Hyde Park Master Plan—Lighting Upgrade

Heritage Impact Statement

Prepared for AECOM
July 2023

GML HERITAGE

Acknowledgement of Country

We respect and acknowledge the Gadigal people of the lands and waterways on which we live and work, their rich cultural heritage and their deep connection to Country, and we acknowledge their Elders past and present. We are committed to truth-telling and to engaging with the Gadigal people to support the protection of their culture and heritage. We strongly advocate social, cultural and political justice and support the Uluru Statement from the Heart.

Cultural warning

Aboriginal and Torres Strait Islander readers are advised that this report may contain images or names of First Nations people who have passed away.

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Report register

The following report register documents the development of this report, in accordance with GML's Quality Management System.

Job No.	Issue No.	Notes/Description	Issue Date
18-0733	1	Draft Report	March 2022
18-0733	2	Draft Report	June 2022
18-0733	3	Draft Report	April 2023
18-0733	4	Draft Final Report	May 2023
18-0733	5	Final Report	June 2023
18-0733	6	Final Report	July 2023

Quality assurance

The report has been reviewed and approved for issue in accordance with the GML quality assurance policy and procedures.

It aligns with best-practice heritage conservation and management, *The Burra Charter: the Australia ICOMOS Charter for Places of Cultural Significance, 2013* and heritage and environmental legislation and guidelines relevant to the subject place.

Indigenous cultural and intellectual property

We acknowledge and respect the inherent rights and interests of the Gadigal people in Indigenous Cultural and Intellectual Property. We recognise that Aboriginal and Torres Strait Islander people have the right to be acknowledged and attributed for their contribution to knowledge but also respect their rights to confidentiality. We recognise our ongoing obligations to respect, protect and uphold the continuation of Gadigal rights in the materials contributed as part of this project.

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Cover image

Avenue of Fig Trees in Hyde Park. (Source: © Ilya Genkin)

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1 Introduction

1.1 Background

GML Heritage Pty Ltd (GML) has been engaged by AECOM, on behalf of the City of Sydney, to provide heritage advice and to prepare a Heritage Impact Statement (HIS) for park wide lighting upgrades, as part of ongoing master plan and improvement works within Hyde Park (the subject site). As one of Australia's oldest formally designed and created public open spaces, Hyde Park is of heritage significance at local, State and National levels.

The 2006 Plan of Management (POM) adopted by Council identified a need for the existing lighting within Hyde Park to be rationalised and improved with a particular emphasis on the Central Avenue, secondary paths and the need to improve safety and security within the park.

In 2016 consultants were engaged to assess the existing lighting, power, CCTV and prepare a detailed design and layout for the park. The scope of the current work package includes detailed design development and full documentation and construction stage services as follows:

- A comprehensive assessment of the current design package and staging plan making recommendations and adjustments if required to meet current Australian Standards (AS 3000, AS 1158) and Ausgrid Standards (URD and NS) and performance measures as outlined in the City's Policies.
- Design refinement/ documentation of the lighting palette, new event power outlet locations and additional CCTV; and
- Services during construction, including coordinating the implementation of the project through to completion encompassing the certification of all the works.

This HIS report has been prepared to accompany a Review of Environmental Factors (REF) for the installation of new park lighting and associated works within Hyde Park north and south. The HIS identifies and assesses the potential impacts of the proposed works on the cultural significance of Hyde Park, including the Aboriginal and historical archaeological resources, significant heritage fabric within the subject site, and cultural heritage values associated with Hyde Park and other listed heritage items within the Park and in the vicinity.

1.2 Identification and study area

Located on Gadigal Country within the City of Sydney, adjoining the CBD, Hyde Park covers approximately 18 hectares. It is a long rectangular land area bound by St James Road to the north and Liverpool Street to the south. College Street defines the park's eastern edge with Elizabeth Street to the west. The park is divided horizontally through its centre by Park Street. The portion of the park located to the north of Park Street is referred to as Hyde Park North, while the portion of the Park situated south of Park Street is Hyde Park South.

Hyde Park is zoned RE1 Public Recreation. The park is owned by the Crown and managed on behalf of the State of NSW by City of Sydney. The Park includes (Lot 7303 DP 1167657 Hyde Park North) and (Lot 200 DP 1230973 Hyde Park South).

Within Hyde Park are several significant schedule heritage items and features. These features include Museum and St James Stations, the Anzac Memorial and Pool of Reflection, Sandringham Gardens and the Archibald Fountain. The Anzac Memorial is managed by the Anzac Memorial Trust. The railway stations and associated easements are managed by Sydney Trains for Transport for NSW. There is a significant collection of historic statutes and contemporary public art works also situated within the park. Significant tree plantings, combined with the network of pathways and lighting throughout the park contribute to the landscape character and significance of Hyde Park.

Development along the streets that frame Hyde Park is varied from multi-unit residential in the south, to educational, cultural, recreational, and religious to the east, to government and legal administration to the north and commercial and retail to the west. There are several significant heritage listed items included in the surrounding development.

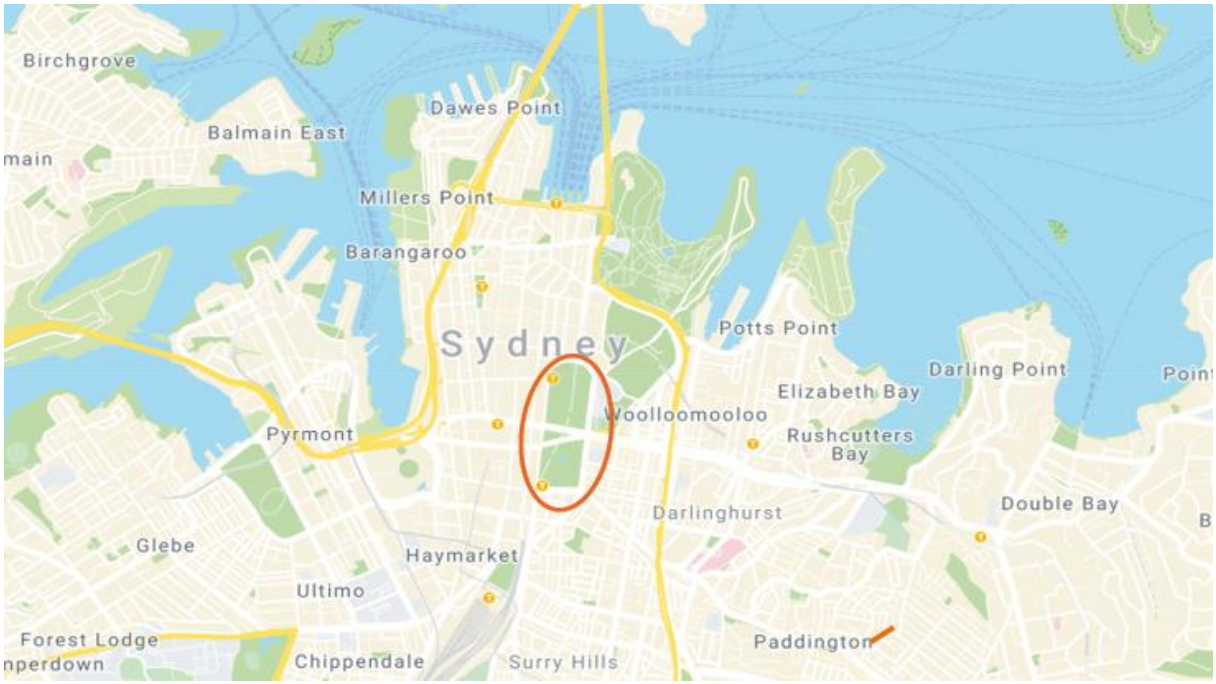


Figure 1.1 The study area, Hyde Park circled in orange shown in the broader context of the City of Sydney. (Source: Snazzy Maps with GML overlay)

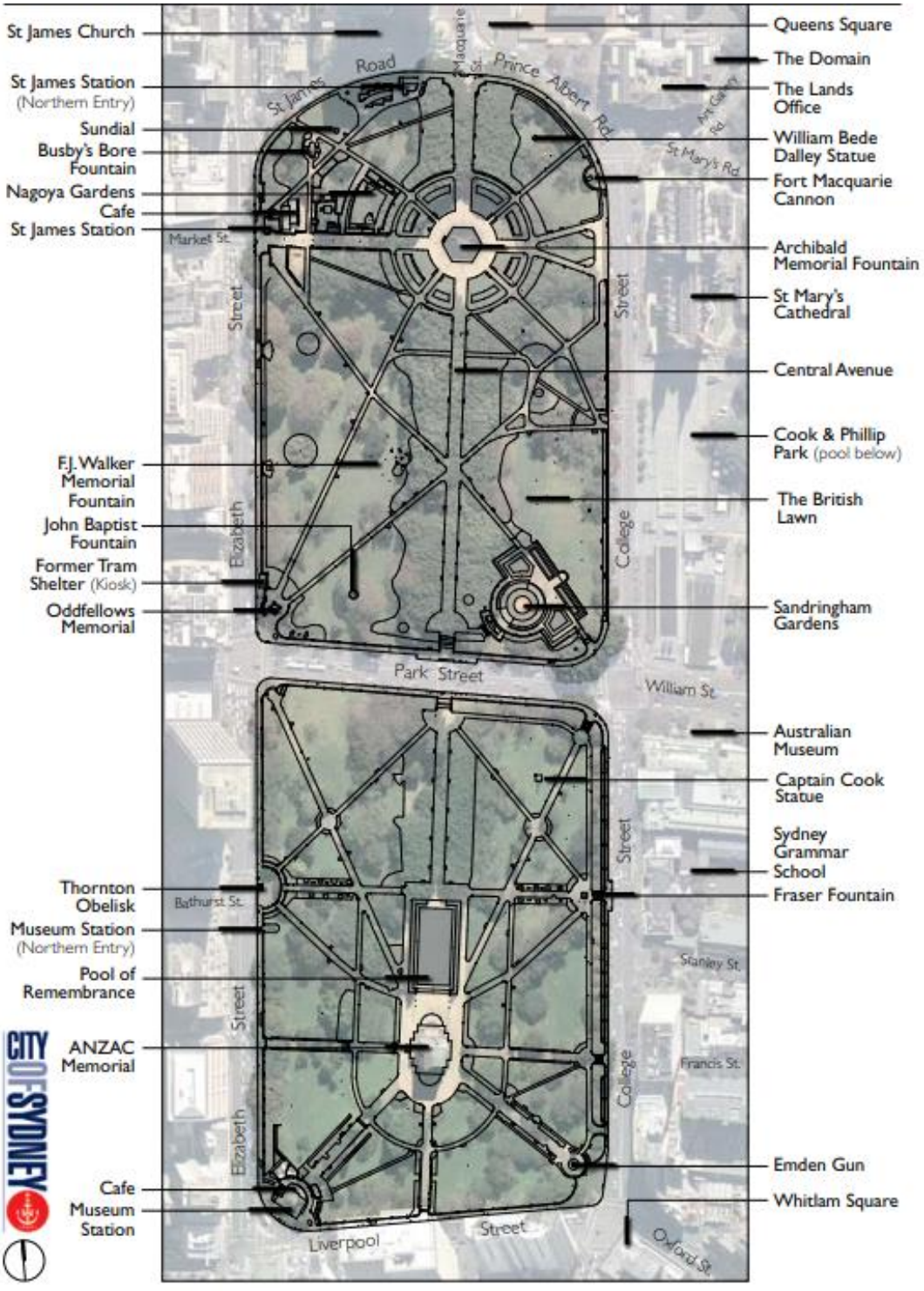


Figure 1.2 Hyde Park, (north and south) with key features and locations within the park and surrounds indicated. (Source Hyde Park Plan of Management 2006)

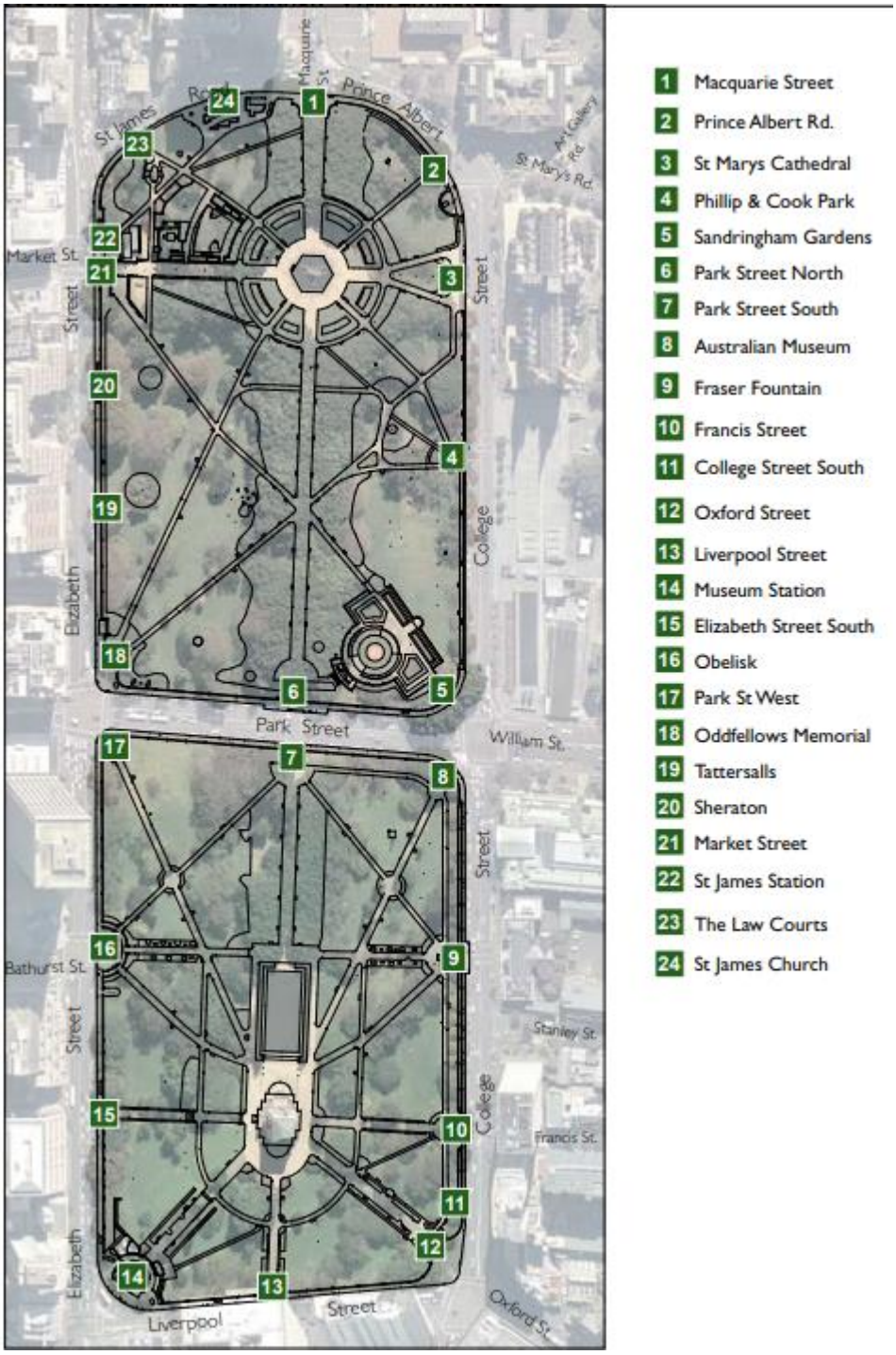


Figure 1.3 Hyde Park with key entrances and surrounding locations and features. (Source: Hyde Park Plan of Management 2006)

1.3 Approach

1.3.1 Previous Reports

Preparation of this HIS involved review of the following documents:

- Heritage Review Study for Hyde Park Plan of Management, prepared by HBO + EMTB for the City of Sydney, July 2006;
- Hyde Park Plan of Management and Masterplan, prepared by Clouston Associates for the City of Sydney, October 2006 (2006 POM);
- Hyde Park Boundaries Elements and Entrances, prepared by GML for Environmental Partnership, November 2007;
- Hyde Park Archaeology Management Plan, final report prepared for City of Sydney Council, December 2014;
- Museum Station Easy Access Upgrades Heritage Asset Management Schedules, prepared by GML for Transport for NSW, August 2014 (2014 HAMS);
- Proposed Café, Hyde Park South, Cnr Elizabeth and Liverpool Street, Sydney, NSW—Heritage Impact Statement, prepared by John Oultram Heritage and Design for Andrew Burns Architects and the City of Sydney, March 2016;
- Hyde Park: Lighting Design Geotechnical Investigations Geotechnical Factual and Interpretive Report, report prepared by AECOM for City of Sydney, February 2021; and
- The archaeological and palaeoenvironmental assessment of the sediments of Hyde Park, Sydney, New South Wales, report prepared by Professor Stephen Gale for GML Heritage, February 2022.

2 Methodology and Terminology

This HIS has been prepared with reference to the guideline document 'Statements of Heritage Impact, 2002', prepared by the NSW Heritage Office and contained within the NSW Heritage Manual. This report uses the terminology, methodology and principles contained in the *Australia ICOMOS Burra Charter 2013* (the Burra Charter).

2.1 Limitations

This HIS relies on existing documentation—no new historical research or heritage significance assessment has been undertaken.

No archaeological investigation or survey has been undertaken. Soil sediment analysis was undertaken in December 2021 to understand the paleoenvironmental environment of specific areas of the site.

This HIS addresses only the proposed works associated with park-wide lighting upgrade.

At the time of writing the detailed construction methodology had not been documented. The approach to construction will be finalised by tendering builders as part of the City of Sydney Expression of Interest for the construction of the lighting upgrade. Readers should note that section 6.3 of this HIS provides a summary of the expected approach to the project construction. We anticipate that certain aspects of the project's services as outlined in the assessment of impact in section 7 as they relate to electrical, communications and information communications technology (ICT) may need to be reviewed and revised once design documentation is finalised at 100 percent.

2.2 Authorship and acknowledgements

This report has been prepared by Dr Nadia Iacono, Senior Associate, Jack Lee, Consultant, with review and input by Sharon Veale, CEO at GML.

3 Statutory Planning Context

3.1 Introduction

In NSW heritage management and protection is incorporated into the land use planning system. This section of the report includes an overview of the heritage listings and the relevant environmental planning legislation that applies to the conservation and management of heritage in Hyde Park.

3.2 Heritage listings

As one of the city's most significant pieces of public open space, Hyde Park is subject to statutory heritage listings at National, State and Local levels.

- Hyde Park is within the 'Governors' Domain and Civic Precinct' a National Heritage Listed (Place ID 106103) under the Australian Government *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act 1999). (See Figure 3.1)
- Hyde Park is listed on the NSW State Heritage Register (SHR No. 01871). (See Figure 3.2)
- Hyde Park is listed on Schedule 5 of the *Sydney Local Environmental Plan 2012* (LEP 2021) as 'Hyde Park including north and south park reserves, Archibald Memorial Fountain, Anzac Memorial, Pool of Remembrance, stone perimeter walls and steps, St James Station, Museum Station, Dalley Statue, Oddfellows Memorial, Captain Cook Statue, Frazer Fountain, Fort Macquarie Cannon, Emden Gun, Thornton Obelisk, Sundial, former public toilets, Busby's Bore Fountain, Sandringham Gardens including memorial gates/pergola, Nagoya Gardens, Chess Board, F J Walker Fountain, John Baptist Fountain, Busby's Bore and archaeology' (I1654).
- Several species of trees within Hyde Park are scheduled significant trees on the City of Sydney's Significant Tree Register. The grand central avenue of Hill's Weeping Figs that extends from St James Road to Park Street (Hyde Park North) and continues to the Pool of Reflection (Hyde Park South) is of particular significance (see Table 3.1 below).

Table 3.1 List of Significant Trees within Hyde Park.

Qty	Common Name	Species
98	Hills Weeping Fig	*Ficus microcarpa var. hillii*
14	Moreton Bay Fig	*Ficus macrophylla*
3	Port Jackson Fig	*Ficus rubiginosa*
5	Hoop Pine	*Araucaria cunninghamii*
8	Cook Pine	*Araucaria columnaris*
1	Queensland Kauri Pine	*Agathis robusta*
1	Indian Chir Pine	*Pinus roxburghii*

3.3 Other Heritage Items within Hyde Park

There are several additional heritage items listed on the State Heritage Register and on the City of Sydney's LEP 2012 that are located within Hyde Park within and in the vicinity of Hyde Park.

State Heritage Register Items within Hyde Park

Other items within Hyde Park that are included on the NSW SHR include:

- Busby's Bore (SHR 00568);
- Bondi Ocean Outfall (SHR 01623);
- Sewer Vent (the Obelisk) (SHR 285160);
- St James Railway Station Group (SHR 01248);
- Museum Railway Station (SHR 01207); and
- The Anzac Memorial (SHR 0182).

City of Sydney Local Environmental Plan 2012

In Schedule 5 of the *City of Sydney Local Environmental Plan 2012* the following heritage items are listed:

- Museum Railway Station (I1743);
- Anzac Memorial (I1742); and
- St James Railway Station (I1740).

S170 Heritage and Conservation Registers

Under the NSW Heritage Act 1977, NSW government agencies are required to maintain and make public a Heritage and Conservation Register under section 170 of the Act. The

following heritage items are under the care, control and management of Sydney Water and Transport for NSW.

- Busby's Bore;
- Bondi Ocean Outfall Sewer (BOOS);
- Sewer Vent (the Obelisk);
- St James Railway Station Group; and
- Museum Station.

3.4 Listed Heritage Items in the Vicinity

Heritage Item	State Heritage Register	City of Sydney LEP 2012
Mint Building and Hyde Park Barracks* Group	Address: Macquarie Street, Sydney Listing No: 00190 Gazette Date: 04/02/1999	
Sydney Supreme Court House (Old Court House	Address: King Street, Sydney Listing No: 00800 Gazette Date:	Supreme Court and old Registry Office building group including interiors, fences and grounds (State) Item no. I1739
Australian Museum	Address: 6–8 College Street Sydney Listing No: 00805 Gazette Date: 04/02/1999	
Great Synagogue	Address: 187A Elizabeth Street Sydney Listing No: 01710 Gazette Date: 09/10/2004	Great Synagogue (including interior) (State) Item no. I1750
Former "Australian Consolidated Press" facade		189–197 Elizabeth Street, Sydney (Local) Item no. I1751
St Mary's Catholic Cathedral and Chapter House	Address: College Street, Sydney Listing No: 01709 Gazette Date: 09/03/2004	St Mary's Cathedral and Chapter House group including interiors, grounds and fences (State) Item no. I1951
Former tram shelter including interior		108 Elizabeth Street (Local) Item no. I1741
Frazer Memorial Fountain		Prince Albert Road, cnr St Marys Road (Local) Item no. I1947

Heritage Item	State Heritage Register	City of Sydney LEP 2012
Former Registrar Generals Department Building, including interior		1 Prince Albert Road, (State) Item no. I1946

*Hyde Park Barracks is inscribed on the World Heritage list and is one of 11 properties that forms part of the Australian Convict listing.

Figure 3.1 Heritage Council Plan (No. 2518) Hyde Park showing the State Heritage Register Listed Curtilage for the item.

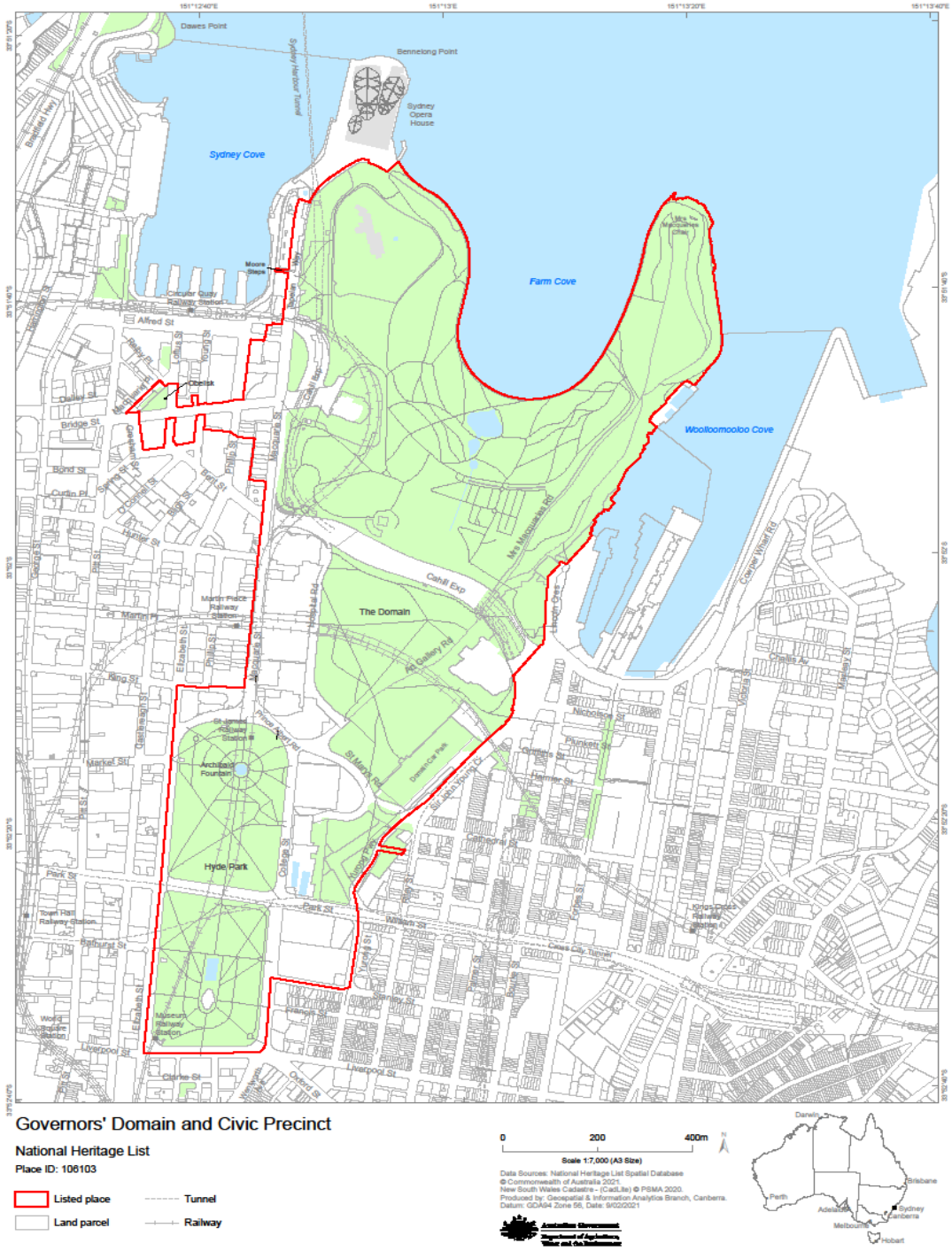


Figure 3.2 'The Governors' Domain and Civic Precinct', National Heritage Listed Place, includes Hyde Park in its entirety. (Source: DCCEEW)

3.5 Legislation

In Australia and NSW there are several statutes that apply to the regulation and protection of heritage at National, State and local levels. The legislation regulates certain activities and works to listed heritage items and areas, Aboriginal heritage, and historical archaeology.

Matters of National Environment Significance, including Nationally listed heritage places and World Heritage properties, are regulated under the Australian Government's omnibus environmental legislation the *Environmental Protection and Biodiversity Conservation Act, 1999*.

In NSW, items of heritage significance, Aboriginal objects, and Aboriginal Places, are afforded statutory protection under the following New South Wales Acts:

- Heritage Act 1977 (Heritage Act);
- National Parks and Wildlife Act 1974 (NPW Act); and
- *Environmental Planning and Assessment Act 1979* (EPA Act).

Items of State heritage significance are subject to the provisions of the *Heritage Act 1977,* as are those heritage items in the care, control and management of State government agencies. We note that at the time of writing, the *Heritage Act, 1977* is under review and new legislation has been drafted in line with the recommendations of the Standing Committee on Social Issues as outlined in Report 59 dated October 2021.

First Nations heritage, including Aboriginal objects and Aboriginal places as declared by the Minister are regulated under the NSW *National Parks and Wildlife Act, 1974*. *The Aboriginal Cultural Heritage (Culture is Identity) Bill 2022* was introduced to the Legislative Council on 22 June. The Act will repeal the Aboriginal heritage provisions in the *National Parks and Wildlife Act 1974* and create a new legislation for the recognition, conservation, and preservation of Aboriginal cultural heritage. The new Act if passed will commence on 1 July 2023.

Items of local environmental significance are subject to the *Environmental Planning and Assessment Act, 1979.* One of the objects of the act includes to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage).

Hyde Park is a Crown reserve dedicated as public recreation. As Crown land the park is subject to the provisions of the *Crown Land Management Act 2016*.

3.6 Environmental Planning and Biodiversity Conservation Act, 1999

National Heritage listed places and World heritage are matters of National Environmental Significance (NES) and subject to the provisions of the *Environmental Protection and Biodiversity and Conservation Act 1999* (EPBC Act).

Hyde Park is in the vicinity of the World Heritage inscribed Australian Convict Sites, Hyde Park Barracks. The park in its entirety is including in the National Heritage listed Governors' Domain and Civic Precinct.

Actions which are likely to give rise to a significant impact on World or national heritage listed properties are required to undergo an environmental assessment and approval process. Where an action is deemed likely to have a significant impact, a referral to the Minister is required. An action is likely to have a significant impact on the National Heritage values of a listed place if there is a real chance or a possibility that it will cause:

- one or more of the National Heritage values to be lost;
- one or more of the National Heritage values to be degraded or damaged; or
- one or more of the National Heritage values to be notably altered, modified, obscured or diminished.

In considering whether an impact is significant, the scale, intensity, duration, and frequency of the action is assessed. Other matters such as the sensitivity, value, quality and size of the area, and its environmental context and whether mitigation measures can avoid or reduce the impact, are reviewed. Actions are defined as projects, developments, activities or actions and may include, but is not limited to, construction, alteration, facilities, demolition, infrastructure, and earthworks.

For the Governors' Domain and Civic Precinct referral guidelines have been prepared by the Department. The referral guidelines identify the actions that are likely to give rise to a potential significant impact under the National Heritage List criteria. They were developed to assist proponents to determine whether their proposed works would be likely to trigger a referral to the Federal Minister for Heritage and whether approval is required under the EPBC Act.

There is a bilateral agreement in place between the NSW Government and Commonwealth of Australia which accredits the State's environmental assessment processes. The Bilateral is designed to streamline the environmental assessment process and reduce the regulatory burden on proponents. Under the Bilateral, assessments for world heritage values of a declared World Heritage property must ensure the action is consistent with Australia's obligation under the World Heritage Convention, the Australian World Heritage Management Principles, and the management plan prepared for the World heritage property under Section 316 of the EPBC Act 1999. Currently, there is no

Bilateral for approvals under the EPBC Act 1999 in NSW. As we understand it, as of June 2022, Part 5 Division 5.1 public authority assessments are excluded from the Bilateral.

The World Heritage Buffer Zone

The World heritage buffer zone for HPB is shown in Figure 3.3. The buffer zone encompasses part of Hyde Park north and includes The Mint, Hospital Road Courthouse, and The Registrar General's Building.

There are no prescriptive guidelines for proposed development within the HPB World heritage buffer zone, but the aim is for any development within the zone to have 'regard to fabric, character, scale, proportions, materials and finishes in the Area, protect the heritage items and maintain and enhance views and vistas.'[1] Development within the Hyde Park Barracks World Heritage Area Buffer Zone should not adversely affect the World, National or State heritage values ascribed to the place.[2]

Figure 3.3 The World heritage buffer zone, as delineated in orange. (Source: HPB CMP 2018)

Governors' Domain and Civic Precinct

GML has extracted from the Governors' *Domain and Civic Precinct National Heritage Place, EPBC Act 1999, Referral Guidelines, 2021*, the activities relevant to the Hyde Park lighting upgrade works that are likely to give rise to a likely or possible significant impact under the national heritage list criteria.

Activity	Potential significant impacts on criterion	Impact
Criterion A		
Temporary or minor additions to buildings or areas included in the National Heritage values statement that reduce the recognition or appreciation of the values.	For example, art installations and maintenance structures such as scaffolding are not considered likely to have a significant impact provided the intensity, duration and extent of potential impacts are not significant. If one, or more, of these factors are found to be significant these activities might be considered to have a significant impact.	Possible
Minor to moderate new garden construction or minor removal and replacement of trees in gardens and parks identified in the National Heritage values statement.	Minor to moderate degrees of change to these parks or garden features is generally within acceptable levels of change.	Not likely
Criterion F		
Minor to moderate new garden construction or minor removal and replacement of trees in gardens and parks identified in the National Heritage values statement	Minor to moderate degrees of change to these parks or garden features is generally within acceptable levels of change.	Not likely
Demolition of, or a high degree of development encroachment on, a garden or park identified in the National Heritage values statement	The continued use of the open spaces as open space is identified in the National Heritage values statement as significant under criterion (a), (f) and (h) for retaining an on-going distinctive urban experience within the city of Sydney. Impact assessment is likely to focus on cumulative impact and the ability to read the distinction between urban space and green space within the precinct.	Likely
Development that reduces the axial lines through Hyde Park and along Macquarie and Bridge Streets	The axial lines identified in the National Heritage values Statement are significant as a unifying element in a city which lacks regular rigid geometry.	Likely

Activity	Potential significant impacts on criterion	Impact
Criterion H		
Minor to moderate new garden construction or minor removal and replacement of trees in gardens and parks identified in the National Heritage values statement	Minor to moderate degrees of change to these parks or garden features is generally within acceptable levels of change.	Not likely
Demolition of, or a high degree of development encroachment on, a garden or park identified in the National Heritage values statement	The continued use of the open spaces as open space is identified in the National Heritage values statement as significant under criterion (a), (f) and (h) for retaining an on-going distinctive urban experience within the city of Sydney. Impact assessment is likely to focus on cumulative impact and the ability to read the distinction between urban space and green space within the precinct.	Likely

3.7 Heritage Act 1977 (NSW)

The principal aim of the *Heritage Act, 1977* NSW is to conserve the State's environmental heritage. Items that are listed on the SHR are provided statutory protection under the Heritage Act. Non-Aboriginal archaeological 'relics' of local or state significance are also afforded statutory protection under the Heritage Act. The proposed works are within the State Heritage Register listed curtilage of Hyde Park and in the vicinity of other State Heritage Register listed items. As such the proposed lighting upgrade works are subject to the provisions of the *Heritage Act, 1977* (NSW) (Heritage Act).

The Heritage Act establishes the Heritage Council and the State Heritage Register and regulates the impacts of development on the state's heritage items and relics through a series of exemptions, notifications applications, excavation permits and orders. The Heritage Act describes a heritage item as 'a place, building, work, relic, moveable object or precinct'.

