the Inter-War Georgian Revival style.
Statement of significance	The Edinburgh Castle Hotel, a three storey hotel of Inter War Georgian Style, is located on a prominent corner site. The building has historic significance for its embodiment of a lengthy tradition of hotel trading on this site and for the continuity of the hotel name from the 1860s. It is an important building in the professional work of the noted architectural partnership of Rudder and Grout. The building has aesthetic significance as rare and outstanding example of a highly intact original hotel exterior and interior of high quality design with outstanding potential, due to its degree of integrity, to continue in its original state. The building is significant for its contribution as a landmark building to the corner of Pitt and Bathurst Streets. The building is socially significant as it has remained a hotel of the same name on the same site since the 1885's and prior to that on the diagonally opposite corner.
Impact type	Potential direct impact: Vibration and demolition of adjoining structure Indirect impact: Views and vistas
Heritage impact assessment	The proposed Pitt Street southern site would be constructed adjacent to the eastern and southern boundaries of this heritage item. The demolition of existing adjacent buildings in this location, and shaft excavation works, may result in minor physical impacts to the heritage building through vibration and impacts to fabric. Vibration modelling indicates that the closest façade of this item would experience vibration levels above the screening level for cosmetic damage Potential direct impact: Minor The entrance to the southern station building would be located adjacent to the heritage item on Bathurst Street. The existing 20th century buildings in this location do not contribute to the heritage significance of the hotel, and their demolition, whilst impacting on the setting of the heritage item, would not negatively impact on its significance. The introduction of the southern station entrance adjacent to the heritage item would have a minor to moderate visual impact on the heritage item. Indirect impact: Minor to moderate

¹⁴¹ Description and Statement of significance extracted from State Heritage Inventory sheet “Edinburgh Castle Hotel including interior” last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=2424132> on 22/10/2015.

Table 91: Metropolitan Fire Brigade building heritage impact assessment

Metropolitan Fire Brigade building¹⁴²

Figure 152: Metropolitan Fire Brigade building. Artefact Heritage 2015.

Image



Significance	Local
Description	Constructed in 1887, the Fire Brigade Headquarters constructed in the Victorian Free Classical style with Italianate features includes the original 1887 building and 1912 extension. The building is located on a site extending from Castlereagh Street to Bathurst street. A former control building also occupies the site, a garage and former electrical workshops have since been demolished.
Statement of significance	The Fire Brigade Headquarters is a four storey brick and stucco building constructed in the Victorian Free Classical style featuring Italianate motifs. The building demonstrates the growth of the Fire Brigade from a Metropolitan force to a Statewide body and provides evidence of the progressive development of the Brigade in both operations and responsibilities. It has a prominent Castlereagh Street address and is significant as a well known item of continuing public interest, having been in use for more than a century as the Central Sydney Fire Station, and for much of this time as the Brigades administrative headquarters. The building features state-of-the-art fire fighting technology of the late nineteenth and early twentieth centuries. It is architecturally significant as the only Fire Station constructed in Victorian Free Classical style in the city, and as example of the work of colonial architect James Barnet. It is one of only six comparable buildings designed by Barnet. The building has been heavily modified internally however it remains largely intact externally, and compares to Trades Hall although its facade is less significant. It is also significant for its association with architects Spain, Cosh and Minett.
Impact type	Potential direct impact: Vibration and demolition of adjoining structure
Heritage impact assessment	The proposed Pitt Street southern site would be constructed adjacent to the westernmost boundary of the heritage item. This may result in minor physical impacts to the heritage building through vibration and other impacts associated with construction activities. Vibration modelling indicates that the closest façade of this item would experience vibration levels above the screening level for cosmetic damage Potential direct impact: Minor As there is no visual connection between the heritage item and the southern site, demolition of the existing buildings in this location, and construction of the proposed station entrance, would not impact on the setting of the heritage item, which is oriented to Castlereagh Street. There would be no impact to the historical and aesthetic significance of the item. Indirect impact: Neutral

¹⁴² Description and Statement of significance extracted from State Heritage Inventory sheet “Metropolitan Fire Brigade Building” last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=2424090> on 22/10/2015.

Table 92: Pitt Street Uniting Church heritage impact assessment

Pitt Street Uniting Church¹⁴³

Figure 153: Pitt Street Uniting Church. Artefact Heritage 2015.

Image



Significance	State
Description	Constructed between 1841 and 1846, the exterior of the church is a fine example of the late Georgian Classical design. Standing two storeys high, the sandstone facade to Pitt Street is symmetrical, with monumental ionic columns supporting a balustraded parapet.
Statement of significance	The Pitt Street Uniting Church has had a significant role in the development of the social and religious life of Australia. It has always represented a pioneering and socially aware face to the community. It's architectural design is significant as arguably the finest example of Neo Classicism in Australia. It is a fine example of notable architect John Bibb's work. It was the first Independent Church in Australia. It has associations with notable local figures, including David Jones and James Fairfax.
Impact type	No impact
Heritage impact assessment	Construction of pedestrian connections and adits underneath this item (at platform level) would not result in vibration levels exceeding the vibration screening level. As works in the vicinity of this heritage item would occur below ground, the work would not result in visual impacts to this heritage item. Potential direct impact: Neutral Indirect impact: Neutral

¹⁴³ Description and Statement of significance extracted from State Heritage Register inventory sheet "Pitt Street Uniting Church" last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=5045476> on 09/12/2015.

Table 93: Former “Australian Consolidated Press” façade heritage impact assessment

Former “Australian Consolidated Press” façade ¹⁴⁴

Figure 154: Former “Australian Consolidated Press” façade. Artefact Heritage 2015

Image



Significance	Local
Description	Constructed between 1924 and 1925, the Australian Consolidated Press building is composed of two distinct sections, the lower six levels form the Inter-War Free Classical/Commercial Palazzo portion and the upper six storeys were added during the 1960s.
Statement of significance	The Australian Consolidated Press Offices was designed by the influential firm of Spain & Cosh, and Bruce Dellit (whilst in their employ). The sandstone facade has aesthetic significance as a confident expression of the inter-war Free Classical style. It was designed to express the most modern standards of publishing and staff amenity. The building has been continuously associated with newspaper publishing since its construction in 1925. Its construction at that time is representative of an important period of redevelopment in the city.
Impact type	No impact
Heritage impact assessment	Construction of pedestrian connections and adits underneath this item (at platform level) would not result in vibration levels exceeding the vibration screening level. Potential direct impact: Neutral As there is limited visual connection between the heritage item and the Pitt Street northern site, demolition of the existing buildings in this location would not negatively impact on the setting of the heritage item. Similarly, the construction of the proposed northern station entrances (oriented to the south and Park Street) would not visually impact on the heritage item. Indirect impact: Neutral

¹⁴⁴ Description and Statement of significance extracted from State Heritage Inventory sheet “Former Australian consolidated press façade” last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=2424004> on 22/10/2015.

Table 94: Sydney Water Building heritage impact assessment

Sydney Water Building¹⁴⁵

Figure 155: Former Sydney Water Building. Artefact Heritage 2015

Image



Significance	State
Description	Constructed between 1938 and 1939, the building exhibits elaborate use of various coloured granite and marble finishes. Architectural terracotta tiles and bands of bronze and copper elements plus the associated bronze windows and curved fenestration to the corner make this building one of the most exquisite examples of the Art Deco style and detail in Sydney, if not Australia.
Statement of significance	The 1939 Sydney Water head office building is of State significance, reflecting the function and growth of Sydney Water and the importance the organisation has had and continues to have in the lives of many people in NSW. The building in its aesthetic, historic and scientific (technical/research) qualities is an outstanding example of architectural growth and development for its values which are reflected in its original design, materials, construction techniques, evidence of use, movable relics and siting within the City of Sydney. The building is held in high esteem by recognised community groups and authorities throughout Australia and New South Wales.
Impact type	Indirect impact: views and vistas
Heritage impact assessment	<p>The historical significance of the item would not be impacted as it would retain its use and character.</p> <p>The heritage item is located on the western side of Pitt Street and has a direct visual connection to the Pitt Street southern site. The demolition of the existing early to mid-20th century high rise buildings in this location would considerably alter the existing setting of the heritage item. The station entry and entry for future above station development (subject of a separate application) would also be located directly opposite the heritage item, and would have a visual impact on the heritage item. The proposed demolition would therefore have a moderate to major visual impact on the setting of the heritage item. The aesthetic significance of the structure itself would not be impacted, apart from in relation to the setting of the item. The social significance of the item would not be impacted as it would retain its use as an office building and public association with that use.</p> <p>The representativeness of the item would not be impacted by the project. The building is representative in its design qualities which would not be compromised.</p> <p>The rarity of the item would not be adversely impacted as its unique design elements would not be affected by the project.</p> <p>Indirect impact: Moderate to major</p>

¹⁴⁵ Description and Statement of significance extracted from State Heritage Register inventory sheet “Former Sydney Water Head Office” last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=5053884> on 22/10/2015.

Table 95: Bennelong Stormwater Channel No. 29 heritage impact assessment

Bennelong Stormwater Channel No. 29¹⁴⁶

Figure 156: Curtilage of the Bennelong Stormwater Channel No. 29.



Image

Significance

Local

Description

Constructed between 1856 and 1857, the Bennelong sewer consists of a combined sewer/stormwater drain. It is oviform in shape with dimensions of 1.5 metres by 1.2 metres. The system is constructed of brick with some sections tunnelled in sandstone along Tarpian Way (Circular Quay East). This Stormwater channel drains an area of 65 hectares in total, with its uppermost point being the Obelisk vent shaft at Hyde Park. From here it works its way down along Pitt, Castlereagh, Elizabeth, Phillip and Macquarie Streets to the outlet at Bennelong Point.

Statement of significance

The Bennelong Stormwater Channel is of high historical and technical significance as it was one of the five original combined sewers built in Sydney around 1857. The other four sewers were; Blackwattle Bay, Hay Street, Tank Stream and Woolloomooloo. These five sewers were responsible for greatly improving public health, hygiene and living standards for the city's residents. This was done by diverting stormwater and sewerage from the streets and discharging it out into the Harbour currents. The introduction of BOOS in 1889 diverted sewer flow to the ocean and eventually led to the drain being used predominantly for stormwater, hence further improving public health. Of the five combined sewers Bennelong is probably the most significant, as it is the most intact and was originally known as the "main sewer" because it serviced the CBD area. It was also the first oviform sewer to be built in Australia. Furthermore, the Margaret Street Sewer, which was once attached to the Bennelong system, contains the first sewer aqueduct to be built in Australia. This aqueduct runs along Hunter Street, which is part of the Bennelong catchment.

Impact type

Potential direct impact: Vibration

Heritage impact assessment

The demolition of existing buildings, and establishment of the proposed Pitt Street northern and southern sites, may have a minor impact to fabric as a result of vibration associated with construction. Construction of the station and underground pedestrian connections and adits underneath this item (at platform level) would result in vibration levels above the vibration screening level for cosmetic damage.
Potential direct impact: Minor

¹⁴⁶ Description and Statement of significance extracted from State Heritage Inventory sheet "Bennelong Stormwater Channel No. 29" last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=4570854> on 22/10/2015.

6.9.5 Archaeological assessment

This archaeological assessment focuses on the Pitt Street Station physical impact areas, being the southern and northern station footprints, the construction of which would require the demolition of existing buildings, excavation of station boxes and platforms (including vertical transport and tunnelled access to the proposed platforms) and station fit out, including new station entries.

6.9.5.1 Site inspection results

The Pitt Street Station site is located across a built environment on a flat to gentle slope.

The heavily built environment and multiple underground services suggest it is possible that archaeological potential has been impacted in numerous locations throughout the study area.

Figure 157: View southwest across proposed southern station entrance on Bathurst Street



Figure 158: View northeast across proposed northern station entrance on Park Street



6.9.5.2 Previous archaeological investigations in the vicinity

The Archaeological Zoning Plan (AZP) of Sydney identifies a number of properties in Park Street (numbers 30-40) and Bathurst Street (numbers 107-109, 131-135 and 137-139) as Areas of Archaeological Potential. These properties are within the study area for this station site. According to the AZP, this designation refers to an allotment of land or feature that has been identified as being an area of high archaeological potential due to limited physical disturbance (usually limited to disturbance resulting from the most recent building development).

Two items within the study area are listed on the Sydney LEP 2012, the Metropolitan Fire Brigade and “Masonic Club” buildings, as having an archaeological component to their heritage significance.

6.9.5.3 Known impacts

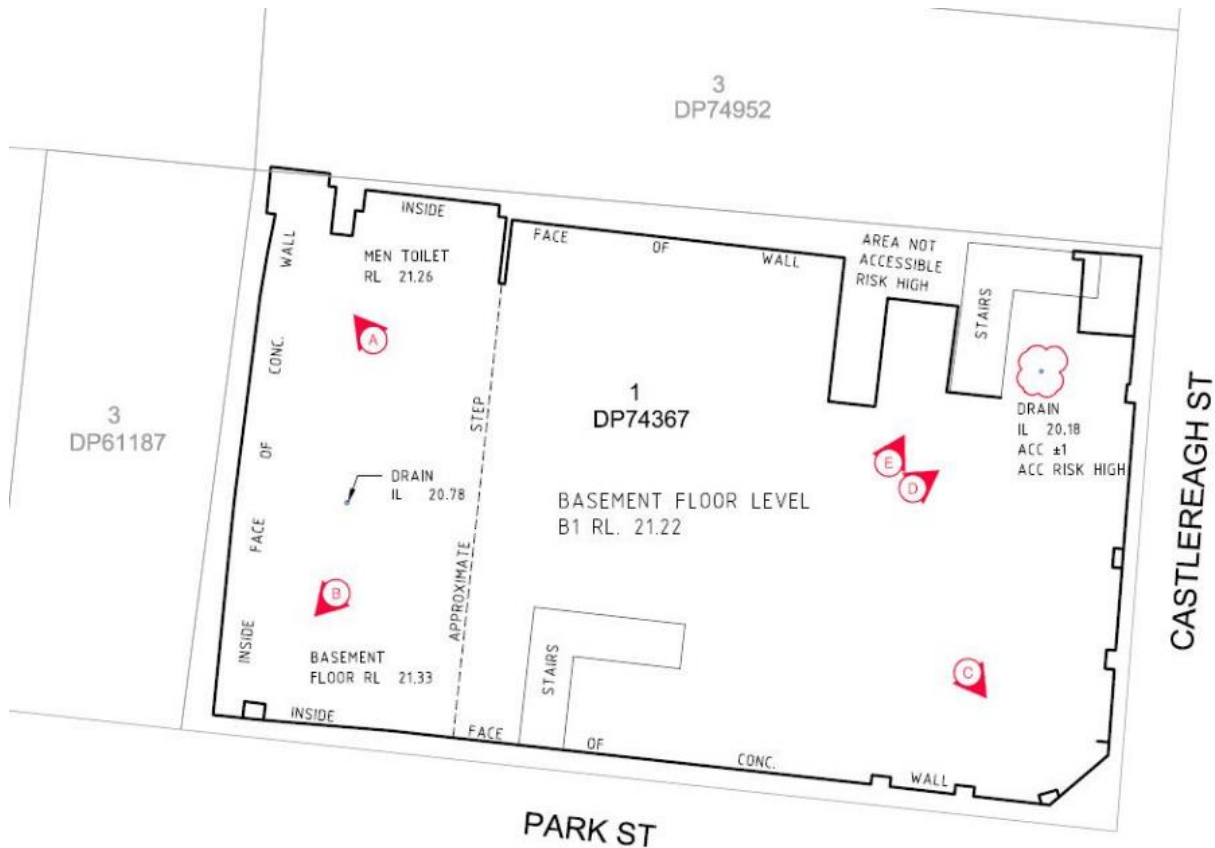
Subsurface impacts associated with former or current land uses have the potential to remove or damage potential archaeological remains. Previous impacts within the site need to be further understood and identified before more than a preliminary assessment of archaeological impact can be made. Based on the initial literature review and site inspection undertaken as part of this assessment, the following preliminary assumptions regarding archaeology at the site can be made:

- Sites within the Sydney CBD tend to have been occupied intensively, and therefore have the potential to contain a range of archaeological evidence dating to different periods of use.
- The area towards Hyde Park was likely levelled at some stage in the early 19th century to lessen the steep slope to the west and facilitate the construction of level roads. It is possible that some historical levelling activity may have impacted on early archaeological remains within the study area.
- The construction of successive phases of buildings on the site would have impacted on archaeological remains. Typically, the earlier the building was constructed, the less impact it would have had on the potential archaeological resource. The existing structures at the

proposed location of the southern and northern cut and cover boxes date from different periods. Potential survivability of archaeological deposit in that area will largely depend on whether that structure has a basement or below ground car park area.