Under the Heritage Act 'relic' means:

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

Within the curtilage for State Heritage Register listed items, a Section 60 application is generally required for work and activities that may disturb relics and give rise to material impacts. In some cases, proposed works may be minor and satisfy the prescribed conditions of the Standard or Site Specific Exemptions as explained below.

State Heritage Register

The State Heritage Register (SHR) protects state significant heritage items and places. The effect of SHR listing is that a person cannot damage, destroy, alter, or move an item, building or land without approval from the Heritage Council of NSW.

Hyde Park and several other items within Hyde Park, are listed on the State Heritage Register.

State heritage register listed items are subject to minimum standards of maintenance and repair. The standards apply to the protection of a building, work, or relic from damage or deterioration due to weather, and the protection against destruction by fire. They also require security, including fencing and surveillance measures to prevent vandalism and essential maintenance and repair.

Standard exemptions are available under the Heritage Act. The standard exemptions are for minor works such as maintenance and cleaning, repairs and alterations to non-significant interior and exterior fabric, replacement or repair of non-significant services, fire safety detection and alarm systems, excavation, painting, temporary structures, subdivision, vegetation, signs, filming, etc. The exemptions are subject to certain requirements and general conditions. Where activities do not 'strictly fit' within the description of the exemption, approval under Section 60 of the Heritage Act is required.

In some instances, SHR listed items have site-specific exemptions which permit certain other specified works to be undertaken without the need for approval. Several site-specific exemptions were granted for works in Hyde Park under Section 57(2) of the Heritage Act on 13 December 2011. The site specific exemptions are included in the body of this report.

Section 60 Approvals

The Heritage Act provides for the listing of items assessed as having significance at a State level on the State Heritage Register (SHR). When items are listed on the SHR, applications to carry out work on them need to be made to the Heritage Council of NSW.

A Statement of Heritage Impact (SoHI) and Archaeological Research Design (ARD) report are required to support a Section 60 or Section 57 (exemption) application.

Consistent with Heritage NSW guidelines, a heritage impact statement assesses the known and potential impacts arising from the proposed activity on the heritage

significance of the site. The impact assessment and ARD include consideration of impacts on the potential archaeological resource, setting, views and significant fabric.

Approvals and Exemptions

Under Section 57 of the Heritage Act, approval is required for works to an item listed on the SHR. Division 3, Subdivision 1 sets out the method by which approval should be sought and determinations made. For works to an SHR item, a Section 60 application must be made for works that are not exempt under Section 57(2) of the Heritage Act.

There are two Section 60 approval pathways contingent on various considerations.

1. The S60 fast track is for minor works, if work will have no adverse impact on the item, is not listed as an exemption and has a cost of works no more than $150,000. The Hyde Park lighting upgrade project is not eligible for the S60 fast track approval pathway as the works are not considered minor, nor is the value of the works less than $150,000.
2. The standard Section 60 application is for major works where the activities are have or may have the potential to have a moderate or greater degree of impact on the heritage significance of a State heritage register listed item. Section 60 application can be determined by the Heritage Council of NSW (or in some cases Heritage NSW or other agencies under delegation). The statutory timeframe for s60 applications is 40 days commencing from the date a complete application is accepted by Heritage NSW.

Relics Provisions

The Heritage Act affords automatic statutory protection to relics that form part of archaeological deposits. The Heritage Act defines a relic as any deposit, object or material evidence that:

- (a) relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement; and
- (b) is of State or local heritage significance.

As the study area is listed on the SHR, all ground disturbance works should be undertaken in accordance with either an Excavation Permit, issued by the Heritage Council of NSW under Section 63 of the Heritage Act, or a Standard Exemption, granted under Section 57(2) of the Heritage Act.

Standard and Site Specific Exemptions

Standard Exemptions

Standard exemptions which apply to all items on the SHR generally include minor and non-intrusive works and are subject to certain requirements. Typical exempted works

include maintenance (to buildings and grounds), minor repairs and repainting in approved colours.

From 1 December 2020 some standard exemptions no longer require notification to Heritage NSW. Works carried out under exemption must be conducted by people with appropriate knowledge, skills and experience. Records of the activities undertaken under exemption must also be maintained in accordance with the documentation standards.

The standard exemptions under subsection 57(1) of the Heritage Act made under subsection 57(2) apply to all items listed on the SHR and are secondary to the site-specific exemptions. The exemptions do not permit the removal of significant fabric, which is defined to mean all the physical material of the place/item and includes all elements, fixtures, landscape features, contents, relics and objects which contribute to the heritage item's significance. All works that do not 'fit strictly' within the exemptions still require approval.

Please note that standard exemptions do not apply to the destruction, disturbance, removal or exposure of archaeological 'relics'. All standard exemptions are subject to general conditions and are listed below.

Standard exemption 1: maintenance and cleaning;

Standard exemption 2: repairs to non-significant fabric;

Standard exemption 3: alteration to non-significant fabric;

Standard exemption 4: alterations to interiors of non-significant buildings;

Standard exemption 5: repair or replacement of non-significant services (mechanical, electrical and plumbing);

Standard exemption 6: non-significant telecommunications infrastructure;

Standard exemption 7: fire safety detection and alarm systems;

Standard exemption 8: excavation;

Standard exemption 9: painting;

Standard exemption 10: restoration of fabric that forms part of the significance of the item (significant fabric);

Standard exemption 11: subdivision of non-significant buildings;

Standard exemption 12: temporary structures;

Standard exemption 13: vegetation;

Standard exemption 14: burial sites and cemeteries;

Standard exemption 15: signs;

Standard exemption 16: filming;

Standard exemption 17: temporary relocation of moveable heritage items;

Standard exemption 18: compliance with minimum standards and orders;

Standard exemption 19: safety and security;

Standard exemption 20: emergency situations and lifesaving; and

Standard exemption 21: change of use.

Site-Specific Exemptions

Under the *Heritage Act, 1977* site-specific exemptions may be gazetted for certain activities that would otherwise be subject to approvals and permits. There are several site specific exemptions that apply to Hyde Park which are delegated to the City of Sydney as land manager.

The site specific exemptions are arranged under a series of headings. Regarding the park wide lighting upgrade, the most applicable site-specific exemptions are:

- 3: 'General Maintenance and repair'; and
- 4: 'Implementation of the Hyde Park Plan of Management and Masterplan'.

For completeness, the site specific exemptions applicable to Hyde Park under the *Heritage Act 1977* are cited below in full:

1. General maintenance and repair

(i) Suppression of fire.

(ii) Tree surgery where considered necessary for the health of a tree.

(iii) Pruning of trees considered a danger to the public or staff.

(iv) Removal of trees considered a *danger to the public or staff provided a concurrent proposal for a replacement species is submitted and provided the Hyde Park Reserve Trust is satisfied that the proposal is consistent with the Hyde Park Plan of Management and Masterplan*

(v) *Temporary barricading around trees considered a danger to the public or staff*

(vi) Repair of damage caused by compaction or erosion and implementation of erosion or compaction control measures.

(vii) Minor maintenance and minor repair of any building, structure, furniture, fixture, monument, retaining wall, pool, fountain or work wi*thin the park where the Hyde Park Reserve Trust is satisfied that the works will not materially effect the heritage significance of the area in which they are to be undertaken.*

(viii) Maintenance and repair of existing roads, paths, retaining walls, fences *and gates, and planter bed edging or kerbing.*

(ix) Routine horticultural maintenance, including lawn mowing, cultivation and pruning.

3. Maintenance of services and utilities.

(i) Maintenance and repair of services and public utilities including communi*cations, gas, electricity, water supply, waste disposal, sewerage, irrigation and drainage.*

(ii) Upgrade of services and public utilities where the Hyde Park Reserve Trust is satisfied that the activity will not materially affect the heritage significance *of the Park as a whole or the area in which they are to be undertaken.*

(iii) Extension of irrigation system as necessary to areas currently without this infrastructure.

4. Implementation of the Hyde Park Plan of Management and Masterplan

(i) Removal of exi*sting trees and planting of new trees where necessary to implement the Hyde Park Plan of Management and Masterplan.*

(ii) Removal, construction or alteration of garden beds, hard landscaping and plantings to implement the Hyde Park Plan of Management and ma*sterplan.*

5. Alteration of roads, pathways, retaining walls and fences.

(i) Minor alteration to roadways, pathways, retaining walls and fences where the Hyde Park Reserve Trust is satisfied that the proposal is consistent with the Hyde Park Plan of Manag*ement and Masterplan and will not materially effect the heritage significance of the Park as a whole or the building or area in which they are to be undertaken.*

6. Management of lawns, garden beds, hard landscaping and living collections.

(i) Removal and replacement of existing plantings, and removal, construction or alteration of garden beds, hard landscaping and plantings to implement the Hyde Park Plan of Mana*gement and Masterplan where the Hyde Park Reserve Trust is satisfied that the activity will not materially effect the heritage significance of the Park as a whole or the area in which they are to be undertaken.*

(ii) Routine horticultural curation, including *development and management of displays of annuals and perennials.*

7. Management of interpretive, information and directional signage.

(i) Installation, removal and alteration of information and directional signage and labels where the Hyde Park Reserve *Trust is satisfied that the proposal is consistent with the Hyde Park Plan of Management and Masterplan.*

(ii) Maintenance and repair of existing interpretive signage.

8. Management of artworks, statues and monuments, pools and fountains.

(i) Minor mainte*nance and minor repair of any artwork, monument, pool, fountain or work within the park where the Hyde Park Reserve Trust is satisfied that the works will not materially effect the heritage significance of the area in which they are to be undertaken.*

9. M*anagement of temporary events.*

(i) Temporary installation of artworks, statues and monuments for temporary exhibitions or events where the Hyde Park Reserve Trust is satisfied that the proposal is consistent with the Hyde Park Plan of Management and Master*plan.*

(ii)Temporary use of a section of the Park, temporary road closures and the installation of temporary fencing, facilities, exhibitions, artworks, crowd control barriers, lighting, sound

and public address equipment and signage for a period not exceedi*ng 1 month where the Hyde Park Reserve Trust is satisfied that the proposal is consistent with the Hyde Park Plan of Management and Masterplan and where the Trust is satisfied that the activity will not materially affect the heritage significance of the Park as a whole or the area affected.*

10. Furniture and fixtures.

(i) Installation, relocation, removal and maintenance of park furniture and fixtures where the Hyde Park Reserve Trust is satisfied that the proposal is consistent with the Hyde Park *Plan of Management and Masterplan and will not materially affect the heritage significance of the Park as a whole or the building or area in which they are to be undertaken.*

Site specific exemption 3 (ii) is directly relevant to the proposed works as it covers the upgrade of services. Such works are considered exempt where the Hyde Park Reserve Trust (City of Sydney) is satisfied that the activity will not materially affect the heritage significance of the Park as a whole, or the area in which they are to be undertaken.

Site specific exemption 4 and particularly 5(i) and 10 (i) are in part applicable to the proposed masterplan lighting upgrade works in that the works involve the installation, relocation and removal of 'fixtures', in this case interpreted as lighting. The lighting upgrade works will require some minor alterations, which is consistent in part with 5 (i).

Given the nature and scope of the proposed upgrade, however, and the varying degrees of potential impacts the City of Sydney has opted, following advice from the Heritage Council, to apply to for Section 60 approval.

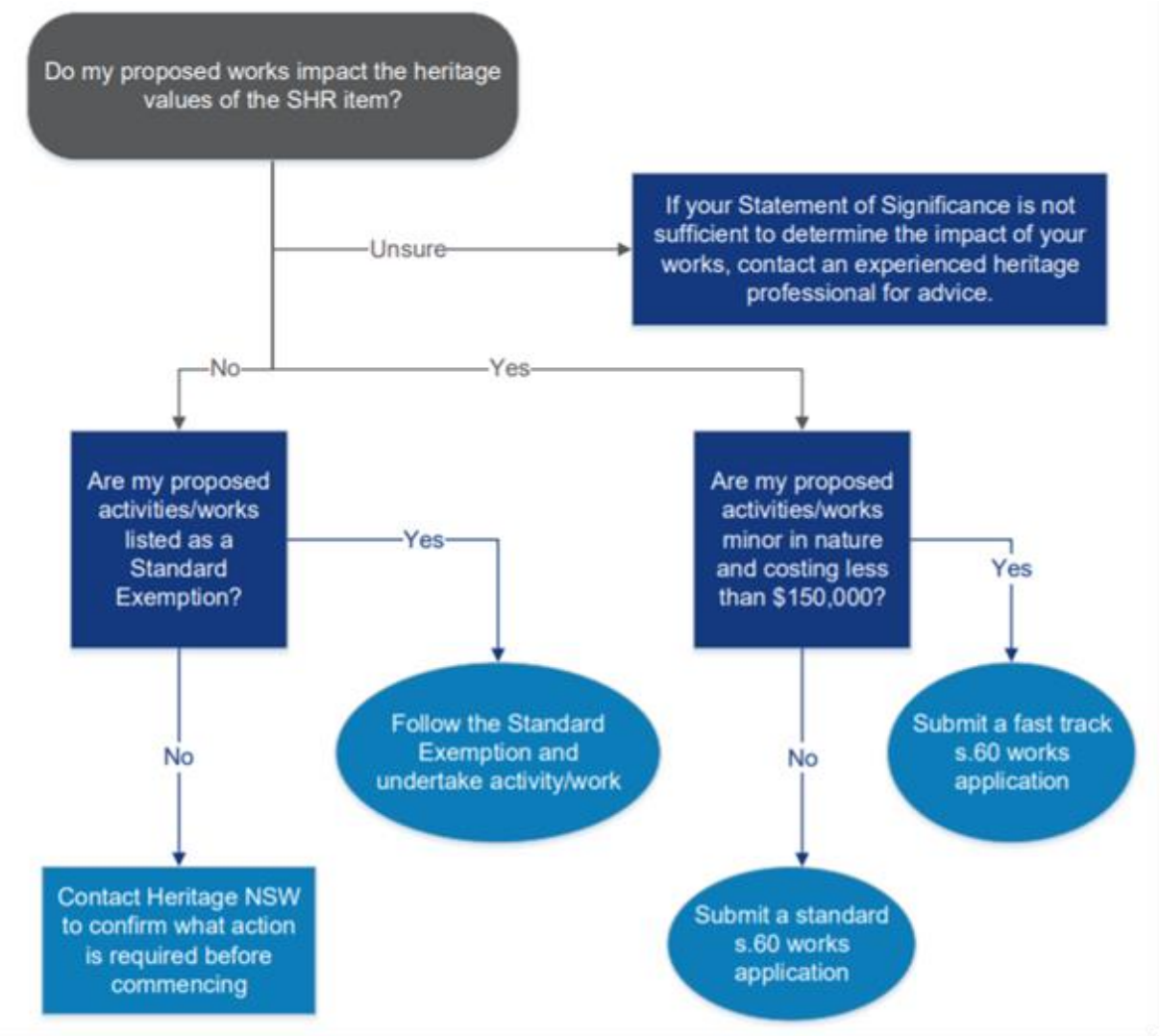


Figure 3.4 Heritage NSW Approval Pathway Decision Tree, which sets out the process with regard to standard exemptions. (Source: Heritage NSW)

Minimum Standards of Maintenance and Repair

Under the Heritage Act, owners of items listed on the SHR are obliged to maintain the item to a level compliant with the minimum standards of maintenance and repair outlined in the Heritage Regulation 2012. The minimum standards cover the following areas:

- weather proofing;
- fire protection;
- security; and
- essential maintenance.

An inspection to ensure that the item is being managed in accordance with the minimum standards must be conducted at least once every year (or at least every three years for essential maintenance and repair standards).

Failure to meet the minimum standards may result in an order from the Heritage Council of NSW to do, or to refrain from doing, any works necessary to ensure the standards are met. Failure to comply with such an order can result in the resumption of the land, a prohibition on development, or fines and imprisonment.

3.8 National Parks and Wildlife Act, 1974 (NSW)

Currently, known Aboriginal sites are recorded on the Aboriginal Heritage Information Management System (AHIMS) maintained by Heritage NSW. The provisions of the National Parks and Wildlife Act 1974 (NPW Act) protect all Aboriginal objects, sites and declared Aboriginal Places. Aboriginal objects and places are defined as:

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

Under the *National Parks and Wildlife Act, 1974* and the *Heritage Act, 1977*, Aboriginal places and objects are regulated and protected from harm through various reporting requirements and approval processes.

The potential for Aboriginal cultural objects, sites, places and/or values within the study area has been considered. So as to ensure that the proposed lighting upgrade does not give rise to 'harm' to potential objects various investigations have been undertaken. An Aboriginal Information Management System (AHIMS) search has been conducted and the archaeological and palaeoenvironment of the sediments of Hyde Park have been examined in areas where there was some potential for intact soil horizons. The results of these investigations are discussed in Section 4 of this HIS.

3.9 Environmental Planning and Assessment Act, 1979

The EPA Act 1979 is administered by the NSW Department of Planning and Environment and provides for environmental planning instruments to be made to guide the process of development and land use. The EPA Act also provides for the protection of local heritage items and conservation areas through listing on Local Environmental Plans (LEPs) and State Environmental Planning Policies (SEPPs) which provide local councils with the framework required to make planning decisions. Under Part 5 Division 5.1 public authorities are permitted to assess the environmental impact of certain activities where they are defined in any environmental planning instrument as development 'permitted without consent'. The assessment of the impacts of the activity is through a review of

environmental factors (REF). Where an activity is likely to give rise to a significant environmental impact a broader environmental impact statement (EIS) will be required.

Aligning with the EP&A regulation the Department of Planning and Environment has prepared a best practice guide to Division 5.1 assessments, whereby the determining authority in its consideration of an activity must consider and take into account to the fullest extent possible all matters affecting or likely to affect the environment due to the proposed activity. Clause 171(2) of the EP&A regulation covers 'any effect on a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations'.[3]

3.10 Sydney Local Environmental Plan, 2012

The *Sydney Local Environmental Plan 2012* (LEP) Clause 5.10—Heritage Conservation contains the statutory controls for development on heritage items and in conservation areas. The following parts of Clause 5.10 are relevant to this proposal.

Clause 5.10 (1) Objectives

(a) To conserve the environmental heritage of Sydney,

(b) To conserve the heritage significance of heritage items and conservations areas, including associated fabric, settings, and views,

(c) To conserve archaeological sites,

(d) To conserve Aboriginal objects and Aboriginal places of heritage significance.

Clause 5.10 (2) Requirements for Consent

Development consent is required for any of the following:

(a) demolishing or moving any of the following or altering the exterior of any of the following (including, in the case of a building, making changes to its detail, fabric, finish or appearance):

  (i) a heritage item,

  (ii) an Aboriginal object,

  (iii) a building, work, relic or tree within a heritage conservation area,

(b) altering a heritage item that is a building by making structural changes to its interior or by making changes to anything inside the item that is specified in Schedule 5 in relation to the item,

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

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

(e) erecting a building on land:

(i) on which a heritage item is located or that is within a heritage conservation area, or

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

(f) subdividing land:

(i) on which a heritage item is located or that is within a heritage conservation area, or

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

Clause 5.10 (4) Effect of Proposed Development on Heritage Significance

The consent authority must, before granting consent under this clause in respect of a heritage item or heritage conservation area, consider the effect of the proposed development on the heritage significance of the item or area concerned. This subclause applies regardless of whether a heritage management document is prepared under subclause (5) or a heritage conservation management plan is submitted under subclause (6).

Clause 5.10 (5) Heritage Assessment

The consent authority may, before granting consent to any development:

(a) on land on which a heritage item is located, or

(b) on land that is within a heritage conservation area, or

(c) on land that is within the vicinity of land referred to in paragraph (a) or (b),

(d) require a heritage management document to be prepared that assesses the extent to which the carrying out of the proposed development would affect the heritage significance of the heritage item or heritage conservation area concerned.

3.11 Crown Lands Management Act, 2016

Hyde Park is designated as Crown Land and is therefore subject to the provisions of the *Crown Lands Management Act, 2016.*

The passing of the *Crown Lands Management Act, 2016* introduced a range of new management requirements. Local councils are required under the act to manage Crown land as though it was designated public land under the *Local Government Act, 1993*. Accordingly, Hyde Park is considered 'community land' as per the Local Government Act.

The objects of the *Crown Lands Management Act* include to provide for the ownership, use and management of the State's Crown lands for the benefit of the people of NSW. The Act also requires consideration of economic, environmental, social, and cultural

heritage be taken into consideration when decisions are being made. Further the Act is to facilitate the use of Crown land by the Aboriginal people of New South Wales because of the spiritual, social, cultural and economic importance of land to Aboriginal people and, where appropriate, to enable the co-management of dedicated or reserved Crown land.

Under Division 3.6 of the Act, Crown Land Managers, are required to have a Plan of Management for the dedicated or reserved Crown Land which much be prepared according to certain guidelines and made public.

3.12 Hyde Park Plan of Management and Masterplan 2006

The *Hyde Park Plan of Management* (PoM) 2006 is the statutory planning document that guides the future planning and management of the park. For Hyde Park, given the master plan, the long term management and implementation of the proposed upgrades and improvements were integrated into the POM to ensure a comprehensive planning document for the park's future planning, design and management. An updated PoM was prepared in 2021. At the time of writing the 2021 PoM remains as draft.

The 2006 PoM is in two volumes and includes background information, a detailed description of the park and its features, a summary history and statement of significance. The PoM is arranged according to five key themes:

- A culturally significant landscape
- A formal landscape
- A place for recreation
- A natural environment and garden
- A custodial responsibility

There are a series of park wide strategies for the nine designated precincts identified within it (Figure 3.6). A series of heritage conservation policies are included.

Several plans are included within the PoM to illustrate the various themes. The culturally significant landscape designates a range of heritage requirements and shows heritage curtilages where specific heritage management strategies apply, existing monuments and some of the significant heritage buildings in the vicinity of the park are also indicated (see Figure 3.5).

In the POM key strategies for planning, design and management of the park are identified. References throughout the POM state that park safety would be improved through better visibility including enhanced night lighting and extending CCTV to Hyde Park north. The park lighting is noted in the POM as inconsistent, with internal cross visibility an issue. Services are also noted as requiring upgrade. Under 'design works' a design upgrade of park lighting is identified. Under the parkwide strategies (PW) in the

POM the ‘investigation of options to modify lighting to allow for modulation of light levels during night time events’ is identified at PW20 as a ‘low’ priority. Under PW29 safety, security and crime prevention, the review and upgrade of lighting to the central avenue and major paths, monuments and buildings to improve the safe use of the park at night and meet the requirements of Australian Standard 1158 and the City’s lighting strategy was identified as a ‘high’ priority.

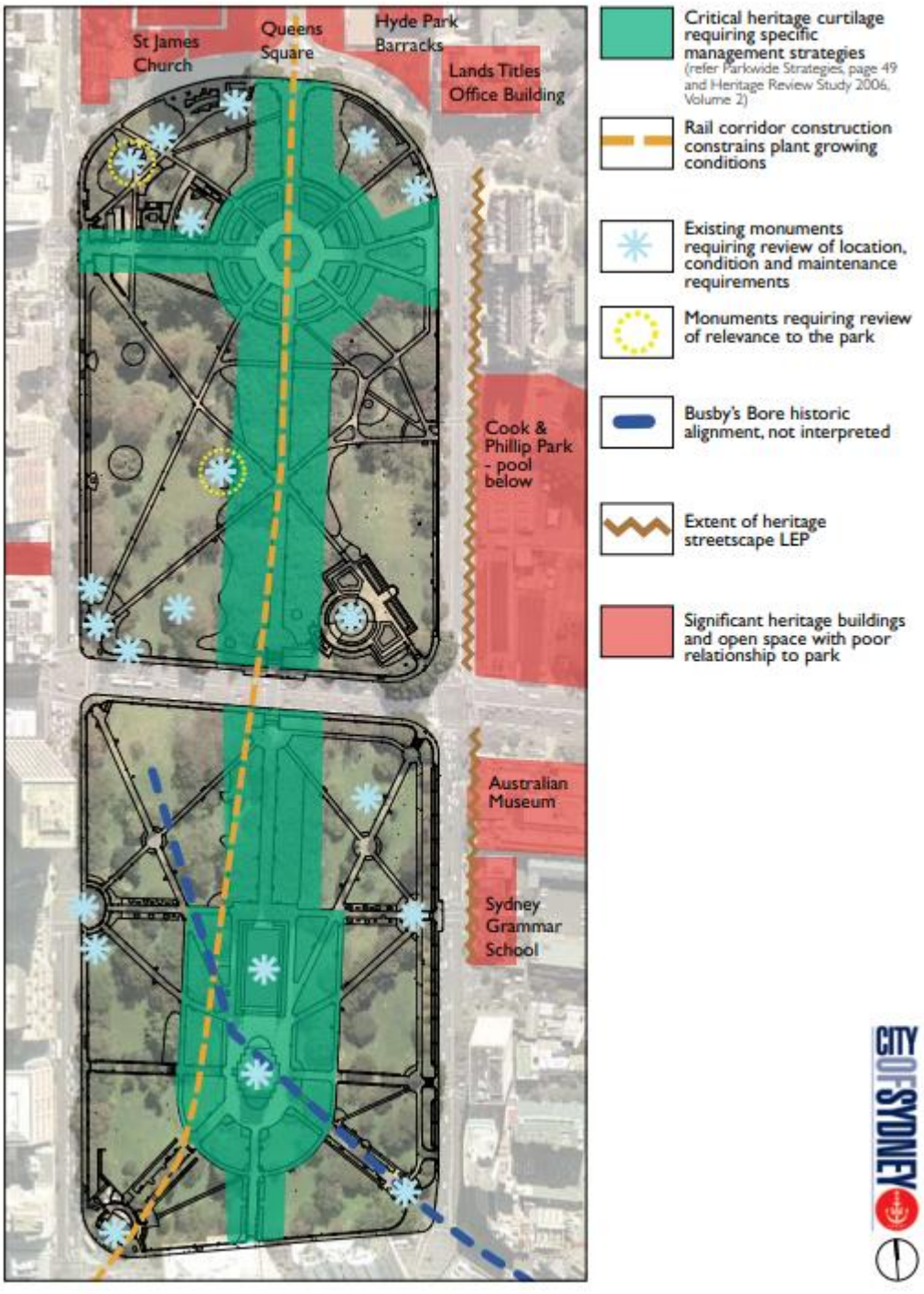


Figure 3.5 Illustrating the 'culturally significant landscape' theme this plan from the PoM presents and analysis of key heritage areas and interfaces within and surrounding Hyde Park. (Source: PoM 2006)

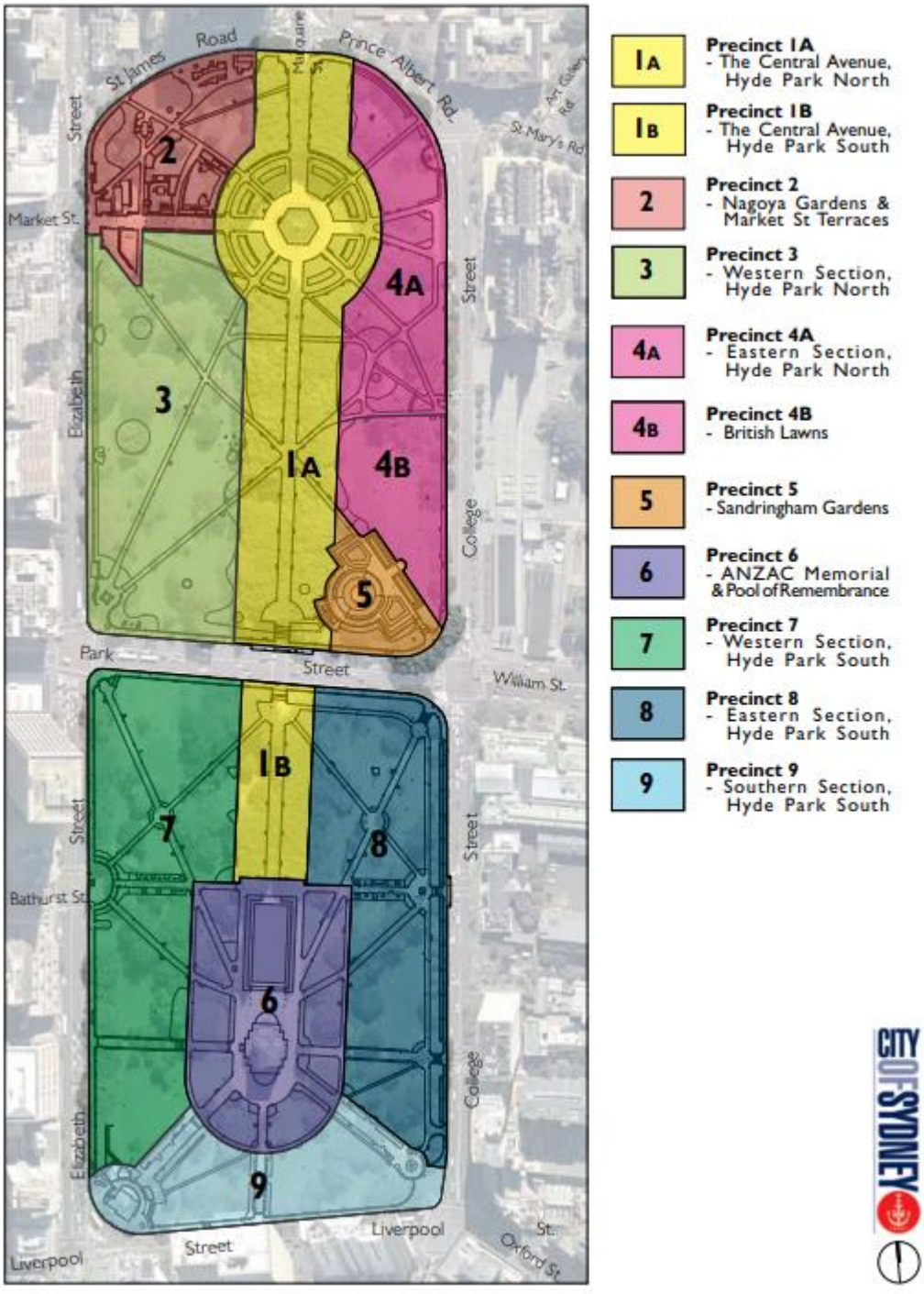


Figure 3.6 The nine identified PoM precincts in Hyde Park. (Source: PoM 2006)

3.13 State Environmental Planning Policy—Transport and Infrastructure 2021

The State Environmental Planning Policy (Transport and Infrastructure) 2021 (SEPP T&I 2021) enables the development of essential infrastructure in NSW. The transport and infrastructure SEPP includes provisions and development controls several different types of infrastructure works or facilities including roads, emergency services, electricity delivery, parks and other public reserves and telecommunications networks. The policy aims to support the delivery of infrastructure in NSW.

The SEPP T&I 2021 outlines the planning requirements for the specified works and facilities including exempt or complying development. In the T&I SEPP, a range of developments permitted without consent are identified. Development for any purpose may be carried out without consent if the development is for the purposes of implementing an adopted Plan of Management under clause 2.72. The clause also provides for a range of exempt developments within a public reserve such as the construction, maintenance and repair of walking tracks, boardwalks, stairways, gates, seats shelters and shade structures. Under 2.20 General requirements for exempt development in the SEPP clause 2.20 2(e) is that the development must not be likely to affect a State or local heritage item and must involve no more than a minimal impact on the heritage significance of the item.

3.14 Central Sydney Archaeological Zoning Plan 1992

The Central Sydney Archaeological Zoning Plan (AZP) is an advisory document, with no legal status. However, it documents and assesses the archaeological potential of the City of Sydney and is a reference guide used by the Council in determining Development Applications.

The AZP identifies Hyde Park as being 'AAP–PD', i.e. an Area of Archaeological Potential/Partially Disturbed. It also notes that additional future assessment for the park will be required.

The AZP includes the following recommendations relevant to the management of the potential archaeological resource in Hyde Park (Section 5.8):

An historical archaeological assessment will need to be prepared for identified archaeological items. In the case of open spaces such as Hyde Park:

> the assessment should include as a minimum, a detailed consideration of the specific occupational history of the site (including the extant structures), and more clearly define the likelihood of the survival of the resource … In the case of items identified as being

areas of archaeological potential/partially disturbed … the assessment should cover similar issues but will need to specifically focus on the degree of disturbance. This will usually be related to the most recent occupation. The nature and extent of this assessment will determine what and, in some cases, if any, archaeological investigation will be necessary.

The Hyde Park Archaeological Management Plan (AMP) (GML 2014) and this report have been prepared in response to this recommendation.

The AZP concludes:

> The historical archaeological assessment should also formulate an archaeological proposal and strategy that is commensurate with the identified potential and assessed significance of the site. Appropriate strategies are likely to range from archaeological monitoring briefs to full scale urban excavations.

3.15 Endnotes

1 HPB CMP p1-243.

2 HPB CMP Policy 34.

3 *Guidelines for Division 5.1 Assessment*, Department of Planning and Environment, June 2022, p7.

4 Archaeological Resources

4.1 Introduction

Hyde Park is on Gadigal Country within the Eora Nation. It is part of the deep and continuing cultural landscape that First Nations people accessed and used for a range of purposes contingent on location, available resources, and community cultural practices. Subsurface material remains, or archaeology, related to the many phases of human use and occupation by both First Nations people over millennia and subsequently by Europeans and others following British colonialisation, may survive in-situ within Hyde Park.

Aboriginal and historical (non-Aboriginal) archaeology is variously defined in legislation as 'objects' and 'relics' respectively. Archaeology is a potentially significant aspect of a place's material culture linked to the understanding and assessment of heritage values. Whether sub surface deposits are in-situ in original contexts depends to a large degree on the disturbance history of the area of land. Where primary evidence demonstrates there has been significant modification to original soil horizons, the potential for objects and relics to survive in their original contexts is reduced.

4.2 Previous Environmental Studies

The study area has been subject to many environmental investigations across the past 40 years. These include geotechnical, contamination, ecological and paleoenvironmental studies and provide an indication of the subsurface conditions across Hyde Park. They have been reviewed to assist in our assessment of the Aboriginal and historical archaeological potential of the study area (as outlined in Sections 4.3 and 4.4).

In general, these investigations have found that Hyde Park has been heavily disturbed by decades of construction, excavation, and landscaping. Table 4.1 provides a review of key environmental investigations and their findings. These investigations show the same general stratigraphy across the park, consisting of:

- **Imported topsoil:** fine-grained, dark-coloured, plant-organic-rich soil that appears to have been imported to the site to blanket the underlying fill and to provide a suitable medium for plant growth. Varying thickness across the park but generally approximately 0.5m thick.
- **Historical layers:** variable stratigraphy of mixed, introduced fills, containing isolated post-1788 artefacts, reworked aeolian sands and exotic rock materials. Stratigraphy is inconsistent across the park which indicates a complex pattern of infilling using

material from several sources. This is supported by the presence of thin layers and sharp contacts between them.

- **Residual soils:** remnant natural subsoils buried beneath historical layers. Entirely absent along the central spine of the park, with sandstone-based soils to the west and shale-based soils to the east. Subsoils are generally silty and/or sandy clays. Historical impacts have entirely truncated topsoils across the park, and in most cases have also removed subsoils. Only one historical borehole has identified a remnant topsoil (Borehole N4 in Sydney Environmental and Soil Laboratory, 2005—located in the NW), although this is poorly recorded, and no clear justification is given for its classification as a topsoil.
- **Weathered bedrock:** weathered sandstones and shales. Sandstone is generally present to the west with shales to the east.
- **Bedrock:** most investigations terminate before reaching bedrock. The presence and nature of identified residual subsoils and weathered bedrock implies sandstone will be present to the west with shales to the east.

Table 4.1 Key environmental investigations and their findings.

Report	Findings
Lawrie, R., 1987, Soil Study of Hyde Park Lawrie, R., 1990, Soil Study of Hyde Park South	Soil survey of the entirety of Hyde Park. Identified anthropogenic soils consisting of imported material and/or historical fills across the entire park. No natural remnant topsoils were recorded. To the west sandstone-derived subsoils were present with shale-derived subsoils to the east. No natural soils were found along the central spine of the park.
Sydney Environmental and Soil Laboratory, 2005, Soil Investigations for the urban forest of HYDE Park Sydney	Investigation of soils across Hyde Park, with particular emphasis on the productivity of the soils for plant growth. Soils were investigated and sampled utilising hand augers. 10 were taken in Hyde Park and 10 in Hyde Park South to between 600 and 800mm depth. In general, the findings of these investigations support those of Lawrie. Anthropogenic deposits were identified in every auger, usually to limit of investigations. Seven augers found natural subsoils. Of note is Auger N4 which was taken in the NW quadrant of Hyde Park. This auger identified a yellowish-brown fine sandy loam topsoil at 400mm depth. The clay content of this unit increased with depth to a sandy clay. Unfortunately, this unit is poorly recorded and so provides little information which can inform our analysis.

Report	Findings
	The assessment of Aboriginal archaeological potential present in the AMP (GML, 2014; see Section 4.3) is entirely based on the results of auger N4.
AECOM, 2021, Hyde Park: Lighting Design Geotechnical Investigations	Geotechnical investigations were undertaken across Hyde Park to assess subsurface conditions and to develop geotechnical models to inform the new lighting design. The work included six hand augers to 1.5m depth and 21 dynamic core penetration tests to 2m depth. These investigations found imported topsoils to .5m depth, underlain by soft, sandy historical fills to depths between 0.4 to 0.6m depth. Below these, residual silty clays were identified (possibly natural subsoils).
Gale, S., 2022, The archaeological and paleoenvironmental assessment of the sediments of Hyde Park, Sydney, New South Wales	Sedimentological sampling was carried out in the NW of Hyde Park, consisting of nine hand augers taken to depths more than 700mm. The upper sections of each core consisted of imported topsoils, overlying a complex stratigraphy of historical fills. Remnant natural subsoils were identified in two augers and are consistent with previous descriptions of sandstone-based subsoils in previous investigations.

4.3 Aboriginal Archaeology

Hyde Park is known to have been significantly disturbed due to the construction of the underground city railway system in the early twentieth century. The excavation of the park was large scale and deep. Notwithstanding this significant modification, the Hyde Park Archaeological Management Plan (AMP) (GML 2014:41) assessed a portion of Hyde Park North, in the northwest quadrant as having some potential to retain undisturbed pre-contact remnants of sandy loam topsoil (A Horizon) buried under approximately 400mm of introduced material (Figure 4.1). This assessment is based on the findings of Auger N4 in Sydney Environmental and Soil Laboratory's 2005 investigations which provides the only recorded natural topsoil deposit in Hyde Park (See Section 4.2). If that deposit was preserved in a reasonably intact condition, it could retain evidence of Aboriginal objects and activities. For this reason, that area of Hyde Park was assessed as having Low to Moderate potential to contain Aboriginal objects in the 2014 AMP. The remainder of the site was assessed as having little potential to contain Aboriginal archaeological objects, and, if unexpectedly discovered, they would mainly include isolated or low-density stone artefacts in completely disturbed contexts.

A new search of the AHIMS register was undertaken in August 2020 to obtain information on any new Aboriginal objects or places registered within Hyde Park or in its immediate surrounds since last checked for the 2014 Hyde Park AMP. The search confirmed that no Aboriginal objects or places have been registered to date within Hyde Park or its immediate surrounds. The results of the AIHMS search are provided in Figure 4.2.

4.4 Historical Archaeology

The potential for the survival of in situ historical archaeological remains in Hyde Park has been assessed as being generally low (Figure 4.1). Where they may survive, they are likely to be highly disturbed and to have limited ability to contribute to archaeological research. The 2014 AMP provided the following two summarised lists of potential archaeological remains. These areas are also identified in Figure 4.1 below.

Items that have moderate to high archaeological potential to survive within the grounds of Hyde Park:

- kerbing (former dwarf wall for palisade fence) on College Street (known to exist/presently visible);
- evidence of changing ground levels, especially on College Street;
- Busby's Bore;
- scattered evidence of various services (electricity, water, telecommunications etc);
- the historic public toilets on the corner of Park and Elizabeth Streets (Hyde Park North);
- Northern Main Branch of the Bondi Ocean Outfall System;
- scattered evidence of paths and garden development, especially since construction of the rail tunnels;
- World War II Air Raid Shelter;
- remnant footings, services etc from the World War II British Centre;
- remnant footings, services etc from the Kiosk/Council Building (demolished 1954); and
- remnant footings, services etc from the 1955 Long Day Child Care Centre (demolished 1991).

There is a generally very low or nil potential for the survival of relics relating to the following:

- paths and roads pre-dating Hyde Park;
- public or sporting activities pre-dating Hyde Park;
- original/early nineteenth century gardens and landscaping;
- original/nineteenth century park boundaries (except on College Street);
- trestles associated with Busby's Bore;
- the Temporary Pavilion (c1867);

- the Refreshment Kiosk (early twentieth century); and
- the Bandstand (1890 and 1920).

Figure 4.1 Plan of Hyde Park showing areas of archaeological potential. (Source: AECOM base plan with GML overlays)

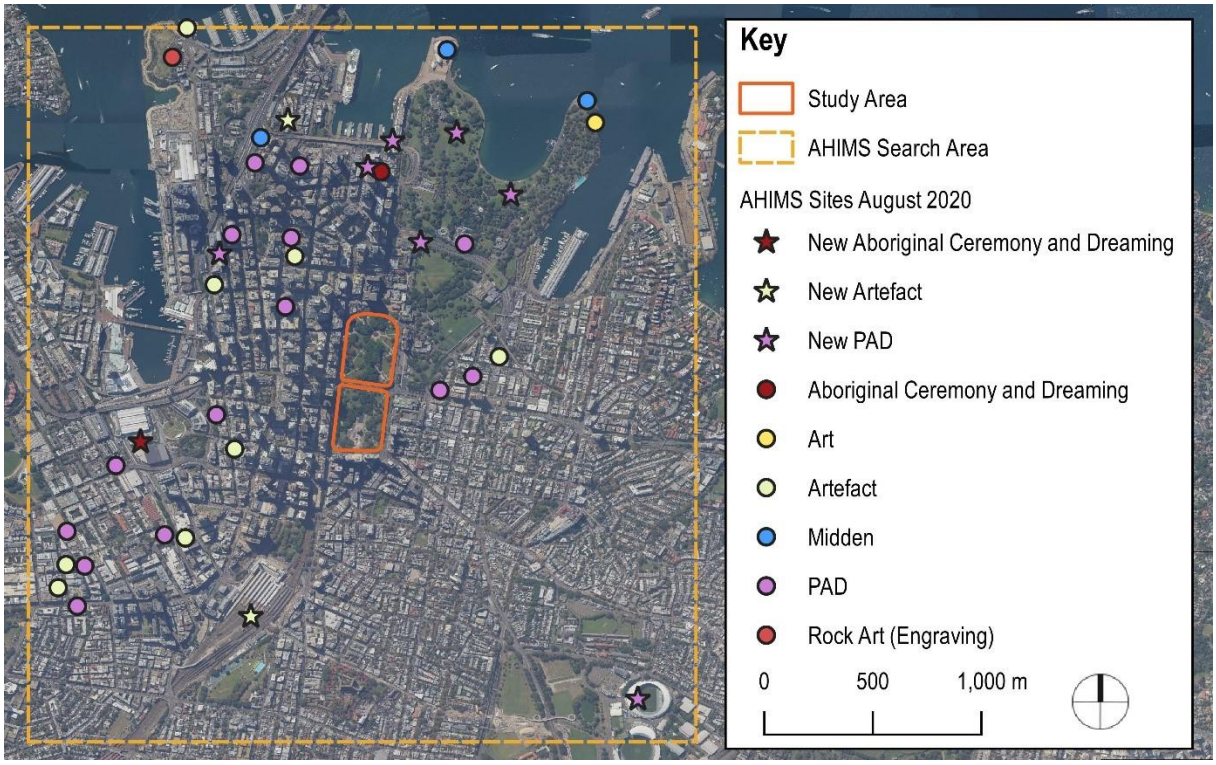


Figure 4.2 Hyde Park indicated by orange outline (including Hyde Park north and south) and surrounds are shown with AHIMS registered sites. The AHIMS search indicates that there are no recorded Aboriginal objects within the park. (Source: NSW Land & Property Information with GML additions)

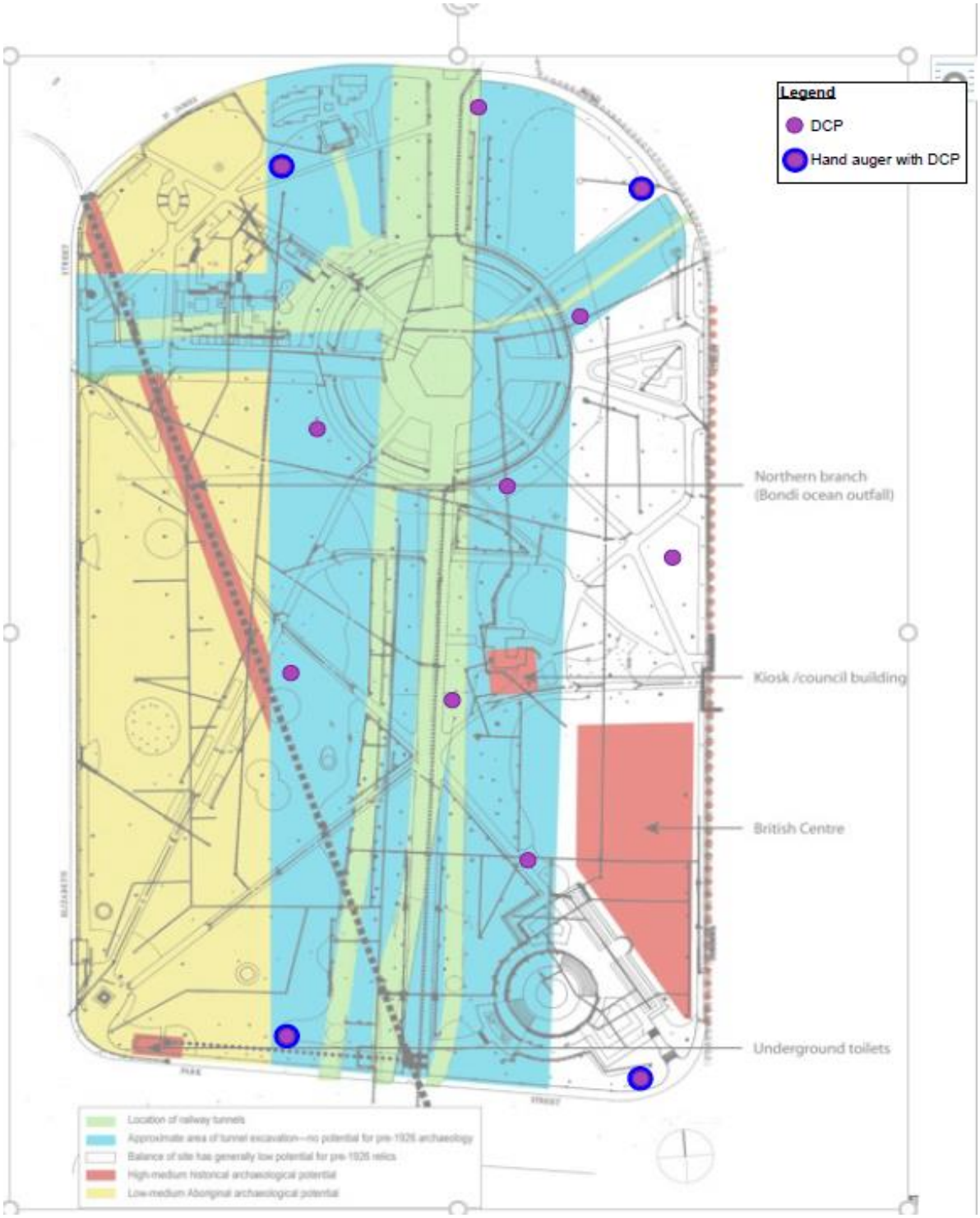


Figure 4.3 Plan showing archaeological potential Hyde Park north with Dynamic Cone Penetration (DCP) and hand auger with DCP locations. (Source: GML Heritage with AECOM overlay)

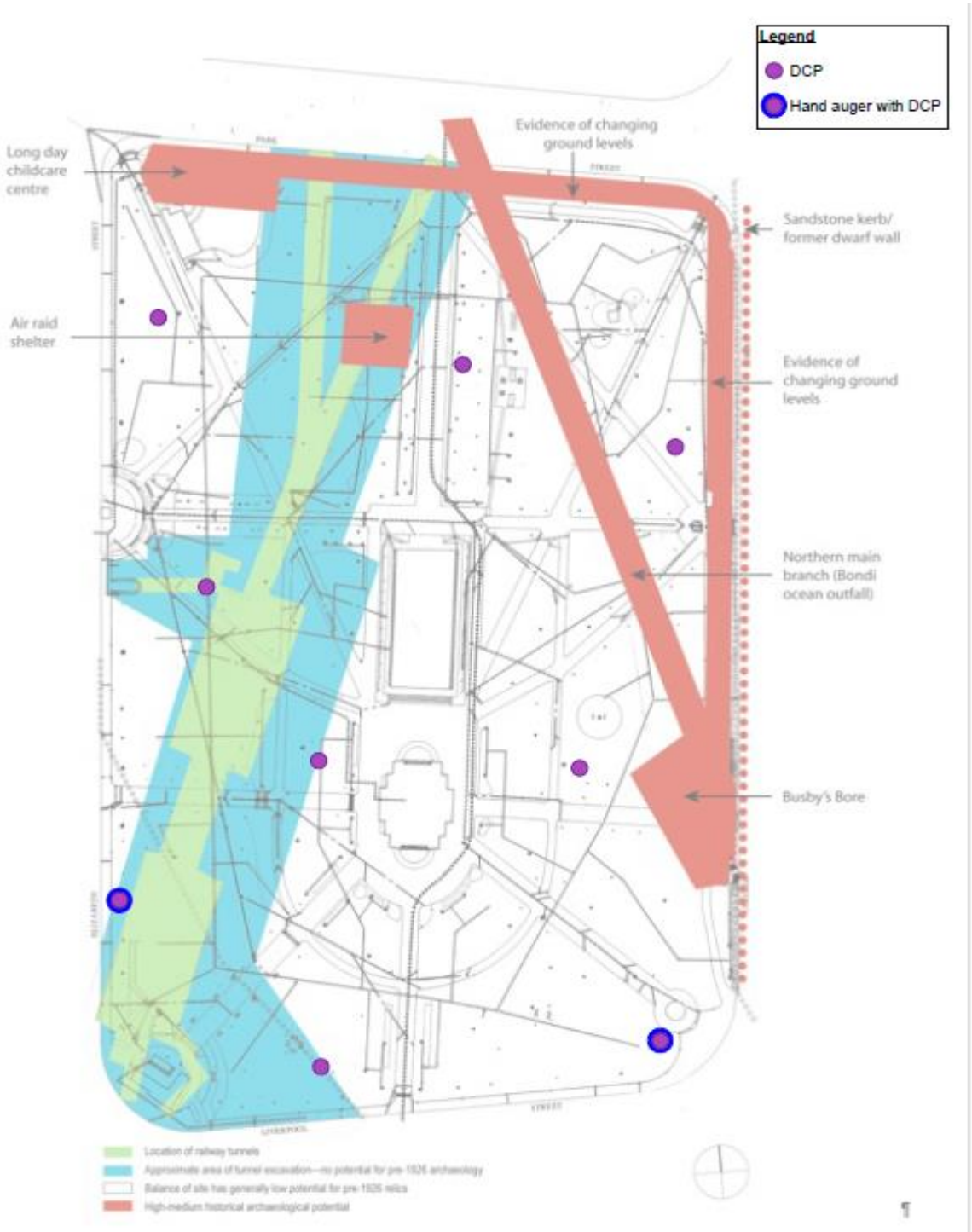


Figure 4.4 Plan showing archaeological potential Hyde Park south with DCP and hand auger with DCP. (Source: GML with AECOM overlay)

Figure 4.5 Plan showing geotechnical Ground Model Areas A and B with DCP and hand auger locations. (Source: AECOM 2021:6)

5 Summary History and Significance

5.1 Introduction

This section provides an overview of the history and heritage significance of Hyde Park.

5.2 Historical Overview

Timeline—Hyde Park

The following timeline presents a brief over of the phases of site occupation at Hyde Park. A more detailed history of Hyde Park is contained in the Hyde Park Archaeology Management Plan prepared by GML in 2014.

- Part of the traditional lands of the Gadigal.
- 1788—Captain Phillip established a colony at Sydney. Land was set aside by Phillip as a public 'commons'.
- 1789—A small pox epidemic decimated the Aboriginal population, reportedly leaving only three Gadigal who survived, aside from those who were married to other clans.
- 1810—Hyde Park was proclaimed by Governor Lachlan Macquarie (1761–1824), Governor of New South Wales.
- 1832—William and Macquarie Street were constructed, severing the park and establishing axis.
- 1837—First major planting in the park was undertaken by Alan Cunningham of the Sydney Botanic Gardens.
- 1854—The Hyde Park Committee was established.
- 1857—The Thornton Obelisk was constructed, sited at the entrance of the park at the intersection of Elizabeth and Bathurst Streets.
- 1861—Planting was undertaken, predominately along pathways.
- 1867—Additional planting was undertaken, predominately along pathways.
- 1868—A large, temporary timber pavilion was erected in the northwest section of the park for the visit of the Duke of Edinburgh.
- 1869—Captain Cook Statue (base) was sited within Hyde Park in its existing location.
- 1876—Parkland was enclosed with two railed hardwood fences.
- 1878–96—Charles Moore (1820–1905) was nominated trustee of Hyde Park.
- 1871—Additional planting was undertaken.
- 1876—The parkland was redefined and enclosed with a dwarf stone wall and iron palisade fence.
- 1878—Hyde Park was formally dedicated.

- 1878—Hyde Park corners were demarcated with gates and sandstone piers surmounted by gas lamps.
- 1879—The Captain Cook Statue (statue) was unveiled.
- 1888—The John Baptist Memorial was sited at Hyde Park in its existing location.
- 1881—The Frazer Memorial was sited at Hyde Park at the corner of Oxford and College Streets. The Fort Macquarie Cannon was placed in the park.
- 1905—Illumination of the whole park with electric lighting was completed.
- 1908—Hyde Park was redefined following the widening of Elizabeth and Liverpool Streets by 5.5m and 4.6m.
- 1910—The bus shelter was constructed.
- 1912—Hyde Park was redefined following the widening of College Street.
- 1914—The sundial was repaired (date of erection not known).
- 1914–18—World War I.
- 1916—Hyde Park was redefined following the widening of Park Street.
- 1919–26—Plans for underground railway—excavation began in Hyde Park with the felling of the main avenue of Moreton Bay Fig trees.
- 1917—The Frazer Memorial was relocated near the northeast corner of the current Pool of Remembrance.
- 1917—The Emden Gun, a gift from the Commonwealth, was sited at Hyde Park in its existing location.
- 1919—The William Bede Dalley statue was erected.
- 1926—The Hyde Park competition was held, and won by Norman Weekes.
- 1927—The Hyde Park winning design No. 4 was amended and adopted by Sydney Council in August. The Fort Macquarie Cannon was relocated to Hyde Park.
- 1928—Hyde Park was redefined following the further widening of College Street, as well as construction of the underground railway.
- 1929—Stock market crashed on 29 November 1929. Work in the park in the 1930s by Unemployment Relief.
- 1930—The Anzac Memorial competition was won by Bruce Dellit.
- 1932—The Archibald Fountain was sited at Hyde Park. Hyde Park perimeter walls were built to a new design. The British Lawn was established. Sandringham Gardens and Memorial Gates were established.
- 1934—The Frazer Memorial was relocated to its current location.
- 1934—The Pool of Remembrance was constructed. St James Station and Museum Station were constructed.
- 1939–45—World War II. A public air raid shelter was built in the southern section of the park. British armed forces erected the British Centre facing College Street in Hyde Park North which was used to entertain and accommodate members of the Royal Navy Pacific Fleet, then dismantled in 1947.

- 1954—Queen Elizabeth II dedicated the Sandringham Memorial on the site of the bandstand and former British Centre.
- 1961—The FJ Walker Memorial Fountain was sited at Hyde Park in its existing location.
- 1983—The Nagoya Gardens were constructed, as well as the Busby's Bore Fountain.
- 1990–91—Upgrade and conservation of monuments in Hyde Park south was undertaken, as well as the upgrade and conservation of monuments in Hyde Park north. The Family Centre was demolished.
- 1997–98—Upgrade works to Hyde Park North paths and entrances was undertaken, as well as restoration of the Archibald Memorial Fountain.
- 1999—The men's conveniences at St James Station were converted to a cafe, and the Nagoya Gardens were upgraded.
- 2004–05—An arboriculture survey was commissioned and selected diseased avenue fig trees were felled for public safety reasons.

Historical Overview—Hyde Park

The following historical overview is drawn from the SHR listing for Museum Station:

> Material in rock shelters reveals that Aboriginal people inhabited the Sydney Harbour area from at least 25,000 years ago. Several different languages and dialects were spoken in the Sydney Harbour area before the arrival of the First Fleet. The Gadigal, who formed part of the Darug nation, were the Aboriginal traditional owners of the inner Sydney area (Haglund, 1996).
>
> The "Eora people" was the name given to the coastal Aborigines around Sydney. Central Sydney is therefore often referred to as "Eora Country". Within the City of Sydney local government area, the traditional owners are the Gadigal and Wangal bands of the Eora. There is no written record of the name of the language spoken and currently there are debates as whether the coastal peoples spoke a separate language "Eora" or whether this was actually a dialect of the Dharug language. Remnant bushland in places like Blackwattle Bay retain elements of traditional plant, bird and animal life, including fish and rock oysters. With the invasion of the Sydney region, the Gadigal and Wangal people were decimated but there are descendants still living in Sydney today. All cities include many immigrants in their population. Aboriginal people from across the state have been attracted to suburbs such as Pyrmont, Balmain, Rozelle, Glebe and Redfern since the 1930s. Changes in government legislation in the 1960s provided freedom of movement enabling more Aboriginal people to choose to live in Sydney (Anita Heiss, "Aboriginal People and Place", Barani: Indigenous History of Sydney City http://www.cityofsydney.nsw.gov.au/barani).
>
> The commencement of a British penal colony in 1788, combined with the effects of a smallpox epidemic in 1789-1791, quickly led to the disintegration of traditional Aboriginal social structure in Sydney. Nonetheless some surviving Aboriginal people lived in the

township and formed a complexity of relationships with the colonisers, both friendly and hostile (Clendinning, 2003).

At the time of European settlement local Aboriginals hunted ducks in the swampy marshes that were to become Hyde Park (Read, 2008, from SCC (Henson & Fitzgerald, 2006)). A map shows the location of a swamp between what is now Market Street (to its north), Park Street (to its south), just west of Pitt Street, to east of Elizabeth Street, into Hyde Park. This swamp was part of the catchment of the Tank Stream, which broadly runs from just east of Macquarie Street in the east, to Clarence Street in the west, & Bathurst Street and Hyde Park south in the south/south-east (Sydney Water, 2004).

Hyde Park (its southern end) is also believed to be the site of an important Aboriginal contest ground for staging combative trials between Aboriginal warriors, watched avidly by the British in the early days of the colony (Karskens, 2009, pp440-1, 545). Until the mid 1820s, Aboriginal people travelled from all over Sydney and as far away as the Hunter and the Illawarra, to gather at a ceremonial contest ground to the south of the city. The exact location of this site of ritualized conflict settlement and resistance is unclear. Described as lying between the road to Botany Bay and the Brickfields, it was probably near Hyde Park South. Bloody fist fights involving up to 100 people, spearings and beatings were used to resolve conflicts at the Brickfields contest ground. These were observed and recorded by visiting Russian sailors in 1814, and again 10 years later by the French explorers Dumont d'Urville and Rene Lesson (Sydney City Council, 2011).

The valley of the Tank Stream was cradled between two slightly elevated sandstone and shale ridges which ran down to the harbour to form Dawes Point and Bennelong Point on each side of Sydney Cove. The Tank Stream itself was only a tiny rivulet which rose in marshy ground skirting the western slopes of the ground which later became Hyde Park. The seepage from the bed-joints of the underlying sandstone around the upper portion of its catchment, which headed about the centre of the park, filtered through the soil to form a definite channel near King and Pitt Streets. The area now occupied by Hyde Park was relatively flat, rising slightly along the centre and elevated.

We know it was timbered, as was the rest of the topography, from the early drawings of the settlement, and Director of the Botanic Gardens, Sydney J.H.Maiden has suggested that the dominant species were probably white or brittle gum (Eucalyptus micrantha), blackbutt (E.pilularis), bloodwood (Corymbia gummifera), Port Jackson figs (Ficus rubiginosa), Bangalow palms (Archontophoenix cunninghamiana), cabbage tree palms (Livistona australis) and smooth-barked white apple (Angophora costata), with an understorey of tea tree (Leptospermum sp.), wattle (Acacia sp.) and NSW christmas bush (Ceratopetalum gummiferum)(Proudfoot (2), 1987: 10).

From 1788 this was a place where soldiers could be quickly assembled in case of a convict rebellion. It was probably the site of a bloody battle between Aboriginals and Europeans for control of land around Sydney (Read, 2008: 5).It was also the site of an important Aboriginal contest ground. (Karskens, 2009:545)

Before Governor Phillip departed from the settlement in December 1792, he had drawn a line from the head of Woolloomooloo Bay to the head of Cockle Bay (now Darling

Harbour) and noted in writing on the map that no land within the line was to be leased or granted and should remain the property of the Crown. In subsequent years this directive was whittled away. King granted leases in the town, Foveaux had begun to issue grants, Macquarie was to extend the grants.

The area of Hyde Park however, fell largely within this line and became regarded as a sort of "Common" on the edge of town. It had quite a different status to the Governors' Domain, which became the Botanic Gardens. It was land that belonged to the people, rather than the Governor or his officials. The settlers grazed their animals on it and used its brush and trees as firewood. It was gradually denuded of vegetation. By 1810 it would have been a relatively open, elevated space and by then would have had views out to the north east across Woolloomooloo to the harbour. Early on there were shingling parties and saw pits operating in the vicinity. It was known as "the Common" even before Governor Macquarie defined its size and use by his proclamation of 5 October 1810. His 83rd regiment had established a camp there while waiting for more permanent accommodation, on the southern end near the brickfields (Proudfoot (2), 1987: 10–11).

Later it became the colony's first sports centre and racecourse. Prize fights and cricket matches were held here. In 1803 cricket was introduced on The Common by British officers. This game became an obsession and the area served the game from 1827-1856 (Read, 2008, 5/SCC: 2006).

Before 1810 the area was known as 'The Common', the 'Exercising Ground', 'Cricket Ground' or 'Racecourse' (State Planning Authority (SPA: 7). Macquarie, on 11 February 1810, formally reserved it as open space, the first public park set aside in Australia (Proudfoot: 323). He formally defined the park as bounded in the north by the Government Domain, on the west by the town of Sydney, on the east by the grant to John Palmer at Woolloomooloo and on the south by the brickfields (SPA: 7).

Macquarie named it 'Hyde Park' after the great Royal Hyde Park in London north-west of Westminster, near Buckingham Palace (which had once belonged to the Manor of Hyde and which was seized from the Abbey of Westminster by Henry VIII for a forest hunting reserve in 1536). Macquarie's naming and formal definition of the park was part of his town planning policy. He named the streets and regularised their courses, erected a wharf in Cockle Bay, relocated the Market Place and planned other improvements in the town, as well as defining Sydney's first major park and formalising its use 'for the recreation and amusement of the inhabitants'. He also added another use for the park, 'as a field of exercise for the troops'. His proclamation acknowledged the previous uses of the area (Proudfoot (2), 1987: 14-15; Whitaker, 2009).

Ten days after Macquarie named it Hyde Park it was the venue for Australia's first organised horse race and it was used for races through the 1820s. At that time it was much larger, marking the outskirts of Sydney's southern settlement (Read, 2008, 5-6/SCC, 2006)(Knox, 1986, 58 notes the park was used as Sydney's racecourse from 1820-1821.(Whitaker,2009) adds that as well as being a popular cricket venue in the 1820s it was also popular for informal childrens' games.

It was delineated only as a space at the end of Macquarie Street, where the military held parades, and townspeople cut firewood and carted off soil. It became a favourite place for cricket, a playground for local school boys, a racecourse and - with its slightly elevated position - a promenade (Proudfoot, 323; Knox, 1986: 58) cites Hyde Park as being Sydney's cricket ground from 1827-56.

In 1811 Macquarie framed further regulations to secure the space for public recreation. He closed access across the park to the Brickfields beyond, forbade carts to cross it, or cows, sheep, goats and pigs' to graze upon it, and ordered that no cattle headed for markets near Darling Harbour were to be driven across it. He caused a fence to be made between the park and the brickfields and directed that carts carrying bricks or pottery should go through the turn-pike gate in George Street. He directed that all traffic crossing the park was to use the new line of road along the route of Liverpool Street to South Head Road (or Oxford Street). This roadway then defined the southern boundary of Hyde Park.

The northern boundary was at first defined by the edge of the Governor's Demesne (Domain), which the Macquaries came to regard as their personal pleasure grounds. Macquarie himself directed the building of Hyde Park Barracks (1817-19), St.James' Church (1820) and the Law Courts (1819-28) at the northern end of Hyde Park, using Francis Greenway as his architect, with these buildings as fine embellishments to the colonial town, facing each other across a plaza which terminated Macquarie Street. Macquarie blocked the street named after himself at what was later known as Queens's Square and excluded all roadways from the park.

The western boundary was defined as Camden Street (later Elizabeth Street, renamed by Macquarie for his wife, Elizabeth Campbell), marked out in Meehan's plan of 1807 almost as far as present day Park Street. This was first a street of scattered small wattle and daub thatched houses, brush and grass trees. These were gradually replaced by more substantial houses in the next four decades. It became a fashionable residential street, with elegant terrace houses overlooking the maturing Hyde Park (Mackaness & Butler-Bowden, 2007, 58).

The eastern boundary was not sharply defined when the Macquaries departed in 1821. A map of that year shows a vegetable garden of 11 acres allocated to the Barracks and a site marked out for the Roman Catholic Chapel... 'near the rubbish dump'.

The foundation stone for what would become St.Mary's Cathedral was laid in 1821 on a site adjoining Hyde Park's north-eastern side, the first site granted to the Roman Catholic Church in Australia (Knox, 1996: 59).

Macquarie made no move to have the space planted. He probably had enough difficulty getting the Government Domain in order. However the formal nature of the Queens Square end of Hyde Park made it an appropriate place for Governor Brisbane's Commission to be read to the assembled populace on 1/12/1821 (Proudfoot (2), 1987:17–18).

Francis Greenway, architect to Governor Macquarie, wrote in a letter to "The Australian" in April 1825 that Hyde Park was to be 'given to the inhabitants of Sydney for ever, and

to be laid down in the most elegant style of landscape gardening'. It would be planted out 'in the modern way of landscape gardening, as many of the squares are now in London, the garden enclosed with an elegant rail fence'. Lack of cooperation from the Colonial Office in London meant that Greenway's elaborate and optimistic plans for beautifying Sydney were put aside for the time being (Bligh, 32).

Wrestling and boxing in the park continued, with quoits, rugby union, hurling, military drills, a zoo in 1849. In public holidays the park resembled a 'side show alley' (Read, 2008, 6/Clifford & Webb, 1997:17).

From the first attempts at structuring it the site has lent itself to a formal design. Emphasis on a central avenue was given by the 1832 extension of Macquarie Street south through the park and by its flatness. When this street extension was closed for a second time in 1851, its north-south line became a rudimentary public walk (known as 'Lovers' Walk'); a derivation from the planted walks in English 18th century urban pleasure gardens (such as Vauxhall Gardens).

In the 1830s Governor Darling proposed to sell off the park for houses, but his successor Governor Bourke rebuffed the claims of those who desired the park for residential allotments and reaffirmed its status as a park (Proudfoot (2), 1987: 7; Whitaker, 2009). In 1830 Park Street was extended through the park (Mackaness & Butler-Bowden, 2007: 76).

In 1832 William and Macquarie Street (southern extension) were constructed severing Hyde Park and establishing its central axis (Clouston, 2006: 16). Also in 1832 College Street was built which divided off part of the park, in the area which became Cook and Phillip Parks. Also in 1832 Sydney College was built (later Sydney Grammar School). With the nearby Lyons Terrace (1851) and the Australian Museum (1849-51) the southern end of Hyde Park attracted significant and imposing buildings which increased its importance as a planned open space envisaged by Francis Greenway (Whitaker, 2009).

In 1837 the first major planting in the park was undertaken by Superintendent of the Sydney Botanic Gardens, Alan Cunningham (Clouston, 2006: 16). Also in 1837 Sydney's second main water supply (after the first one - the Tank Stream - had become polluted) was Busby's Bore in Lachlan Swamps (later part of Centennial Park). An outlet for water brought to the city from the bore through a tunnel was an elevated pipe in Hyde Park where water carts queued and filled their barrels to sell in the town at 3 pennies per bucket.

In 1846 work commenced on the Australian Museum on the south-east corner of William and Park Streets, probably to the design of architect Mortimer Lewis. This was probably Australia's first prominent museum building (Knox, 1996: 60), and faced the park.