A basement covers the majority of the lot located at 48-49a Park Street (Lot 1 DP74367; Figure 159), the easternmost portion of the northern study area. The basement floor ranges between 1.74 to 2.78 metres below current ground level (21.22-21.26 metres AHD). It can be assumed that any archaeological resource in this location has been removed.

Figure 159: Basement plan of Lot 1 DP74367



6.9.5.4 Discussion of archaeological potential

The proposed northern station building study area was 'occupied' by historic structures from an earlier period than the southern station building, which was reserved for a race track between 1822 and the mid 19th century.

Analysis suggests that the archaeological resource, if it survives within the study area, would be associated with early to late 19th century residences, shopfronts and small scale industrial workshops.

Archaeological remains within the Sydney CBD can be substantially intact, and date from early phases of the development of the colony. Therefore, an intact and early archaeological resource in the study area has the potential to have significance at a State level. This would therefore require further archaeological investigation or assessment in order to mitigate any impacts to the resource that may arise from the proposed demolition, construction and tunnelling works.

An overview of the archaeological potential of the study area has been included in Table 96.

6.9.5.5 Preliminary assessment of significance

The following is a preliminary assessment of significance, informed by the NSW Heritage Criteria for *Assessing Significance related to Archaeological Sites and 'Relics'* (2009).

Archaeological research potential (NSW Heritage Criterion E):

- Archaeological remains associated with early development and establishment of the colony would have significant research potential, dependant on the nature and extent of any remains. The study area is representative of the phase of development that occurred in the now CBD of Sydney from the early 1800s. Prior to the building boom of the 1830s and 1840s in which the study area became commercial in nature, residential occupation and small lot farming was predominant. Any evidence of the pre-commercial phase of development would have significant research potential.

Association with individuals, events, or groups of historical importance (NSW Heritage Criteria A, B & D):

- It is possible that evidence of early residential development of the study area may have associations with former residents and known local historical figures. There is documentary evidence that the southern part of the study area was designated a racetrack by 1822. Any evidence of use of the track may have association with racegoers and early colonial racing figures.

Aesthetic or technical significance (NSW Heritage Criterion C):

- Remains of early buildings may have some technical significance depending on their construction methodology.

Ability to demonstrate the past through archaeological remains (NSW Heritage Criterion A, C, F & G):

- The study area has the potential to demonstrate the past through archaeological remains. It is likely, however, that any archaeological remains may be truncated, removed or damaged by later construction on the site.

Overall, the site may contain archaeological remains with potential to reach the local and State significance thresholds.

6.9.5.6 Overview archaeological potential

The study area has low to high potential to contain an archaeological resource with the potential to reach the local significance threshold.

Table 96: Summary of archaeological potential within study area

Potential archaeological resource	Potential	Significance	Heritage impact assessment
Evidence of early establishment of the colony – for example, evidence of land clearance and cultivation, early structures, drains.	Nil-low	Local-State	Excavation works within the study area have nil-low potential to impact on archaeological remains.
Pre-1850s residential and commercial development – stone or brick footings, rubbish pits, wells, cesspits, occupation deposits and yard scatters.	Moderate	Local - State	Excavation works within the study area have moderate potential to impact on archaeological remains

Potential archaeological resource	Potential	Significance	Heritage impact assessment
Late 19th century residential and commercial development – stone or brick footings, basements, rubbish pits, wells, cesspits, occupation deposits and yard scatters.	Moderate	Local	Excavation works within the study area have moderate potential to impact on archaeological remains
Early to mid-20th century commercial development – brick or stone foundations.	Moderate - high	May reach local significance threshold.	Excavation works within the study area have moderate - high potential to impact on archaeological remains.

6.9.5.7 Archaeological impact assessment

Proposed works within the Pitt Street Station site with the potential to impact on archaeological remains include:

- Excavation during demolition works
- Excavation of open shafts during construction phase to allow access to the mined tunnels.

The excavation of the open shafts allowing access to the mined tunnels would result in the complete removal archaeological remains within the station box footprint. Therefore, works in these locations would have a major impact on potential archaeological resources.

6.9.6 Overview of constraints

Table 97 outlines the potential heritage constraints within the study area:

Table 97: Overview of heritage constraints at the Pitt Street Station site.

Heritage item	Potential heritage impacts		
	Direct impact	Archaeological impact	Indirect impact
“National Building” including interior	Potential direct impact: Minor (vibration and adjacent demolition)	Neutral	Minor – views and vistas
Masonic Club	Potential direct impact: Minor (vibration and adjacent demolition)	Neutral	Minor to moderate – views and vistas
Great Synagogue including interior	Neutral	Neutral	Negligible – views and vistas
Criterion Hotel including interior	Neutral	Neutral	Minor to moderate – views and vistas
“Pilgrim House” including interior	Neutral	Neutral	Negligible – views and vistas
Former “CENEF House” including interiors	Neutral	Neutral	Neutral
St George’s Church including interior and forecourt	Neutral	Neutral	Neutral
“Porter House” including interior	Neutral	Neutral	Neutral

Heritage item		Potential heritage impacts		
“Lincoln Building” including interior	Neutral	Neutral	Neutral	Neutral
Former “YMCA”: building including interiors	Neutral	Neutral	Neutral	Neutral
Former “Speedwell House” including interiors	Neutral	Neutral	Neutral	Minor to moderate – views and vistas
Edinburgh Castle Hotel	Potential direct impact: Minor (vibration and adjacent demolition)	Neutral	Neutral	Minor to moderate – views and vistas
Metropolitan Fire Brigade building including interior	Potential direct impact: Minor (vibration and adjacent demolition)	Neutral	Neutral	Neutral
Pitt Street Uniting Church	Neutral	Neutral	Neutral	Neutral
Former “Australian Consolidated Press” façade	Neutral	Neutral	Neutral	Neutral
Former Sydney Water Building	Neutral	Neutral	Neutral	Moderate to major – views and vistas
Bennelong Stormwater Channel No. 29	Potential direct impact: Minor (vibration)	Neutral	Neutral	Neutral
Potential archaeological resource within the study area	N/A		Major impact – low to moderate potential for local and state significant archaeological remains	N/A

6.10 Central Station

Construction of the new metro platforms at Central Station would require the use of multiple construction sites, primarily to provide feasible solutions for construction access and egress (materials delivery and spoil removal) (Figure 160 and Figure 161).

The primary works at Central Station would include a new station constructed using the cut-and-cover technique beneath Platforms 13 and 14 and an associated access way off Regent Street (Regent Street Access Bridge) to the southwest (Figure 162, Figure 163 and Figure 164)

A temporary overbridge concourse would be provided at Central Station from Platform 4 to Platform 23 to maintain interchange connectivity between the Central Station platforms (Figure 165).

Construction of the temporary pedestrian bridge would involve:

- Removal and modification of platform canopy roof sections
- Piling works through the existing platforms
- Construction of piers and trusses
- Construction of stairs from the overbridge to each platform
- Fit-out works including floor panels and installation of services.

Following commencement of operation of the project, the temporary pedestrian overbridge would be dismantled and removed.

Figure 160: Location and indicative layout of Central Station.



Figure 161: Central Station construction sites indicative layout.



Figure 162: Sydney Yard Access Bridge plan

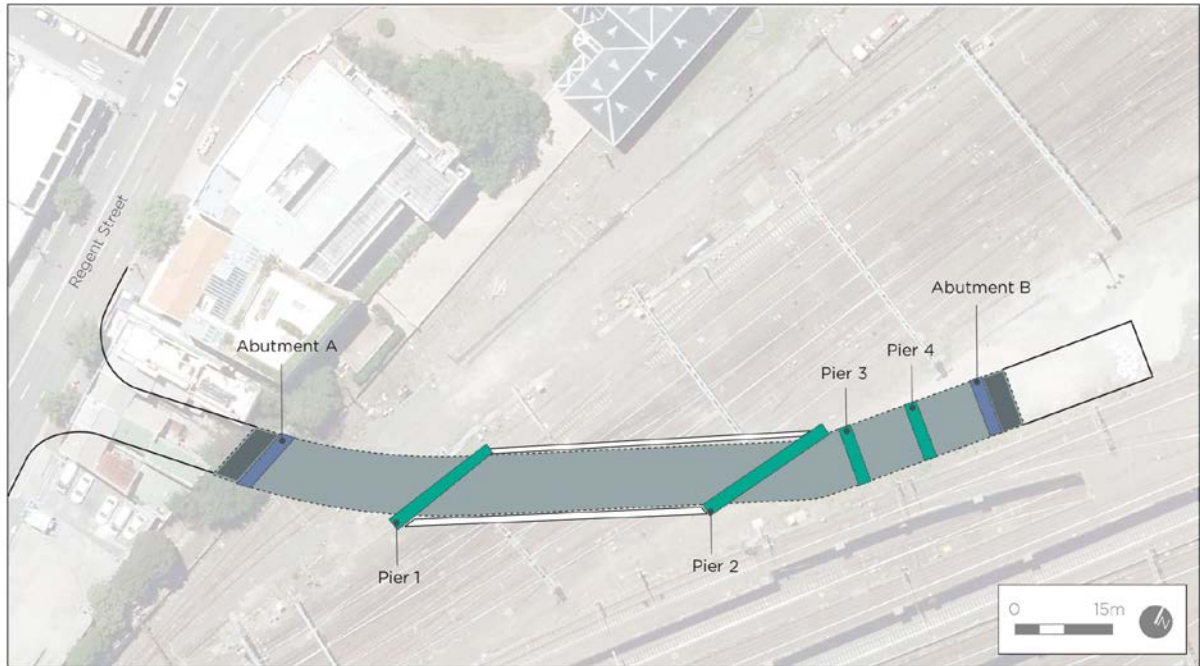


Figure 163: Sydney Yards Access Bridge long section

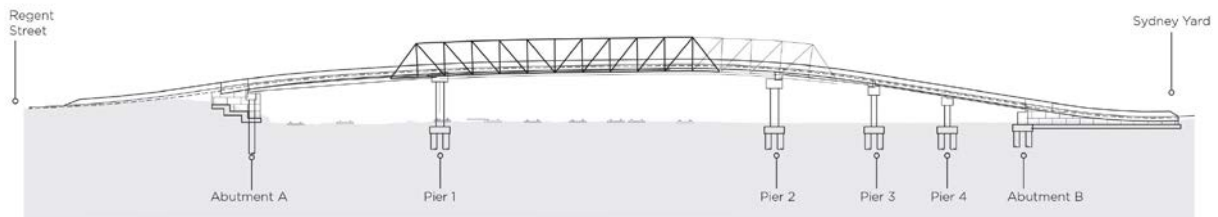


Figure 164: Indicative illustration of Sydney Yard Access Bridge from Regent Street



Figure 165: Indicative illustration of temporary pedestrian bridge and stairs



6.10.1 History of the study area

In 1849 the Sydney Railway Company was formed as the need for a rail links 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 New South Wales government. Once formed, The Sydney Railway Company constructed the first Sydney station in 1855, creating the first government owned railway in the British Empire.¹⁴⁷ The station was named 'Redfern' after surgeon William Redfern. Redfern Station sat within Devonshire Street, across from the Devonshire Street cemetery (Figure 166) and south of the Cleveland Street subway in the Government Paddocks.

Figure 166: 1895 Map of the City of Sydney, showing 1874 to the south and Devonshire St cemetery to the north. MAP RM 3443 NSW Dept Lands Source. NLA



6.10.1.1 Second Sydney Station (c1874)

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 1874. Called the 'Second Sydney (or Redfern) Station' it was designed by prominent rail and tramways engineer John Whitton in the Neo-Classical style using polychromatic brick (Figure 167). Positioned in the same location as the first Sydney Station, its northern frontages faced onto Devonshire St.

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.¹⁴⁸

¹⁴⁷ Central Station CMP, 2013, p 32.

¹⁴⁸ Central Station CMP, 2013, p. 39.

Figure 167: The Second Sydney or Redfern Station, from the west, with train shed covering two platforms. Source. McKillop.149



6.10.1.2 Third Station

In June 1888 Edward Miller Gard Eddy was appointed Chief Railway Engineer. In 1892 he 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. Resumptions took over plots occupied by a number of structures which can be seen in Figure 168. These were:

- The Devonshire Street Cemetery (1820-1867)
- The Benevolent Asylum
- The Steam Tram Depot-established in 1879
- The Christ Church Parsonage-established in 1855
- The Police Superintendent's residence, previously known as the government cottage and built at some time in the 1820s
- The Police Barracks in Garden Street built in 1819-1820
- Carters Barracks (1819) which later housed the Sydney Female Refuge and later the Convent of the Good Samaritan.¹⁵⁰

6.10.1.3 Devonshire Street Cemetery

Devonshire Street cemetery was consecrated in 1820 and closed in 1867 after reaching its capacity. For the next 34 years the cemetery became increasingly decrepit and there was a call for the site to be cleaned up.

In early 1901, notices were served calling for relatives of individuals buried in the cemetery to nominate their reinterment cemetery of choice. By September exhumation of Devonshire Street cemetery had begun with re-internment fees covered by the New South Wales Government. Many unclaimed plots (an estimated 30,000) were moved to Rookwood Cemetery where they remain today.

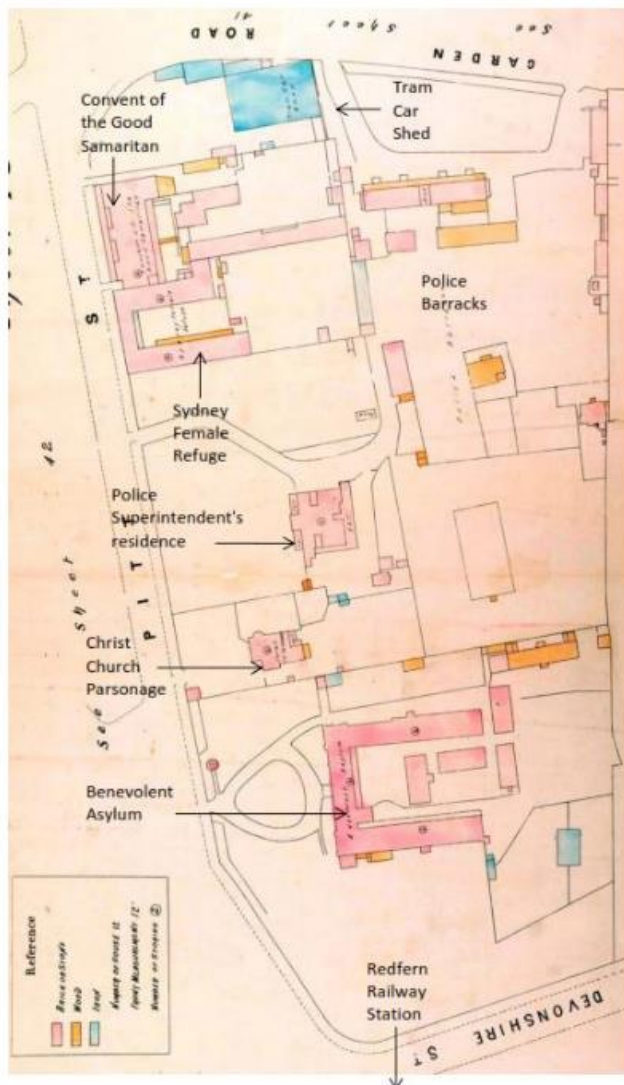
¹⁴⁹ McKillop, Century of Central, p 10

¹⁵⁰ CBD Metro Archaeological Assessment (Non-Indigenous Archaeology): Technical Paper 4, Appendix 1, nd in Central Sydney CMP, 2013, p. 44.