In the 1850s Hyde Park was a barren expanse of grass criss-crossed with paths and dirt tracks around its perimeter. This is clear in a c.1854 photograph taken from the Mint by mint-worker and amateur photographer William Stanley Jevons in the very early days of photography. (Read, 2008: 6).

In 1854 the Public Parks Act was passed and a Hyde Park Improvement Committee was formed (Proudfoot, 323). Trustees were appointed to determine policy and after 1854 the

space gradually became tailored towards more bourgeois, middle-class ideal of a passive, decorative open space for strolling. It attracted public speakers for a time, until they, like the cricketers, were banished to the Domain to the park's north. Gradually Hyde Park became more a place for passive recreation and more like an 'English' garden.

There was increasing public pressure to 'improve' the park and plant it.

By this time the influence of Scottish/English writer John Claudius Loudon and architect/gardener (later Sir) Joseph Paxton had reached the antipodes - the garden invaded the pleasure ground to form a 'gardenesque' (Loudon's term) composition with each of Hyde Park's four quarters divided by a central walk and the whole park by Park Street. Incidents or features such as statues, fountains, ponds and a bandstand were introduced. This broadly reflected the rise of the Public Parks Movement in England, and elsewhere in Sydney - with Parramatta Park being declared a public park in the mid 1850s after much lobbying (Read, 2008, 6/Proudfoot, 1990: 7).

In the 1850s civic monuments began to be erected in the park. The first in 1857 was the Thornton Obelisk. It is also irreverently known as 'Thornton's Scent Bottle' (Whitaker, 2009) constructed on the park's western side entrance facing Bathurst Street (intersection with Elizabeth St.). This is actually a sewerage ventilator, made to appear like Cleopatra's Needle, an Egyptian Obelisk now displayed in London (ibid).

In the 1850s with the coming of responsible government, Hyde Park became a venue for Sunday oratory on political and civic topics, and later election meetings. It was also used for processions and official gatherings such as the ball to welcome Queen Victoria's son Prince Alfred in 1868. Its 19th century layout featured straight paths rather than curved ones, with the central avenue of Moreton Bay fig trees continuing the line of Macquarie Street southward. Elsewhere lawns were interspersed with clumps of trees and shrubs, water features and a bandstand (Whitaker, 2009).

In 1861 planting was undertaken, predominantly along pathways. Moreton Bay (Ficus macrophylla) and Port Jackson (F.rubiginosa) figs were planted in Hyde Park in 1862 (Smith, 2003)(1860 say Mackaness & Butler-Bowden, 2007, 72) on the advice of Director of the Botanic Gardens, Charles Moore. Despite removal of an earlier central avenue of Moreton Bay figs, other specimens of both of these species survive from this era (Whitaker, 2009).

A significant and enduring work of Charles Moore and subsequent directors of the Sydney Botanic Gardens, in particular for the overseer of the Domain, lay in developing not only the Gardens and Domain and the grounds of official residences in Sydney and Moss Vale but also Hyde, Victoria, Wentworth and Centennial Parks. This role was later expanded to all public institutions. The bequest of Moore and the directors and curators who followed is the living landscapes and planting styles that continue to be an integral part of New South Wales. Effectively the Botanic Gardens staff and their planting tastes and experimentation with various species shaped the aesthetic values of the broader population (Morris, 2016, 173-4).

In 1866 the parkland was enclosed with a two-railed hardwood fence. A bronze statue of Queen Victoria's husband, Prince Albert, was erected in 1866 five years after his death.

This was moved to the Botanic Gardens in 1922 and relocated in front of Hyde Park Barracks in 1987 (Whitaker, 2009).

After the 1851 Great Exhibition in Joseph Paxton's 'Crystal Palace' held in London's Hyde Park, and the first Australian Colonial Exhibition in Melbourne in 1854, Sydney also held a more modest exhibition in the Museum to display exhibits destined for Paris (the 1855 International Exhibition) or Melbourne (1861). Victoria also hosted Australia's earliest intercolonial exhibition, in Melbourne (1866-7), again preceding a major international exhibition in Paris (1867). Even if a railway station was not erected on Hyde Park (as had been suggested) or even used at all for an exhibition, the proximity of the railway station and exhibition hall was seen as a necessity for practical and symbolic reasons. Ease of transport was vital for a successful show but so was the powerful symbolism of the 'iron horse', with its prefabricated iron railway tracks symptomatic of an age that had produced the Crystal Palace. Encouraged by the success of the first Sydney exhibition of the Agricultural Society of NSW in 1869, Prince Alfred Park was chosen as the site of the grand 'Metropolitan Intercolonial Exhibition' of 1870 (Aitken & Beaver, 1989: 4).

To Sydney's chagrin, the Melbourne exhibition was a great success and the 'mother colony' looked anxiously to the day when she could respond with a confident rejoinder. The centenary of Cook's 'discovery' of Australia of 1770 was seen as a suitable commemorative event and Hyde Park, Sydney considered an appropriate site. A proposal to erect a new central railway station and use the hall for the exhibition, was considered

A c.1870 painting by Thomas H.Lewis showed Merry Cricket Club Matches in Hyde Park's north - the park was apparently only planted from Park Street south if the painting was accurate (Clouston, 2006: 39).

In 1871 additional planting was undertaken. In 1876 the parkland was redefined and enclosed with a dwarf stone wall and iron palisade fence. In 1878 Hyde Park was formally delineated, its corners demarcated with gates and sandstone piers surmounted by gas lamps.

In 1878 the Central Synagogue was built on Elizabeth Street facing Hyde Park (Knox, 1996: 60). Beyond (i.e. south of) the Synagogue the character of Elizabeth Street became somewhat less exclusive. By 1900, pubs and the odd private club - including Tattersall's bookmakers club - were a feature of the street (Mackaness & Butler-Bowden, 2007: 58). In 1879 (on the centenary of Cook's death) the Captain Cook statue was erected, on a stone base that had been erected in 1869. It stands on the highest point in the park. Its sculptor was Thomas Woolmer who was prominent in the English pre-Raphaelite movement and who spent several years in Australia (Whitaker, 2009). From 1878-96 Sydney Botanic Gardens Director Charles Moore was appointed a trustee of Hyde Park. A Cook's pine tree (Araucaria columnaris) flanks the statue (Stuart Read, pers.comm., 5/3/2012).

In 1881 the Frazer Memorial Fountain, one of two donated to the city by merchant and MLC John Frazer (Whitaker, 2009)(the second fountain is in the middle of Prince Albert Road at the intersection with Art Gallery Road and St.Mary's Road). The fountain was designed by John F. Hennessy as assistant to the City Architect, Charles Sapford) was

sited at Hyde Park on the corner of Oxford and College Street. This was one of the first sources of clean water for Sydney and a population meeting point in the park. The original design featured cups dangling from the large water basin for people to take a drink. The taps were bronze and in the shape of a dolphin (Sydney Central Mag, 17/2/2016).

Also, in 1888 the Fort Macquarie Cannon (c.1810s) was placed in the park.

In 1888 the John Baptist Memorial Fountain was sited at Hyde Park, in a different location to its current one near the corner of Park & Elizabeth Streets. Early photographs (pre c.1910) show it on an 'x' intersection of two paths, and surrounded by a metal picket fence (Britton, 2008, 83). Baptist was an early and influential nursery proprietor in Sydney whose nursery 'The Garden' in Surry Hills was successful. He was a generous benefactor, donating a fountain to Redfern Park.

This fountain was commissioned for 'The Garden' nursery. It was donated by his family to the City for Hyde Park on the centenary of the European settlement - at this time Australia's premier park had no fountain. While its origin is uncertain - it seems to be a locally-made copy (in sandstone) after an 1842 English design - since 1830s catalogues of English firm Austin and Seeley carried descriptions of fountains made of artificial stone and J.C.Loudon advocated installing jetting fountains. A popular theme was 3 dolphins or carp on rockwork, their tails holding up a shell-shaped basin... (Morris, 2008, 83). It also appears the earliest surviving ornamental (c.f. drinking) fountain in Sydney. Elizabeth Bay House's fountain is believed an earlier import. Government House's and Vaucluse House's - almost identical - were installed in the 1860s. In c.2007 Sydney City Council removed the pedestal (with three triton fish forming a tapering spout) for conservation and safekeeping. The base remains in situ. The current management plan proposes reinstallation and repair (Read, 2008: 7)

In 1897 a bronze statue was erected by public subscription to commemorate the populist political William Bede Dalley (1831-88) near the north-east corner of the park near Prince Albert Road (Whitaker, 2009) in the park's north-east, near Hyde Park Barracks.

Director of the Botanic Gardens, Joseph Henry Maiden compiled a 42 page paper on 'The Parks of Sydney' which he delivered to the Royal Society on 4th June, 1902. Providing a schedule of Sydney's 207 'Public Parks and Recreation Reserves' set aside between January 1855 and April 1902, Maiden dealt with their administration, and how they were (or should be) planted, fenced and provided with paths, roads, seats, lights and other facilities, such as latrines, which were now provided 'for women and children' in the Botanic Gardens, but not yet 'in our parks, so far as I am aware'. Maiden stressed that above all, 'in this democratic country, parks 'should be inviolable'. Their inalienability had to be rigorously guarded. He noted that fortunately 'the battle of Hyde Park has been fought and won. Hyde Park will be immune from the builder and the railway constructor for a century, and if for so long, then it is safe for all time. For each generation is wiser than the preceding one...'. He may, in retrospect, have been over-optimistic on these last two points.

After addressing the Royal Society, Maiden was asked by Sydney Council to report on the state of the reserves within the city. He furnished an interim report in July 1903, before

he had inspected Prince Alfred and Moore Parks, but many of his suggestions were of a general nature. The Council should appoint a superintendent of parks: 'trained professional gardeners, not labourers or handy men' should comprise the core of the staff; a nursery and depot were required; etc. With improvements, Elizabeth Street could become 'the noblest street in Sydney'...More latrines were generally needed, and if 'a convenience for females' were provided in Hyde Park, say near Park Street, it would, I feel sure be a boon'. His report went to Council in August 1903 (Gilbert, 2001: 225-6).

Control of Hyde Park was vested by the Department of Lands in then Sydney Municipal Council in 1904. A programme of upgrading began (Whitaker, 2009). By 1905 illumination of the whole of Hyde Park had been completed (Clouston, 2006).

In 1908 Hyde Park was redefined following the widening of Elizabeth and Liverpool Streets by 5.5m and 4.6m. In 1910 a bus shelter was constructed. In 1910 Sydney's first womens' public lavatory was built in the park near the corner of Park and Elizabeth Streets. It was considered a 'failure' by Council due to low usage and was replaced in 1955 (Whitaker). In 1912 the park was redefined following the widening of College Street. Mark Foys Emporium (south-west corner of Liverpool & Elizabeth Streets) was built in 1909 opposite the park. This was one of the largest and grandest department stores in the city, growing over time to six stories. When trains (i.e. after 1926) were the most popular method of goring to town the store thrived because of its proximity to the underground railway station (SCC History Program, undated (1)).

In 1914 the sundial was repaired (its date of erection is not known). In 1916 Hyde Park was redefined following the widening of Park Street. In 1917 the Frazer Memorial Fountain was relocated to the north-east corner of the Pool of Remembrance. The Emden gun, a four-inch gun salvaged from the German raider ship sunk off the Cocos Islands by HMAS Sydney in 1914, the first Australian naval ship to ship victory and one of the nation's earliest war trophies, was gifted from the Commonwealth Government and sited at Hyde Park on the corner of Oxford and College Streets (SCC History Program (2), 2007; Whitaker, 2009).

An underground railway for the city was planned in 1916 but did not proceed until 1922. The idea of building an underground rail network for Sydney was first mooted by engineer and Harbour Bridge designer Dr John Bradfield in 1913. Government approved it and in 1916 work began on the first leg from Central to Museum and St.James. Part of the park was fenced in 1916, however from 1922 onwards major excavation began and much of the western side and part of the centre of Hyde Park North was refashioned after construction commenced. Excavation began with the felling of the main avenue's Moreton Bay fig trees (Whitaker, 2009).

World War 1 brought a halt but in 1922 the project resumed in earnest. Most construction of Liverpool Street (now Museum) station was done by horsepower and hand. According to the Sydney Morning Herald, 21/5/1929 the southern end of the park (Anzac Memorial) was a mountain of excavated soil and the south-west corner had been a railway construction site for more than 12 years! (Read, 2008, 6). This necessitated massive excavations and vast disturbance over five years (1924-9), a huge army of workmen and moving an enormous amount of soil, shale and sandstone. This was one of the major

urban projects of the Depression years (Proudfoot (2), 1987: 7). The rail system was officially opened in December 1926. The first electric trains ran between Central, Museum and St.James (Read, 2008: 6).

Following concern about the park's future development during and after railway construction disruption, Sydney City Council in 1927 held a design competition 'for a comprehensive layout and beautification scheme' for a restored and refurbished Hyde Park (along with 'up-to-date lines'). The competition was run probably to allay fears that the park would be closed to the public for years more, as well as to put pressure on the Railway Commissioners.

It was won by architect, planner, landscape designer and engineer Norman Weekes (1888-1972) with a finely delineated design drawn by young architect Raymond McGrath (1903-77) and influenced by the 'City Beautiful' movement (Whitaker, 2009). This design evolved with the active criticism of the assessors, architect and town planner John (later Sir) Sulman, architect Alfred Hook (Associate Professor of Construction, Architecture Faculty, Sydney University) and Town Clerk (and closely involved in the park's management) W.G.Layton, who wrote a masterly report assessing the design, pointing out its shortcomings and enunciating the design philosophy followed. Landscape historian Georgina Whitehead describes Weekes' design as an accomplished melange of modern City Beautiful, Beaux Arts and Art Deco inspiration (Whitehead, 2001, 180).

Their report stated (inter alia) that a 'park laid out on the above lines (a hierarchy of traffic ways, lined with and shaded by trees, expanses of lawn, restrained fountains and monuments) and ...would be dignified, useful, a pleasure to the citizens and an object of admiration to visitors, as they are in the principal cities of Europe. Hyde Park properly treated may thus take its place among those of the leading cities of the world'. (Read, 2008, 6). Weekes' design was simplified.

Importing fertile soil was the first priority (Whitaker, 2009).

Part of the vision was to place major monuments at each end of the main vista aligned with Macquarie Street, which ultimately saw the Anzac Memorial and Archibald Fountain installed (Proudfoot, 323).

In the 1920s the Oddfellows Memorial, an elaborate drinking fountain commemorating members of the Grand United Order of Oddfellows who served and died in World War 1, was built near the northern corner of Park and Elizabeth Streets (Whitaker, 2009).

1927 also saw the opening of David Jones Department store on the corner of Market and Elizabeth Streets, directly opposite the park and St.James Station entry (Mackaness & Butler-Bowden, 2007, 59).

1929 saw the American stock market crash, with reverberations around the world's financial markets, triggering widespread unemployment.

In 1930 an Anzac Memorial competition to commemorate Australian diggers who served in World War 1 was won by architect C. Bruce Dellit. Its construction would take four years (SHR item 1872).

In 1932 Hyde Park's perimeter walls were built to a new design and the British Lawn on the north part of the eastern boundary facing St.Mary's Cathedral, Sandringham Gardens and Memorial Gates (on the corner of College and Park Streets (north).

A climax at the northern end is the Archibald Fountain, a flamboyant 1932 erection in a large pond depicting a bronze Apollo, other gods and mythological creatures such as Poseidon (God of the sea), Diana (the huntress), Theseus and the Minotaur and Jason and the Golden Fleece. This was bequeathed in 1919 to Sydney by J.F.Archibald, to commemorate the association of Australia and France during World War 1 and was designed by (and regarded as the master work of) French sculptor Francois Sicard. Archibald was editor of The Bulletin, a newspaper that encouraged writers in the 1890s onward to write about Australia: he himself was a committed Francophile, supporting a near-French styled beard and changing his name twice: from John Felham to Jules Francois (Archibald). He dreamed of a Sydney developed along Parisian lines, with outdoor cafes and music in the streets. Henry Lawson wanted red flags: Archibald red umbrellas (Read, 2008, 7).

There was a move to include native plants and E.H. Ward, curator of Sydney Botanic Gardens, became the chief adviser - he was responsible for the planting of the great, dense avenue of Hill's figs (Ficus microcarpa var. 'Hillii'). This ran along the central walkway aligned with Macquarie Street, and was established as its major axis. Desirable attributes were listed: the need for shade, restriction of plant species, open grassed areas rather than shrubberies. Specimen trees were considered 'out of place'; flower beds were tolerated in restraint. The desired quality was 'quietude' - the park would be a haven from the bustle and noise of the city. Trams and buses, routed through the park by Weekes, were eliminated.

Civic monuments were thought appropriate and 2 of the most successful of the period were attracted - the Archibald Fountain at the northern end and the Anzac Memorial (1930-34) at the southern end: an inspired Art Deco monument of blocky, buttressed forms. With fine sculptures under English migrant sculptor Rayner Hoff's direction, its symbolism departed from neo-classical forms used in many war memorials and incorporated symbols special to Australia - such as the rising sun and figures of brooding servicemen- which gave the monumental strength to the large granite sculpture (Proudfoot, 323). Its modernity and the emphasis (sculpture and friezes) on women, made it controversial. Photographer Harold Cazneaux depicted its new setting, 'Pool of Reflection' and lines of then Lombardy poplars (Populus nigra 'Italica') in 1934 (Read, 2008, 7).

A 1930 photograph shows mostly only small trees in the park with the Hills fig avenue newly planted. Bandstands were scattered throughout the city and were popular for lunchtime concerts, particularly in the depression when unemployed people abounded. One was located near the cnr. of Park and College Streets (north) - which was demolished to create (in 1951) the Sandringham Gardens and memorial gates to Kings George V and VI (Read, 2008, 6/SCC: 2006).

Much of the construction of the park was assisted (through the 1930s) with labour employed as part of the Depression Relief Fund Programme, which was also responsible

for the 1934 construction of the Anzac Memorial's Pool of Remembrance. Also in 1934 the Frazer Memorial Fountain was relocated to its current location, close to the entry steps facing College and Francis Streets, near Sydney Grammar School. In this same year St.James Station and Museum Station were constructed, both with entries/exits in Hyde Park south and north.

In 1934 entry and exits to St. James and Museum Stations in Hyde Park South and North were built, as the southern portion of Hyde Park was only handed back to Sydney City Council in 1932 (GML, 2016, 11).

In the 1960s an outdoor cafe was constructed behind (north-east) of Museum Station entry building, by Sydney City Council. Design of cafe and landscaping were the work of Ilmars Berzins, SCC landscape architect (ibid, 2016, 11).

In the 1950s Hyde Park saw the introduction on Park Street (in the north-western corner of the park's southern half) of the Long Day Childcare and the Womens' Rest Centre conveniences for women and their children visiting the city. This replaced the earlier Womens Public Toilets. In 1954 Queen Elizabeth II dedicated Sandringham Memorial Gardens, designed by Ilmars Berzins, commemorating King George VI (her father, the former King) and the Royal Family's Scottish rural retreat.

In 1983 the Nagoya gardens were constructed in Hyde Park North, commemorating a sister city friendship. Busby's Bore fountain was erected in the same year and slightly to the north-west near the Supreme Court part of the park.

In the late 1980s the City Council saw a need to reassess the park and improve condition of a number of its elements: plantings, walls, paths and monuments. A draft plan of management and master plan were produced in 1989. Through the early 1990s a works programme was implemented to upgrade paths, conserve monuments and stone walls and built new stone walls along College Street in Hyde Park South. The works depot was removed from the eastern side of the main avenue of Hyde Park north in this period (SOHI, 2014, 6).

In 1999 the mens' conveniences at St. James Station were converted into a cafe facing the park's north-western corner (off Market Street/Elizabeth Street intersection). Nagoya Gardens were upgrade.

In 2004-5 an Arboriculture survey of the park was undertaken, after an outbreak of fungal attack meant the need to remove some of the park's central avenue of Hill's figs (Ficus microcarpa 'Hillii'). In 2006 a plan of management and Tree management report were adopted by Council and the Crown.

In 2012 ongoing tree management works were undertaken.

In 2012, the City of Sydney launched 'The Eora Journey' - a visionary project to celebrate the living cultures and heritage of Aboriginal and Torres Strait Islander communities in Sydney. Recognition in the public domain through temporary or permanent public artworks is one of four components of the Eora Journey, overseen by art curator and writer, Hetty Perkins. Projects delivered include Reko Rennie's 'Welcome to Redfern' and Fiona Foley's 'Bible and Bullets' in Redfern Park and Tony Albert's 'Yinmadyemi: thou didst

let fall' (Council of the City of Sydney, Sydney City News, 10/2020). On 31/3/2015 a War Memorial to Aboriginal and Torres Strait Islander soldiers was unveiled in Hyde Park South, close to Bathurst and Elizabeth Streets. Designed by indigenous artist Tony Albert, it features four 7m tall, 1.5 tonne bullets and three fallen shells, representing diggers who returned and those who did not. The work was inspired by Albert's grandfather's story of survival and experiences escaping a German concentration camp in World War 2 (Hansen, 2015, 7).

In February 2016 Sydney City Council announced works to restore the Frazer Memorial Fountain (1881) with a new base, plinth and steps and its impressive filigree works to be restored. Work took place later in 2016 (Sydney Central News, 17/2/2016).

In 2020 another round of vandalism arising from the international 'Black Lives Matter' movement, including two incidents against the Captain Cook statue led to a public call for this statue to be relocated to a museum by a group of prominent experts in the fields of art, Indigenous Culture and Museums (Open Letter: 'Relocate Cook Statue', to City of Sydney, published in 'The Saturday Paper', 4-10/7/2020, 5)

5.3 Hyde Park Lighting History

The style and arrangement of lighting in Hyde Park has been a key part of the Park's history. The lighting that is in Hyde Park today is the result of various lighting schemes implemented at different periods by the City of Sydney since the formation of municipal government in 1842. This section presents a concise summary.

Between June 1857 and July 1857, a Report of the Lighting Committee recommended that, in the absence of agreement by the Hyde Park Improvement Committee to assist in the cost of maintenance, gas lamps not be erected along the 'Lovers Walk' in Hyde Park. Various memos, including from the Australian Gas Light Company, stating the terms that they would be prepared to lay a gas main along the Central Walk from Liverpool Street to the north are included in the collection of archival documents held in the City's archives. At the time, while there was strong concurrence regarding the desirability of lighting there were insufficient funds available to commit to lighting maintenance.[1]

In 1905 correspondence from the City Electrical Engineer instructed the gas company to remove their gas lamps in the southern portion of Hyde Park bounded by Park, College Liverpool and Elizabeth streets, as soon as possible in preparation for the proposed Council lighting upgrade of the park to electric standards. At that time the gas company had 29 single burner lamps, one eight burner lamp and nine disused standards at the park entrance.

As part of the electrical lighting upgrade to Hyde Park 80 new Excello Flame Arc lights were to be installed, 40 in Hyde Park north and 40 in the southern section of the park. Originally timber overhead lamp standards with brackets at a cost of £668 were proposed. Hastily, however, the City Electrical Engineer had accepted a quotation for the

supply of more durable and favourable iron standards and brackets at the cost of £720, or an additional £50. The Engineer retrospectively sought approval from the Electrical Lighting Committee for this additional cost and change to the lighting specifications. The lighting poles were made overseas from solid drawn steel. The bases were of cast iron and the lighting brackets from which the lamps were suspended were wrought iron. The bases and brackets were locally made. On Saturday 18 November 1905 the *Evening News* reported that the wonderful improvements had been made to the appearance of Hyde Park following the park being place in the City Council's control. The electric lamps, placed throughout the northern section of the park, were lit when the Lady Mayoress 'touched the magic button' and Hyde Park was suddenly a blaze of light.

The construction of the underground railway devasted Hyde Park. In 1928 an inquiry was held into Hyde Park lighting to determine the most appropriate type and design of lamp standards for the park. Various amendments were made, but finally it was determined to go to tender for concrete lamp standards. Overall, the lighting scheme was specified for a total of 78 standards of 9 feet (2.74m), 10 standards of 15 feet (4.57m) and 10 standards of 18 feet (5.49m) (Figures 5.1 to 5.3).

The *Labour Daily* reported on 6 November 1929 on the electrical installation of the new standards (See Figure 5.4) Much of the lighting that remains, particularly along the Central Avenue in Hyde Park, dates from this period. Figure 5.8 show the pattern and rhythm of the then 'new' concrete lighting standards in the park.

Architect Bruce Dellit (1898–1942) was a pioneer of the Art Deco style in Australia. Arguably, he is best known for the winning design of the State Heritage Register listed, Anzac War Memorial in Hyde Park south, built between 1932 and 1934. Records in the City of Sydney Archives include undated plans of lighting designed by Dellit that are likely contemporaneous with the c 1930 design of the Anzac Memorial (Figure 5.5). This lighting design was never implemented.

During subsequent decades various types of lighting in the park were documented and planned. Figure 5.6 shows the lighting points in Hyde Park as they were in 1951. A general arrangement plan for Hyde Park South dating from 1963 produced by the City Engineer shows the proposed relocation of some lighting points. (See Figure 5.7).

Various parts and features within the park were the subject of lighting plans as part of special events. The Royal Visit in 1954 is an example when the then Premier Joseph Cahill announced that the avenue of trees either side of the main promenade in Hyde Park would be festooned with coloured lights from Queens Square to Liverpool Street. Floodlights with coloured filters in alternating colours of red, orange, amber, green and blue decorated the park at that time. In more recent years, bud lighting was installed in the fig trees along the Central Avenue.

Today there are several different types of lighting in the park. These include the concrete lamp standards that were introduced following the construction of the underground railway in the 1930s. Historical photographs evidence that this lighting type was more prevalent throughout the park, but is now primarily concentrated along the main pathways.

In other areas of the park, off the Central Avenue and along the secondary paths and in the parks open spaces, there is another lighting type. The style of the post is consistent with the lamp posts along the Central Avenue though the post is taller, and the light at the top of the post has been modified to a more contemporary style.

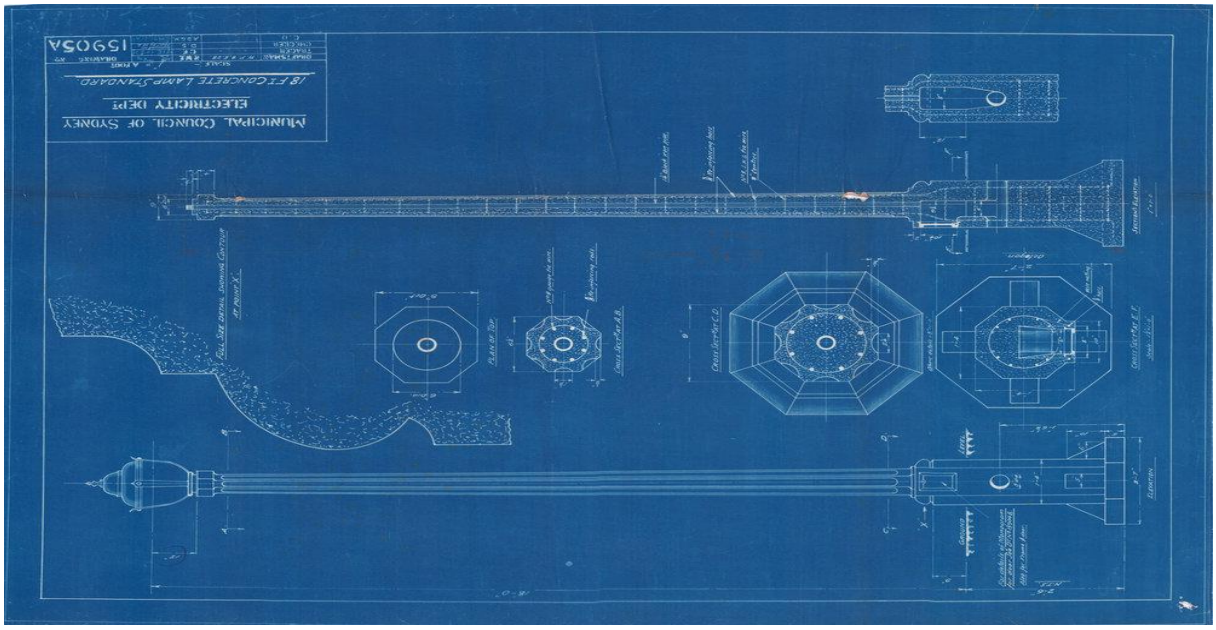


Figure 5.1 Proposed design for 18 ft concrete lamp standards for Hyde Park 1928. (Source: City of Sydney Archives Unique IDA-00114256)

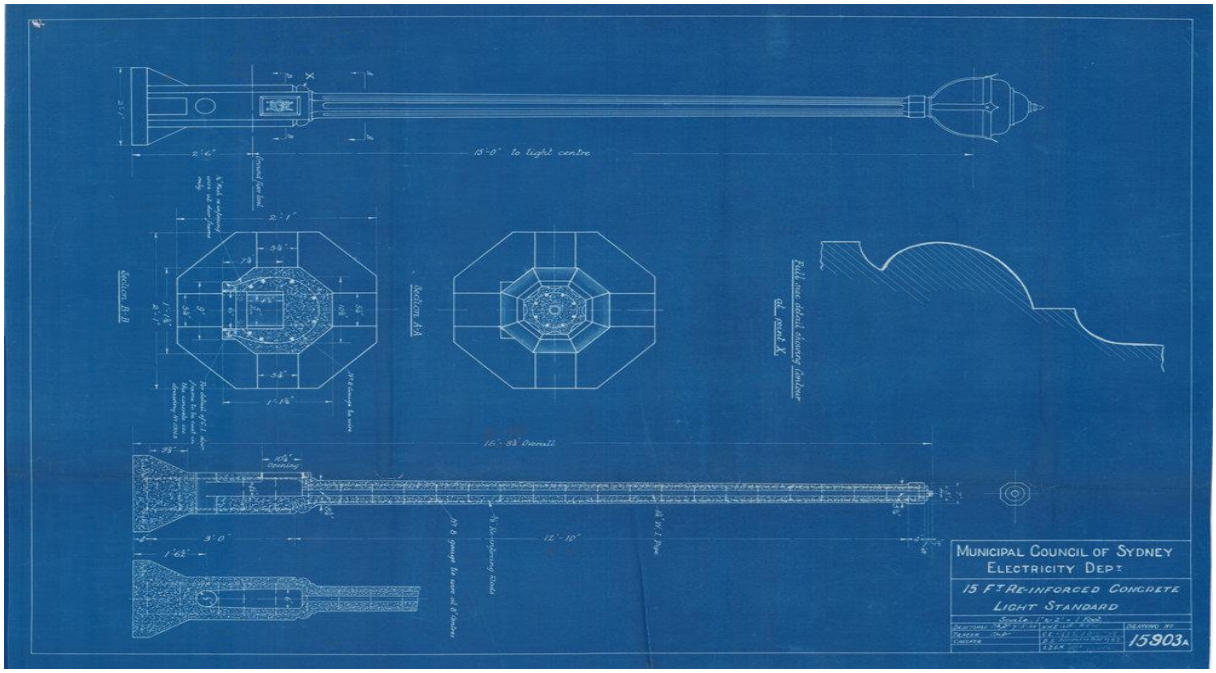


Figure 5.2 Proposed design for 15 ft concrete lamp standards for Hyde Park 1928. (Source: City of Sydney Archives Unique IDA-00114256)

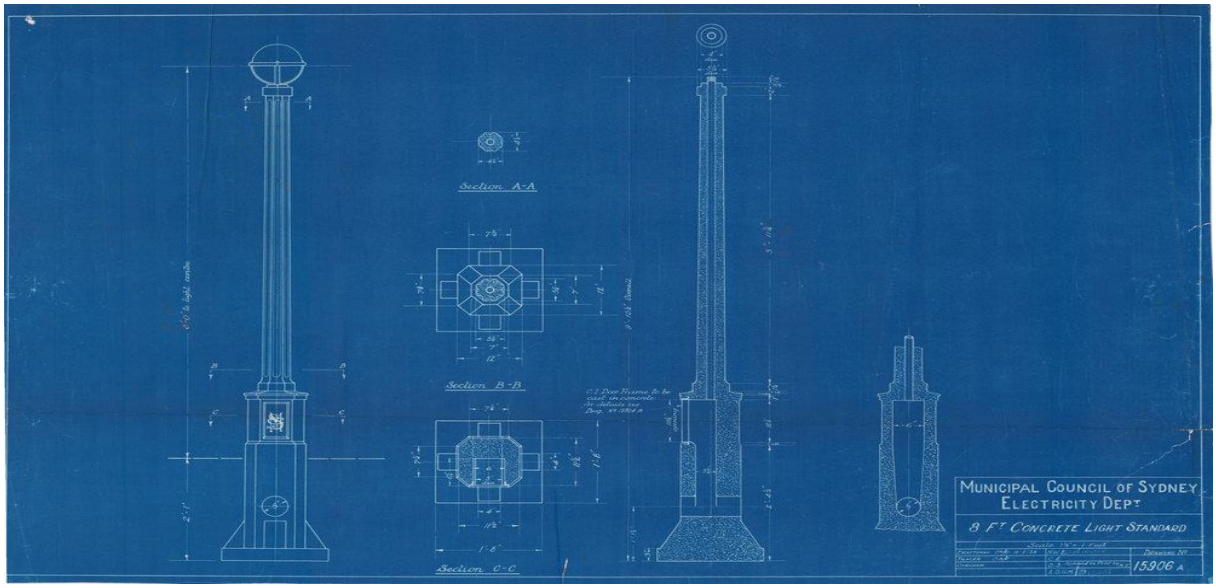


Figure 5.3 Proposed design for 8 ft (revised to 9ft) concrete lamp standards for Hyde Park 1928. (Source: City of Sydney Archives Unique IDA-00114256)

MORE LIGHT FOR HYDE PARK

Electricians connecting up one of the seventy-five new concrete electric standards which the Civic Commissioners have supplied.

Figure 5.4 One of the concrete lighting standards being installed in Hyde Park. (Source: *The Labour Daily* 6 November 1929)

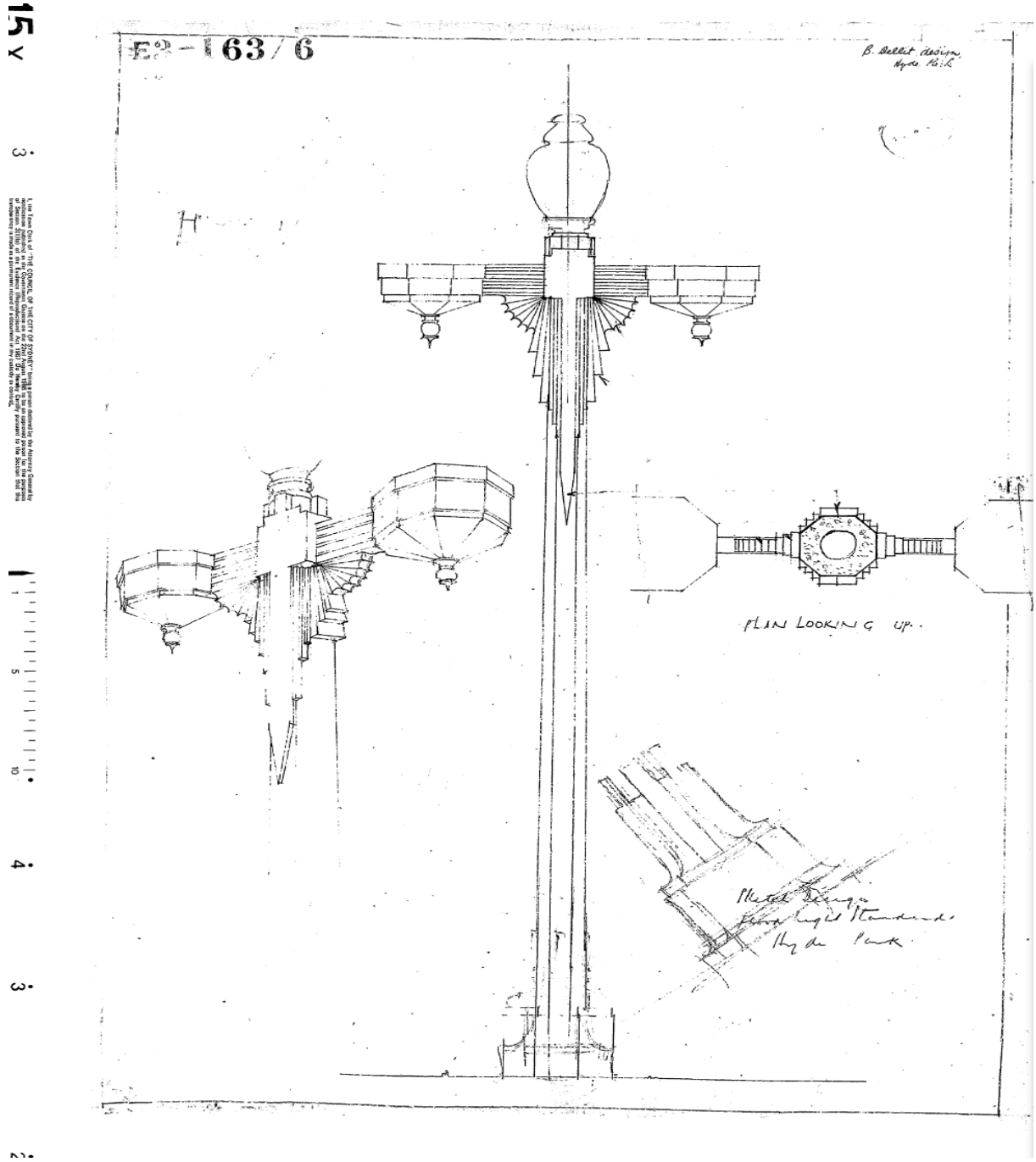


Figure 5.5 Lighting standard designed by Bruce Dellit (undated) showing Art Deco stylistic influences, likely related to the design of the Anzac Memorial, Hyde Park South. (Source: City of Sydney Archives Unique IDA-00533953)

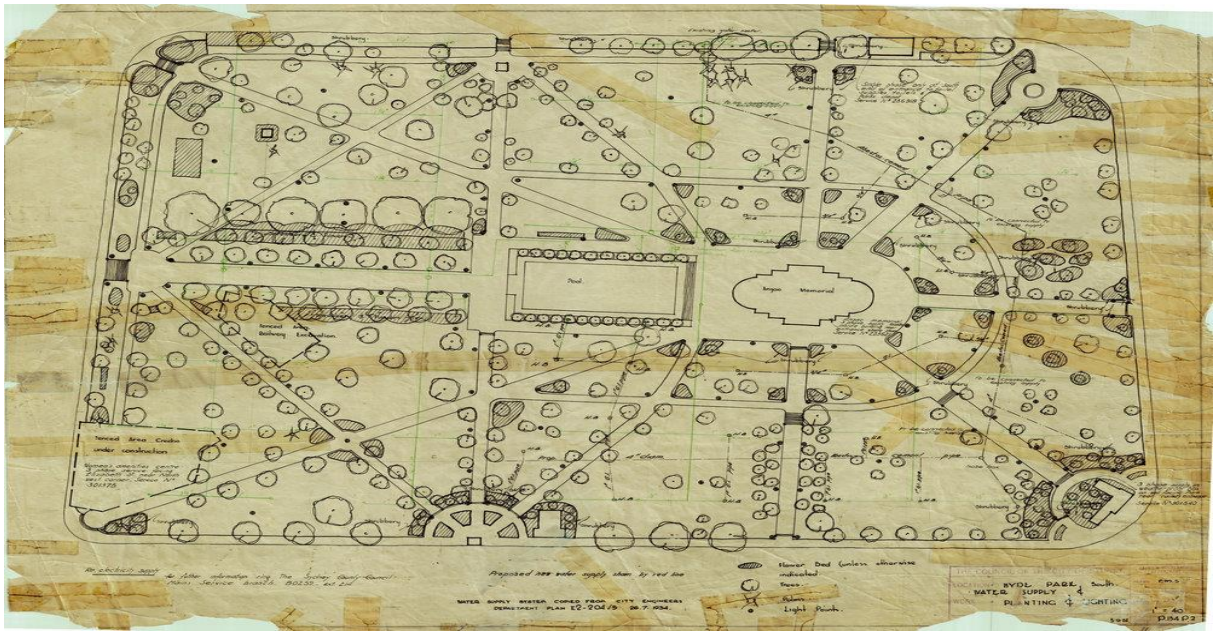


Figure 5.6 This plan of Hyde Park south dating from 1951 shows water supply, planting and lighting points (indicated by small black dots). (Source City of Sydney Archives Unique ID A-00493858)

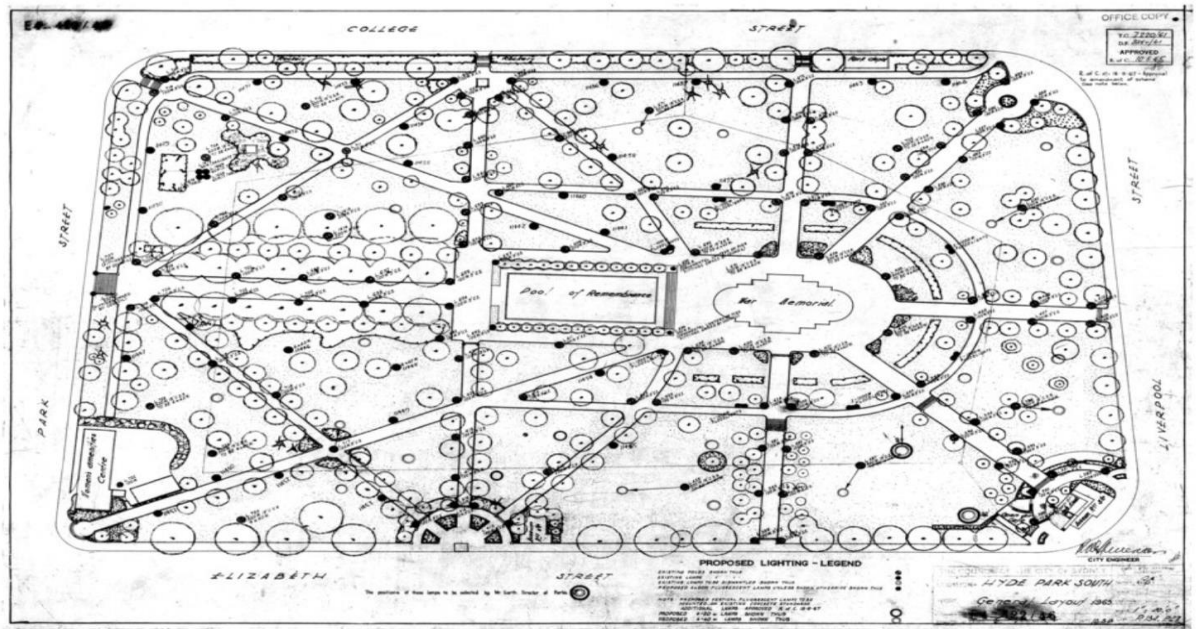


Figure 5.7 General Arrragement Plan for lighting in Hyde Park South, by the City Engineer. (Source: City of Sydney Archives Unique ID A-00485518)

Figure 5.8 Hyde Park looking southeasterly across Queens Square towards Surry Hills showing features of Hyde Park North, 1933, with the rythmn and pattern of the new concrete lighting standards strongly reinforcing the parks central pathway. (Source: City of Sydney Archives Unique ID A-00026224)

5.4 Summary Statement of Significance

Summary Statement of Significance

The identification of heritage significance is drawn from the SHR listing for Hyde Park, it includes the following statement:

> Hyde Park has State significance as public land (the Australian colony's first common) that has influenced the development of Sydney's layout from as early as 1789, occupying approximately the same site since that time. Proclaimed by Governor Macquarie, it is Australia's oldest designated public parkland (1810) and has been continuously used from 1788 for public open space, recreation, remembrance, celebration and leisure. Hyde Park has contributed to the cultural development of the city as a recreational space encapsulating the principles of a Victorian parkland through the use of a hierarchy of

pathways and the strategic siting of monuments, statues and built items. It is of State significance as a demonstration of the international spread of the English public parks movement originating in the mid-19th century. It provides evidence of the influence of transport infrastructure on urbanisation by its upheaval and re-creation after construction of the city underground railway in the 1920s. It was site of some of Australia's first sporting events, and remains the prime open space in Sydney for special events, protests and festivals as it has been since 1810. The Park contains a collection of monuments and sculptures which mark key events and personalities in the history of the State including war memorials and significant artistic works.

5.5 Governors' Domain and Civic Precinct (NHL)

Hyde Park is within the boundary of the National Heritage Listed Governors' Domain and Civic Precinct. The following Summary Statement of Significance is included in the listing.

> The Governors' Domain and Civic Precinct is located in the City of Sydney, near the place of arrival of the First Fleet in Warrane, the Indigenous name recorded in historic journals for Sydney Cove.
>
> The Precinct is of outstanding heritage value to the nation for its capacity to connect people to the early history of Australia including interactions between Indigenous people and British colonisers. Its ability to demonstrate the historic processes which shaped Australia's civic institutions, democratic progress and the physical character of our cities, which were set in train from the early colonial period in the Sydney colony, is outstanding. In particular, the Precinct's ensemble of buildings, parks and gardens tell us about important events in the establishment of early Parliamentary forms of government, the establishment of the Supreme Court and aspects of the history of suffrage.
>
> The archaeological material found near or associated with many of its historic places is rare and has an exceptional research value capable of informing Australians about aspects of British colonisation and the first interactions British colonists had with Indigenous people living in and around the place we now call Sydney.
>
> The Precinct is also outstanding for its collection of buildings and open spaces, which as an ensemble, demonstrates the transition of the early, isolated penal settlement into a more substantial permanent town. Early British Governors and in particular Governor Macquarie, worked to create improvements in civic amenity and fostered the establishment of civic institutions like Australia's first hospital, public parks, a mint and places of worship. Later civic, legal and government institutions continued to be developed which helped to foster greater independence from Britain.
>
> The Precinct and its buildings are also of outstanding heritage value to the nation for their association with a number of important Australians including Governor Macquarie, Elizabeth Macquarie, Governor Phillip, Governor Bligh, Bennelong and Francis Greenway.

Their significant contributions in the course of Australia's history are well demonstrated within the precinct.

The whole of the Governors' Domain and Civic Precinct (including the MSEP) is cited in the listing for its association with early relations between Aboriginal people and settlers, as part of the early penal colony centred in Sydney Cove.

5.6 Summary Statement of Historical Archaeological Significance

The following summary statement of historical archaeological significance for Hyde Park is drawn from the 2014 AMP:

> Hyde Park is an item of State significance that has played a significant role in the development of Sydney since the early days of its formation. The potential archaeological resource within the park includes items with direct association with the park as well as those which are not associated with the common attributes of a park. Notwithstanding this, the potential archaeological resource within the park has an ability to provide a degree of significant information which would contribute to our understanding of the development of the park since its early formation period and to our understanding the park's role as an open space used for a number of activities.
>
> Any evidence associated with Aboriginal occupation or use of the site, including isolated objects in undisturbed contexts, would be of archaeological significance.
>
> Archaeological remains relating to the early nineteenth century use of the park and earlier Aboriginal use have potential to shed light on early attitudes toward the qualities of the open space setting which provide for differing practices, ranging from gruesome public executions to sporting games and leisure. Potential remains of early execution areas, early paths and roads predating Hyde Park would be considered to have significance at the State level.
>
> Archaeological remains associated with Busby's Bore, including structural remains or associated deposits and features are significant for their High research potential regarding the technological, historical and social development of urban Sydney. These remains would be considered to have significance at the State level.
>
> The development of a later sewer system including the Bondi Ocean Outfall and its branches was a defining moment in the management of Sydney's waste and ocean pollution which resulted in the overall improved sanitation of the city. It is representative of the high level of scientific aptitude of late nineteenth century engineering. The North Main of the Bondi Ocean Outfall, although having been significantly truncated by the construction of the railway tunnels which resulted in the loss of fabric and subsequent replacement by concreted sections, is a significant item with research potential relating to technologies and materials used for the modernisation of the sewerage system in Sydney. The archaeological remains of the original fabric of the North Main would be considered to have significance at the State level.

Archaeological remains directly associated with the park's landscaping including original sandstone dwarf walls and boundaries, footings of the 1890s–1920s bandstand, the Temporary Pavilion or the underground historic public toilets would be considered to be significant at the State level.

Archaeological remains relating to the World War II facilities have potential to shed light on the significance of the changing functions of Hyde Park (from leisure and relaxation space to defensive position). The footings of the British Centre, if of high level of preservation and the remains of the air raid shelter would be considered to be significant at the State level.

Archaeological remains of the nineteenth and early twentieth century gardens and landscaping as well as mid twentieth century footing remains of the Former Kiosk/Council Building and the Long Day Child Care Centre would have limited research potential and are therefore considered to be of local significance.

More specifically, archaeological remains associated with the development of paths and gardens after 1926 in areas of railway tunnel construction were assessed as having the potential to be of significance at a state level, depending on their nature and extent.

5.7 Endnotes

[1] Report of the Lighting Committee, City of Sydney Archives, 1857, source system ID24/01/1857/02, Unique ID A-00442503.

6 The Proposal

6.1 Introduction

The 2006 Plan of Management (POM) adopted by Council identified a need for the existing lighting within Hyde Park to be rationalised and improved. There was a particular emphasis on the Central Avenue, secondary paths and the general requirement to improve safety and security and reduce energy usage within the park.

As per the project brief prepared by the City of Sydney, several identified shortcomings were identified with the extant park lighting scheme including:

- Within the park there are several different lighting styles and types.
- Lighting poles vary in their design, materiality, and their functionality.
- Lighting lux levels throughout the park are inconsistent. Some areas of the park are brightly illuminated, while other areas are dark and create heightened risk to security and safety (particularly in Hyde Park South).
- Lighting does not demonstrate a clear and consistent hierarchy that reflects the importance of the pathway network.
- Inappropriate bud lighting in trees.
- Lighting at path entries and universal access ramps do not conform to Australian Standards.
- Feature and path lighting at Sandringham and Nagoya Gardens is limited
- There is no consistent approach to lighting of monuments, artworks or lawn areas.

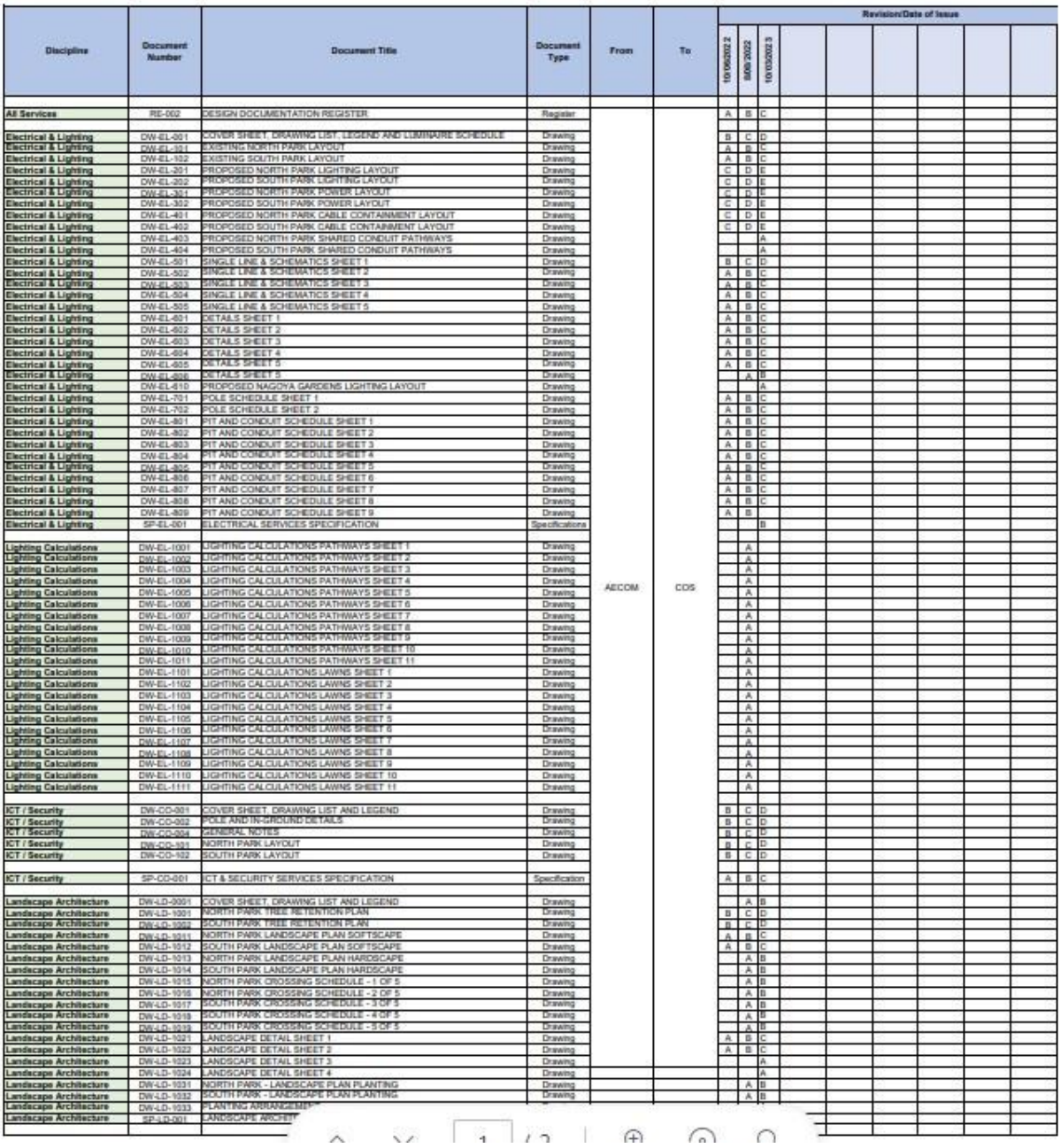
Consultants were engaged in 2016 to assess the existing lighting, power, CCTV and prepare a detailed design and layout for the park. The scope of the current 95% package of work lead by AECOM includes detailed design development and full documentation and construction stage services as follows:

- A comprehensive assessment of the current design package and staging plan making recommendations and adjustments if required to meet current Australian Standards (AS 3000, AS 1158) and Ausgrid Standards (URD and NS) and performance measures as outlined in the City's Policies.
- Design refinement/ documentation of the lighting palette, new event power outlet locations and additional CCTV; and
- services during construction, coordinate the implementation of the project through to completion including certification of all the works.

6.2 Drawings Reviewed

AECOM has prepared several drawing packages that document the lighting design, information, communication, technological and security services as part of the Hyde Park lighting design scheme.

In preparing this HIS GML has reviewed the Hyde Park Lighting Design 95% Documentation drawings issued 6 March 2023 in Figure 6.1.



Discipline	Document Number	Document Title	Document Type	From	To	Revision/Date of Issue							
						10/05/2022 2	8/06/2022	10/03/2023 3					
All Services	RE-002	DESIGN DOCUMENTATION REGISTER	Register			A	B	C					
Electrical & Lighting	DW-EL-001	COVER SHEET, DRAWING LIST, LEGEND AND LUMINAIRE SCHEDULE	Drawing			B	C	D					
Electrical & Lighting	DW-EL-101	EXISTING NORTH PARK LAYOUT	Drawing			A	B	C					
Electrical & Lighting	DW-EL-102	EXISTING SOUTH PARK LAYOUT	Drawing			A	B	C					
Electrical & Lighting	DW-EL-201	PROPOSED NORTH PARK LIGHTING LAYOUT	Drawing			C	D	E					
Electrical & Lighting	DW-EL-202	PROPOSED SOUTH PARK LIGHTING LAYOUT	Drawing			C	D	E					
Electrical & Lighting	DW-EL-301	PROPOSED NORTH PARK POWER LAYOUT	Drawing			C	D	E					
Electrical & Lighting	DW-EL-302	PROPOSED SOUTH PARK POWER LAYOUT	Drawing			C	D	E					
Electrical & Lighting	DW-EL-401	PROPOSED NORTH PARK CABLE CONTAINMENT LAYOUT	Drawing			C	D	E					
Electrical & Lighting	DW-EL-402	PROPOSED SOUTH PARK CABLE CONTAINMENT LAYOUT	Drawing			C	D	E					
Electrical & Lighting	DW-EL-403	PROPOSED NORTH PARK SHARED CONDUIT PATHWAYS	Drawing					A					
Electrical & Lighting	DW-EL-404	PROPOSED SOUTH PARK SHARED CONDUIT PATHWAYS	Drawing					A					
Electrical & Lighting	DW-EL-501	SINGLE LINE & SCHEMATICS SHEET 1	Drawing			B	C	D					
Electrical & Lighting	DW-EL-502	SINGLE LINE & SCHEMATICS SHEET 2	Drawing			A	B	C					
Electrical & Lighting	DW-EL-503	SINGLE LINE & SCHEMATICS SHEET 3	Drawing			A	B	C					
Electrical & Lighting	DW-EL-504	SINGLE LINE & SCHEMATICS SHEET 4	Drawing			A	B	C					
Electrical & Lighting	DW-EL-505	SINGLE LINE & SCHEMATICS SHEET 5	Drawing			A	B	C					
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Electrical & Lighting	DW-EL-701	POLE SCHEDULE SHEET 1	Drawing			A	B	C					
Electrical & Lighting	DW-EL-702	POLE SCHEDULE SHEET 2	Drawing			A	B	C					
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Lighting Calculations	DW-EL-1108	LIGHTING CALCULATIONS LAWNS SHEET 8	Drawing					A					
Lighting Calculations	DW-EL-1109	LIGHTING CALCULATIONS LAWNS SHEET 9	Drawing					A					
Lighting Calculations	DW-EL-1110	LIGHTING CALCULATIONS LAWNS SHEET 10	Drawing					A					
Lighting Calculations	DW-EL-1111	LIGHTING CALCULATIONS LAWNS SHEET 11	Drawing					A					
ICT / Security	DW-CO-001	COVER SHEET, DRAWING LIST AND LEGEND	Drawing			B	C	D					
ICT / Security	DW-CO-003	POLE AND IN-GROUND DETAILS	Drawing			B	C	D					
ICT / Security	DW-CO-004	GENERAL NOTES	Drawing			B	C	D					
ICT / Security	DW-CO-101	NORTH PARK LAYOUT	Drawing			B	C	D					
ICT / Security	DW-CO-102	SOUTH PARK LAYOUT	Drawing			B	C	D					
ICT / Security	SP-CO-001	ICT & SECURITY SERVICES SPECIFICATION	Specification			A	B	C					
Landscape Architecture	DW-LD-0001	COVER SHEET, DRAWING LIST AND LEGEND	Drawing				A	B					
Landscape Architecture	DW-LD-1001	NORTH PARK TREE RETENTION PLAN	Drawing			B	C	D					
Landscape Architecture	DW-LD-1002	SOUTH PARK TREE RETENTION PLAN	Drawing			B	C	D					
Landscape Architecture	DW-LD-1011	NORTH PARK LANDSCAPE PLAN SOFTSCAPE	Drawing			A	B	C					
Landscape Architecture	DW-LD-1012	SOUTH PARK LANDSCAPE PLAN SOFTSCAPE	Drawing			A	B	C					
Landscape Architecture	DW-LD-1013	NORTH PARK LANDSCAPE PLAN HARDSCAPE	Drawing				A	B					
Landscape Architecture	DW-LD-1014	SOUTH PARK LANDSCAPE PLAN HARDSCAPE	Drawing				A	B					
Landscape Architecture	DW-LD-1015	NORTH PARK CROSSING SCHEDULE - 1 OF 5	Drawing				A	B					
Landscape Architecture	DW-LD-1016	NORTH PARK CROSSING SCHEDULE - 2 OF 5	Drawing				A	B					
Landscape Architecture	DW-LD-1017	SOUTH PARK CROSSING SCHEDULE - 3 OF 5	Drawing				A	B					
Landscape Architecture	DW-LD-1018	SOUTH PARK CROSSING SCHEDULE - 4 OF 5	Drawing				A	B					
Landscape Architecture	DW-LD-1019	SOUTH PARK CROSSING SCHEDULE - 5 OF 5	Drawing				A	B					
Landscape Architecture	DW-LD-1021	LANDSCAPE DETAIL SHEET 1	Drawing			A	B	C					
Landscape Architecture	DW-LD-1022	LANDSCAPE DETAIL SHEET 2	Drawing			A	B	C					
Landscape Architecture	DW-LD-1023	LANDSCAPE DETAIL SHEET 3	Drawing					A					
Landscape Architecture	DW-LD-1024	LANDSCAPE DETAIL SHEET 4	Drawing					A					
Landscape Architecture	DW-LD-1031	NORTH PARK - LANDSCAPE PLAN PLANTING	Drawing				A	B					
Landscape Architecture	DW-LD-1032	SOUTH PARK - LANDSCAPE PLAN PLANTING	Drawing				A	B					
Landscape Architecture	DW-LD-1033	PLANTING ARRANGEMENT											
Landscape Architecture	SP-LD-001	LANDSCAPE ARCHITE											

Figure 6.1 Hyde Park Lighting Schedule reviewed drawings. (Source: AECOM 95% Design Documentation 6 March 2023)

6.3 Scope of Works

The Hyde Park Lighting Design 95% Design documentation shows the proposed locations and routes for services associated with new communication and security installations (including CCTV cameras), trench excavation for low voltage electrical services, lighting

and landscaping around new light pole locations and excavation for conduit reroutes and pit locations areas.

Drawings 60613074-DW-EL-001, 60613074-DW-EL-201–202, 60613074-DW-EL-301–302, including Detail drawings 60613074-DW-EL-601–606 provide details for new lighting poles, event bollards which contain power provisions, electrical switchboards including indicative locations of existing services mains underground cabling from existing Ausgrid Point of Common Coupling or Cable T-Joints and lighting control cabinets.

Low voltage electrical services

The new in-ground infrastructure which includes new electrical and communications cable pits complete with Class B and Class C/D pit lids, new electrical and communications underground conduits is documented in drawings 60613074-DW-EL-401–404. The sizes of the electrical cable pits and the sizes and quantities of electrical conduits vary throughout the project. These sizes and quantities are detailed in drawings 60613074-DW-EL-801–808.

All existing Ausgrid supplied light poles including existing green lighting bollards are proposed to be disconnected and removed and are shown in drawings 60613074-DW-EL-101–102. The locations of existing assets on the drawings are indicative only. Exact locations are to be verified by the nominated electrical contractor.

Typical electrical and shared electrical and ICT conduit trench arrangements are detailed on drawing 60613074-DW-EL-606. The drawings include the following Trench Notes:

> Underground cable routes and those shown on the drawings are approximate only. Final positioning of services shall be co-ordinated by contractor with landscape trade and landscape architect documentation, all other existing in-ground services prior to work commencing.
>
> Electrical contractors shall coordinate with landscape architects and heritage consultants to ensure works do not encroach on locations identified in heritage impact plans, arborist plans or similar.

The Pit and Conduit Schedule (Sheet numbers 60613074-DW-EL-801-C to 60613074-DW-EL-808-C) identifies the outer lengths and widths of power and lighting pit dimensions as ranging between 511 x 511mm, 663 x 663mm and 990 x 990mm. Any new trenching for these services will require excavation to greater depths and widths than indicated, currently undocumented in these drawings.

Plans 60613074-DW-LD-1015 to 1019 indicate the following: Thirteen conduit services propose to use existing provisional conduit trenches. An under boring method is proposed to install nine of the conduit trenches. Fifty-one locations propose to use open

trenching to install conduits. At ground level, electrical pit lids are to be finished with ACO Ductile Iron Rhinocast.

Communications and security services

Drawings 60613074-DW-CO-001-004 and 60613074-DW-CO-101–102 provide details for new and existing CCTV cameras, fibre terminations, and media converter locations which will have connectivity back to the existing Control Room at Town Hall.

The new in-ground infrastructure to support the communications and security services is documented in drawings 60613074-DW-EL-403–404 and 60613074-DW-EL-606. Drawings 60613074-DW-EL-403–404 document the pathway routes including communications pits (600mm x 600mm) and conduit pathways (consisting of 4 x 100mm diameter, and 2 x 50mm diameter HD UPCV conduits) as well as the shared trench pathways requiring excavation to hold conduit. This in-ground infrastructure will support fibre connections which will interface to the Ausgrid Substation dark fibre network providing physical connectivity to the existing control room.

All existing and proposed camera, pit and conduit locations on these drawings are indicative only. Correct locations are to be verified by the selected project communications contractor.

Lighting

The lighting poles include several types:

- Type L1 and L2 which are pole mounted sphere luminaires that are 4.5 metres high. Type L1 pole lights are concentrated along the Central Avenue.
- Type L3 which are over seven metres high and are pole mounted multi head spot and flood lights. Type L3 lighting poles are concentrated in the lawn areas and around the periphery of the park.

The lighting poles are proposed to be installed with a foundation cage set into a concrete footing. There are three types of footings (refer to drawings EL-601 & EL-602. Their dimensions are as follows:

- Type A: depth of 1800mm and a pile diameter of 600mm.
- Type B: depth of 1000mm and a maximum width of 1500 x 1500mm.
- Type C: depth of 1000mm and a maximum width of 1500 x 1500mm.

These footings will require excavation to greater depths and widths, currently undocumented in these drawings. At ground level, pole surrounds will be finished flush with turf levels when set in turf. The drawing details indicate that light poles set next to pathways will be butt jointed against the kerb.

Other lighting will include wall bracket mounted luminaires and inground up lights.

The complete schedule of lighting/Lumiere types from AECOM's 95% drawing package is included in figure 6.2.

6.3.1 Construction Methodology

At the time of writing this HIS, and in view of the project documentation being pre-tender at 95%, the construction methodology has not been detailed. To assist with the assessment of impacts in this HIS the City of Sydney provided AECOM with advice related to the proposed construction methodology. This information which will form part of the City's EOI for the works and will include the following requirements for construction:

Construction timing

- Proposed commencement is mid to late 2023 subject to tender, tenderers availability, acceptance, program, authority approvals and weather conditions.

Construction duration

- Estimated to be 18 months due to access requirements, park events and the size of the park 16 hectares.
- The park is to remain operational as much as possible so we estimated that the project will be constructed in stage via separable portions.
- Subject to further refinement by the successful bidders and the schedule of events the year that construction commences.

Construction equipment and vehicles

- To be confirmed by successful bidder.
- At minimum, trucks with loading of 8 ton per axel, vacuum/sucker truck, ditch witch trenching machines—various sizes, borers, bogies to import soil, table tops with cranes various sizes and semi-trailers to import the in the light poles and mast poles.
- Site areas are to be segregated to limit public access.
- In general, works within the park will be segregated with ATF fencing.
- Once works occur within the surrounding public domain areas adjacent to road/footway, work areas must be segregated to the satisfaction of the construction regulation team & TFNSW, as per City of Sydney's hoarding policy. Formal approvals are required to erect hoardings.

Earthworks

- Must comply with tree hygiene regimes to limit the spread of bacteria and viruses as noted in the site arborist notes issued by CoS. ie cleaning all tools, shoes and truck wheels with alcohol etc treatment as per arborist report.

Source and quantity of materials

- The contractor to provide all data sheets for any imported materials ie soil, mulch, pavers, and turf.
- Certifications must be recent no less than 1 year for installation and approved by an environmental scientist.
- Contractors are to comply with CoS waste management policies.

Construction traffic and access

- Contractor to provide CTMP to outline how pedestrian and truck movements will be managed and staged. This will be approved by CoS and TFNSW.

Construction Generally

- Contractors must use spotter at all times, hazard lights and travel less than 10 km/h where the park is use daily by park and event staff.
- Wheels to be washed down to prevent bacterial spread.
- Forward movement allow only no reversing allowed.
- Subject to specific engineering advice to be issued, tonnage limits will apply where working in sensitive areas above the station(s).
- Underground utility adjustments—diversion required as needed by the contractor and executed by suitably qualified contractors. Service to be rerouted or reinstated as per authority requirements. Approvals required for fibre works and detailed TMP to be provide for any proposed night works in pavements or roadways.
- Vibration monitors may be required by TFNW where working above any Sydney Trian station and pedestrian tunnel area. Monthly reports to be supplied.
- Noise as per standard CoS required when working the in the CBD.