6.10.1.4 Sydney Station

The construction of the station was built and modified in a series of phases (four altogether) due to financial constraints associated with the First World War.¹⁵¹ 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 Pymont.¹⁵² 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 first phase of construction. Later, but during this initial construction phase, the main terminus, concourse, booking hall, waiting rooms, dining and refreshment rooms, cloak room and barbers saloon also went up. During the second phase of construction, 1914 to 1918, the Parcels Post Office and its associated wings were built.

Figure 168: 1888 Plan of the City of Sydney showing the location of resumed buildings bounded by Pitt Street, Garden Road and Devonshire Street. Source. City of Sydney Historical map Collection.¹⁵³



¹⁵¹ Oakes, Central. P. 24.

¹⁵² Sydney Trains, 2014. Central Station-In Depth History. Site accessed on 36/6/2014 at: http://www.sydneytrains.info/about/history/central_station_in-depth

¹⁵³ Central Station CMP, 2013, p 45.

Soon after phase one and two had been finalized, 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 Rob 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.

In 1915 the *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.¹⁵⁴ In addition, this particular portion of the station was to be situated above-ground rather than at ground level. Although work was quickly commenced, pressures associated with World War One stalled construction work in 1917, and it didn't 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 within the station including platform 16-19, a horse loading platform, a series of sidings and a goods shed.¹⁵⁵ On the first of March, 1926, the first electric train ran from Central Station to Oatley making it the first suburban railway station to be electrified in NSW.

6.10.2 Heritage listed items

The Central Station study area is within the State Heritage Register listed curtilage of the 'Sydney Terminal and Central Railway Stations Group' (State Heritage Register no. 01255). The 'Central Railway Station and Sydney Terminal Group' is also listed on the Sydney Trains (formerly Railcorp) Section 170 register.¹⁵⁶ The 'Central Railway Station Group including buildings, station yard, viaducts and building interiors is listed on the Sydney LEP 2012 (item no. I824). The study area is within the 'Railway Square/Central Station Special Character Area' listed on the Sydney DCP 2012 (Figure 169). The following heritage items lie partly, or wholly, within the study area and buffer zone:

¹⁵⁴ McKillop, *Century of Central.*, p. 55.

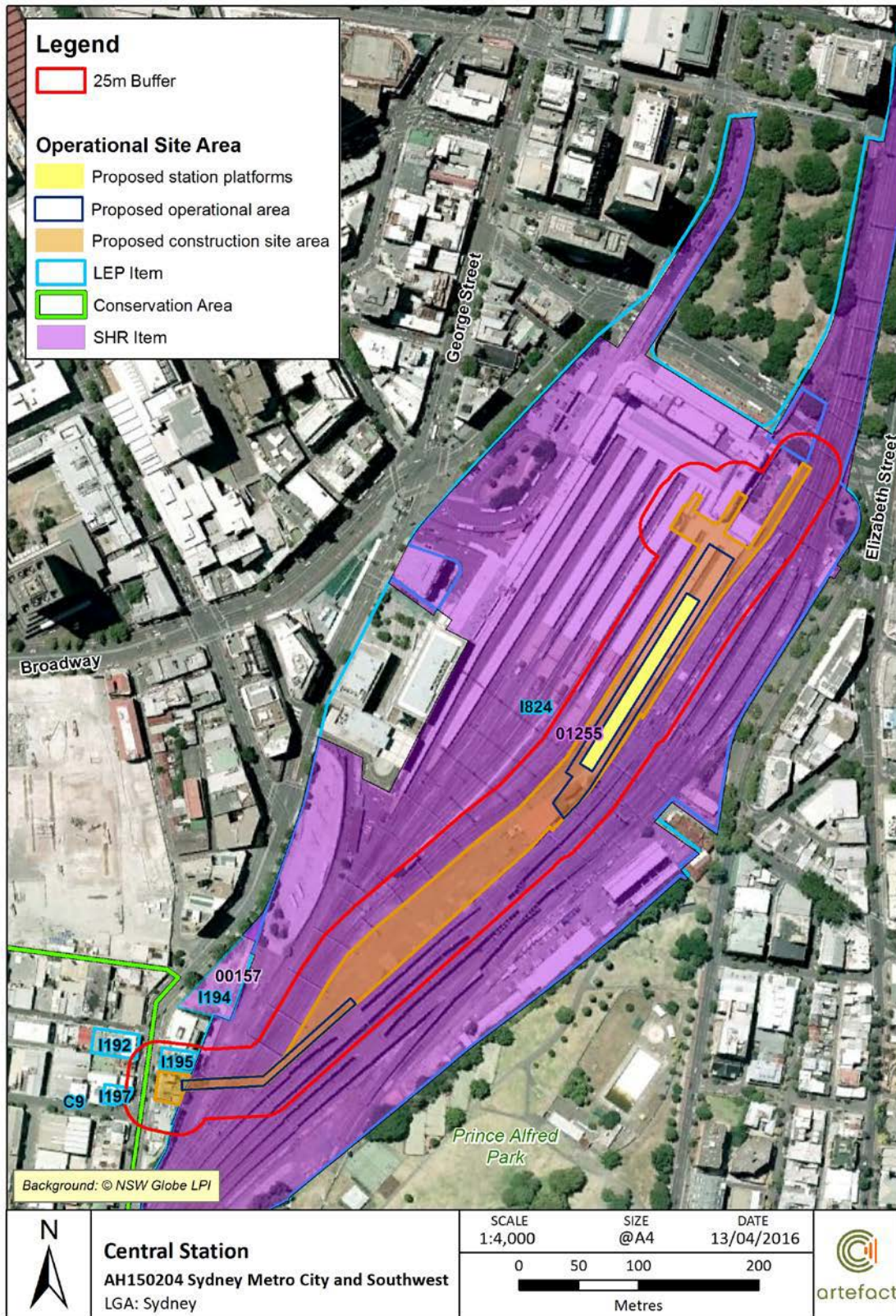
¹⁵⁵ Central Station CMP, 2013, p 54.

¹⁵⁶ Version 2.0, 27 October 2011

Table 98: Overview of listed heritage items within the Central Station study area and buffer zone.

Heritage item	Register listings	Significance	Relationship to the study area
Sydney Terminal and Central Railway Stations Group	State Heritage Register 01255 Sydney Trains S170 Sydney LEP 2012 I824 Sydney DCP 2012 (Railway Square/Central Station Special Character Area)	State	Construction area and buffer zone within heritage item
Terrace group including interior (99-105 Regent Street)	Sydney LEP 2012 I192	Local	Partially within buffer zone
Former Crown Hotel including interior	Sydney LEP 2012 I197	Local	Partially within buffer zone
Former Mortuary Railway Station including interior, ground, fence and railway platforms	State Heritage Register 00157 Included in the 'Sydney Terminal and Central Railway Station Group' SHR item no. 01255 Sydney Trains S170 Sydney LEP 2012 I194	State	Partially within buffer zone
Co-Masonic Temple including interior	Sydney LEP 2012 I195	Local	Within buffer zone
Chippendale Conservation Area	Sydney LEP 2012 C9	Local	Partially within buffer zone

Figure 169: Heritage items within the Central Station study area.



6.10.3 Detailed heritage impact assessments

Heritage items

Table 99: Sydney Terminal and Central Railway Station Group heritage impact assessment

Sydney Terminal and Central Railway Stations Group¹⁵⁷

Figure 170: Sydney Terminal and Central Railway Station Group. Artefact Heritage 2015.



Image

Significance

State

Description and statement of significance

Central Station is the largest railway station and transport interchange in NSW and is of State significance for its historical, aesthetic, technical values and for its research potential. With its grand sandstone edifices and approaches it is a well-known landmark in Sydney. The site contains the original Sydney Railway Company grant on which the first Sydney Station and yards were opened, in 1855, and so represents over 150 years of railway operations in the same place, making it the oldest and the longest continuously operated yard in Australia.

The Sydney Terminal precinct has a high level of historic significance associated with its early government and institutional uses, as well as being the site of Sydney's second major burial ground, the Devonshire Street cemetery. Archaeological evidence of the government and institutional uses is rare and has high research potential.

Central Station site contains evidence of the first phase of railway construction in NSW and has been the major hub of rail transportation in NSW since the mid-19th century and has the ability to demonstrate the evolution of changes in the NSW railways and in railway technology over the past 150 years, from steam to electric, reflected in the changes in yard layout and in signalling work practices. The Darling Harbour branch line and associated sandstone Ultimo Railway Overbridge is the only remaining example of railway infrastructure built for the Sydney Railway Company and is the oldest piece of railway infrastructure in NSW. The Prince Alfred Sidings contains some of the oldest remaining workshops in the NSW railway system. The Prince Alfred Substation is part of the Bradfield 1926 electrification works and was designed by Bradfield himself. The site has technical heritage value in such elements as: the Darling Harbour Dive; Central Electrics flyovers; the elliptical arch construction of the Elizabeth Street Viaduct; the western approach ramp underbridge the three pin truss roof of

¹⁵⁷ Description and Statement of significance extracted from State Heritage Register inventory sheet "Sydney Terminal and Central Railway Station Group" last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=5012230> on 22/10/2015.

Sydney Terminal and Central Railway Stations Group¹⁵⁷

the porte-cochère; the Devonshire Street subway (probably the first of its type in Australia); the underground men's toilets; and the early mail, parcels and luggage subway system. The main terminus building, accentuated by its clock tower and approach ramps, exemplifies the predominant use of sandstone at the site and it has been sited to dominate its surroundings and to mark the importance of the railway to both the city and the State. The construction of the Sydney Terminus was the largest planned intervention into the urban fabric of Sydney at the time and it was the only major complex of the period where the urban setting was consciously designed to enhance and provide views to and from the main structure. With its multi layered access modes and above ground level platforms, not only was the development extraordinarily innovative but also the largest incursion into the southern part of Sydney prior to World War I.

Some of Sydney's most notable 19th and 20th century architects and engineers have worked on the Central Station site, including: James Wallace and William Randle who together designed and built the first railway from Sydney to Parramatta and the associated Darling Harbour Branch Line; the last serving Colonial Architect, James Barnett (Mortuary Station); the first NSW Government Architect, Walter Liberty Vernon (the main Terminus building and the Parcels Post Office); and the Chief Engineer for the City Underground and Sydney Harbour Bridge, Dr John Jacob Crew Bradfield (Central Electric). Mortuary Station, the main terminus building and the Parcels Post Office were the only designs undertaken for the NSW Railways by the Colonial Architect and the Government Architect within the Department of Public Works.

The main terminus building, constructed primarily in the early 20th century, is enhanced by its Neo-classical architectural features together with the high quality workmanship and materials it contains, from carved sandstone, marble and terrazzo to cedar joinery, acid etched glazing and metalwork balustrades.

The same fine quality in design, materials and workmanship is seen in Mortuary Station, the Railway Institute and also in the Neo-classical Chalmers Street Entrance, the Central Electric Station main façade and the Parcels Post Office, all of which tends to unify these buildings with the main terminus.

The Mortuary Station is a fine and rare example by James Barnett of the Gothic Revival architectural style and is the only remaining example of a mortuary station in NSW. The exemplary Federation Anglo-Dutch architectural style of the Railway Institute is significant and it was as the first institute of its type in Australia, demonstrating 19th century initiatives in railway workers educational and recreational facilities. The Parcels Post Office contains fine brickwork and sandstone detailed facades and documents the association of the site with railway postal services.

The significance of Central Station is widely appreciated by the broad community for its sense of place and theatre; as an extraordinary place of work for employees past and present and their families; and by many specialist transport and heritage community groups.

The Bradfield designed former Lost Property Office was constructed between 1922 and 1926 as part of the electrical upgrades to Central Station. Extending the full width of the concourse, the building was constructed with a reinforced concrete roof, brick sidewalls and sandstone outer wall.

Impact type	<p>Direct impacts: Physical impacts to the station would occur as a result of the excavation of the station box, impacts to underground pedestrian tunnels including Devonshire Street Tunnel, impacts associated with access and egress from Eddy Avenue, installation of the temporary pedestrian bridge, installation of the Sydney Yards Access bridge and use of a temporary worksite in the Sydney Yards.</p> <p>Potential direct impacts: Vibration due to construction of the station box.</p> <p>Indirect impacts: Views and vistas through the installation of the Sydney Yards Access bridge, temporary pedestrian footbridge, alteration of platforms 13 and 14 and construction of a service building at the southern end of the new platform.</p>
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Excavation of the station box

Heritage impact assessment	<p>Physical impacts associated with excavation of the station box would include the removal of platforms 13 to 15 and excavation below platforms 13, 14 and 15. The platforms are elements of moderate significance which were constructed in 1906 and extended to the south in the 1990s.</p> <p>Excavation is proposed for the area below the Bradfield designed former Lost Property Office (constructed over the Eddy Avenue entrance to the station between 1922 and 1926).</p>
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Sydney Terminal and Central Railway Stations Group¹⁵⁷

Modelling indicates that the closest façade of the Bradfield building would not experience vibration levels above the screening level for cosmetic damage.

Excavation works for the cut and cover box would result in minor vibration impacts to the closest intercity and suburban platforms, and to the main station buildings, as follows:

- Vibration levels for the main central station building and the Bradfield Building (Former Lost Property Office) would be below the screening level for cosmetic damage
- Vibration at the closest adjacent, but not directly affected, intercity platform (to the west of the station box) would be above the vibration screening level for cosmetic damage
- Vibration at the closest adjacent, but not directly affected, suburban platform (to the east of the station box) would be above the vibration screening level for cosmetic damage

The construction of the station box would cut three branches of the existing underground pedestrian routes which are elements of moderate/high significance. Note that the Devonshire Street Tunnel, which is an element of high significance would also be directly affected. A 45m section of tunnel would be demolished and reinstated. It is not structurally able to act as a bridge structure during construction and therefore would need to be removed during this process. The impacts would result in loss of original fabric and a change to the historical alignment and pedestrian flow of the tunnels, except for the Devonshire Street Tunnel, which would be reinstated in its current alignment and position.

A new platform would be constructed above the station box, which would include vertical transport such as lifts, providing pedestrian access to the underground metro platforms. The removal of the platforms would create an opportunity for the new structure to express the evolution of the station. The architectural language should refer to, and bind, other elements of the Metro project providing a uniform layer expressing the contemporary use of the station. A services building would be constructed at the southern end of the new platform. The building would be around seven metres in height and would obscure views from the platform to the Sydney Yards. This impact could be partially mitigated through design.