LUMINAIRE TYPE	DESCRIPTION
L1	IP65 3000K, 65W LED 600MM DIAMETER PMMA OPALESCENT SPHERE. LUMINAIRE LED GEAR TRAY DESIGNED AS PER TESTED SAMPLE FOR PROJECT PHOTOMETRY PERFORMANCE. GERA TRAY TO BE DESIGNED TO SUPPORT THERMAL REQUIREMENTS OF THE LEDS AT OPERATING OUTPUT. CASAMBI WIRELESS LIGHTING CONTROL, TO BE MOUNTED ON GEAR TRAY WITHIN SPHERE. REMOTE DALI2 IP65+ DRIVER, TO BE LOCATED WITHIN THE HATCH OF THE POLE. LED MACADAM ELLIPSES STEP TO BE 3 OR LESS, CRI 90+, 6030LM WITH A MINIMUM LAMP LIFE OF L90B10@70,000HRS FITTING DIMENSIONS - 600MM (DIA) LUMINAIRE PRODUCT WARRANTY 10 YEARS+ LUMINAIRE SUPPLIER TO ALLOW MINIMUM 5 UNITS AVAILABLE OFF THE SHELF FOR MAINTENANCE LUMINAIRE TO BE MOUNTED ON 4.5M CUSTOM MADE ALUMINIUM POLE, POLE COLOUR TO MATCH EXISTING 1930 INSTALLATION. PROPOSED PRODUCT: LUMINAIRE: 3S LIGHTING, CAT NO. 111088.072 OR EQUIVALENT POLE: GM POLE, URBAN ALUMININIUM UA4.5HPF OR EQUIVALENT
L3	4 LUMINAIRES PER POLE IP65, 3000K, 26W LED EXTERIOR ADJUSTABLE SPOTLIGHTS. HINGE WITH INTERNAL WIRING, 90° TILT. MOUNTING PLATE ROTATABLE THROUGH 360°. HOUSING, HINGE AND MOUNTING PLATE IN CORROSION RESISTANT CAST ALUMINIUM. DOUBLE POWDER COATED C/W INTERCHANGEABLE SPHEROLIT LENS. EXTRA WIDE FLOOD. INTEGRATED CASAMBI ENDABLED DALI2 DRIVERS. LUMINAIRE COLOUR TO BE CUSTOM TO MATCH LIGHT POLE. FINAL DULUX COLOUR CODE TBC LED MACADAM ELLIPSES STEP TO BE 2 OR LESS, CRI 97, 2155LM WITH A MINIMUM LAMP LIFE OF L90B10@50,000HRS / L90@100,000HRS. FITTING DIMENSIONS - 144MM (DIA) X 312MM (L) LUMINAIRE PRODUCT WARRANTY 10 YEARS+ A RGBW VERSION OF THE FITTING IN THE SAME HOUSING MUST BE AVAILABLEFOR FUTURE ALLOWANCE LUMINAIRE SUPPLIER TO ALLOW MINIMUM 5 UNITS AVAILABLE OFF THE SHELF FOR MAINTENANCE LUMINAIRE TO BE MOUNTED ON 7M CUSTOM MADE HINGED ALUMINIUM POLE, POLE COLOUR TBC BY CLIENT. PROPOSED PRODUCT: LUMINAIRE: ERCO LIGHTING, CAT NO. A4930659 OR EQUIVALENT POLE: GM POLE, URBAN ALUMININIUM UA STEM MHT OR EQUIVALENT
L3C	4 LUMINAIRES PER POLE IP65, 3000K, 26W LED EXTERIOR ADJUSTABLE SPOTLIGHTS. HINGE WITH INTERNAL WIRING, 90° TILT. MOUNTING PLATE ROTATABLE THROUGH 360°. HOUSING, HINGE AND MOUNTING PLATE IN CORROSION RESISTANT CAST ALUMINIUM. DOUBLE POWDER COATED C/W INTERCHANGEABLE SPHEROLIT LENS. EXTRA WIDE FLOOD. INTEGRATED CASAMBI ENDABLED DALI2 DRIVERS. LUMINAIRE COLOUR TO BE CUSTOM TO MATCH LIGHT POLE. FINAL DULUX COLOUR CODE TBC LED MACADAM ELLIPSES STEP TO BE 2 OR LESS, CRI 97, 2155LM WITH A MINIMUM LAMP LIFE OF L90B10@50,000HRS / L90@100,000HRS. FITTING DIMENSIONS - 144MM (DIA) X 312MM (L) LUMINAIRE PRODUCT WARRANTY 10 YEARS+ A RGBW VERSION OF THE FITTING IN THE SAME HOUSING MUST BE AVAILABLEFOR FUTURE ALLOWANCE LUMINAIRE SUPPLIER TO ALLOW MINIMUM 5 UNITS AVAILABLE OFF THE SHELF FOR MAINTENANCE LUMINAIRE TO BE MOUNTED ON 7M CUSTOM MADE HINGED ALUMINIUM POLE, POLE COLOUR TBC BY CLIENT. CCTV INTEGRATED WITH MIN. 1M OUTREACH ARM REQUIRED PROPOSED PRODUCT: LUMINAIRE: ERCO LIGHTING, CAT NO. A4930659 OR EQUIVALENT POLE: GM POLE, URBAN ALUMININIUM UA STEM MHT/CCTV OR EQUIVALENT
L6	3 LUMINAIRES PER POLE IP65, 3000K, 26W LED EXTERIOR ADJUSTABLE SPOTLIGHTS. HINGE WITH INTERNAL WIRING, 90° TILT. MOUNTING PLATE ROTATABLE THROUGH 360°. HOUSING, HINGE AND MOUNTING PLATE IN CORROSION RESISTANT CAST ALUMINIUM. DOUBLE POWDER COATED C/W INTERCHANGEABLE SPHEROLIT LENS. EXTRA WIDE FLOOD. INTEGRATED CASAMBI ENDABLED DALI2 DRIVERS. LUMINAIRE COLOUR TO BE CUSTOM TO MATCH LIGHT POLE. FINAL DULUX COLOUR CODE TBC LED MACADAM ELLIPSES STEP TO BE 2 OR LESS, CRI 97, 2155LM WITH A MINIMUM LAMP LIFE OF L90B10@50,000HRS / L90@100,000HRS. FITTING DIMENSIONS - 144MM (DIA) X 312MM (L) LUMINAIRE PRODUCT WARRANTY 10 YEARS+ A RGBW VERSION OF THE FITTING IN THE SAME HOUSING MUST BE AVAILABLEFOR FUTURE ALLOWANCE LUMINAIRE SUPPLIER TO ALLOW MINIMUM 5 UNITS AVAILABLE OFF THE SHELF FOR MAINTENANCE LUMINAIRE TO BE MOUNTED ON 7M CUSTOM MADE HINGED ALUMINIUM POLE, POLE COLOUR TBC BY CLIENT. PROPOSED PRODUCT: LUMINAIRE: ERCO LIGHTING, CAT NO. A4930659 OR EQUIVALENT POLE: GM POLE, URBAN ALUMININIUM UA STEM MHT OR EQUIVALENT
L10	IP65, 9030, 3000K, 26W WALL MOUNTED UP AND DOWN LUMINAIRE. 6W (100°) BEAM UP, T2 (139° X 40°) BEAM DOWN. DIE-CAST ALUMINIUM HOUSING AND FRAME, PRE-TREATED BEFORE POWDER COATING FOR HIGH CORROSION RESISTANCE. STAINLESS STEEL FASTENERS IN GRADE 304 WITH ZINC FLAKING COATING. INTEGRATED CASAMBI ENDABLED DALI2 DRIVERS. CORTEN SU34 FINISH (TBC BY CLIENT). TO BE ORDERED WITH WALL MOUNTING BRACKET AS REQUIRED. LED MACADAM ELLIPSES STEP TO BE 3 OR LESS, CRI 80, 1627LM WITH A MINIMUM LAMP LIFE OF L90B10@60,000HRS FITTING DIMENSIONS - 184MM (W) X 320MM (B) X 240MM (H). LUMINAIRE PRODUCT WARRANTY 5 YEARS+ LUMINAIRE SUPPLIER TO ALLOW MINIMUM 5 UNITS AVAILABLE OFF THE SHELF FOR MAINTENANCE PROPOSED PRODUCT: LUMINAIRE: LIGMAN MARVIK 3, CAT NO. MV-30023 OR EQUIVALENT
L11	IP68, 3000K, 12W INGROUND ADJUSTABLE UPLIGHT. INTERCHANGEABLE SPHEROLIT LENS, 27° BEAM ANGLE. BLACK POLYMER HOUSING WITH STAINLESS STEEL TRIM. SCREW FASTENED COVER RING WITH 15MM THICK CLEAR FLUSH SAFETY GLASS. 0-30° TILTABLE, ROTATABLE TROUGH 360°. OPTICAL CUT-OFF 40°. INTEGRATED CASAMBI ENDABLED DALI2 DRIVERS. TO BE ORDERED WITH INGROUND INSTALLATION BLOCKOUT AS REQUIRED. CONTRACTOR TO ALLOW FOR DRAINAGE BELOW FITTING AND CONCRETE COLLAR TO ENSURE FITTING IS SECURED. FITTING DIMENSIONS - 249MM (DIA) X 221MM (D) BLOCKOUT DIMENSIONS - 350MM (DIA) X 201MM (D) LED MACADAM ELLIPSES STEP TO BE 2 OR LESS, CRI 92, 993LM WITH A MINIMUM LAMP LIFE OF L90B10@50,000HRS LUMINAIRE PRODUCT WARRANTY 5 YEARS+ LUMINAIRE SUPPLIER TO ALLOW MINIMUM 5 UNITS AVAILABLE OFF THE SHELF FOR MAINTENANCE PROPOSED PRODUCT: LUMINAIRE: ERCO TESIS, CAT NO. 39571-000 OR EQUIVALENT

Figure 6.2 Lumiere schedule for Hyde Park. (Source: AECOM March 2023)

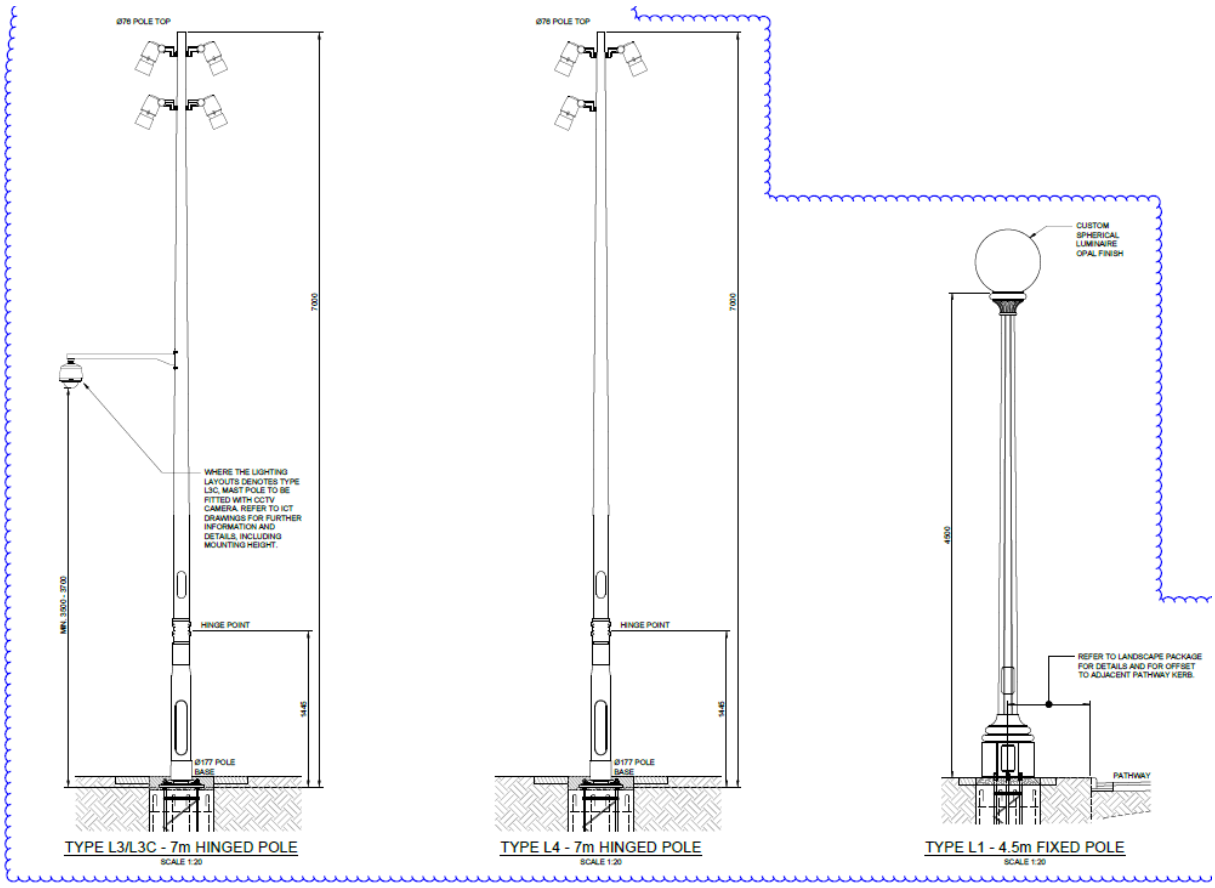
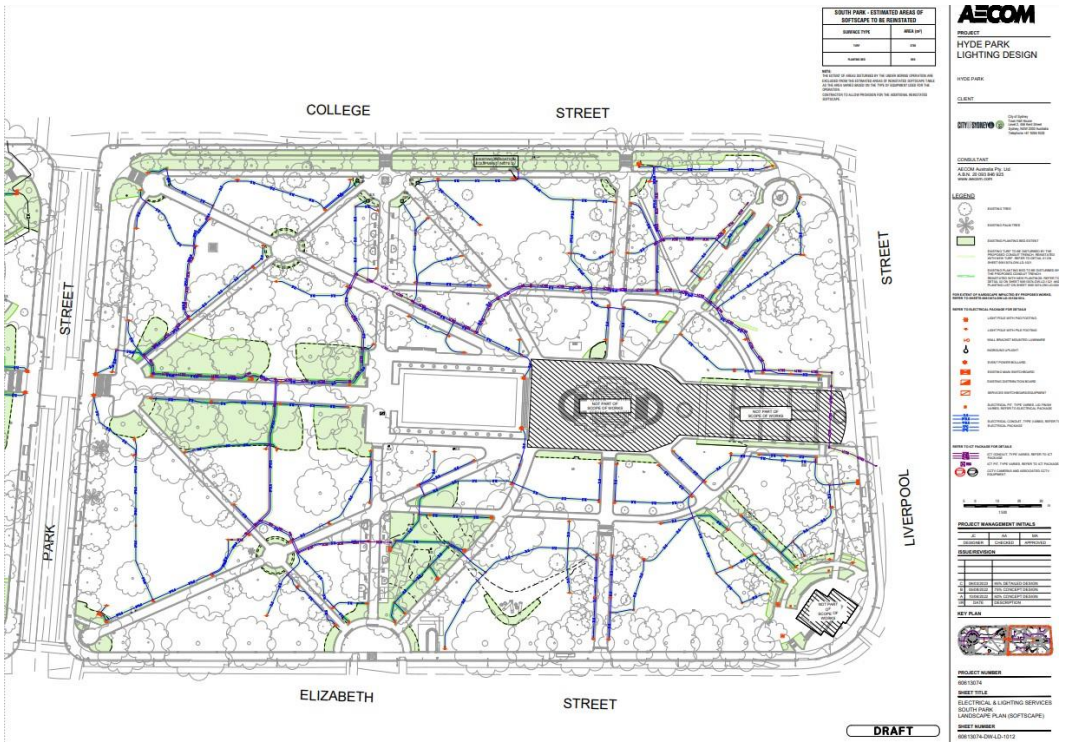


Figure 6.3 Detail Sheet 3, showing Type L3/L3C, L4 and L1 pole types. (Source: AECOM March 2023)



Figures 6.4 and 6.5 Hyde Park north and south landscape drawings 60613074-DW-LD-1011-12 showing landscape, power and reticulation layout, including locations of Lumieres and event power bollards. New underground cabling is indicated in blue. (Source: AECOM March 2023)

7 Heritage Impact Assessment

7.1 Introduction

This section of the HIS provides an assessment of the known and potential impacts on the heritage significance of Hyde Park. It includes consideration of the range of heritage values associated with the park, including Aboriginal and historical archaeology, landscape, and built heritage. Impacts on the significance of the statutory listed heritage items within Hyde Park are considered, as well as those in the vicinity of the park, that are located along the park's boundaries to the north, south and east.

As part of the design development of the park wide master plan lighting scheme, GML Heritage has provided iterative advice to AECOM and to the City of Sydney to help ensure that potential and known impacts associated with the proposed works were mitigated and managed so as to avoid significant and or material impacts to the park's heritage significance. The options considered are discussed, as is ccompliance with applicable conservation policies.

7.2 Heritage advice and options considered

As part of the development of the master plan lighting upgrade, intially it was proposed that extant lighting standards throughout Hyde Park should be removed and replaced with bronze finished contemporary standards to match the materiality and aesthetic of the recent design and upgrade works to the southern entry to the Anzac Memorial.

In May 2020 GML attended an onsite inspection with AECOM and the City of Sydney. We reviewed several lighting options that had been installed along the main avenue. This included alternative globes and shades, as well as different finishes to the standards. Options included clear glass shades with exposed bulbs to intepret the park when it was illuminated with gas lights. AECOM undertook considerable research and investigation to ensure lux levels across the park were alligned to the project requirements and other public lighting standards. Improved environmental performance of the lighting was also a key consideration as was public security and safety, and natural heritage values.

GML Heritage provided advice to the project team regarding the significant historic and aesthetic qualities associated with the c1920s lighting design. GML was of the view that the layout, form, pattern and arrangement of the concrete standards, topped with spherical white shades, placed rythmically along the Central Avenue and other key pathways, have the ability to demonstrate a significant phase of the park's history, namely, the 'modern' municipal design response to the park in the interwar period following the construction of the underground railway.

It was determined that the replacement of the extant concrete standards, including the opaque white spherical shades, was not acceptable from a heritage perspective, given the significant contribution they make to the distinctive character of the park, especially along the entire length of the major north south vista and promenade, Central Avenue.

The taller concrete lamp posts that are extant in areas along the secondary pathways and in areas of open space within the park are proposed for removal. It is likely that at least some of these lights were part of the 1930s scheme as the post design and materialiy is consistent.

In considering the lighting upgrade in other areas of the park, including the quadrants of Hyde Park north and south, it was agreed that the lighting in these areas of the park was of lesser significance, had been modified and dates from more recently implemented lighting updates. It was agreed that lighting in the quadrants off the main pathways could be upgraded with new lighting standards and poles, given that a representative sample of the 1930s lighting scheme was being maintained. To ensure the new lighting was in keeping with the park's significance, the new lighting is proposed to be visually recessive and designed so as not to impact on the significant historic character or aesthetic values of Hyde Park.

7.3 Heritage Impact Rating Definitions

The tables in this section list the various items of work described in Section 5 and sets out the likely heritage impacts, which are assessed according to the heritage impact rating definitions presented in Table 7.1.

Table 7.1 Heritage Impact Rating Definitions.

Rating	Definition
Major adverse	Actions which will have a severe, long-term and possibly irreversible impact on a heritage item. Actions in this category would include partial or complete demolition of a heritage item or the addition of new structures in its vicinity that destroy the visual setting of the item. These actions cannot be fully mitigated.
Minor adverse	Actions which will have a minor adverse impact on a heritage item. This may be the result of the action affecting only a small part of the place or a distant/small part of the setting of a heritage place. The action may also be temporary and/or reversible.
Neutral	Actions which will have no heritage impact.

Rating	Definition
Minor positive	Actions which will bring a minor benefit to a heritage item, such as an improvement in the item's visual setting.
Major positive	Actions which will bring a major benefit to a heritage item, such as reconstruction of significant fabric, removal of substantial intrusive elements/fabric, or the reinstatement of an item's visual setting or curtilage.

7.4 Assessment of Heritage and Landscape Impacts

There are several items of heritage significance within Hyde Park. The following table discusses the potential impacts of the proposed works on these heritage items. Impacts considered include physical impacts, views and lighting.

Heritage Items	Discussion of Heritage Impacts	Heritage Impact
Busby's Bore (SHR 00568 and S170);	Refer to Table 7.4 Assessment of Archaeological Impacts	Minor Adverse/Neutral
Bondi Ocean Outfall (SHR 01623 and S170)	Refer to Table 7.4 Assessment of Archaeological Impacts	Minor Adverse/Neutral
Sewer Vent (the Obelisk) (SHR 285160 and S170)	The proposed works involve the retention or relocation of existing lighting and the erection of new lighting to rationalise a cohesive lighting scheme throughout Hyde Park. Two existing pole mounted lights within the immediate vicinity of the Obelisk are to remain with new sub-circuit cabling. L1 pole mounted custom heritage sphere luminaire on pile and pad footings and L3 pole mounted multi head spot and flood lights are proposed in the greater vicinity of the Obelisk. The L1 type is an arched 4.5m pole with spherical light and has been designed to match the existing 1930s municipal design. The L3 type stands at 7m with 4 mounted spotlights and has been designed to be neutral and discrete in appearance. These proposed lights are part of an accumulated increase in park lighting overall. However, being in close proximity to Elizabeth and Bathurst Streets which have similar tall, pole mounted lighting,	Neutral/Minor positive

Heritage Items	Discussion of Heritage Impacts	Heritage Impact
	there will be no adverse impact on the setting of the item. Overall, the increased lighting will bring about a minor positive impact to the item from its associated security and safety benefits. The proposed lighting will have a neutral impact on the park setting and views to and from the item.	
St James Railway Station Group (SHR 01248, S170 and I1740 LEP)	L1 pole mounted custom heritage sphere luminaire on pile and pad footings and L3 pole mounted multi head spot and flood lights are proposed in the vicinity of the St James Railway Station Group. The proposed L1 type will not differ in appearance from existing lighting or location and will have a neutral impact on setting and views to and from the item. The L3 mast pole type, standing at 7m, has been designed to be inconspicuous, painted in neutral colours and discrete in appearance. Overall, the increased lighting will bring about a minor positive impact to the item from its associated security and safety benefits. The item, being in close proximity to Elizabeth and Bathurst Streets which have similar tall, pole mounted lighting and flagpoles, there will be no adverse impact on the setting of the item. The proposed lighting will have a neutral impact on the park setting and views to and from the item.	Neutral/Minor positive
Museum Railway Station (SHR 01207, S170 and I1743 LEP)	L1 pole mounted custom heritage sphere luminaire on pile and pad footings and L3 pole mounted multi head spot and flood lights are proposed in the vicinity of Museum Railway Station. The proposed L1 type will not differ in appearance from existing lighting or location and will have a neutral impact on setting and views to and from the item. The L3 mast pole type, standing at 7m, has been designed to be inconspicuous, painted in neutral colours and discrete in appearance. Concentrated around the periphery of the park. They have been deemed to be of a neutral visual heritage impact on the significance of the item. Overall, the increased lighting will bring about a minor positive impact to the item from its associated security and safety	Neutral/Minor positive

Heritage Items	Discussion of Heritage Impacts	Heritage Impact
	benefits. The item, being in close proximity to Elizabeth and Liverpool Streets which have similar tall, pole mounted lighting and flagpoles, there will be no adverse impact on the setting of the item. The proposed lighting will have a neutral impact on the park setting and views to and from the item.	
The Anzac Memorial (SHR 0182 and I1742 LEP)	L1 pole mounted custom heritage sphere luminaire on pile footings are proposed in the vicinity of the Anzac Memorial. The poles are setback to not encroach on the paved area immediately around the memorial or on the memorial itself. The item's own lighting scheme will not be impacted. Two existing lamps will have internal lighting components replaced which will not differ from their existing appearance, and accordingly, will have a neutral impact on the heritage significance of the memorial. Eight existing Anzac Memorial light poles will be maintained during construction. Although the new lighting will increase overall light in the park, the lights are directed to illuminate the park and will not interfere with the lighting scheme of The Anzac Memorial. Overall, the proposed lighting and layout of lighting in the vicinity of The Anzac Memorial respects the character and aesthetic significance of Hyde Park and the item. It has been determined to have a neutral heritage impact to item. The increased lighting will also bring about a minor positive impact to the item from its associated security and safety benefits.	Neutral/Minor positive

7.5 Heritage Impacts to Hyde Park

Table 7.2 summarizes the proposed works and provides a discussion of potential heritage impacts.

Table 7.2 Assessment of Heritage Impacts to Hyde Park.

Proposed Works	Discussion of Heritage Impacts	Heritage Impact
Upgrade of lighting with Hyde Park north and south	Overall, the proposed park-wide master plan lighting upgrade respects the historic character and aesthetic significance of Hyde Park. The layout of the park, including the important hierarchy of pathways, dominated by Central Avenue is reinforced through the retention of the c1920 concrete standards with opaque white spherical shades. The lighting technology will be changed to ensure improved environmental performance, but the quality and tone of the light emitted will be similar to the warm tones and lux levels currently within the park. There may be some change to the light and shade on the ground plan along the Central Avenue, however, the rhythm and pattern of the lighting standards will remain consistent. The proposed standard lights that will be upgraded in the quadrants within Hyde Park north and south will be higher than the existing standards. The new higher standards at 7.5m will be finished to be visually recessive. These standards will give rise to a minor visual impact in the night sky above the tree line.	Minor positive

Compliance with Conservation Policy

The table below provides an assessment of the proposal against relevant conservation policy from the 2006 POM.

Table 7.3 Compliance of the Proposal with Relevant Heritage Conservation Policies from the 2006 POM.

Policy No.	Policy	Policy Compliance
1	The future conservation and management of Hyde Park, Sydney, should be in accordance with the principles of the Australia ICOMOS Burra Charter for Places of Cultural Significance (Burra Charter) revised 1999.	Complies.
7	A suitably qualified heritage consultant should be engaged as part of the project team for proposed work requiring consent and be involved from project definition and through the construction phase to ensure the recommendations of the Heritage Review and the Plan of Management are followed if any physical intervention may be necessary.	Complies. GML Heritage was engaged as part of the project team from project definition and provided ongoing iterative heritage advice during design development.

Policy No.	Policy	Policy Compliance
11	Proposed works to the layout, landscaping, monuments or built items requiring consent for Hyde Park, Sydney, should be accompanied by a Statement of Heritage Impact prepared by a qualified heritage consultant and submitted to the relevant consent authorities.	Complies. This HIS addresses the potential heritage impacts of the proposal.
21	The 1927 Amended Assessors' Report shall be adopted as setting the guiding principles for future decisions about the layout, structure and character of Hyde Park.	Complies. The proposed plan integrates the formal design of the park with central pathways
25	Restore/reconstruct original fabric based on accurate documentary and/or physical evidence in accordance with Articles 19 and 20 of the Australia ICOMOS Burra Charter. Reconstructing elements to a known earlier state is acceptable if it is required for conservation; it enhances the significance of the element, does not distort existing evidence and allows interpretation of the change to be read. Reconstruction is not necessarily part of the conservation process, and repair and preservation are to have priority. Any restoration or reconstruction work must be based on properly researched evidence, not conjecture. More flexibility may apply to items of low significance.	Complies. The proposed upgrade will 'reuse' the concrete lighting standards that define and illuminate Hyde Park's Central Avenue
27	Any physical intervention into the external envelope fabric and structural elements of the items of exceptional, high or moderate significance should be based on careful study of the significance of these elements. Permanent, physical impacts on components of exceptional or high significance should be avoided.	Complies. Permanent physical impacts to elements of exceptional or high significance are minor and proposed only after consideration of multiple design options to limit these impacts.
28	New works for introduced elements to the significant buildings, walls and steps within the Park should not attempt to recreate stylistic period details of any other past architectural period. New works should be complementary to, but not compete with, the architectural character and spatial qualities of the retained significant fabric of the significant buildings.	Complies. The proposed lighting scheme will complement the retained significant fabric and landscape setting of the park.
30	New materials, textures details and colours should complement, but not compete with the existing built items.	Complies. The proposed lighting will be consistent in material with the existing park character but would not compete with or replicate existing works.
32	The site is subject to the relics provisions of the NSW Heritage Act 1977. An excavation permit may be required for any work which will result in ground disturbance or uncovering of a potential archaeological resource. Any development proposal involving excavation will need an archaeological	Complies. This report recommends (Section 8.0) that any ground disturbance be undertaken with the appropriate excavation permit in line with

Policy No.	Policy	Policy Compliance
	assessment to determine whether a permit will be required.	the requirements of the Heritage Act.

7.5.1 Impacts to Heritage Items in the vicinity

There are several items of heritage significance within the vicinity of Hyde Park. The following table discusses the potential impacts of the proposed works on the vicinity heritage items. Impacts considered include physical impacts, views and lighting.

Heritage Items	Discussion of Heritage Impacts	Heritage Impact
Mint Building and Hyde Park Barracks Group (SHR 00190 and World Heritage List as part of the Australian Convict listing)	The proposed works involve the retention or relocation of existing lighting and the erection of new lighting to rationalise a cohesive lighting scheme throughout Hyde Park. L1 pole mounted custom heritage sphere luminaire on pile and pad footings and L3 pole mounted multi head spot and flood lights are proposed in northeast corner of Hyde Park, across Prince Albert Road and Macquarie Street from the item grouping. The proposed L1 type, standing at 4.5m will not differ in appearance from existing lighting and will have a neutral impact on setting and views to and from the item. The L3 mast pole type, standing at 7m, has been designed to be inconspicuous, painted in neutral colours and discrete in appearance. The item, being in close proximity to Prince Albert Road and Macquarie Street which have similar tall, pole mounted lighting and traffic lights, there will be no additional adverse impact on the setting of the item. Furthermore, given the physical separation of Prince Albert Road and Macquarie Street between Hyde Park and the vicinity items, it is deemed that there will be no visual impacts. The proposed lighting has been deemed to be of a neutral heritage impact on the significance, settings and views to and from the vicinity item.	Neutral
Sydney Supreme Court House (Old Court House (SHR 00800 and I1739 LEP)	Given the significant distance and separation (St James Road, St James Church and Square) between Hyde Park and the vicinity item, it is deemed that	Neutral

Heritage Items	Discussion of Heritage Impacts	Heritage Impact
	there will be no detrimental visual impacts. The proposed lighting has been deemed to be of a neutral heritage impact on the significance of the vicinity item.	
Australian Museum (SHR 00805)	L1 pole mounted custom heritage sphere luminaire on pile and pad footings and L4 pole mounted multi head spot and flood lights are proposed at Hyde Park, across College Street from the Australian Museum. The proposed L1 type, standing at 4.5m will not differ in appearance from existing lighting and will have a neutral impact on setting and views to and from the item. The L4 mast pole type, standing at 7m, has been designed to be inconspicuous, painted in neutral colours and discrete in appearance. The adjacent section of Hyde Park is well screened from the museum with dense vegetation and a retaining wall. Views to and from the item will be minimal. Given the physical separation of College Street between Hyde Park and the vicinity item, and the existing similar tall, pole mounted lighting and traffic lights, it is deemed that there will be no detrimental visual impacts to the item, its setting and views. The proposed lighting has been deemed to be of a neutral heritage impact on the significance of the vicinity item. Although the new lighting will increase overall light in the park, the lights are directed to illuminate the park and will not interfere with the lighting scheme of the Australian Museum.	Neutral
Great Synagogue (SHR 01710 and I1750 LEP)	L1 pole mounted custom heritage sphere luminaire on pile footings are proposed in the vicinity of the Great Synagogue. Given the physical separation of Elizabeth Street between Hyde Park and the vicinity item, it is deemed that there will be no detrimental visual impacts. The proposed lighting has been deemed to be of a neutral heritage impact on the significance of the vicinity item.	Neutral
Former "Australian Consolidated Press" façade (I1751 LEP)	L1 pole mounted custom heritage sphere luminaire on pile footings are proposed in the vicinity of the Former Australian Consolidated Press façade.	Neutral

Heritage Items	Discussion of Heritage Impacts	Heritage Impact
	Given the physical separation of Elizabeth Street between Hyde Park and the vicinity item, it is deemed that there will be no detrimental visual impacts. The proposed lighting has been deemed to be of a neutral heritage impact on the significance of the vicinity item.	
St Mary's Catholic Cathedral and Chapter House (SHR 01709 and I1951 LEP)	L1 pole mounted custom heritage sphere luminaire on pile and pad footings and L3 pole mounted multi head spot and flood lights are proposed in northeast corner of Hyde Park, across College Street from the item. The proposed L1 type, standing at 4.5m will not differ in appearance from existing lighting and will have a neutral impact on setting and views to and from the item. The L3 mast pole type, standing at 7m, has been designed to be inconspicuous, painted in neutral colours and discrete in appearance. Given the physical separation of College Street between Hyde Park and the vicinity item, and the existing similar tall, pole mounted lighting and traffic lights, it is deemed that there will be no detrimental visual impacts to the item, its setting and views. The proposed lighting has been deemed to be of a neutral heritage impact on the significance of the vicinity item. Although the new lighting will increase overall light in the park, the lights are directed to illuminate the park and will not interfere with the lighting scheme of St Mary's Cathedral.	Neutral
Former tram shelter including interior (I1741 LEP)	L1 pole mounted custom heritage sphere luminaire on pile footings are proposed in the vicinity of the Former tram shelter. The proposed works will involve the relocation of an existing pole to rationalise a cohesive lighting scheme. The proposed lighting type will have no visual change and has been deemed to be of a neutral heritage impact on the significance of the vicinity item and its setting.	Neutral
Frazer Memorial Fountain (I1947 LEP)	L1 pole mounted custom heritage sphere luminaire on pile and pad footings and L3 pole mounted multi head spot and flood lights are proposed in northeast corner of	Neutral

Heritage Items	Discussion of Heritage Impacts	Heritage Impact
	Hyde Park, across Prince Albert Road from the Frazer Memorial Fountain. The proposed L1 type, standing at 4.5m will not differ in appearance from existing lighting and will have a neutral impact on setting and views to and from the item. The L3 mast pole type, standing at 7m, has been designed to be inconspicuous, painted in neutral colours and discrete in appearance. Given the physical separation of Prince Albert and St Mary's Roads between Hyde Park and the vicinity item, it is deemed that there will be no detrimental visual impacts. These have been deemed to be of a neutral heritage impact on the significance of the vicinity item. Although the new lighting will increase overall light in the park, the lights are directed to illuminate the park and will not interfere with the lighting scheme of the Frazer Memorial Fountain.	
Former Registrar Generals Department Building, including interior (I1946 LEP)	L1 pole mounted custom heritage sphere luminaire on pile and pad footings and L3 pole mounted multi head spot and flood lights are proposed in northeast corner of Hyde Park, across Prince Albert Road from the Former Registrar Generals Department Building. The proposed L1 type, standing at 4.5m will not differ in appearance from existing lighting and will have a neutral impact on setting and views to and from the item. The L3 mast pole type, standing at 7m, has been designed to be inconspicuous, painted in neutral colours and discrete in appearance. Given the physical separation of Prince Albert Road between Hyde Park and the vicinity item, it is deemed that there will be no visual impacts. The proposed lighting has been deemed to be of a neutral heritage impact on the significance of the vicinity item Although the new lighting will increase overall light in the park, the lights are directed to illuminate the park and will not interfere with the lighting scheme of the Former Registrar Generals Department Building.	Neutral

7.6 Impacts to the Governors' Domain and Civic Precinct

New lighting will be installed in Hyde Park which is located entirely within the boundaries of the National Heritage Listed 'Governors' Domain and Civic Precinct'. *Under the EPBC Act, 1999*, places listed on the National Heritage List are considered matters of National Environmental Significance (NES) and must be assessed to determine whether proposed actions will give rise to a significant impact.

Relative to the referral guidelines for the Governors' Domain and Civic Precinct the following matters have been considered with regard to the lighting upgrade works:

- The significance of the impact including the scale, intensity, duration and frequency of the action.
- The sensitivity, value, quality and size of the environment the proposed action might impact.
- The nature of the potential impacts that are likely to result from your actions
- Mitigation measures and whether they will avoid or reduce these impacts.

Activity	Potential significant impacts on criterion	Impact Assessment
Criterion A		
Temporary or minor additions to buildings or areas included in the National Heritage values statement that reduce the recognition or appreciation of the values.	For example, art installations and maintenance structures such as scaffolding are not considered likely to have a significant impact provided the intensity, duration and extent of potential impacts are not significant. If one, or more, of these factors are found to be significant these activities might be considered to have a significant impact.	There will be temporary additions within Hyde Park that will be associated with the construction program that are likely to reduce the recognition and appreciation of the values. The proposed duration of the activities will likely be 18-24 months. While this is a considerable timeframe, we note that the construction will not extend across all areas of the park for the entirety of that time. If the construction methodology proposes that large areas of the park are not accessible for the duration of the program, that would be likely to be assessed as a significant impact.
Minor to moderate new garden construction or minor removal and replacement of trees in gardens and parks identified	Minor to moderate degrees of change to these parks or garden features is generally within acceptable levels of change.	The proposed lighting upgrade may necessitate some minor removal or replacement of trees, this will need to be confirmed once the construction program and

Activity	Potential significant impacts on criterion	Impact Assessment
in the National Heritage values statement.		methodology is detailed by the preferred supplier following the response to the EOI. If the change is within acceptable limits, this activity would not be considered as likely to give rise to a significant impact.
Criterion F		
Minor to moderate new garden construction or minor removal and replacement of trees in gardens and parks identified in the National Heritage values statement	Minor to moderate degrees of change to these parks or garden features is generally within acceptable levels of change.	The proposed lighting upgrade may necessitate some minor removal or replacement of trees, this will need to be confirmed once the construction program and methodology is detailed by the preferred supplier following the response to the EOI. If the change is within acceptable limits, this activity would not be considered as likely to give rise to a significant impact.
Demolition of, or a high degree of development encroachment on, a garden or park identified in the National Heritage values statement	The continued use of the open spaces as open space is identified in the National Heritage values statement as significant under criterion (a), (f) and (h) for retaining an on-going distinctive urban experience within the city of Sydney. Impact assessment is likely to focus on cumulative impact and the ability to read the distinction between urban space and green space within the precinct.	The proposed lighting upgrade will reinforce and enhance the continued use of the open space as open space. The proposed activity would not be considered as likely to give rise to a significant impact.
Development that reduces the axial lines through Hyde Park and along Macquarie and Bridge Streets	The axial lines identified in the National Heritage values Statement are significant as a unifying element in a city which lacks regular rigid geometry.	The proposed lighting upgrade will reinforce the axial lines identified in the National Heritage values. The proposed activity would not be considered as likely to give rise to a significant impact.
Criterion H		
Minor to moderate new garden construction or minor removal and replacement of trees in gardens and parks identified	Minor to moderate degrees of change to these parks or garden features is generally within acceptable levels of change.	The proposed lighting upgrade may necessitate some minor removal or replacement of trees, this will need to be confirmed once

Activity	Potential significant impacts on criterion	Impact Assessment
in the National Heritage values statement		the construction program and methodology is detailed by the preferred supplier following the response to the EOI. If the change is within acceptable limits, this activity would not be considered as likely to give rise to a significant impact.
Demolition of, or a high degree of development encroachment on, a garden or park identified in the National Heritage values statement	The continued use of the open spaces as open space is identified in the National Heritage values statement as significant under criterion (a), (f) and (h) for retaining an on-going distinctive urban experience within the city of Sydney. Impact assessment is likely to focus on cumulative impact and the ability to read the distinction between urban space and green space within the precinct.	The proposed lighting upgrade works will not diminish the ability to read the distinction between urban and green space. The proposed activity would not be considered likely to give rise to a significant impact.

The new master plan lighting upgrade works proposed within Hyde Park is a proposed action that will be contained within one of the significant heritage places within the broader nationally listed precinct. The sensitivity, value and scale of the environment is exceptional. The park is one of Sydney's most important historic open spaces. The sensitivity of the park environment varies, and there are a range of features and elements within the park that contribute to the place's significance.

Overall, the lighting upgrade has been designed to maintain the significant values of the environment. Further, the works seek to enhance the environmental values of the place through sensitive design responses that have been subject to considerable iterative review and advice to ensure that existing historic fabric is retained.

The installation of new conduit and the associated trenching is proposed. This work is necessary to upgrade the electrical services in throughout the park and to comply with contemporary standards. The potential impacts of this proposed action have been subject to advice and review throughout the design process and this has to a significant degree mitigated the likelihood of impacts to archaeology, which are not values that are described in the national listing.

While the scale of the action is significant given the upgrade works are park-wide, relative to the entirety of the broader National Heritage listed area the scale is acceptable. The intensity, duration and frequency of the proposed action varies

contingent on the range of activities planned as part of the program of works. Impacts associated with the proposed work will be dependent on the type of activity. During construction, there will be likely to be visual impacts as well as acoustic impacts on associated with trenching and construction.

Overall, at 95% the proposed lighting upgrade works have been objectively considered as part of this self-assessment. The works are not considered to as likely to give rise to a significant impact which would trigger a referral to the Minister for the Environment, however, this may be subject to change following the development of the detailed construction program and methodology.

7.7 Archaeological Impacts

The proposed works will require some ground disturbance as drawings provided in Section 6 above indicate. Figure 7.1 and 7.2 plans of Hyde Park north and south show the proposed trenching locations for in-ground services for the lighting design, CCTV security and refreshed landscape works. These locations are overlaid on the areas of archaeological potential identified in the 2014 AMP for the site and updated more recently, to indicate where the proposed works have potential to impact buried archaeological remains.

7.7.1 Impacts to Aboriginal Archaeology

Bulk excavation for the construction of the City Railway between 1918 and 1922 would have resulted in the complete removal of Aboriginal archaeological deposits within that part of the study area. As such the study area has little or no potential for Aboriginal 'objects', as defined by the National Parks and Wildlife Act 1974 (NSW) (NPW Act).[1]

Given the heavily disturbed nature of Hyde Park, and the results of environmental investigations undertaken since the 2014 AMP, the proposed works are unlikely to impact on any known Aboriginal archaeological resource within Hyde Park. If Aboriginal objects should unexpectedly be discovered, they are likely to represent isolated or low-density stone artefacts in completely disturbed contexts.

Recommended Mitigation Measures

- In areas designated as having nil to low archaeological potential, no further Aboriginal archaeological input is required.
- If any unexpected archaeological evidence relating to Aboriginal occupation of the site is discovered all activity should cease in the affected area and the nominated archaeologist should also be notified to advise on required action and whether Heritage NSW is to be notified and consulted for further direction. Depending on the

nature of the resource and the potential impacts, further assessment and investigation may be required.

7.7.2 Impacts to Historical Archaeology

The following proposed works have potential to impact on the historical archaeological resource where this has been identified as having potential to survive (refer to Figure 7.1 and 7.2 and Table 7.4 below):

- erection of new CCTV cameras and installation of conduits (based on existing design for 4 x 100mm diameter conduits to the breakout pits, the trench will need to be min 350mm wide x 900mm deep); and
- to each gooseneck pole there will be 2 x 50mm comms conduits and 2 x 10mm conduits in 600mm wide x 850mm deep trenches.
- electrical and shared electrical and ICT conduit trenches with power and lighting pit dimensions ranging between 511 x 511mm, 663 x 663mm and 990 x 990mm;
- 73 conduit services: 51 using open trench excavation, nine using under boring (13 having no impact as using existing trenches);
- new communications pits (600mm x 600mm);
- new communications conduit pathways (2 or 4 x 100mm diameter HD UPCV conduit);
- new communications conduit pathway (2 x 50mm diameter HD UPVC conduit);
- lighting poles with a foundation cage set into a concrete footing (1800mm x 600mm and 1000mm and 1500 x 1500mm wide);
- in-ground up-light footings (two types: 3 x 350mm wide x 350mm long x 350mm deep and 2 x 400mm wide x 400mm long x 400mm deep);
- 14 off-event power bollards and electrical cabling (footings for event bollards are yet to be finalised. Estimated dimensions c1000mm wide x 1000mm deep); and
- any new trenching associated with the introduction of services.

The study area has a range of low, moderate and high potential for historical archaeological 'relics' associated with the development of paths and gardens post-dating 1926. Archaeological features and deposits associated with park landscaping implemented following the plans of Norman Weekes and Bruce Dellit (between 1926 and 1935) have the potential to be of state significance, depending on their nature and extent.[2] Several other archaeological features also have state significance potential including the now demolished British Centre and an air raid shelter both built during World War II. Fabric from the original nineteenth century park boundary dwarf wall on College Street remains visible in the existing College Street alignment, having been re-used for kerbing, complete with original fence holes.

Sections of State Heritage Registered Busby's Bore (SHR 00568) and the Bondi Ocean Outfall (SHR 01623) are located within the study area.

The proposed works involve limited ground disturbance associated with minor level changes. Most of the proposed works are likely to result in minor, localised impacts on historical archaeological 'relics' (if present), as defined by the Heritage Act.

Where significant impacts arising from the proposed works outlined above are associated with substantial ground disturbances, these must be archaeologically mitigated.

Table 7.4 Assessment of archaeological impacts to items of Moderate to High archaeological potential to survive within Hyde Park.

Archaeological Item	Discussion of Archaeological Impacts	Archaeological Impact
Kerbing (former dwarf wall for palisade fence) on College Street (presently visible)	No proposed works in this area	Neutral
A Remnant footings, services etc from the Kiosk/Council Building (demolished 1954)	Archaeological Monitoring for inground service conduit trenching	Minor Adverse
B Historic public toilets on the corner of Park and Elizabeth Streets (Hyde Park North)	Archaeological Monitoring for inground service conduit trenching, new cable pits	Minor Adverse
C Remnant footings, services etc from the World War II British Centre	No proposed works in this area	Neutral
D Remnant footings, services etc from the 1955 Long Day Child Care Centre (demolished 1991)	Archaeological Monitoring for inground service conduit trenching, light pole footings and new Main Switchboard (MSB-8)	Minor Adverse
E World War II Air Raid Shelter	Archaeological Monitoring for service conduit trenching	Minor Adverse
F Busby's Bore	Archaeological Monitoring for various inground service conduit trenching, new cable pits, light pole footings, cctv/security pits	Minor Adverse/Neutral
G Northern Main Branch of the Bondi Ocean Outfall System	Archaeological Monitoring for inground service conduit trenching, new cable pits, light pole footings	Minor Adverse/Neutral
Evidence of changing ground levels, especially on College Street	Archaeological Monitoring for inground service conduit trenching, new cable pits, light pole footings and cctv/security pits, conduit trenching and footings	Minor Adverse
Scattered evidence of various services (electricity, water, telecommunications etc)	Archaeological Monitoring for various inground service conduit trenching, new cable pits, light pole footings, cctv/security pits and conduit trenching and footings	Minor Adverse
Scattered evidence of paths and garden development, especially since construction of the rail tunnels	Archaeological Monitoring for various inground service conduit trenching, new cable pits, light pole footings, cctv/security pits, conduit trenching and footings and new Main Switchboard	Minor Adverse

Recommended Mitigation Measures

Given the assessed state significance of potential historical archaeological relics in the vicinity of proposed works, a suitably qualified archaeologist should be on site during any ground disturbance works in areas of the park that have been identified as having historical archaeological potential to mitigate any known and potential impacts to the site's historical archaeological resource.

A program of monitoring and recording should be undertaken during ground disturbance works to ensure that historical relics are not disturbed.

Should any unexpected archaeological remains be identified during the works program, all activity should cease in the affected area and the nominated archaeologist notified to advise on required action and whether the Heritage NSW is to be notified and consulted for further direction. Depending on the nature of the resource and the potential impacts, further assessment and investigation may be required.

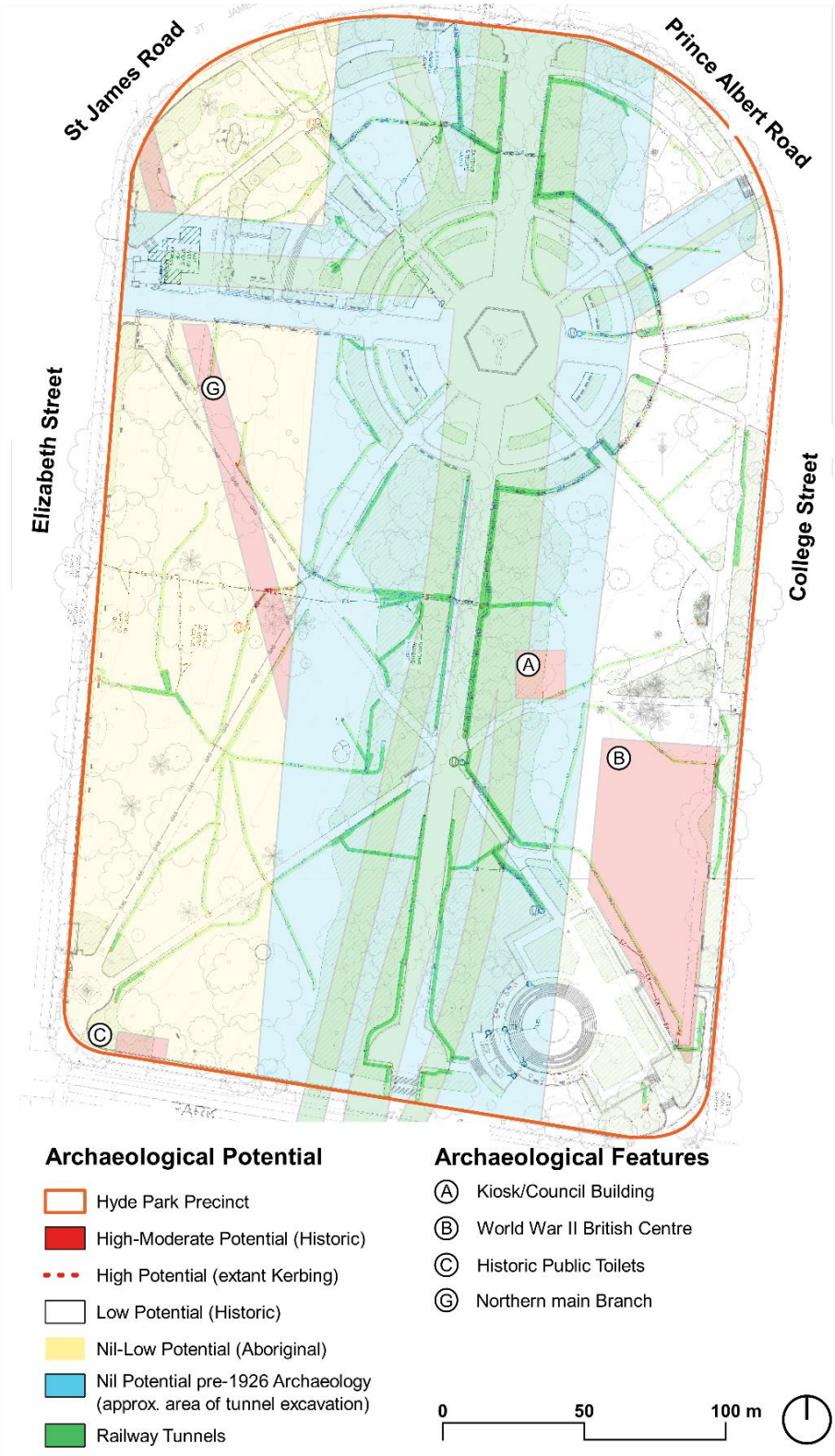


Figure 7.1 Hyde Park north section indicating areas of archaeological potential and proposed in-ground excavation for lighting, CCTV/security and landscaping. (Source: AECOM March 2023 drawing details with GML overlay 2023)

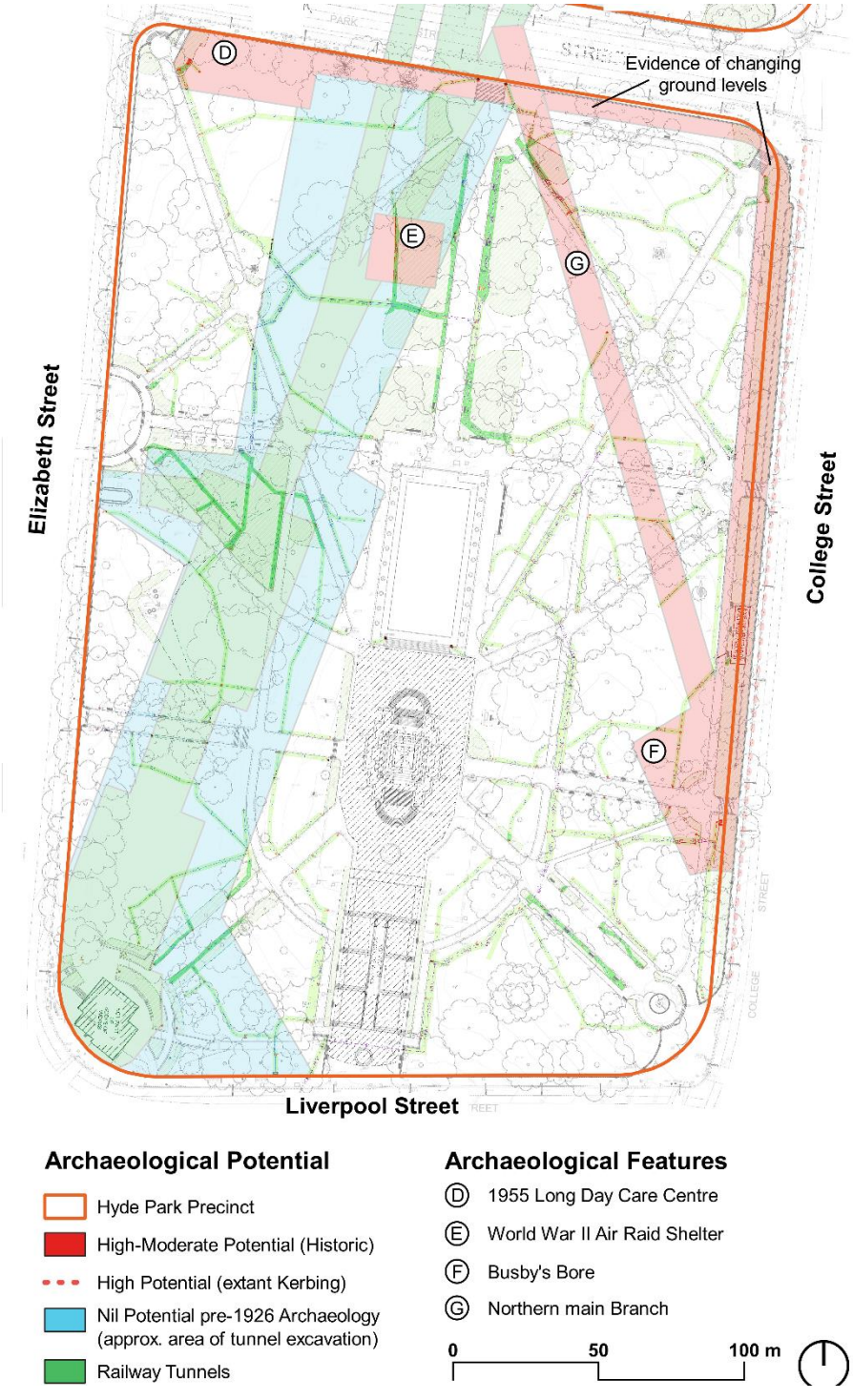


Figure 7.2 Hyde Park south section indicating areas of archaeological potential and proposed in-ground excavation for lighting, CCTV/security and landscaping. (Source: AECOM March 2023 drawing details with GML overlay 2023)

7.8 Endnotes

[1] GML Heritage, Hyde Park Archaeological Management Plan, report prepared for the City of Sydney, December 2014, pp 41–42, 45.

[2] GML Heritage, Hyde Park Archaeological Management Plan, report prepared for the City of Sydney, December 2014, p 55.

8 Conclusions and Recommendations

8.1 Conclusions

Hyde Park is one of Sydney's most important historic open spaces which includes a range of features and elements that contribute to the place's heritage values and significance. The park's importance is reflected in its statutory heritage listings at National, State and local levels. Furthermore, within the park, and along the streets that border it, there are several heritage listed items.

The proposed design and works for the Hyde Park lighting upgrade have been subject to heritage advice and review throughout the documentation process to 95%. To a fair extent iterative heritage advice has mitigated the likelihood of adverse or significant impacts arising. Yet noting the sensitivity, value, quality and size of the park, and that the proposed work is park-wide in scale, the precautionary principle has been applied as there remains a degree of uncertainty associated with the construction methodology and works.

Hyde Park is within the National Heritage Listed, 'Governors' Domain and Civic Precinct'. Hyde Park is also within the management zone associated with Hyde Park Barracks, a World Heritage inscribed property that is part of the Australian Convict Sites. Works or activities within the park are therefore subject to the provisions of the *EPBC Act, 1999*. Accordingly, the likely and potential impacts associated with the proposed lighting upgrade works have been self-assessed subject to the Australian and State governments' assessment Bilateral agreement. The self-assessment has been guided by the *Significant Impact Guidelines 1.1 Matters of National Environmental Significance* and the referral guidelines prepared specifically for the Governors' Domain and Civic Precinct.

Regarding the self-assessment of the potential impacts on the Governors' Domain and Civic Precinct, and the management zone associated with Hyde Park Barracks, it is determined in this HIS that the intensity, duration and frequency of the proposed activities and impacts will vary contingent on the location, range and type of activities planned during the different stages of the program of works.

The installation of services, including new conduit and the associated trenching is proposed. This work is necessary to upgrade the electrical services in throughout the park and to comply with contemporary standards. There will be temporary acoustic and visual impacts during construction. Public access to the park and its significant values will also be limited in various areas at particular times during construction. There will be ground disturbance related to trenching and construction of pits the program and methodology for which is still to be detailed. There may be impacts on significant vegetation, including mature cultural plantings but such impacts may be able to be

mitigated if excavation activities are able to be relocated away from root zones for example.

This HIS finds that the proposed services and lighting upgrade works are broadly consistent with the park wide strategies identified in the statutory Plan of Management for Hyde Park. At 95% the works are assessed to give rise to a likely moderate impact on heritage values during the construction program, and following completion a minor positive impact on the heritage significance of Hyde Park, and the State Heritage Register and locally listed heritage items located within the park. There will be no impact on the significance on State or locally listed heritage items in the vicinity.

We note that this assessed level of heritage impact may be subject to change once the construction program and methodology has been detailed by a preferred supplier and if proposed impacts cannot be modified or mitigated. Further review and assessment of potential heritage impacts is recommended. This should be undertaken when the City of Sydney has selected a preferred supplier for the construction of the lighting upgrade works. This will ensure that any additional potential impacts that may arise from the construction program and proposed methodology can be mitigated prior to the commencement of works.

Overall, the lighting upgrade has been designed to maintain the significant heritage values associated with Hyde Park. Further, the works seek to enhance the heritage values of the place through a sensitive design response that has been subject to considerable iterative review and advice to ensure that significance is conserved and protected.

8.1.1 Aboriginal Archaeology

The proposed works are considered unlikely to have the potential to impact on Aboriginal archaeological remains.

8.1.2 Historical Archaeology

This HIS report draws on and expands upon the finding of the Archaeological Management Plan (AMP) prepared by GML in 2014 to inform the refinement of the Hyde Park Management Plan of Management (PoM 2006). This report is also informed by the results of archaeological and palaeoenvironmental sediment assessment undertaken in 2022 and the 2021 AECOM Geotechnical report (Appendix A & B).

Hyde Park is listed on the State Heritage Register for its landscaping, historical and cultural values. It contains several individual items from the various phases of the site's historic occupation and use which are also listed as State significant items.

Hyde Park has potential to contain archaeological remains associated with various development phases of the site including European occupation from the early days of the colony and the development and occupation of the park from the early eighteenth century through to the twentieth century, including World War II activities.

The nature and extent of the proposed subsurface works for the Hyde Park lighting upgrade project are varied. Overall, the works in the 95% design documentation are assessed as having a low potential to impact on historical archaeological relics across most of the site. However, alteration to ground disturbance associated with the proposed works documented in the provided AECOM drawings may give rise to potential impacts on historical relics. This is particularly so where works await arborist and/or other specialist input to confirm locations and depths of excavation for various services and plantings, as indicated in the proposed AECOM drawings and works scope.

Despite the assessed low-level likelihood of survival of some of the potential historical archaeological remains, their significance (if found to be intact) would be at the State and local levels.

An approval under Section 60 of the Heritage Act would be required to undertake proposed redevelopment works that would impact on areas and items of known archaeological potential and of State significance, following a consultation with the project archaeologist.

8.1.3 Landscape and Built Heritage

Generally, the lighting upgrade works proposed for implementation have been designed to enhance the lighting and appreciation of the heritage values within Hyde Park.

The proposed lighting upgrade realises and reinforces the formal geometric hierarchy associated with the pathway pattern of Hyde Park, as well as aspects of the original design intent of Norman Weekes' c1932 plan for Hyde Park. It also respects the lighting design associated with the 1930s lighting scheme along the central avenue.

With regard to the listed heritage items and other notable features within Hyde Park, the proposed lighting upgrade has been assessed as likely to give rise to a moderate adverse degree of impact during the construction program. Following the completion of the lighting upgrade works, overall the works are assessed to give rise to a positive heritage impact due to the consistent levels of luminosity which will enhance the presentation of the values and significance associated with the heritage items and other historic park features.

In terms of significant landscape plantings in the park, the excavation associated with services trenching and pits may give rise to impacts. This is particularly so where the proposed works await arborist and/or other specialist input to confirm locations and

depths of excavation for various services and plantings, as indicated in the proposed AECOM drawings and works scope.

8.2 Recommendations

The following recommendations are made regarding the proposed works associated with the Hyde Park lighting upgrade project.

8.2.1 Aboriginal Archaeology

- CoS is engaged in ongoing consultation with First Nations representatives and communities.
- COS sought project pre-lodgement advice from Heritage NSW in 2020 noting that Aboriginal historical and other cultural values are attached to Hyde Park. GML understand that further work related to the management of park's Aboriginal cultural values will be integrated into the Plan of Management planning process.
- COS will notify MLALC of the current design and documentation for the Hyde Park lighting upgrade works.
- In areas designated as retaining nil to low archaeological potential, no further Aboriginal archaeological input is required.
- In the unlikely event that archaeological evidence relating to Aboriginal occupation of the site is discovered the following Aboriginal unexpected finds protocol should be enacted:
  - All the works in the affected area must stop and Heritage NSW must be notified immediately in accordance with Section 89a of the National Parks and Wildlife Act, 1974 (NSW). Aboriginal stakeholders should also be notified at this stage. An archaeologist experienced in the identification of Aboriginal cultural material should inspect the suspected Aboriginal objects to make a positive identification.
  - If the suspected items are not Aboriginal in origin or manufacture (as defined under the NPW Act), the location and items should be recorded. Works may continue.
  - If the objects are confirmed to be Aboriginal objects, the site should be registered as soon as practicable on the Aboriginal Heritage Information Management System (AHIMS) administered by Heritage NSW.
  - If the suspected items are Aboriginal objects, then an AHIP under Section 90 of the NPW Act would be required before works can continue in the area of the identified objects. The extent of any works exclusion zone would need to be determined through discussion with Heritage NSW and Aboriginal community representatives.

- In the unlikely event that human remains were to be discovered at any time during the works, works must cease immediately in the surrounding area. The findings would need to be reported immediately to the New South Wales Coroner's Office and/or the New South Wales Police.

8.2.2 Historical Archaeology

The proposed scope of works indicates that archaeological remains of known and potential state heritage significance may be impacted during the lighting upgrade works program. As finalised lighting and other services locations will be subject to review by arborist and other specialists, these will also require heritage review at 100% design stage to confirm locations and depths of excavation for various services and plantings.

- Prior to works commencing, an application under Section 60 of the Heritage Act should be prepared and submitted to the Heritage NSW (as delegate of the NSW Heritage Council) for the proposed works.
- This HIS should be submitted as part of the Section 60 application. The application will also require preparation of an Archaeological Research Design (ARD) that includes a methodology outlining how the proposed works will be archaeologically mitigated.
- The archaeological works should be undertaken in accordance with the archaeological methodology provided in the Archaeological Research Design (ARD) report and any Section 60 permit conditions.
- An approved program of archaeological monitoring needs to be undertaken by an appropriately qualified archaeologist. The archaeological works should be coordinated with the various proposed lighting design works program components.
- No excavation or ground disturbance of the subject site can be undertaken prior to the issuing of a Section 60 permit. Heritage NSW is required to assess the application. The statutory timeframe for processing is 40 days from the receipt of a complete application. In the event that further information is requested by the consent authority the clock stops, and the processing period is reset once the application is deemed complete.
- Prior to the site works commencing, all relevant on-site personnel should attend a heritage site induction to ensure that all personnel/contractors are aware of both their obligations under the *Heritage Act, 1977* and of the role of the archaeologist(s) on site.
- Works proposed in locations where known State significant items are located (such as Busby Bore) and where potential state significant relics may survive (significant pathways, World War II structural remains etc) will require that archaeological monitoring is co-ordinated with the works program to minimise subsurface impacts and to record any exposed remains.
- If legible and significant archaeological remains of State significance survive within the site, the Heritage Council of NSW may require these to be retained in situ. Where

it is agreed this is not possible, appropriate mitigation strategies would need to be implemented which may include display, signage or other forms of interpretive material.

- The results of any archaeological investigation at the site should inform interpretive initiatives, where relevant. Opportunities to use investigation results as well as the fabric and artefacts exposed or recovered during the test excavation should be pursued as part of the site presentation and interpretation.

8.2.3 Landscape and Built Heritage

- The proposed works have been planned with iterative heritage advice and are generally acceptable.
- Impacts associated with construction program and works have not been subject to detailed heritage impact assessment. This is because at the time of writing the construction program and methodology had not been determined and will be subject to a future EOI to be prepared by the City of Sydney for construction.
- Once the preferred supplier for the construction of the lighting upgrade is known by the City of Sydney, the proposed construction program and methodology should be subject to review and advice by a suitably qualified heritage professional.
- Prior to works commencing, an application under Section 60 of the Heritage Act should be prepared and submitted to the Heritage NSW (as delegate of the NSW Heritage Council) for permission to carry out development within the SHR curtilage of Hyde Park. This HIS should be submitted as part of the application.
- Works should be carried out in accordance with the conditions of the Section 63 Approval issued for the study area.

9 Appendices

Appendix A

Hyde Park: Lighting Design Geotechnical Investigations Geotechnical Factual and Interpretive Report, Report Prepared by AECOM for City of Sydney, February 2021

AECOM Imagine it. Delivered.

Hyde Park: Lighting Design Geotechnical Investigations

Geotechnical Factual and Interpretive Report

Hyde Park: Lighting Design Geotechnical Investigations

Geotechnical Factual and Interpretive Report

Client: City Of Sydney

ABN: 22636550790

Prepared by

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8/02/2021

Job No.: 60613074

AECOM in Australia and New Zealand is certified to ISO9001, ISO14001 AS/NZS4801 and OHSAS18001.

Quality Information

Document	Hyde Park: Lighting Design Geotechnical Investigations
Ref	60613074
Date	8-Feb-2021
Prepared by	Shenyan Yao / Nigel Baker
Reviewed by	Peter Waddell

Revision History

Rev	Revision Date	Details	Authorised	
			Name/Position	Signature
0	16-Nov-2020	For Review	Maryam Akbarian	
Final	8-Feb-2021	Final	Maryam Akbarian	

Table of Contents

1.0 Introduction

AECOM Australia Pty Ltd (AECOM) was commissioned by City of Sydney Council to undertake a geotechnical investigation to support lighting pole foundation design at Hyde Park. The proposed works include a major lighting and power upgrade to both Hyde Park North and South.

The objectives of the investigation were to:

- Assess subsurface conditions based on published data and fieldwork
- Develop geotechnical models and provide recommendations on suitable foundation types and foundation design parameters.

2.0 Scope of investigations

2.1 Desktop Study

2.1.1 Published Data

Information on geology and soil conditions was obtained from published geological and soil landscape mapping. The following were used:

- Sydney 1:100,000 Geological Sheet (Sheet 9130)
- Sydney 1:100,000 Soil Landscape sheet.

2.2 Field Work

Information on subsurface conditions at across Hyde Park were obtained by drilling 6 boreholes using a hand auger and carrying out 21 Dynamic Cone Penetrometer (DCP) tests.

Service locating was undertaken at test locations was carried out on 2 November 2020 by VAC Group using Electromagnetic Induction (EMI) and Ground Penetrating Radar (GPR) to confirm the absence of services.

Hand augering borehole drilling and Dynamic Cone Penetration (DCP) testing were carried out by two AECOM geotechnical engineers on 3 November 2020. Test locations were positioned by measuring from site features. Coordinates of the test locations were determined by handheld GPS unit to an accuracy of +/- 5 m. DCP testing locations are shown relative to the site features in Section 3.2.1

After drilling, the boreholes were backfilled with spoil to surface level.

Logging was conducted in accordance was AS1726-2017. Borehole logs are presented in Appendix A together with explanation sheets.

3.0 Results of Investigation

3.1 Desktop Study

3.1.1 Site Location

The Hyde Park site is located in Sydney central business district (CBD) and is bounded west by Elizabeth Street, east by College Street, north by St. James Road and Prince Albert Road and on the south by Liverpool Street. The site locality map is shown in Figure 1.

Figure 1: Site Locality Plan

3.1.2 Regional Geology

The Sydney 1:100 000 Geological Series Sheet indicates the Site locality is predominantly underlain by Wianamatta Group Ashfield Shale (Rwa), comprising black to dark grey shale and laminite. The underlying bedrock is Hawkesbury Sandstone (Rh) described as medium to coarse grained quartz sandstone, very minor shale and laminite lenses. In this area of Sydney there can be an intermediate unit between the Ashfield Shale and Hawkesbury Sandstone, known as the Mittagong Formation (Rm), described as interbedded shale, laminate and medium-grained quartz sandstone

An extract of the geology sheet is shown in Figure 2 with the approximate site extents indicated in red outline.