There are likely to be impacts to elements of station infrastructure as a result of the demolition of Platforms 13-15, such as Over Head Wiring structures, signalling, steel and timber furniture, awning and trusswork, goods lifts (at the southern end of platforms 14/15), signage, and hardwood buffers at the termination of the platform. Impacts to these items could be partially mitigated through removal and reinstatement where practicable, or through archival recording.

The southern end of the station box excavation would extend into the Sydney Yards, impacting the former timetable office/Rolling Stock Officers Building, an element of moderate significance, the Cleaners Amenities Building, and element of moderate significance and the garden, an element of high significance. It should be noted that as the garden is potentially of lower significance due to its condition and significance of its elements which have been assessed in the Central Station Conservation Management Plan as moderate at the highest. Impacts to these items are a result of the application of a design option that, on balance, seeks to minimise the overall impacts of the services building by extending the station box, which would reduce the height of the services building on the southern end of the new platform by about 50 per cent, thus reducing visual impacts to the station. Potential direct impacts to the Bradfield lost property building would be minimised as a result of the lengthening of the station box. Impacts to the former timetable office/Rolling Stock Officers Building, Cleaners Amenities Building and the garden would be direct and would result in a total loss of significance of these elements.

Temporary footbridge

The temporary footbridge would span Platforms 4 to 23. Construction of the footbridge would involve removal and modification of canopy sections from Platforms 4 to 23, construction of piers and trusses and construction of stairs from the bridge to each platform.

Impacts to fabric as a result of the construction of the temporary footbridge would include removal of a portion of canopy, around 15 metres wide at the location of each set of stairs. Platform canopies 4-7 were constructed in 1906 are an element of high significance due to their historical and aesthetic significance. The canopies have a high level of intactness. Platform canopies 8-15 were also constructed in 1906 but modified in the 1990s and are an element of moderate significance. Platform canopies 16-23 are an element of high significance. They were constructed in 1922 and are rare in the local context. Impacts to the

Sydney Terminal and Central Railway Stations Group¹⁵⁷

canopies as a result of the construction of the temporary footbridge would be moderate and should be minimised where possible.

The construction of the piers and stairs would also involve excavation into the platform surfaces which would impact original fabric. Overall impacts to the platforms themselves would be minor.

The construction of the temporary footbridge would also result in temporary visual impacts. The bridge would stand above the current line of the canopies and would be visually intrusive. Views along the platforms would also be compromised by the stairs and trusses. Visual impacts would be temporary in nature with the pedestrian footbridge removed at completion of construction and could be further (partially) mitigated through a lightweight, high quality and sympathetic design.

Sydney Yards Access Bridge

The construction of the Sydney Yards Access Bridge and access way within the Sydney Yard would result in minor visual impacts to the Sydney Terminal and Central Railway Stations Group as a whole. The bridge would be around 250 m to the south of the station itself so views from the platforms or station buildings would not be subject to major changes. Although there would be some visual impacts to views from passing trains, they would be in the context of the Sydney Yards as a functioning railway corridor with many visual elements. Visual impact to Mortuary Station is discussed separately in the Heritage Impact Assessment for that item (see Table 102 below).

Worksite within the Sydney Yards

The adaption of a portion of the Sydney Yards for a worksite is likely to result in a moderate impact. Currently this land is mostly vacant. The yards undergo continual modification and reconfiguration, reflecting ongoing upgrades to rail technology and the requirements of a working rail station, and the temporary use of this area for the project would represent the ongoing adaptation of an industrial railway landscape.

Services ring

Existing services would need to be relocated prior to excavation of the station box. A services ring would be excavated, generally by under boring. There is some potential to impact archaeological remains however any excavation would be under bored or within previous utility corridors.

Access and egress

There would be no substantial impacts to significant fabric as a result of emergency access and egress arrangements from the station's northern entry arrangements and access to Eddy Avenue. The access ramp on the eastern side of the forecourt would remain. The retail stores to the west of the ramp would be demolished. These freestanding kiosks are intrusive elements, therefore demolition of these structures would provide a positive heritage impact. Impacts to the façade and interior of the Central Electric building entry from the Eddy Avenue forecourt would be avoided. A services facility would be constructed in the eastern portion of Eddy Avenue forecourt adjacent to the ramp. This structure should be designed in sympathy with the forecourt and the entry to the Central Electric building.

Impacts in relation to heritage significance criteria

Although the project would result in major impacts to certain elements of the Sydney Terminal and Central Railway Stations Group, it would retain its State heritage significance as assessed against all relevant criteria.

Historical significance of the group would be impacted through demolition of significant fabric such as Platforms 13-15 and portions of canopies. The station would retain historical significance as a working transport hub which has continued its primary use for over 150 years. The Metro project would be the next phase in this evolution.

Aesthetic significance would be impacted by construction of the temporary walkway and construction of the Sydney Yard Access Bridge. The aesthetic significance of many of the

Sydney Terminal and Central Railway Stations Group¹⁵⁷

major structures within the group such as the Main Terminus would not be impacted. Aesthetic impacts to the item overall during the operational phase of the project would be negligible to minor.

Technical significance of the item would be impacted through removal of some original fabric which relates to construction and development of the station, such as platforms and underground tunnels. Examples of technical achievement would remain in many structural elements of the station that would not be impacted.

Research significance of the item would be impacted through the removal of any archaeological deposits, especially related to earlier phases of station development or the Devonshire Street cemetery.

Summary of impacts

Physical impacts to the station would occur as a result of the excavation of the station, impacts to underground pedestrian tunnels including Devonshire Street Tunnel, impacts associated with access and egress from Eddy Avenue, installation of the temporary pedestrian bridge, installation of the Sydney Yard Access bridge and use of a temporary worksite in the Sydney Yards.

Direct impacts: Moderate to major

The works are likely to result in moderate to major temporary and permanent visual impacts through the establishment of the staging area, excavation of the station box, and construction of the Regent Street Access Bridge. The pedestrian overbridge would also have a temporary (up to 10 years) moderate to major impact on the heritage item, and would affect commuter views from platform level, as well as views towards the heritage item from outside Central Station (particularly views towards the station from the south, east and west).

On completion of the works, the introduction of new station infrastructure may have a minor, or negligible, visual impact.

Indirect impact: Moderate to major

The Central Station Conservation Management Plan outlines heritage management policies for the item. Adherence to relevant policies has been discussed below.

Policy 1 – Overall heritage management of Central Station.

The government agency/ies responsible for the Central Station CMP area should continue to implement a heritage management structure for the CMP area:

Heritage management has been accounted for during design development for proposed works at Central Station. Detailed design would be informed by the CMP.

Policy 2 – Ongoing use as a Major Transport Complex:

The government agency/ies responsible for the Central Station CMP area should:

- i. Recognise that the continuing and sustainable use of Central Station as a major transport hub in NSW is an essential part of its outstanding heritage value.*
- ii. Recognise that the outstanding heritage values can be successfully balanced within the need for Central Station to continue as a major transport interchange in NSW including both major change and the management of ongoing minor technical adaptation, maintenance and repair; and*

The project would be part of the continuing evolution of Central Station as a transport hub. Detailed design will facilitate the creation of a uniform layer to represent this new phase and to in turn recognise and highlight the heritage values of the station. Heritage interpretation incorporated into the design would draw the public's attention to the heritage values of the station and encourage engagement with its dynamic past.

Application of
CMP policies

Sydney Terminal and Central Railway Stations Group¹⁵⁷

Policy 5 – Setting, Views & Landscape

Ensure that the urban setting of Central Station is treated in an appropriate manner which recognises its outstanding heritage values and its listing as a major part of a Special Area in the Sydney LEP 2012.

While visual impacts would result from construction of the Sydney Yard Access Bridge and the temporary pedestrian crossing, the character of the station as a major urban transport hub would be maintained. The majority of the project infrastructure would be constructed underground and would not impact on setting and views from the majority of the surrounding areas. An exception would be impacts to views from Mortuary Station into the rail corridor.

Policy 7 – Heritage Conservation and Major Works

Ensure the following are undertaken for major works within the CMP area:

- iii. Involvement of appropriate heritage professionals at an early stage including consideration of heritage opportunities and constraints surrounding the works prior to design work commencing;*

Heritage consultants and architects have been involved in design development for works at Central Station. Detailed design would be undertaken in consultation with a heritage architect and would be informed by the CMP. Recommendations for consideration in the detailed design process have been included in this HIA.

Table 100: Terrace group including interiors (99-105 Regent Street) heritage impact assessment

Terrace group including interiors¹⁵⁸

Figure 171: Terrace group including interiors (99-105 Regent Street).

Image



Significance	Local
Description	The heritage item consists of a two storey Federation building with four bays of ground floor shops with residences above on the first floor. Each bay steps down in line with the topography. The outer two bays have centrally located pediments within the parapet. Original shop fronts have been replaced with aluminium framed windows. The first floor is characterised by a pair of double hung sash windows with decorative mouldings.
Statement of significance	A good example of a late Victorian/Federation shop and residence development which is a prominent element within the streetscape of Regent Street. The building is evidence of the major commercial expansion that took place along Regent Street in the 1880s and 1890s, particularly on corner sites.
Impact type	Indirect impacts: Views and vistas
Heritage impact assessment	The heritage item is located to west of the Regent Street bridge, which would provide access during and following construction of the project. The bridge would be elevated to the east of the heritage item, connecting Regent Street to the construction worksite within the Sydney Yard. The construction of a worksite to facilitate access to the station from Regent Street, and the introduction of the Regent Street bridge, may have moderate visual impact on the conservation area. Indirect impact: Moderate

¹⁵⁸ Description and Statement of significance extracted from State Heritage Register inventory sheet "Terrace Group Including Interiors (99-105 Regent Street)" last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=2420309> on 03/01/2016.

Table 101: Former Crown Hotel including interior heritage impact assessment

Former Crown Hotel including interior¹⁵⁹

Figure 172: Former Crown Hotel.

Image



Significance	Local
Description	The former Crown Hotel is a two storey corner building built in the Federation Free Style of architecture. The design incorporates a curved symmetrical facade with a high parapet that represents the shape of a crown, in keeping with the original name of the building.
Statement of significance	The former Crown Hotel is a good example of an inner suburban hotel built in the Federation Free Style of architecture. It is an important local landmark in Regent Street which because of its corner location and high distinctive parapet has high townscape value. A hotel has existed on this site since at least 1858, trading originally under the name, 'The Crown Inn'
Impact type	Indirect impacts: Views and vistas
Heritage impact assessment	The heritage item is located to west of the Regent Street bridge, which would provide access during and following construction of the project. The bridge would be elevated to the east of the heritage item, connecting Regent Street to the construction worksite within the Sydney Yard. The construction of a worksite to facilitate access to the station from Regent Street, and the introduction of the Regent Street bridge, may have moderate visual impact on the conservation area. Indirect impact: Moderate

¹⁵⁹ Description and Statement of significance extracted from State Heritage Register inventory sheet "Former Crown Hotel including interior" last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=2420310> on 04/02/2016.

Table 102: Mortuary Railway Station heritage impact assessment

Mortuary Railway Station¹⁶⁰

Figure 173: Mortuary Station from Regent Street. Artefact Heritage 2015.

Image



Significance	State
Description	Constructed in 1869, the Mortuary Station is a single storey sandstone building designed in the Victorian Academic style, and attributed to James Barnet. The building consists of a platform with the railway line enclosed by nine arched bays, platform offices and waiting room. The building is approached from Regent Street.
Statement of significance	The former Mortuary Station is historically and socially significant as a physical reminder of former funeral customs in nineteenth century Australia, and of the central role in funeral services played by the railway. It would have been a place with memorably sad associations for many Sydney people over a long period. The building is aesthetically significant as a fine example of Gothic inspired design attributed to James Barnet, a style adopted for its religious associations in the construction of a funeral station. It is a rare surviving example of this building type in Australia.
Impact type	Indirect impacts: Views and vistas
Heritage impact assessment	<p>The construction of the Sydney Yard Access Bridge to provide access during and following construction of the project, would be elevated to the east of Mortuary Station, connecting Regent Street to the construction worksite within the Sydney Yard.</p> <p>This bridge would impact on views and vistas towards Mortuary Station from Regent Street and views from within the station group to Mortuary Station, including views from passing trains. Views from Mortuary Station into Sydney Yard would be significantly impacted. The bridge would significantly detract from the setting of the heritage item. Although the Sydney Yard is visually cluttered with overhead wiring, signage, signalling and other infrastructure, the construction of the bridge would constitute a major intrusive element which, due to its bulk and length would impact a number of key sightlines and the setting of Mortuary Station in general. The impacts could only be partially mitigated through sensitive design.</p> <p>The historic and social significance of the item at State level would not be impacted. Impacts would primarily be in relation to views and setting, although there would be some visual connection lost with the working Sydney Yard which would have a minor impact on historical significance.</p> <p>Indirect impact: Moderate to major</p>

¹⁶⁰ Description and Statement of significance extracted from State Heritage Register inventory sheet “Former Mortuary Railway Station including interior, grounds, fence and Railway” last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=2424246> on 09/12/2015.

Table 103: Co-Masonic Temple including interior heritage impact assessment

Co-Masonic Temple including interior¹⁶¹

Figure 174: Co-Masonic temple. Artefact Heritage 2015.

Image	
Significance	Local
Description	<p>Constructed c.1898, replacing the previous 1847 Wesleyan Church on the site, the heritage item is a detailed institutional building of 2 stories at the front sitting on a raised plinth and a single storey addition at the rear. The site has archaeological potential related to the earlier Church building located on the site, the re-use of materials from that building in the present building and the relatively large area of site remaining undeveloped that may contain material dating from first use of the site.</p>
Statement of significance	<p>Of historic significance due to its strong physical link to the Wesleyan Church and the Co-masons. The Co-masonic temple is a rare and intact example of a Co-masonic Hall. Of aesthetic significance as a rare example of this building type in the city, for its strong streetscape contribution to Regent Street, for its continuity of the precinct centred around the Mortuary Station and the adjacent commercial terraces and as a well-designed modest institutional building. The site has archaeological potential in relation to the earlier Wesleyan Church that occupied the site.</p>
Impact type	Indirect impact: Views and vistas
Heritage impact assessment	<p>The construction of the Regent Street bridge to provide access during and following construction of the project, would be elevated to the east of the heritage item, connecting Regent Street to the construction worksite within the Sydney Yard. This is likely to impact on views and vistas towards the Co-Masonic Temple from Regent Street and has the potential to significantly detract from the setting of the heritage item. Indirect impact: Moderate to major</p>

¹⁶¹ Description and Statement of significance extracted from State Heritage Inventory sheet “Co-Masonic Temple including interior” last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=2424289> on 22/10/2015.

Heritage Conservation Areas

Table 104: Chippendale Conservation Area heritage impact assessment

Chippendale Conservation Area¹⁶²

Figure 175: Chippendale Conservation Area (view from Regent Street). Artefact Heritage 2015

Image



Significance

Local

Description

Primarily constructed between 1838 and 1950, the Chippendale Conservation Area consists of the area bounded by City Road, Broadway, Abercrombie, O'Connor, Balfour, Wellington, Regent and Cleveland Streets. The area includes the Cleveland Street, City Road and Broadway Streetscapes. It is characterised by residential and industrial developments with commercial development concentrated along the main thoroughfares. Regent Street - west side only - Wellington Street to Cleveland Street Wide, heavily trafficked street with scattered deciduous street tree planting. A mixture of Victorian era terrace shops, early 20th century multi-storey warehouse/commercial development with one modern multi-storey commercial building (87-97 Regent St)

Statement of significance

Chippendale is of historical significance for three key themes: 19th century industry, industrial working class residential and quality residential housing. Industry was the key historical role of Chippendale due to its location relative to the City. Housing for industrial workers is integral to the industrial history of Chippendale, evidenced by early housing in Elim and Chandler's Avenues. Chippendale is also of historical significance for the extent of land resumption which occurred in the early 20th century which increased the dominance of industry in the area. Strickland House, the first public housing by the City Architect, is significant as evidence of the need to provide quality low income housing. Chippendale's association with high quality 19th century residential housing predominantly predates the intrusion of the railway around Regent Street. Chippendale demonstrates several key period of layers for the development of inner city Sydney: the first layer as a direct result of the subdivision of the Cooper Estate and Shepherd's Nursery, subsequent layers from Railway

¹⁶² Description and Statement of significance extracted from State Heritage Inventory sheet "Chippendale Heritage Conservation Area" last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=2421466> on 22/10/2015.

Chippendale Conservation Area¹⁶²

construction and from the resumption era and the construction of industry and related housing for industrial workers
Chippendale is an exceptional area with multiple key period layers, an early residential suburb profoundly affected by land resumptions and the construction of industrial buildings and associated Victorian working class housing. The area contains many intact buildings which are contributory to the area's significance.

Impact type Indirect impacts: Views and vistas

Heritage Impact Statement The construction of a worksite to facilitate access to the station from Regent Street, and the introduction of the Regent Street bridge, may have moderate visual impact on the conservation area.
Indirect impact: Moderate

6.10.4 Archaeological assessment

The Archaeological Zoning Plan of Sydney¹⁶³ designated the Central Station precinct as containing areas of archaeological potential that are partly disturbed. The archaeological potential of the Central Station precinct was also assessed in the 2013 Conservation Management Plan.¹⁶⁴

6.10.4.1 Site inspection results

The rail corridor portion of the Central Station site was not accessed for the survey. The portion of the Central Station site bordering Regent Street consists of built structures.

6.10.4.2 Assessment of archaeological potential – Central Station

The Central Railway Station Group has been built on the site of the two earlier Sydney railway terminals, the former Devonshire Street cemetery and a number of colonial era buildings including the Benevolent Society Asylum. The group also includes a number of earlier railway buildings, such as the Eastern and Western carriage sheds demolished in various phases of expansion. As such it is possible that archaeology may be encountered across the site relating to these various phases of development.

The archaeological potential of the Central Station precinct was assessed in the 2013 Conservation Management Plan and is shown in Figure 176. The proposed station box is located in an area that has been identified as being previously occupied by the Devonshire Street Cemetery (Figure 176).

It is likely that the installation of service and electrical lines, phases of demolition and construction and works associated with the ongoing modernisation of the railway precinct have, at least, partially impacted on archaeological remains.

Two boreholes for the project were placed within the rail corridor above the proposed station box beneath Platforms 14 and 15. The borehole logs indicate a layer of historic fill between 1 to 1.5 metres deep overlying a layer of sand up to 2 metres thick. The presence of historic fill indicates the possibility that deeper subsurface features, including grave cuts and burials (whole or fragmentary) associated with the former cemetery, may survive in intact areas.

6.10.4.3 Management of the potential archaeological resource at Central Station

There is likely to be archaeological potential across the site relating to various phases of development of Central Station. Archaeological remains can include evidence of platform construction or platform fill which may be located within those platforms to be impacted¹⁶⁵. Strategies for the management of the potential archaeological resource of the Central Station precinct are outlined in the Central Station

¹⁶³ Archaeological Zoning Plan of Sydney, City of Sydney 1997, 18.

¹⁶⁴ Rappaport & GAO 2013

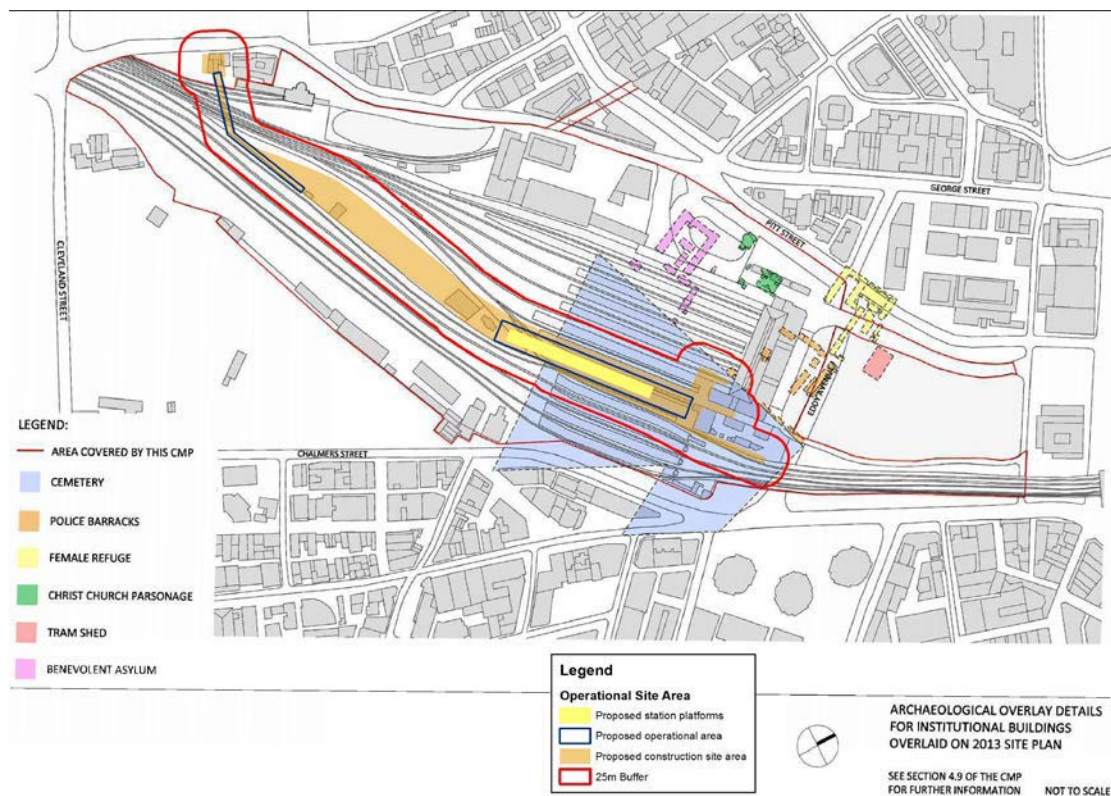
¹⁶⁵ AMBS, Heritage Platforms Conservation Management Strategy, 2015, 100,

CMP.¹⁶⁶ The potential archaeological resources in the study area may provide opportunities to further understand the history and significance of the Central Station site and to interpret its history to the public. The CMP recognises that while only parts of the site are likely to contain archaeological resources associated with the earlier uses of the area, the evidence that does remain is protected by s57(1) of the *NSW Heritage Act, 1977* and as such any subsurface disturbance may be subject to approval from the NSW Heritage Council. It is noted that this project is subject to EP&A Act Critical State Significant Infrastructure approval and therefore approval under the *Heritage Act 1977* would not be required.

The study area is located within sections of the station identified in the 2013 CMP as requiring the following archaeological management.

Notify archaeologist if remains found – These areas are known to have been occupied prior to the redevelopment of the station site in the early 1900s. The levels of disturbance in these areas are expected to be such that they are likely to have wholly or largely removed archaeological evidence of this earlier occupation. However, the remote possibility of evidence being found in these areas exists and contractors need to be advised of the need to be aware of the need to stop work and notify an archaeologist if archaeological remains are found during any excavation work.

Figure 176: Overlay of early buildings on the current site plan. Source: 2013 CMP.



6.10.4.4 Assessment of significance

The study area has the potential to contain archaeological remains associated with earlier phases of Central Railway Station. The CMP includes the following statement of significance relevant to the project:

¹⁶⁶ Rappaport & GAO 2013

Evidence of the second Redfern Station is likely to be disturbed but may contribute some information not available from other sources about the configuration and use of these early railway uses. This information is likely to be fairly limited however, as there are numerous historic plans, photographs and written records that describe the various changes made to the site and its operation over time. Archaeological remains of the early railway uses will have higher historic than research values.

Archaeological evidence of the Devonshire Street cemetery, including whole or fragmentary burials are likely to have significance at a State level.

6.10.4.5 Overview of archaeological potential

The archaeological potential of the study area has been summarised in Table 105:

Table 105: Summary of archaeological potential within study area

Potential archaeological resource	Potential	Significance	Heritage impact assessment
Earlier phases of Central Station.	Moderate	Local-State	Excavation works throughout the study area, and excavation of existing platforms have moderate potential to encounter archaeological remains associated with earlier configurations of Central Station.
Whole or fragmentary burials related to the former cemetery	Low	Local-State	It is possible that some remains were not reinterred during removal of the cemetery. If human remains survive they would be managed appropriately in line with an Exhumation Policy developed for the project.

6.10.4.6 Archaeological impact assessment

Proposed works within the Central Station site with the potential to impact on archaeological remains include:

- Excavation of open shafts during construction phase
- Foundation/ground slab excavations for establishment of staff amenities, site offices, water treatment plant, wheel washing bays, workshops, dangerous goods and material storage buildings during construction phase
- Cut and cover excavation for station box below platforms 13 -15, including demolition of existing platforms.
- Excavation works for construction of footbridge and Regent Street bridge

Whilst much of the excavation works required during the construction phase of the project are likely to be limited to discrete locations, the excavation of platforms 13 to 15 would result in the complete removal archaeological remains within the station box footprint. Therefore, works in this location would have a major impact on the potential archaeological resources.

6.10.5 Overview of constraints

The following table outlines potential heritage constraints within the study area.

Table 106: Overview of constraints on heritage items and areas of archaeological potential

Heritage item	Potential heritage impacts		
	Direct impact	Archaeological impact	Indirect impact
Sydney Terminal and Central Railway Stations Group	Direct physical impacts: Moderate to major	Major impact – low to moderate potential to encounter remains of Devonshire Cemetery and earlier phases of Central Railway Station.	Moderate to major: Views and vistas
Terrace group including interior (99-105 Regent Street)	Neutral	Neutral	Moderate: Views and vistas
Former Crown Hotel including interior	Neutral	Neutral	Moderate: Views and vistas
Former Mortuary Railway Station including interior, ground, fence and railway platforms	Neutral	Neutral	Moderate to major: Views and vistas
Co-Masonic Temple including interior	Neutral	Neutral	Moderate to major: Views and vistas
Chippendale Heritage Conservation Area	Neutral	Neutral	Moderate: Views and vistas

6.11 Waterloo Station

The Waterloo Station construction site would be located within the block bounded by Raglan Street, Cope Street, Wellington Street and Botany Road. The site currently contains commercial and residential buildings. This station would be constructed using a cut-and-cover methodology.

Access and egress to and from the site would be via Raglan Street, Cope Street, Wellington Street and Botany Road.

The location and indicative layout of the Waterloo Station construction site is shown in Figure 177 and Figure 178.

Figure 177: Proposed location of Waterloo Station between Botany Road and Cope Street



Figure 178: Waterloo Station construction site layout



6.11.1 History of the study area

The suburb of Waterloo is associated with a 1,400 acre grant given to William Hutchinson in 1823 who named his grant Waterloo Farm after Wellington's victory over Napoleon in 1815.

Large sand hills once covered the area, some of which still remain in the Moore Park area to the east of the Waterloo Station site. By the mid-nineteenth century the Moore Park area had become barren of vegetation due to timber-getting and subsequent erosion.¹⁶⁷

Prior to development, the area of proposed works was associated with extensive swamps, the most prominent of which were Shea's Creek Swamp and Waterloo Swamp. These sat to the east and west of what is today known as Botany Rd and Bourke St. Although agricultural activity took place within Hutchinson's grant in the early 19th century, the risk of flooding and marshy conditions did little to encourage settlement in the area.¹⁶⁸

¹⁶⁷ Central Parklands Trust 2014

¹⁶⁸ Weir Phillips Architects and Heritage Consultants, 2013. Heritage Impact Statement 18-20 O'Dea Street Waterloo. P. 4.

During the late 1880s, a series of improvements were made to the landscape. These included the construction of dams built to confine the Waterloo Swamp, the introduction of drainage systems along areas of increased occupation and levelling of various land formations in the area. Once this work was complete the land in the estate became more suitable for building as well as industrial activity thanks to newly diverted water courses which enabled the growth of industry. In addition to changes within the natural landscape the built landscape within the Waterloo Estate also changed dramatically during this period. This included the laying of a tramline along Botany Road in 1882 which played a vital role in these transformations by improving access to the area and enabling further residential settlement.

By the early 1900s increased industrial development in Waterloo meant warehouses and factories became prominent fixtures within the landscape and newspaper articles published in 1899 make specific mention of the extension of sewerage mains from Bourke St, Waterloo to Botany Road.¹⁶⁹

In the 1920s market gardens and smaller scale factories which had been in the area since its initial establishment were slowly pushed out by large scale industry. As the years progressed the Waterloo/Alexandria area became associated with slums which led to intensive urban renewal in the 1940, 50s and 60s.¹⁷⁰

6.11.2 Heritage listed items

A number of heritage items are located within the Waterloo station study area, as summarised in Table 107 and shown in Figure 179.

Table 107: Overview of heritage item within Waterloo station study area

Heritage item	Register listings	Significance	Relationship to study area
Congregational church including interior	Sydney LEP 2012	Local	Within construction area
Former CBC Bank including interior	Sydney LEP 2012	Local	Partially within buffer zone
Cauliflower Hotel including interior	Sydney LEP 2012	Local	Partially within buffer zone
Alignment Pin, Waterloo (SE corner Wellington Street and Botany Road)	RMS s170	Local	Within buffer zone

¹⁶⁹ Evening News, Sydney. Thursday 27 July, 1899.

¹⁷⁰ Fairman. J. 2004. Waterloo: Whose fault were the slums? The power of ideas that shaped the suburb in Histories of Green Square, p. 61.

Figure 179: Heritage listed items within the Waterloo station study area



6.11.3 Detailed heritage impact assessments

Heritage items

Table 108: Congregational church including interiors heritage impact assessment

Congregational church including interior¹⁷¹

Figure 180: Congregational Church and street context. Artefact Heritage 2015.



Image	
Significance	Local
Description	Constructed in 1883, the heritage item consists of a two storey Victorian Gothic style church with cedar pulpit, gallery and staircase. The building is symmetrical in plan and elevation. The building sets back from Botany Road and presents a garden, fence, entrance steps to the front. The foundation stone inscribed year 1865, however, this is from the previous Congregation Chapel on the site.
Statement of significance	The Gothic church of rendered brick construction was constructed in 1883 to replace the congregation chapel built in 1865. The symmetrical design of the façade demonstrates high quality architectural traits of the building. It is one of the earliest worship venues in Waterloo.
Impact type	Indirect impact: Views and vistas
Heritage impact assessment	With regard to the proposed excavation for the cut and cover station modelling indicates that the closest façade of this item would not experience vibration levels above the vibration screening level for cosmetic damage. Potential direct impact: Neutral As the bulk of the new station would be located to the rear of the heritage item, and the heritage item is oriented to the west and away from the station site, demolition of existing buildings and construction of new station entrances would have a minor impact on the setting of the heritage item. Indirect impact: Minor

¹⁷¹ Statement of significance extracted from State Heritage Inventory sheet “Congregational Church including interior” last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=2420461> on 22/10/2015.

Table 109: Former CBC Bank including interior heritage impact assessment

Former CBC Bank including interior¹⁷²

Figure 181: Former CBC Bank. Artefact Heritage 2015.

Image



Significance	Local
Statement of significance	The building represents a good example of the Victorian Italianate style by prominent government architect Mansfield. It is a landmark building on a prominent corner site.
Impact type	Indirect impact: Views and vistas
Heritage impact assessment	Proposed station buildings to the east of the heritage item would result in minor visual impacts through the demolition of existing buildings and the introduction of new station entrances. Indirect impact: Minor

¹⁷² Statement of significance extracted from State Heritage Inventory sheet “Former CBC Bank including interior” last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=2420460> on 22/10/2015.

Table 110: Cauliflower Hotel including interior heritage impact assessment

Cauliflower Hotel including interior¹⁷³

Figure 182: Cauliflower Hotel. Artefact Heritage 2015.

Image



Significance	Local
Description	Constructed in 1862, the hotel consists of a double storey Georgian style public house at a corner site. The original building comprises a front building facing Botany Road and a northern wing facing Wellington Street, which originally connect with each other by verandahs and balconies.
Statement of significance	The Cauliflower Hotel is a good example of a mid- Victorian hotel in the Georgian style and was built in c1862 by George Rolfe who was a leaseholder and a market gardener. The hotel was under the ownership and operation by the Rolfe family until 1920s, and later by Tooheys and Tooth & Co. The name "Cauliflower Hotel" is associated with former market gardens on the site which were said to be used for cauliflower growing. The hotel has been continually licensed since its establishment. This Georgian style building and the unique cauliflower sign is the landmark on Botany Road.
Impact type	Indirect impact: Views and vistas
Heritage impact assessment	Demolition of existing structures to the north-east of the heritage item would result in minor visual impacts through alteration of the existing streetscape. The existing buildings do not contribute to the heritage significance of the hotel. Indirect impact: Minor

¹⁷³ Statement of significance extracted from State Heritage Inventory sheet "Cauliflower Hotel including interior" last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=2420462> on 22/10/2015.

Table 111: Alignment pin, Waterloo heritage impact assessment

Alignment pin, Waterloo¹⁷⁴

Image



Significance	Local
Description	The alignment pin was installed in 1882, and consists of a cast iron alignment pin embossed with a broad arrow pointing to a survey mark, used by surveyors to show where the alignment of a road changed. Measures approximately 10cm x 10cm across top, visible on gutter.
Statement of significance	This alignment pin, installed after 1882, is of Local significance. Alignment pins took the form of wooden posts, wrought stones, cement blocks or more commonly iron castings, and these were identifiable through the presence of a broad arrow marked on the upper surface. Those in use on Botany Road consisted of iron castings placed in the kerb or footpath by Lands Department surveyors for the purpose of marking the road alignment. This alignment pin remains an active survey mark for the purpose of confirming cadastral boundaries.
Impact type	No impacts

¹⁷⁴ Statement of significance extracted from State Heritage Inventory sheet "Alignment pin, Waterloo" last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=4309672> on 22/10/2015.

6.11.4 Archaeological assessment

6.11.4.1 Site inspection results

The Waterloo Station site is located across a generally flat area. The area is generally covered by residential and commercial properties interspersed by sealed bitumen roads.

The heavily built environment and associated underground services suggest that there is likely to have been some areas of disturbance throughout the area.

Figure 183: View southeast across the corner of Raglan Street and Botany Street



Figure 184: View east across 103-105 Botany Street, Waterloo



6.11.4.2 Overview of previous structures

The suburb of Waterloo is associated with a 1,400 acre grant given to William Hutchinson in 1823. It is unlikely that substantial development within the study area occurred during this early phase of land-use.

By the late nineteenth century the study area was developed, and plans show that it contained the congregational church and a bank, amongst other structures (Figure 185). By the mid-twentieth century the study area was heavily developed. The 1943 aerial photograph of the study area indicates that this consisted of a combination of low-scale warehousing, and possibly commercial development (Figure 186).

Figure 185: The study area c 1885 – 1890. Source: Atlas of the Suburbs of Sydney, Waterloo, Parish of Alexandria.



Figure 186: 1943 aerial of the Waterloo construction site showing intensely developed site.



6.11.4.3 Assessment of significance

Archaeological evidence associated with the early occupation of Waterloo, and the development of the study area, are likely to have significance at a local level.

The following is a preliminary assessment of significance, informed by the NSW Heritage Criteria for *Assessing Significance related to Archaeological Sites and 'Relics'* (2009).

Archaeological research potential (NSW Heritage Criterion E):

- Archaeological remains associated with early residential and agricultural development of the study area may have some research potential dependant on the nature and extent of any remains.

Association with individuals, events, or groups of historical importance (NSW Heritage Criteria A, B & D):

- It is possible that evidence of early residential development of the study area may have associations with former residents and known local historical figures. Specific associations have not been identified at this stage.

Aesthetic or technical significance (NSW Heritage Criterion C):

- It is not possible at this stage to identify whether archaeological remains within the study area have potential to demonstrate aesthetic or technical values.

Ability to demonstrate the past through archaeological remains (NSW Heritage Criterion A, C, F & G):

- There is low to moderate potential, due to low intensity building that has occurred throughout the site, that the study area has the potential to demonstrate the past through archaeological remains.

Overall, the site may contain archaeological remains with potential to reach the local significance threshold.

6.11.4.4 Overview archaeological potential

The study area may contain a substantial archaeological resource associated with the mid-nineteenth to early twentieth century development of the suburb of Waterloo. Archaeological remains are likely to consist of evidence of residential and commercial development, including archaeological remains associated with the churches and commercial buildings that were located within the study area.

Table 112: Summary of archaeological potential within study area

Potential archaeological resource	Potential	Significance	Heritage impact assessment
Evidence of Hutchinson's development of the study area– for example, evidence of land clearance and cultivation, outbuildings, postholes associated with fencing.	Nil-low	Local	Excavation works within the study area have nil-low potential to impact on archaeological remains.
Pre-1850s residential and commercial development	Low-moderate	Local	Excavation works within the study area have low-moderate potential to impact on archaeological remains
Late 19th and early 20th century residential and commercial development	Moderate	Intact and substantial artefact bearing deposits, with the ability to answer research questions, may reach the local significance threshold.	Excavation works within the study area have moderate potential to impact on archaeological remains.

6.11.4.5 Archaeological impact assessment

Proposed works within the Waterloo Station site with the potential to impact on archaeological remains include:

- Excavation during demolition works
- Excavation of open shafts during construction phase
- Foundation/ground slab excavations for establishment of staff amenities, site offices, water treatment plant, wheel washing bays, workshops, dangerous goods and material storage buildings during construction phase
- Cut and cover excavation for station box

Whilst excavation works during the construction phase of the project are likely to be limited to discrete locations, the excavation of the cut-and-cover station would result in the complete removal archaeological remains within the station box footprint. Therefore, works in this location would have a major impact on the potential archaeological resources.

6.11.5 Overview of constraints

Excavation for the cut and cover station may result in vibration or other physical impacts to surrounding heritage items, particularly the Congregational Church. The introduction of new station buildings is also likely to result in minor impacts to the setting of surrounding heritage items.

It can be assumed that excavation for a cut and cover station is likely to result in major impacts to any potential archaeological remains or heritage listed items within the study area. An overview of heritage constraints has been included in Table 113.

Table 113: Overview of constraints on heritage items and areas of archaeological potential

Heritage item	Potential heritage impacts		
	Direct impact	Archaeological impact	Indirect impact
Congregational church including interior	Neutral	Neutral	Minor: Views and vistas
Former CBC Bank including interior	Neutral	Neutral	Minor: Views and vistas
Cauliflower Hotel including interior	Neutral	Neutral	Minor: Views and vistas
Alignment Pin, Waterloo (SE corner Wellington Street and Botany Road)	Neutral	Neutral	Neutral
Potential archaeological resource within the study area	N/A	Major impact - low to moderate potential for locally significant archaeological remains	N/A

6.12 Marrickville dive site (southern)

The Marrickville dive site (southern) would be used to:

- Excavate and construct the dive structure and tunnel portal
- Launch and support two tunnel boring machines for the major tunnelling works
- Casting yard and tunnel segment storage
- Support tunnel rail systems fit out works
- Support the construction of the southern services facility.

This would require the use of multiple areas within the one large construction site, primarily to provide sufficient materials storage and feasible solutions for construction access and egress (materials delivery and spoil removal).

The location of the Marrickville dive site (southern) is shown in Figure 187.

Figure 187: Marrickville dive site (southern) indicative construction site layout.



6.12.1 History of the study area

Most of the western half of Sydenham, including the area now occupied by Sydenham Railway Station, was previously a swamp. The swamp provided an effective boundary for early European land grants. The majority of Sydenham stands within Thomas Moore's Douglas Farm, granted in 1799, which includes the study area.

Thomas Moore received a grant of 470 acres in 1799, and a grant of 700 acres in 1803. He also purchased adjoining land and by 1807 held 1920 acres, making him one of the largest landowners in Marrickville. His holdings incorporated much of present day Marrickville, Petersham and Dulwich Hill.¹⁷⁵ Douglas Farm, as Moore's Farm was named, was utilised for the growing of maize and wheat and for its valuable stands of timber. Moore was appointed Master Boat Builder in the dockyard at Port Jackson and it is likely that some of the timber from the property went to his shipbuilding yard. Moore sold his land holdings to Dr Robert Wardell on the 21st of July, 1830.¹⁷⁶ At this time the estate extended from Parramatta Road to Cooks River.

In September 1834 Wardell stumbled across the camp of three escaped convicts whilst riding along the Cooks River and was murdered. The estate was divided amongst his sisters, Anne Fisher, Margaret Fraser and Jane Isabella Priddle.¹⁷⁷ Wardell's death opened the way for the first era of subdivision in the area¹⁷⁸ and parts of his land began to be sold off soon after his death.¹⁷⁹

By the 1840s a track led away to the west, known as Swamp Road. This is now Sydenham Road, located to the west of the study area. Unwin's Bridge Road, located to the south and east of the study area, was originally constructed using convict labour in 1836 for Frederick Wright Unwin, a landowner in the area.¹⁸⁰ During this phase the area was occupied primarily by brickmakers, and stockmen utilised the swamp to water livestock.

In 1881 the tramway was constructed along what is now Victoria Road. This was designed to stimulate residential development within the area. The Tramvale subdivision was offered for sale soon after, targeting working class families and offering close proximity to factories and employment opportunities.¹⁸¹ The estate was affected by regular flooding and poor drainage, and lacked basic sewerage facilities. Mosquitos were rampant in summer and its inhabitants suffered badly from a range of diseases.¹⁸² In May 1889, after several days of heavy rain, the Cooks River flooded. Consequently, the areas surrounding Gumbramorra Creek and swamp were soon inundated with water, including the Tramvale estate. Residents were rescued as their homes were severely flooded (Figure 188).

The Tramvale estate was abandoned, and the area continued to be used for industrial purposes. The Gumbramorra Swamp was then drained, commencing in the 1890s, and continuing into the early 20th century. During the Great Depression in the 1930s, a large brick-lined drainage pit designed to take the overflow from stormwater drains to the Cooks River was constructed in Garden Street as a relief work scheme (Figure 189).¹⁸³ This pit is heritage listed (details in the following section) and is located over 100 metres to the west of the study area. The canal associated with the heritage items demarcates the north-western boundary of the study area.

The Sydenham Railway Station, located to the south-west of the study area, was built on the duplicated line from Illawarra Junction to Hurstville and opened in 1884.¹⁸⁴ The opening of the station preceded the development of small shopping centre in the vicinity. Today, Sydenham Station is an important junction station on the T4 Illawarra line, T2 Airport, Inner West and South Line and the T3 Bankstown Line.

¹⁷⁵ Cashman and Meader 1990, 40

¹⁷⁶ Cashman and Meader 1990, 40

¹⁷⁷ Cashman and Meader 1990, 88

¹⁷⁸ Cashman and Meader 1990, 88

¹⁷⁹ Cashman and Meader 1990, 42

¹⁸⁰ Meader *ibid*

¹⁸¹ Meader *ibid*

¹⁸² Meader *ibid*

¹⁸³ Meader 2008.

¹⁸⁴ Railcorp S170 register listing for the *Sydenham Railway Station group*, accessed via the State Heritage Inventory; <http://www.environment.nsw.gov.au/heritageapp/> 4 June 2015.

Figure 188: 'The Inundations at Marrickville: Rescuing the Homeless'. Source: The Illustrated Sydney News, 6 June 1889: 14



Figure 189: Construction of the Garden Street stormwater pit, taken on the 26 July 1935. SLNSW S. Hood Home and Away series.



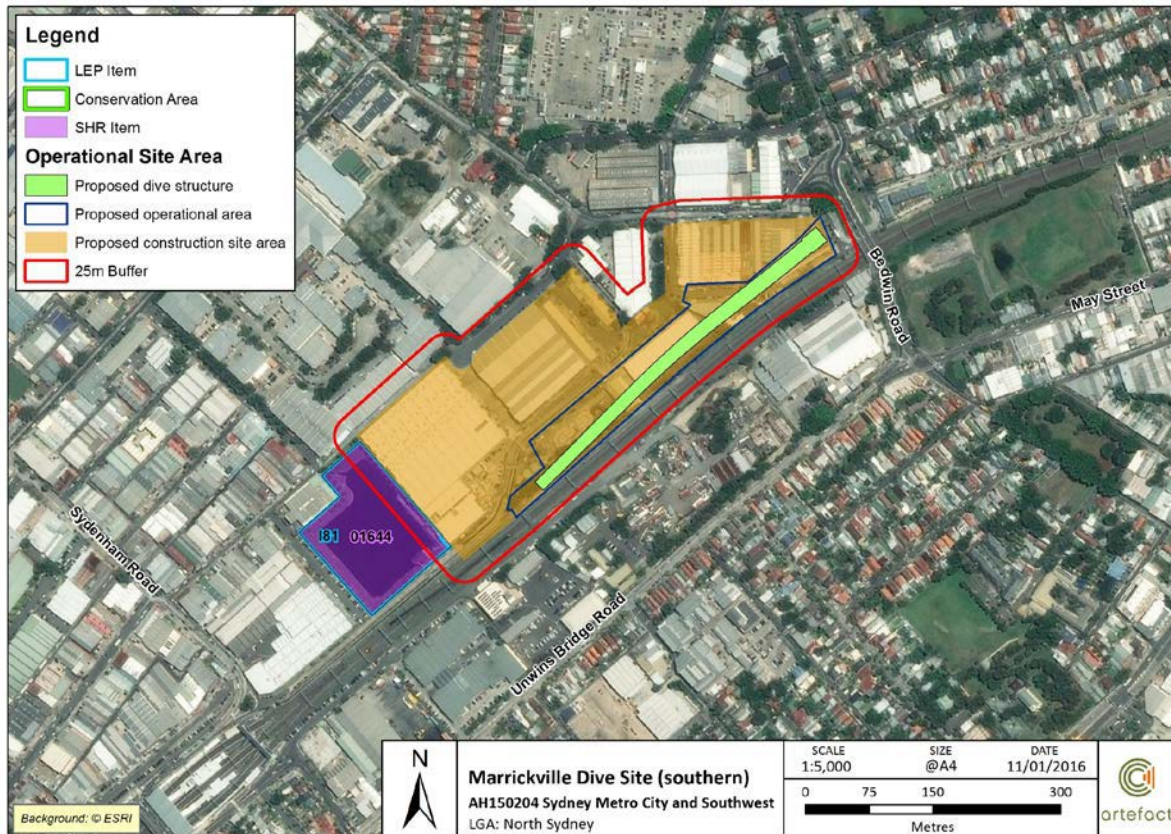
6.12.2 Heritage listed items

The heritage items listed in Table 114 and illustrated in Figure 190 are located within the study area and buffer zone.

Table 114: Overview of heritage items in the study area for the Marrickville dive site (southern)

Heritage item	Register listings	Significance	Relationship to study area
Sydenham Pit and Drainage Pumping Station 1	State Heritage Register no. 1644 Sydney Water S170 Marrickville LEP 2011	State	Within buffer zone

Figure 190: Heritage listed items within the study area for the Marrickville dive site (southern)



6.12.3 Detailed heritage impact assessments

Heritage impact assessments for heritage items potentially affected by the Marrickville dive site (southern) are provided below.

Table 115: Sydenham Pit and Drainage Pumping Station 1 heritage impact assessment

Sydenham Pit and Drainage Pumping Station 1¹⁸⁵

Figure 191: Sydenham Pit and Drainage Pumping Station. Artefact Heritage 2015.

Image



Significance	State
Description	<p>Constructed between 1935 and 1941, the Sydenham Storage Pit and Pumping Station consists of two distinct parts: the pit and pumping station. The pit consists of a nine metre deep basin with the sides formed into batters. The pumping station is constructed of reinforced concrete and consists of a series of fins that rise 12 metres from the base of the pit to support the pump house that has its floor level about 1.8 metres above Railway Parade. Sections of the southern and western pit walls collapsed following heavy rains and were rebuilt in the 1950's. In 1968 a concrete floor and a silt pit were installed to the base of the pit.</p>
Statement of significance	<p>The Sydenham Pit and Pumping Station are of historic, aesthetic and technical significance. Historically, it is the first such infrastructure built in the SWC system and is an intact and major component of the Marrickville low level stormwater drainage infrastructure that was built in response to increasing urban expansion since the 1870s in an area prone to flooding. Its large scale and labour intensive construction method of excavating the pit reflects the abundance of labour during the Great Depression and the type of public works undertaken to provide relief work for the unemployed. Aesthetically, the use of pitched dry packed ashlar sandstone walls to line the sides of the pit provides a pleasantly textured and coloured finish to the pit. It is a major landmark and dramatic component of the industrial landscape of Sydenham particularly as viewed from the railway. The pumping station is a very good example of a utilitarian building displaying Inter-War Mediterranean style architectural details. Technically, the pumping plant contains good working examples of 1930s pumps, particularly three Metropolitan Vickers pumps, and its original electrical mains equipment has been preserved in situ during upgrading in c1992</p>
Impact type	Indirect impact: Views and vistas
Heritage impact assessment	<p>Impacts to views and vistas would be minor, resulting from the establishment of the construction site in the adjacent property and excavation of the tunnel portal about 75 metres to the north-east of the heritage item. These visual impacts are likely to be temporary, as on completion of construction the operational project elements would be located mostly below ground level. Indirect impact: Minor</p>

¹⁸⁵ Statement of significance extracted from State Heritage Register inventory sheet “Sydenham Pit and Drainage Pumping Station” last accessed via <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=5053883> on 22/10/2015.

6.12.4 Archaeological assessment

6.12.4.1 Site inspection results

The Marrickville dive site is located across a built environment on a generally flat landform. One artificial drainage canal was observed from Sydney Steel Road, as well as the large Sydenham Drainage Pit and Pumping Station off the southeastern end of Saywell Street.

Figure 192: View southwest of Murray Street showing canal



Figure 193: View south across Sydenham Drainage Pit and Pumping Station



6.12.4.2 Known impacts

Subsurface impacts associated with former or current land uses have the potential to remove or damage potential archaeological remains. Previous impacts within the site need to be further understood and identified before more than a preliminary assessment of archaeological impact can be made. Based on the initial literature review and site inspection undertaken as part of this assessment, the following preliminary assumptions regarding archaeology at the site can be made:

- Construction of the existing warehouse buildings is likely to have resulted in some impact, although structures of this type are typically 'light-weight,' and impacts tend to be limited to ground levelling and isolated excavation for the introduction of strip foundations and piles.
- The surrounding area was utilised intensively in the production of bricks throughout the late 19th and early 20th centuries. It is therefore possible that the study area may have been subject to excavation for the extraction of clay.
- Railway Parade originally passed through the study area. The construction of this road may have required localised levelling or surfacing, that may have resulted in impact to earlier remains.

6.12.4.3 Discussion of archaeological potential

Analysis of early plans does not provide evidence of earlier structures within the study area. Thomas Moore owned large amounts of land in the vicinity, and it is unlikely that he had a residence in this location or used the land for more than the grazing of stock during the early 19th century (Figure 194).

It is apparent, however, that the area did contain large residential estates from an early date. During the 1830s and 1840s the outer lying suburbs of Newtown, St Peters, Tempe and Petersham became desirable locations for the construction of rural retreats, due to increasing land prices in the city.¹⁸⁶ The possibility that the site contains archaeology dating to the mid-19th century or later, therefore, cannot be entirely discounted.

Traditionally industrial areas within Sydney and the inner suburbs tended to develop quickly, and be subject to rapid modification as the development of technologies required different infrastructure. The location of the study area immediately north-east of an earlier water source suggests that it may have been an attractive location for early brick makers. Analysis of the 1943 aerial of Sydney indicates that

¹⁸⁶ Cashman and Meader 1990: 108.

numerous potential clay pits are located in the area, including one to the south-east of the study area (most likely associated with the Sydney Brickworks). It is possible that the construction of the Sydenham Pit and Pumping Station may have utilised one of these earlier brickmaking pits (Figure 196). It can be assumed, due to the substantial ground disturbance, that if a late 19th, or early 20th century brickmaking pit was located within the study area, that any archaeological remains associated with earlier phases of development are likely to have been impacted or removed.

An undated Parish Plan (post-dating 1935) indicates that Railway Parade originally passed through the study area, adjacent to the railway line (Figure 195). By the 1943 aerial the street terminates at the western extent of the study area.

Figure 194: Undated plan of the Parish of Petersham, showing Thomas Moore's grant of 470 acres. The study area was located within this grant. NSW Lands & Property Information.



Figure 195: Undated plan of the Parish of Petersham, showing the continuation of Railway Parade through the eastern portion of the study area.

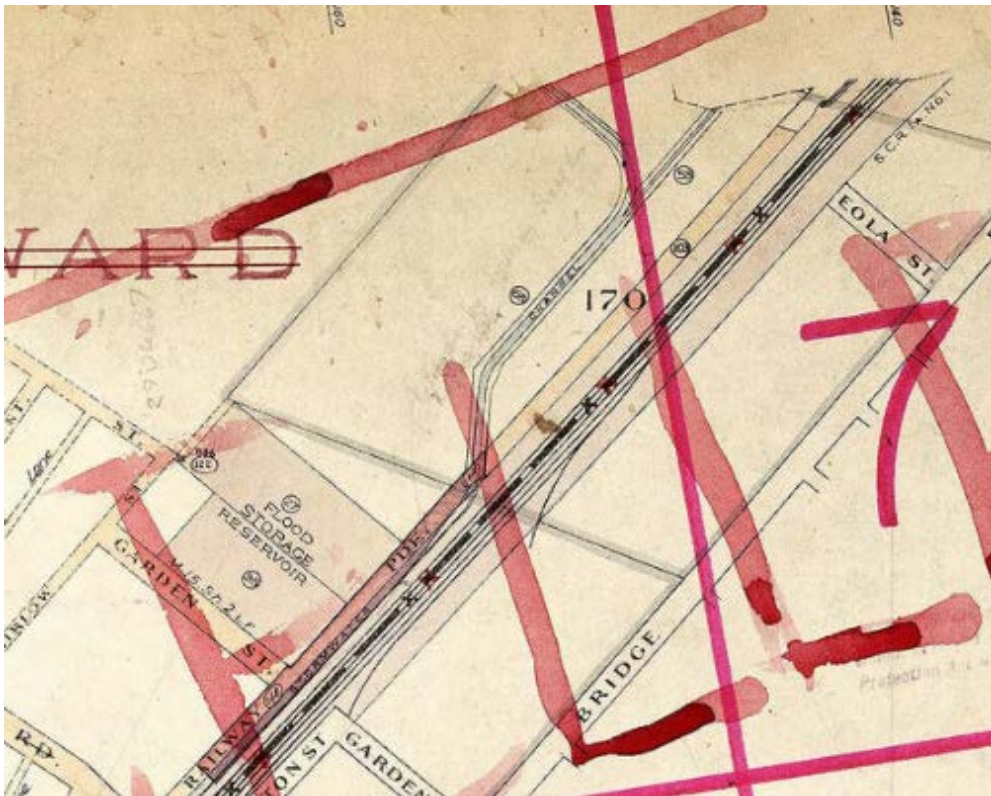


Figure 196: Clay extraction pit for brick making on the south-eastern side of the railway line, opposite the study area, that is vacant in this 1943 aerial. NSW Lands and Property Information, SIX Maps.



6.12.4.4 Assessment of significance

The following is a preliminary assessment of significance, against the NSW Heritage Criteria for Assessing Significance related to Archaeological Sites and 'Relics' (2009).

Archaeological research potential (NSW Heritage Criterion E):

- Archaeological remains associated with early residential and agricultural development of the study area may have some research potential dependant on the nature and extent of any remains.

Association with individuals, events, or groups of historical importance (NSW Heritage Criteria A, B & D):

- It is possible that evidence of early residential development of the study area may have associations with former residents and known local historical figures. Specific associations have not been identified at this stage.

Aesthetic or technical significance (NSW Heritage Criterion C):

- It is not possible at this stage to identify whether archaeological remains within the study area have potential to demonstrate aesthetic or technical values.

Ability to demonstrate the past through archaeological remains (NSW Heritage Criterion A, C, F & G):

- There is low to moderate potential, due to low intensity building that has occurred throughout the site, that the study area has the potential to demonstrate the past through archaeological remains.

Overall, archaeological remains associated with pre-1850 development of the Marrickville / Sydenham area, if found to be intact, are likely to have significance at a local level, and may require mitigation. Archaeological remains of late 19th and early 20th century brickworks are unlikely to reach the local significance threshold.

6.12.4.5 Overview archaeological potential

The study area has low to moderate potential to contain an archaeological resource with the potential to reach the local significance threshold, as outlined in Table 116.

Table 116: Summary of archaeological potential within study area

Potential archaeological resource	Potential	Significance	Heritage impact assessment
Evidence of early development of study area (Moore's grant) – evidence of land clearance and cultivation, water management, postholes associated with farm buildings and fencing.	Nil-low	Local	Excavation works within the study area have nil-low potential to impact on archaeological remains.
Evidence of 20th century brickmaking – clay extraction pits, postholes associated with buildings.	Low-moderate	Unlikely to reach local significance threshold	Excavation works within the study area have low-moderate potential to encounter evidence of brickmaking.

6.12.4.6 Archaeological impact assessment

Proposed works within the Marrickville dive site (southern) with the potential to impact on archaeological remains include:

- Excavation of the dive structure
- Any excavation works associated with the construction or establishment of the pre-cast factory shed, segment storage areas, staff amenities, site office, water treatment plants, workshops, dangerous good storage, grout batching plant, grout and concrete silos, staff parking and laydown areas.

Works with the potential to impact archaeological resources within the Marrickville dive site (southern), with the exception of the excavation for the construction of the dive structure, are likely to be limited to discrete locations. Therefore, works in this location are likely to have a minor impact on potential archaeological resources, dependant on the location and extent of the proposed excavation works.

6.12.5 Overview of constraints

Table 116 provides an overview of heritage constraints for the southern construction site. Generally, impacts to heritage items within the Marrickville dive site would arise from alterations to existing views and vistas, and the settings of these heritage items. Visual impacts are likely to be minor, as the majority of works would occur below the ground surface.

Any potential archaeological resources within the study area would be impacted by substantial excavation works associated with the dive structure and tunnel portal. Although any impacts to potential archaeological resources within the study area would be substantial, the archaeological assessment did not identify any significant archaeological resources within the study area.

Table 117: Overview of heritage constraints.

Heritage item	Potential heritage impacts		
	Direct impact	Archaeological impact	Indirect impact
Sydenham Pit and Drainage Pumping Station	Neutral	Neutral	Minor: Views and vistas
Potential archaeological resource within the study area	N/A	Minor impact - Nil – low potential to impact on archaeological remains of local significance.	N/A

6.13 Sydney Harbour crossing – ground improvement

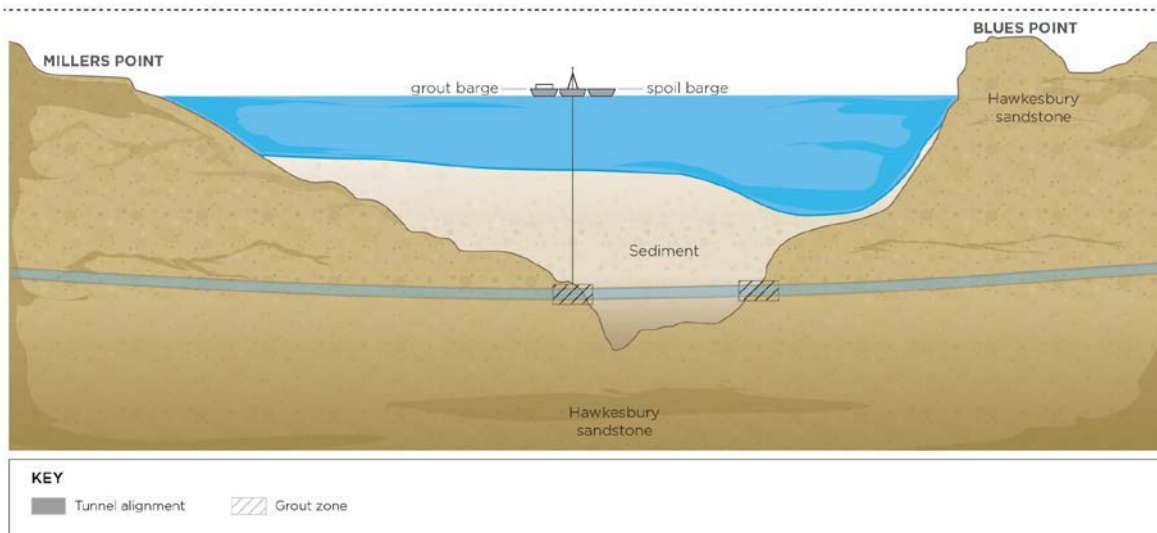
6.13.1 Scope of works

Due to the expected ground conditions, ground improvement works may be required at specific locations underneath Sydney Harbour. Ground improvement works may be required at the rock-sediment transition zones (Figure 197) to reduce construction risks associated with tunnel boring machine work.

For the purposes of assessment, ground improvement works involve jet grouting which comprises the injection of a cement grout into the harbour bed from barges on the harbour. The grout would be delivered to the barges from an on-shore grout facility and would be injected from the barge via a crane and drilling lead.

Indicatively, ground improvement work could require the establishment of two cement grout blocks (each about 35 metres wide by 20 metres long by 16 metres deep) at the two points where the tunnel alignment passes through a rock-sediment transition zone.

Figure 197: Potential ground improvement scope



6.13.2 Discussion of Sydney Harbour archaeological context

The Heritage Division (OEH) is the agency responsible for the management of maritime archaeology and underwater cultural heritage in NSW. The Division administers both the Commonwealth's *Historic Shipwrecks Act 1976*, and the NSW *Heritage Act 1977*. The two acts, together with the Annexe to the UNESCO Convention on the Protection of the Underwater Cultural Heritage 2001 (endorsed by the Heritage Council of NSW as best practice in 2005), provide protection to maritime archaeology and underwater cultural heritage sites in NSW and adjacent waters.

No wrecks listed on the Australian National Shipwreck Database are located within the study area.

One propeller is listed on the OEH Maritime Heritage register. The following information is taken from the register listing:¹⁸⁷

'The propeller was found during multi-beam survey by Port Authority of Sydney in October 2015. The propeller was covered in nets when found and lies to the NE of the 45 metre deep hole just off the edge of the shipping channel. More than half the propeller (including the boss) is buried beneath thick mud in 13.5 m of water. The relic has two blades exposed, suggesting it is a 4 bladed propeller. The blades are exposed for approximately 1.8-2 m out of the mud, suggesting the propeller is approximately 4-5 m in diameter.

It is possible, given the proximity of the propeller to the deep water hole, the propeller may have been dumped with the intention of it landing in deeper water.'

The propeller is located at GDA 94 MGA 56 334196E 6252919N, which is approximately 300 m east of the proposed Harbour Crossing location.

6.13.3 Documented shipwrecks in the local area

A number of vessels, are known to have been shipwrecked in the waters surrounding Dawes Point and Blues Point throughout the late 19th and early 20th centuries. These include:

- The *Three Bees* - 1814
- The *Sea Nymph* – 1882 (probably raised soon after)
- The *Birkenhead* – 1913 (possibly raised)
- A pinnacle/launch from the HMAS Penguin – 1914
- A launch sunk of Dawes Point – 1915

Sydney Ports Corporation conducts Hydrographic survey of Sydney Harbour, providing detailed scans of the Harbour floor capable of detecting shipwrecks and smaller objects, such as the propeller discussed in Section 6.13.2. No items or evidence of the above listed shipwrecks has been identified within the Harbour Crossing easement.

6.14 Power supply routes

The majority of the power supply routes would be constructed by trenching within the road reserve. Where major roads are crossed by the route (such as Mowbray Road for the Chatswood dive site power supply), alternative construction methods would be used such as under boring in order to avoid impacts to the road network. Alternative construction methods such as under boring may also be used to avoid other constraints such as services or areas of environmental sensitivity.

Trenches are expected to be around one metre wide and 1.5 to two metres deep. It is therefore likely any subsurface archaeological remains existing to this depth below the road treatment and pavement would be impacted. Where previous disturbance, such as utilities installation, has occurred the archaeological potential would be low.

The following review includes only those listed items that may be impacted by the power supply route work. It is assumed that the power supply routes would be located within the road corridor.

Assessments of archaeological significance provided in Table 118 are preliminary and are based on assessments of station sites prepared for this project and the results of other investigations. More detailed consideration of impacts would be included in the relevant archaeological research designs for the project.

¹⁸⁷ Accessed 18 March 2016

<http://www.environment.nsw.gov.au/maritimeheritageapp/ViewSiteDetail.aspx?siteid=2257>

Table 118: Power supply routes – potential impacts on heritage items and archaeological remains

Description	Listing	Heritage significance	Heritage impact and magnitude
Chatswood			
Chatswood zone substation No.80 (Ausgrid)	Willoughby LEP Ausgrid s170	Local	<ul style="list-style-type: none"> Impacts to fabric and visual impacts are expected to be minor.
Archaeological resources	N/A	Potentially Local	<ul style="list-style-type: none"> Potential for locally significant archaeology in undisturbed sections of the road corridor.
Crows Nest and North Sydney			
Archaeological resources	N/A	Potentially Local. Evidence of early occupation and development of the locality.	<ul style="list-style-type: none"> Potential for locally significant archaeology in undisturbed sections of the road corridor.
Millers Point to Darling Harbour			
Millers Point and Dawes Point Village Precinct	SHR	State	<ul style="list-style-type: none"> Within conservation area. Impacts to fabric and visual impacts are likely to be temporary and minor.
Millers Point Conservation Area	SHR; Dept of Housing s.170; Sydney LEP LEP; RNE	State	<ul style="list-style-type: none"> Within conservation area. Impacts to fabric and visual impacts are likely to be temporary and minor.

Description	Listing	Heritage significance	Heritage impact and magnitude
Archaeological resources	N/A	Potentially Local to State. Potential for evidence of former gas works, reclamation, Girard's flour Mill, former wharfs and industry and 1860s residential.	<ul style="list-style-type: none"> • Potential for locally significant and State significant archaeology in undisturbed sections of the road corridor.
King Street Wharf to Martin Place			
Tank Stream including tanks and tunnels	SHR Sydney Water s170	State	<ul style="list-style-type: none"> • The power supply route would cross the Tank Stream on Margaret Street near its intersection with George Street. The Tank Stream has a curtilage of three meters from the structure. Trenching may be up to two meters deep and therefore may encroach into the curtilage of the item. The Tank Stream Conservation Management Plan states that in this area the Tank Stream is generally around three to five meters below the current ground surface. Impacts within the curtilage of the Tank Stream would be avoided.
Richard Johnson Square including monument and plinth	Sydney LEP	Local	<ul style="list-style-type: none"> • Impacts to fabric and visual impacts are likely to be temporary and minor.
Bennelong Stormwater Channel	Sydney Water s170	Local	<ul style="list-style-type: none"> • The feeder line would cross the alignment of the Bennelong Stormwater Channel at Hunter, Bligh, Elizabeth, Philip and Macquarie Streets. Impacts within the curtilage of this item would be avoided.

Description	Listing	Heritage significance	Heritage impact and magnitude
Archaeological resources	N/A	Potentially Local to State. Potential evidence of early occupation and development of Sydney including drains, early road surfaces.	<ul style="list-style-type: none"> • Potential for locally significant and State significant archaeology in undisturbed sections of the road corridor.
Pitt Street to Surry Hills			
Archaeological resources	N/A	Potentially Local to State. Potential evidence of early occupation and development of Sydney including drains, early road surfaces.	<ul style="list-style-type: none"> • Potential for locally significant and State significant archaeology in undisturbed sections of the road corridor.
Pymont to Pitt Street			
Former Pymont Power Station Administrative building (42 Pymont Street) including interiors	City of Sydney LEP	Local	<ul style="list-style-type: none"> • Impacts to fabric and visual impacts are expected to be minor.
Archaeological resources	N/A	Potentially Local to State. Potential evidence of early occupation and development of Sydney including drains, early road surfaces.	<ul style="list-style-type: none"> • Potential for locally significant and State significant archaeology in undisturbed sections of the road corridor. • Sections of the feeder route around Pymont are reclaimed land and would have low archaeological potential. • Market Street alignment has not changed since the 1810s so there is some potential for intact early remains.

7.0 MITIGATION AND MANAGEMENT MEASURES

7.1 Site specific mitigation measures

Mitigation measures identified in other technical papers and other chapters of the Environmental Impact Statement that are relevant to the management of potential heritage impacts include:

- Chapter 10 (Construction noise and vibration) with respect to management of potential vibration impacts (Technical paper 2 – Noise and vibration)
- Chapter 16 (Landscape character and visual amenity) with respect to management of potential visual impacts during construction and operation (Technical paper 6 – Landscape character and visual amenity).

The mitigation measures that would be implemented to address potential impacts on non-Aboriginal heritage sites and areas of archaeological potential are listed in Table 119.

The location(s) applicable to each mitigation measure are identified by using a unique identifier as follows:

- STW – Surface track works
- CDS – Chatswood dive site
- AS – Artarmon substation
- CN – Crows Nest Station
- VC – Victoria Cross Station
- BP – Blues Point temporary site
- GI – Ground improvement works
- BN – Barangaroo Station
- MP – Martin Place Station
- PS – Pitt Street Station
- CS – Central Station
- WS – Waterloo Station
- MDS – Marrickville dive site
- Metro rail tunnels – Metro rail tunnels not related to other sites (eg TBM works)
- PSR – Power supply routes.

Table 119: Overview of non-Aboriginal heritage mitigation measures.

ID	Mitigation measure	Applicable location (s) ¹
NAH1	<p>Archival recording and reporting of the following heritage items would be carried out in accordance with the NSW Heritage Office's <i>How to Prepare Archival Records of Heritage Items</i> (1998), and <i>Photographic Recording of Heritage Items Using Film or Digital Capture</i> (2006):</p> <ul style="list-style-type: none"> • The internal heritage fabric and any non-original elements removed from within the curtilage of Mowbray House, Chatswood • The interior, exterior and setting of the shop at 187 Miller Street, North Sydney • The fabric and setting of the North Sydney bus shelters requiring removal and temporary relocation at Victoria Cross Station and Blues Point temporary site • Any component of the Blues Point Waterfront Group and the McMahons Point South heritage conservation area to be directly affected or altered, including vegetation and significant landscape features • Hickson Road wall in the vicinity of proposed ventilation risers and skylights for Barangaroo Station • The interior, exterior and setting of the 'Flat Building' at 7 Elizabeth Street, Sydney • Martin Place, between Elizabeth and Castlereagh streets, Sydney • The heritage fabric of areas of the existing Martin Place Station affected by the project • The Rolling Stock Officers Garden, Rolling Stock Officers Building and Cleaners Amenities Building in Sydney Yard and any other component of the Sydney Terminal and Central Railway Stations group to be removed or altered. 	CDS, VC, BP, MP, CS
NAH2	<p>An archaeological research designs would be prepared and implemented to identify the need for archaeological testing or monitoring. Archaeological mitigation measures recommended in the archaeological research design would be carried out in accordance with Heritage Council guidelines, and where identified in the archaeological research design, would be supervised by a suitably qualified Excavation Director with experience in managing State significant archaeology.</p>	CDS, CN, VC, BP, BN, MP, PS, CS, WS, PSR
NAH3	<p>An <i>Exhumation Policy and Guideline</i> would be prepared and implemented. It would be developed in accordance with the <i>Guidelines for Management of Human Skeletal Remains</i> (NSW Heritage Office, 1998b).</p>	All except metro rail tunnels
NAH4	<p>The method for the demolition of existing buildings and / or structures at Chatswood dive site, Victoria Cross Station, Martin Place Station, Pitt Street Station, Central Station and Waterloo Station would be developed to minimise direct and indirect impacts to adjacent and / or adjoining heritage items.</p>	CDS, VC, MP, PS, CS, WS

ID	Mitigation measure	Applicable location (s) ¹
NAH5	Prior to total or partial demolition of heritage items at Victoria Cross and Martin Place stations, heritage fabric for salvage would be identified and reuse opportunities for salvaged fabric considered. This would include salvage and reuse of heritage tiles to be impacted at Martin Place Station.	VC, MP
NAH6	An appropriately qualified and experienced heritage architect would form part of the Sydney Metro Design Review Panel and would provide independent review periodically throughout detailed design.	All
NAH7	The project design would be sympathetic to heritage items and, where reasonable and feasible, minimise impacts to the setting of heritage items. The detailed design for Martin Place Station and Central Station would be developed with input from a heritage architect.	STW, CDS, CN, VC, BN, MP, PS, CS, WS, MDS
NAH8	Appropriate heritage interpretation would be incorporated into the design for the project in accordance with the <i>NSW Heritage Manual</i> , the NSW Heritage Office's <i>Interpreting Heritage Places and Items: Guidelines</i> (August 2005), and the NSW Heritage Council's <i>Heritage Interpretation Policy</i> .	CDS, CN, VC, BP, BN, MP, PS, WS
NAH9	A Central Station heritage interpretation plan would be developed and implemented, consistent with the <i>Central Station Conservation Management Plan</i> (Rappoport and Government Architects Office, 2013) and in accordance with the guidelines identified in NAH8.	CS
NAH10	The design of the Sydney Yard Access Bridge would be sympathetic to surrounding heritage items and minimise impacts to sight lines, views and setting of surrounding heritage items, including to Mortuary Station and the Sydney Terminal and Central Railway Stations group. As a minimum the design would: <ul style="list-style-type: none"> • Incorporate materials and finishes sympathetic to the heritage context of the railway station • Minimise height and bulk of the structure. 	CS
NAH11	Except for heritage significant elements affected by the project, direct impact on other heritage significant elements forming part of the following items would be avoided: <ul style="list-style-type: none"> • The Blues Point Waterfront Group (including the former tram turning circle, stone retaining wall, bollards and steps) • The Millers Point and Dawes Point Village Precinct • The existing Martin Place Station • Sydney Terminal and Central Railway Stations group • Sydney Yard (including the Shunters Hut and Prince Alfred Sewer). 	BP, BN, MP, CS
NAH12	Power supply works would be designed and constructed to avoid impacts to the Tank Stream and Bennelong Stormwater Channel.	PSR

ID	Mitigation measure	Applicable location (s) ¹
NAH13	<p>The design and detailed construction planning of work at Central Station would consider the requirements of the <i>Central Station Conservation Management Plan</i> (Rappoport and Government Architects Office, 2013) and include consideration of opportunities for the retention, conservation and / or reuse of original and significant heritage fabric.</p> <p>Consultation would be carried out with Sydney Trains and the Heritage Council of NSW during design development.</p>	CS

¹ STW: Surface track works; CDS: Chatswood dive site; AS: Artarmon substation; CN: Crows Nest Station; VC: Victoria Cross Station; BP: Blues Point temporary site; GI: Ground improvement works; BN: Barangaroo Station; MP: Martin Place Station; PS: Pitt Street Station; CS: Central Station; WS: Waterloo Station; MDS: Marrickville dive site; Metro rail tunnels: Metro rail tunnels not related to other sites (eg TBM works); PSR: Power supply routes.

7.2 Non-Aboriginal heritage archaeological research design

7.2.1 Archaeological research design

Where an archaeological research design is required, it would be prepared based on research information included in Technical Paper 4 (Non-Aboriginal heritage) and would be supplemented by additional detailed historical research of each site, with reference to the project design and proposed construction methods at each site. Based on the detailed literature review, the archaeological research designs would identify the need for, and provide a detailed methodology for undertaking:

- Archaeological test excavation or test and salvage excavation
- Archaeological monitoring.

7.2.2 Test excavation

Test excavation would not be undertaken prior to the preparation of an archaeological research design. For this project, it is likely that the archaeological research designs would recommend test excavation:

- In areas where access for excavation activities is not restricted by buildings or other structures, and
- Where additional information regarding the nature of subsurface deposits generated through test excavation could inform the assessment of archaeological potential and / or significance at that site.

Archaeological excavation can be undertaken prior to project approval as per the requirements of the Secretary's Environmental Assessment Requirements on the condition that archaeological relics are not removed.

7.2.3 Test and salvage excavation

Test and salvage excavation would not be undertaken prior to the preparation of an archaeological research design. For this project, it is likely that the archaeological research designs would recommend test and salvage:

- Where detailed archival research and understanding of modern disturbance (such as basement information) needs to be supplemented with more site-specific (on-ground) information to better define the archaeological potential and / or significance of the site
- In areas where access for excavation activities is not restricted by buildings or other structures.

Test and salvage excavation would generally be recommended in areas where there is a moderate to high potential for relics of local or state significance to be present. It would involve locating and recording any relics found prior to their removal by construction. Test and salvage excavation could only be undertaken after project approval.

7.2.4 Archaeological monitoring

Archaeological monitoring involves the monitoring of construction phase excavation activities by a qualified archaeologist who would record any significant remains uncovered by excavation. Based on additional detailed historical research, the archaeological research design (see above) may identify areas where archaeological monitoring would be required. Examples of where archaeological monitoring may be required include:

- Low impact construction activities (such as narrow trenching) in areas of moderate to high potential for local or state significant relics
- Areas with low potential to contain remains of state significance.

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