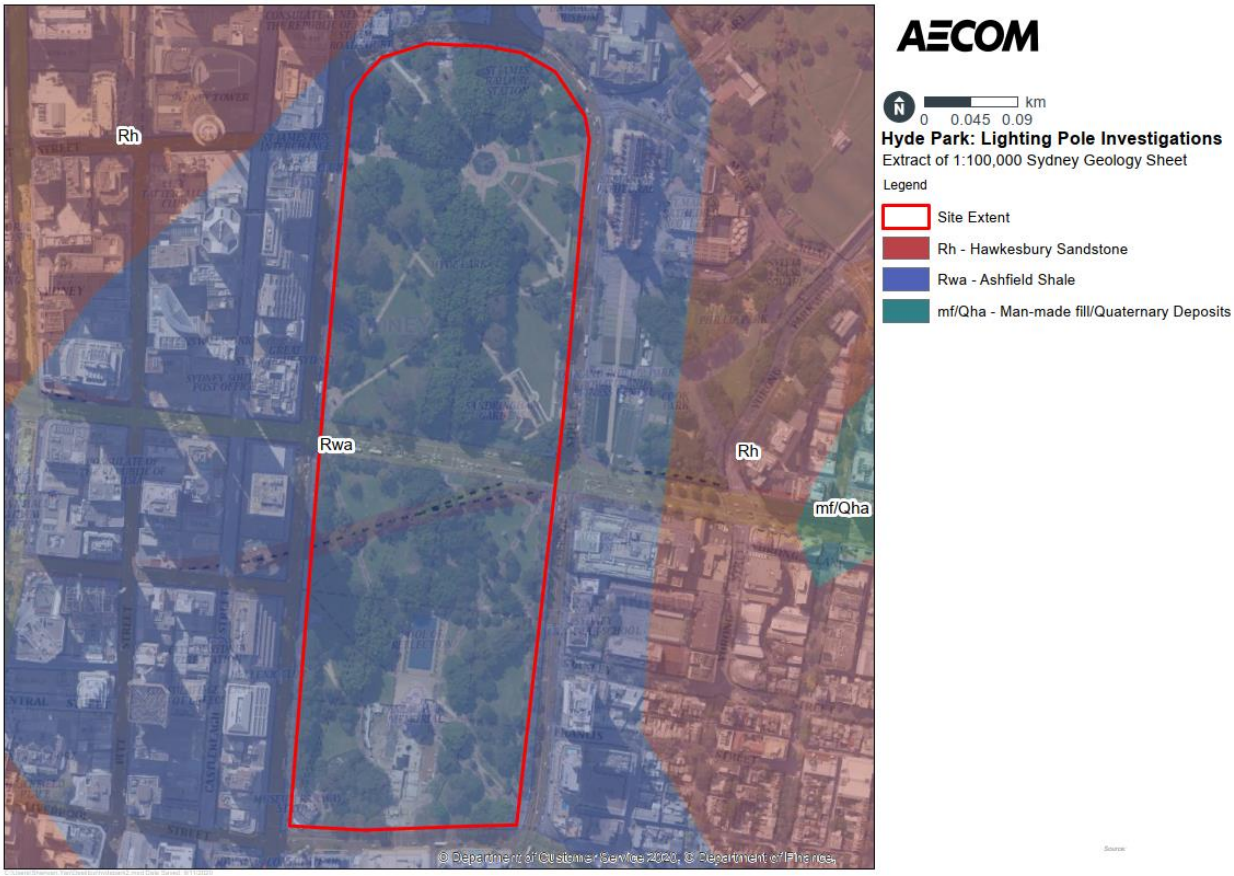

Figure 2: Extract from Sydney 1:100,000 Geological Sheet

3.1.3 Soil Landscape

The 1:100,000 Sydney Soil Landscapes map indicates that the site is underlain mainly by the Lucas Heights and Gymea soil landscapes.

The Lucas Height soil landscape comprises gently undulating crests and ridges on plateau surfaces of the Mittagong formation. Limitations include stony soil, low soil fertility and low available water capacity.

The Gymea soil landscape comprises undulating to rolling rises and low hills on Hawkesbury Sandstone. Limitations include localised steep slopes, high soil erosion hazard, rock outcrop, shallow highly permeable soil and very low soil fertility.

An extract of the 1:100,000 Sydney Soil Landscapes Series Sheet is presented in Figure 3. The general site locality has been extensive disturbed and there may be little of the original soil landscape character remaining.

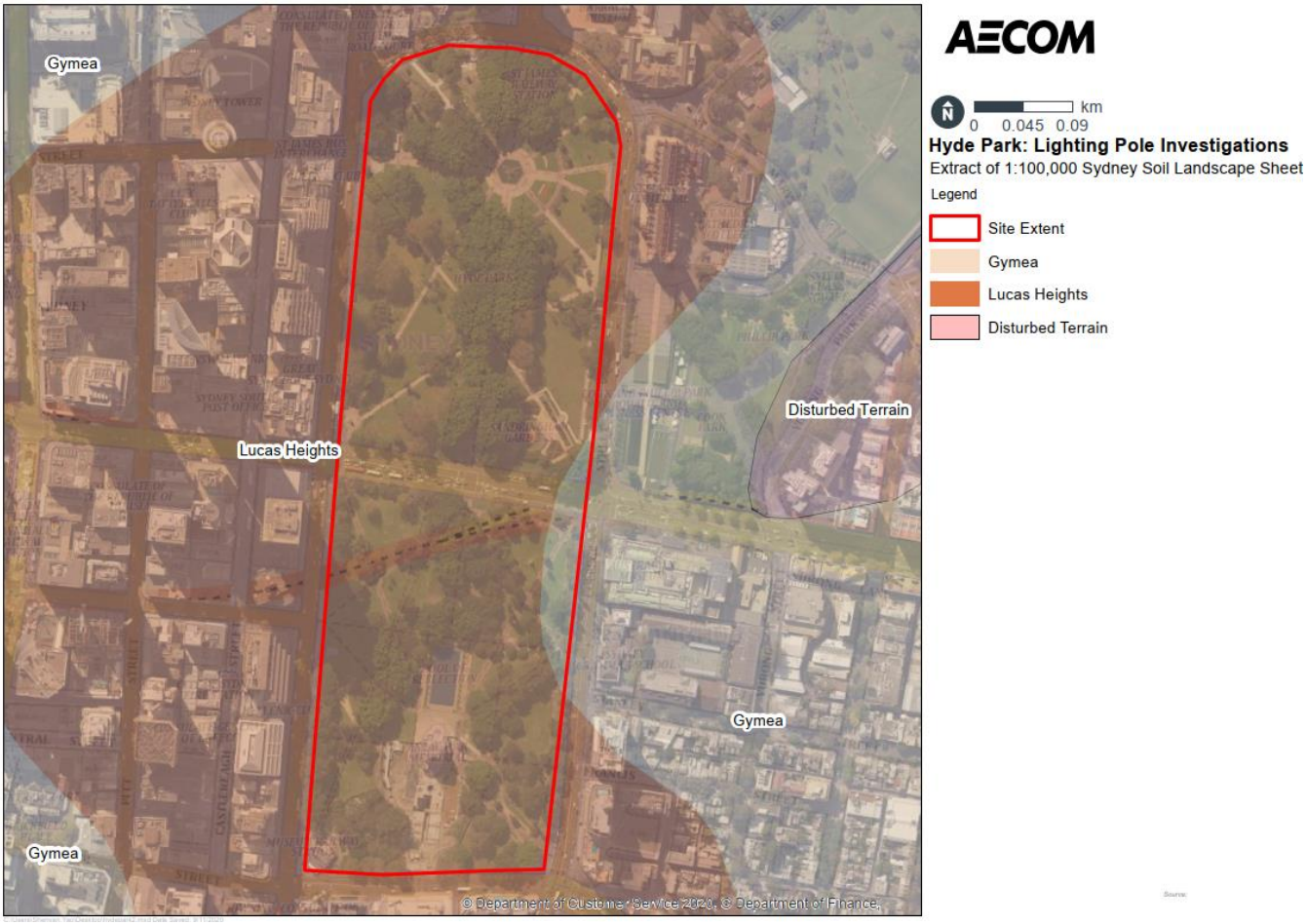

Figure 3: Extract from Sydney 1:100,000 Soil Landscape Sheet

3.2 Fieldwork

3.2.1 Investigation Locations

Investigation locations and termination depths are summarised in Table 1. The locations of the boreholes and DCPs are included in Table 1 and presented in Figure 4.

Table 1 | Summary of investigation locations

Investigation ID	Easting	Northing	Termination Depth (m)
DCP01/HA01	334557.24	6250806.11	2.35
DCP02	334622.60	6250802.47	1.25
DCP03/HA03	334682.00	6250771.00	2.58
DCP04	334669.00	6250743.00	2.05
DCP05	334550.25	6250693.08	2.50
DCP06	334617.00	6250656.00	1.65
DCP07	334688.66	6250616.03	0.90
DCP08	334540.50	6250615.19	0.45
DCP09	334594.85	6250590.38	1.85
DCP10	334623.39	6250526.37	1.95

DCP11/HA11	334534.36	6250471.03	2.50
DCP12/HA12	334661.36	6250437.02	0.85
DCP13	334456.13	6250355.47	2.50
DCP14	334567.47	6250348.43	2.25
DCP15	334639.67	6250305.41	2.13
DCP16	334475.64	6250267.35	1.70
DCP17	334502.70	6250208.35	1.23
DCP18	334602.28	6250200.51	0.83
DCP19/HA19	334440.60	6250168.75	2.03
DCP20	334488.21	6250092.24	2.15
DCP21/HA21	334605.16	6250093.78	1.04

Figure 4| Locations of DCPs

3.2.2 Interpreted Ground Models

The boreholes indicate Topsoil, overlying Fill and Residual Soils. The fill is described as Silty Sands and Clays and the Residual soils as Clays and Silty Clays. Hand auger refusal depths may have occurred on obstructions such as boulders in Fill and should not be used as a definitive indication that Bedrock is at a particular level.

The DCP results indicate that there is typically a layer of relatively, loose/soft to firm material overlying stiffer material. Figure 1 indicated the starting depth where stiff or better materials are encountered at

each DCP location. The results have been considered to classify the site into two ground models for design of light pole foundations.

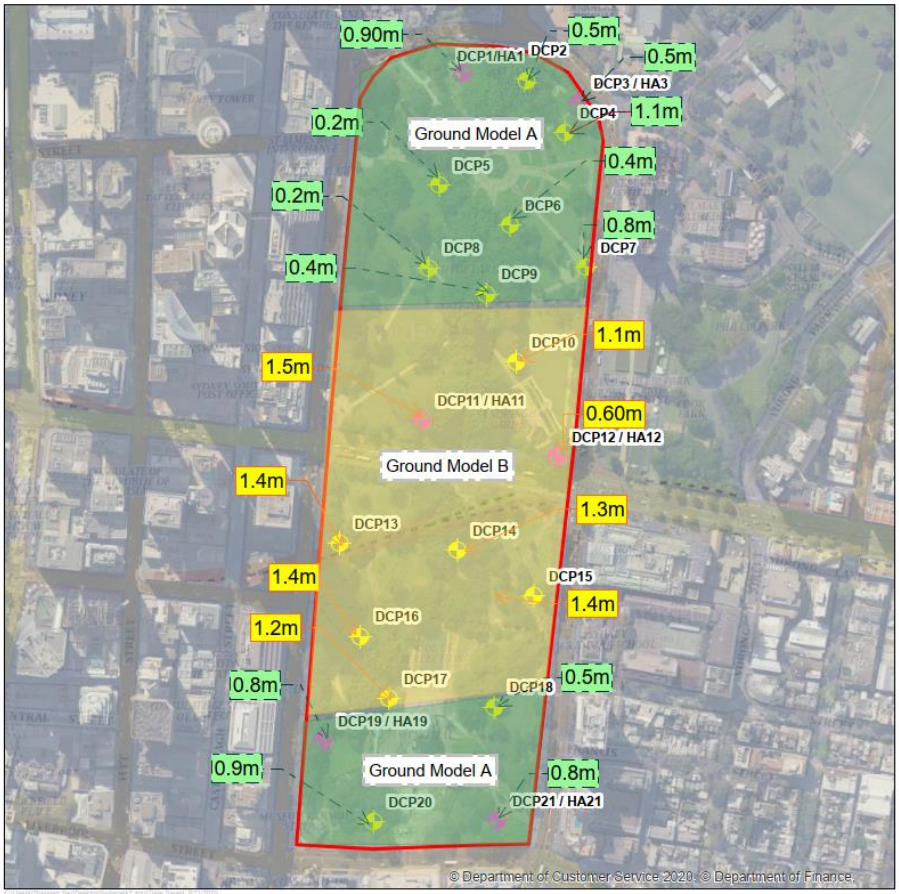

Figure 5: Ground Model areas

3.2.2.1 Ground Model A

DCP results for Ground Model A are presented in Figure 6. The results generally indicate stiff or better materials below 0.9 m depth. A summary of ground profiles for Ground Model A is presented in Table 2.

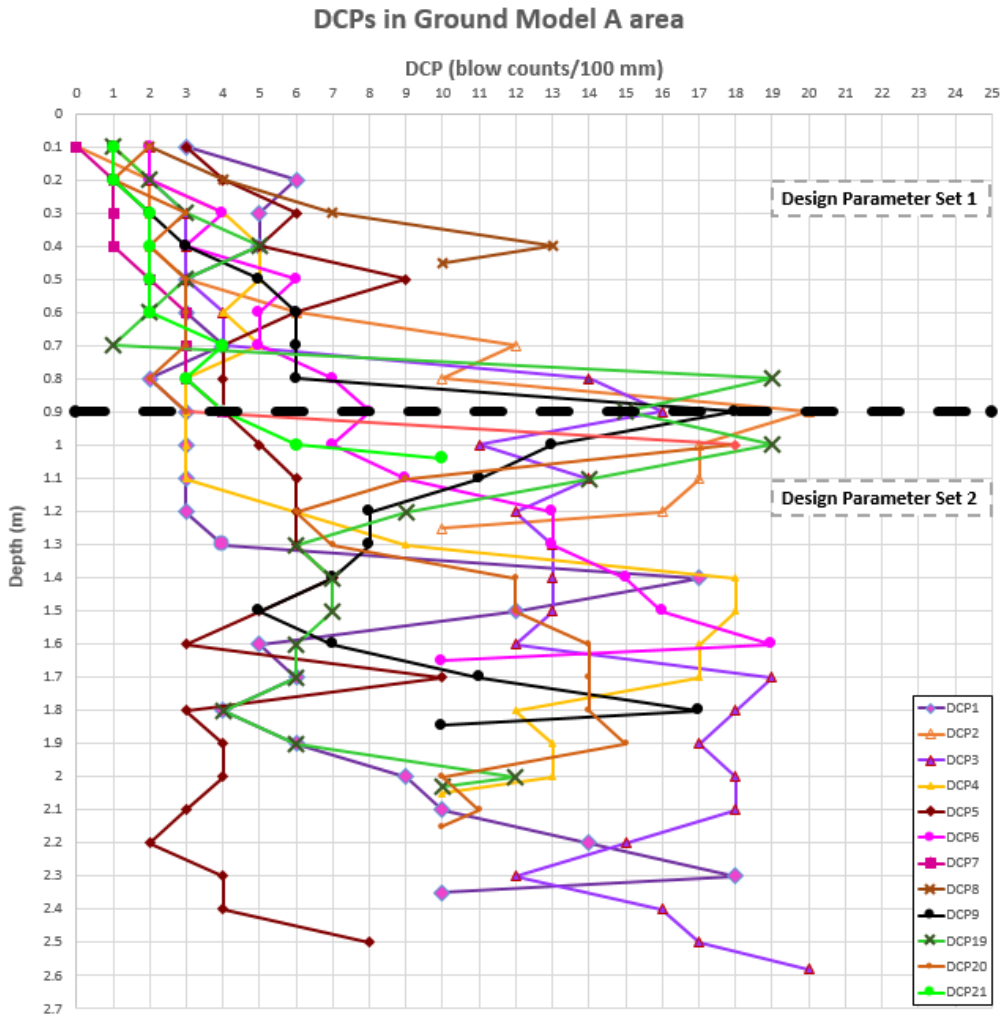

Figure 6: DCPs in Ground Model A

Table 2: Ground Model A

Material	Unit Top Depth (m)	Unit Thickness Depth (m)	Hand auger borehole information
Topsoil	0	0.3 to 0.5	Clayey Sand (HA1), Sandy Silt (HA3, HA21), Sandy Clay (HA19)
Soft to Firm Material	0.3 to 0.5	0.4 to 0.6	Sand (HA1), Silty Clay (HA3, HA21), Clayey Sand (HA19)
Stiff or better material	0.9	Greater than 2.3	Silty Clay (HA1)

3.2.2.2 Ground Model B

DCP results for Ground Model B are presented in Figure 7. The results generally indicate stiff or better materials below 1.5 m depth. A summary of ground profiles for Ground Model B is presented in Table 3.

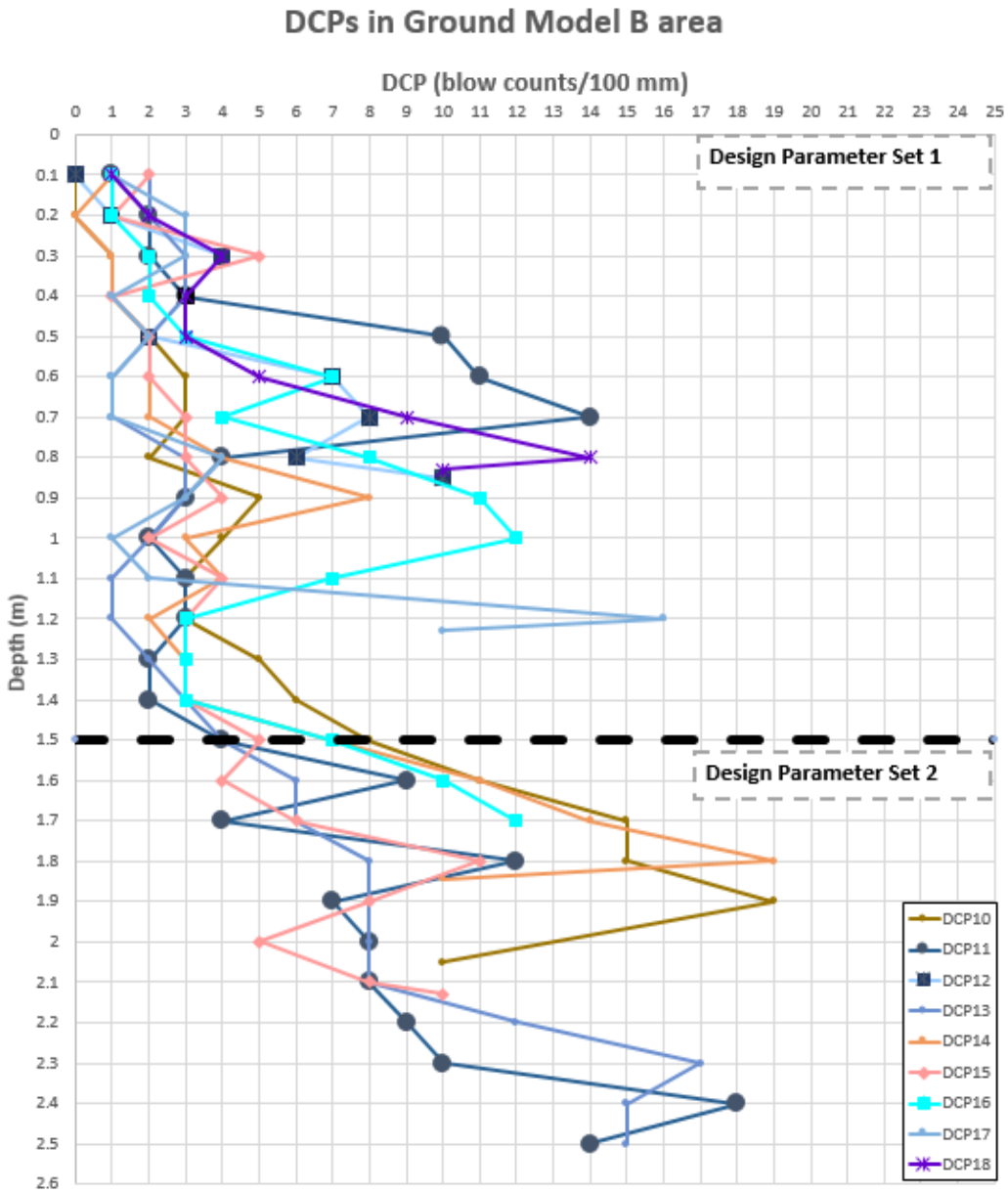

Figure 7:DCPs in Ground Model B

Table 3:Ground Model B

Material	Unit Top Depth (m)	Unit Thickness Depth (m)	Hand auger borehole information
Topsoil	0	0.2 to 0.5	Sandy Silt, non-plastic (HA11, HA12)
Soft to Firm material	0.2 to 0.5	1.0 to 1.3	Silty Clay, Clay (HA11)
Stiff or better material	1.5	Greater than 1.0	

3.2.3 Groundwater

No groundwater was observed in the boreholes during the investigation. Groundwater levels change over time and perched groundwater can occur at interfaces such as the fill/natural and residual/rock interface and within joints and bedding partings in rock.

4.0 Discussion and Recommendations

There is considerable variability in the ground profiles across the site with variable thickness of fill and consistency of materials. Based on ground models presented in Section 3.2.2, we recommend that two profiles be adopted when considering light pole foundations. Given the light poles will be subject to lateral loads from wind we recommend that piles be adopted, rather than pad footings.

Topsoil should be ignored when considering support for footings. Underlying the topsoil, a layer of soft/firm material should be assumed extending to a depth depending on whether Profile A or Profile B applies. Underlying the soft/firm layer, Stiff material can be assumed.

We recommend that the lighting poles be founded on piles taken into stiff of better material. If a single pile design is preferred for all poles then Profile B should be assumed as this has the greatest thickness of soft/firm material.

The geotechnical parameters in Table 4 have been developed considering the profiles summarised in Section 3.2.2.

Table 4:Geotechnical design parameters for light poles foundation

Material	Thickness (m)	Bulk Unit Weight (kN/m^3	Undrained Cohesion, Cu (kPa)	Ultimate End Bearing Capacity – Piles (kPa)	Ultimate Shaft Adhesion (kPa)	Young's Modulus, E (MPa)
Topsoil	0.5	17	10 (note 1)	-	-	-
Soft to Firm material	Ground Model A: 0.4 Ground Model B: 1.0	17	25	-	18	5
Stiff or better material	Ground model A and B: Greater than 1.0	18	75	675	50	15

Note 1: Topsoil should not be assumed to contribute to load capacity but could be assumed to provide some lateral restraint under ultimate load case

5.0 Important information about this geotechnical report

Client details, scope and reliance

AECOM has prepared this report for the sole use of the Client and for a specific purpose, each as expressly stated in the report. No other party should rely on this report without the prior written consent of AECOM. AECOM undertakes no duty, nor accepts any responsibility, to any third party who may rely upon or use this report. This report has been prepared based on the Client's description of its requirements and AECOM's experience, having regard to assumptions that AECOM can reasonably be expected to make in accordance with sound professional principles. AECOM's findings represent its reasonable judgment within the time and budget context of its commission and utilising the information available to it at the time.

No section or element of this report may be removed, reproduced, electronically stored or transmitted in any form by parties other than those for whom the report has been prepared without the written permission of AECOM. All sections in this report must be viewed in the context of the entire report/document including, without limitation, any assumptions made and disclaimers provided. No section in this report may be excised from the body of the report without AECOM's prior written consent.

Standard of care

AECOM has prepared this report using the standard of reasonable skill, care and diligence required of a consultant performing the same or similar Services. The report should be read in full. No warranty, expressed or implied, is made as to the professional advice included in this report.

Data sources

AECOM may have relied on information provided by the Client and third parties (Information Providers) to produce this report and arrive at its conclusions. AECOM has not verified information provided by the Information Providers (unless specifically agreed as part of AECOM's scope of work) and we assume no responsibility and make no representations with respect to the adequacy, accuracy or completeness of such information. AECOM assumes no responsibility for inaccuracies in reporting by the Information Providers including, without limitation, by the Client's employees or representatives or for inaccuracies in any other data source whether provided in writing or orally used in preparing or presenting the report.

Variability in conditions and limitations of data

Subsurface conditions are formed through a variety of natural processes and can be altered by human activities. The behaviour of the ground, groundwater and contaminants are complex and conditions can vary across a particular site. As a result, subsurface conditions cannot be exhaustively defined by investigations at discrete locations. Therefore, it is unlikely that the results and assessments expressed in this report will represent conditions at any location removed from the specific points of sampling. The precision with which conditions can be inferred depends largely on the uniformity of subsurface conditions and on the frequency and method of sampling as constrained by factors such as project budget and time limitations and physical constraints.

Furthermore, subsurface conditions can change over time, which should be considered when interpreting or using the data within this report.

Verification of opinions and recommendations

The opinions and recommendations in this report apply to the proposed development and the site existing at the time of our investigation and cannot necessarily apply to changes in the proposed development or site changes of which AECOM is not aware and has not had the opportunity to evaluate. Our recommendations should be considered to be preliminary and subject to verification during project implementation. If conditions encountered at the site are subsequently found to differ significantly from those anticipated, AECOM must be notified and be provided with an opportunity to review the recommendation

Appendix A
Hand Auger Logs

AECOM Engineering Log

BOREHOLE No. HA1

Sheet: 1 of 1

Client:	City of Sydney Council	**Project No:**	60613074	**Start Date:**	03/11/2020
Project:	Hyde Park Lighting Pole	**Logged by:**	NB	**End Date:**	03/11/2020
Location:	Hyde Park Sydney	**Checked by:**	PJW	**Location Meth.:**	MAP5
Driller:	AECOM	**Hole Diameter:**	-	**Easting:**	334561 m
Drill Rig:		**Inclination:**	-90°	**Northing:**	6250797 m
		Bearing:	N/A	**Hor. Proj/Dat:**	MGA94/GDA94-56H
				RL:	
				Ver. Datum:	AHD
				Surface:	Topsoil

Field Data								Material Description			Soil Condition		Comments
Method	Support	Ground Water	DCP (blows per 100mm)	Field Tests	Samples	Reduced Level (m)	Depth (m)	Graphic Log	Classification Symbol	MATERIAL NAME: plasticity/particle characteristics, colour, secondary and other minor components, structure	Moisture Condition	Density / Consistency	Additional Observations (Geological Unit)
HA	None	NOT ENCOUNTERED	3							TOPSOIL: clayey SAND: fine to medium grained; dark brown; trace gravel and silt	M-W		TOPSOIL
			6							from 0.10 m: red-brown, tracel clay sods			
			5										
			5				0.5						
			3							FILL: SAND: medium to coarse grained; pale grey; trace silt	M		FILL
			3										
			4							FILL: silty CLAY: low to medium plasticity; dark brown; trace fine to medium grained sand and sand stone gravel	w>PL		
			2										
			3				1.0			at 0.95 m: porcelain fragments			
			3							FILL: silty CLAY: medium plasticity; dark grey mottled yellow-brown; trace fine grained ironstone gravel			
			3										
			3										
			4							from 1.30 m: colour grades to red-brown			
			17							*HA1 terminated at 1.32 m.*			
			12				1.5			*Refusal*			
			5										
			6										
			4										
			6				2.0						
			9										
			10										
			14										
			18										
			10 /50 mm				2.5						
							3.0						
							3.5						
							4.0						

2017_ANZ_BOREHOLE 60613074 HYDE PARK LIGHTING.GPJ AECOM_5-00AA_HYDE PARK LIGHTING.GLB 10.11.2020

Engineering log should be read in conjunction with AECOM soil and rock description sheets.

AECOM Engineering Log

BOREHOLE No. HA11

Sheet: 1 of 1

Client:	City of Sydney Council	**Project No:**	60613074	**Start Date:**	03/11/2020
Project:	Hyde Park Lighting Pole	**Logged by:**	NB	**End Date:**	03/11/2020
Location:	Hyde Park Sydney	**Checked by:**	PJW	**Location Meth.:**	MAP5
Driller:	AECOM	**Hole Diameter:**	-	**Easting:**	334534 m
Drill Rig:		**Inclination:**	-90°	**Northing:**	6250471 m
		Bearing:	N/A	**Hor. Proj/Dat:**	MGA94/GDA94-56H
				RL:	
				Ver. Datum:	AHD
				Surface:	Topsoil

Field Data								Material Description			Soil Condition		Comments
Method	Support	Ground Water	DCP (blows per 100mm)	Field Tests	Samples	Reduced Level (m)	Depth (m)	Graphic Log	Classification Symbol	MATERIAL NAME: plasticity/particle characteristics, colour, secondary and other minor components, structure	Moisture Condition	Density / Consistency	Additional Observations (Geological Unit)
HA	None	NOT ENCOUNTERED	1 2 2 3				0.5			TOPSOIL: sandy SILT: non-plastic; dark brown; fine to medium grained sand, with clay			TOPSOIL
										FILL: silty CLAY: medium to high plasticity; red brown; trace gravel and fine to medium grained sand			FILL
										FILL: CLAY: medium plasticity; pale grey; with pockets of yellow-brown sand, trace red-brown ironstone gravel			
			10 11 14 4 3 2 3 3 2 2 4 9 4 12 7 8 8 9 10 18 14				1.0 1.5 2.0 2.5 3.0 3.5 4.0			*HA11 terminated at 0.50 m.* *Refusal*			

2017_ANZ_BOREHOLE 60613074 HYDE PARK LIGHTING.GPJ AECOM_5-00AA_HYDE PARK LIGHTING.GLB 10.11.2020

Engineering log should be read in conjunction with AECOM soil and rock description sheets.

AECOM Engineering Log

BOREHOLE No. HA12

Sheet: 1 of 1

Client:	City of Sydney Council	**Project No:**	60613074	**Start Date:**	03/11/2020
Project:	Hyde Park Lighting Pole	**Logged by:**	NB	**End Date:**	03/11/2020
Location:	Hyde Park Sydney	**Checked by:**	PJW	**Location Meth.:**	MAP5
Driller:	AECOM	**Hole Diameter:**	-	**Easting:**	334661 m
Drill Rig:		**Inclination:**	-90°	**Northing:**	6250437 m
		Bearing:	N/A	**Hor. Proj/Dat:**	MGA94/GDA94-56H
				RL:	
				Ver. Datum:	AHD
				Surface:	Topsoil

Field Data								Material Description			Soil Condition		Comments
Method	Support	Ground Water	DCP (blows per 100mm)	Field Tests	Samples	Reduced Level (m)	Depth (m)	Graphic Log	Classification Symbol	MATERIAL NAME: plasticity/particle characteristics, colour, secondary and other minor components, structure	Moisture Condition	Density / Consistency	Additional Observations (Geological Unit)
HA	None	NOT ENCOUNTERED	0 1 4				0.0			TOPSOIL: sandy SILT: non-plastic; dark brown; fine to medium grained sand, with clay			TOPSOIL
			3 2 7 8 6 10 /50mm				0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0			*HA12 terminated at 0.40 m.* *Refusal*			

2017_ANZ_BOREHOLE 60613074 HYDE PARK LIGHTING.GPJ AECOM_5-00AA_HYDE PARK LIGHTING.GLB 10.11.2020

Engineering log should be read in conjunction with AECOM soil and rock description sheets.

AECOM Engineering Log

BOREHOLE No. HA19

Sheet: 1 of 1

Client:	City of Sydney Council	**Project No:**	60613074	**Start Date:**	03/11/2020
Project:	Hyde Park Lighting Pole	**Logged by:**	NB	**End Date:**	03/11/2020
Location:	Hyde Park Sydney	**Checked by:**	PJW	**Location Meth.:**	MAP5
Driller:	AECOM	**Hole Diameter:**	-	**Easting:**	334441 m
Drill Rig:		**Inclination:**	-90°	**Northing:**	6250169 m
		Bearing:	N/A	**Hor. Proj/Dat:**	MGA94/GDA94-56H
				RL:	
				Ver. Datum:	AHD
				Surface:	Topsoil

Field Data								Material Description			Soil Condition		Comments
Method	Support	Ground Water	DCP (blows per 100mm)	Field Tests	Samples	Reduced Level (m)	Depth (m)	Graphic Log	Classification Symbol	MATERIAL NAME: plasticity/particle characteristics, colour, secondary and other minor components, structure	Moisture Condition	Density / Consistency	Additional Observations (Geological Unit)
HA	None	NOT ENCOUNTERED	1 2 3 5 3 2				0.5			TOPSOIL: sandy CLAY: dark brown; fine to medium sand, with red-brown, ironstone gravel			TOPSOIL
										FILL: clayey SAND: dark brown; fine to medium grained, trace grey, igneous gravel			FILL
										FILL: clayey SAND: pale grey amd yellow-brown; with red-brown ironstone and sandstone gravel			
			2 1 19 15 19 14 9 6 7 7 6 6 4 6 12 10 /30mm				1.0 1.5 2.0 2.5 3.0 3.5 4.0			*HA19 terminated at 0.65 m.* *Refusal*			

2017_ANZ_BOREHOLE 60613074 HYDE PARK LIGHTING.GPJ AECOM_5-00AA_HYDE PARK LIGHTING.GLB 10.11.2020

Engineering log should be read in conjunction with AECOM soil and rock description sheets.

AECOM Engineering Log

BOREHOLE No. HA21

Sheet: 1 of 1

Client:	City of Sydney Council	**Project No:**	60613074	**Start Date:**	03/11/2020
Project:	Hyde Park Lighting Pole	**Logged by:**	NB	**End Date:**	03/11/2020
Location:	Hyde Park Sydney	**Checked by:**	PJW	**Location Meth.:**	MAP5
Driller:	AECOM	**Hole Diameter:**	-	**Easting:**	334605 m
Drill Rig:		**Inclination:**	-90°	**Northing:**	6250094 m
		Bearing:	N/A	**Hor. Proj/Dat:**	MGA94/GDA94-56H
				RL:	
				Ver. Datum:	AHD
				Surface:	Topsoil

Field Data								Material Description			Soil Condition		Comments
Method	Support	Ground Water	DCP (blows per 100mm)	Field Tests	Samples	Reduced Level (m)	Depth (m)	Graphic Log	Classification Symbol	MATERIAL NAME: plasticity/particle characteristics, colour, secondary and other minor components, structure	Moisture Condition	Density / Consistency	Additional Observations (Geological Unit)
HA	None	NOT ENCOUNTERED	1 1 2 2 2 2 4 3				0.5		CI	TOPSOIL: sandy SILT: non-plastic; dark brown; fine to medium grained sand, trace red-brown ironstone gravel			TOPSOIL
									CI	CLAY: medium plasticity; dark brown; trace carbonaceous flecks and red-brown ironstone gravel from 0.50 m: pockets of yellow-brown, fine to medium grained sand		F	RESIDUAL SOIL
									CI	silty CLAY: medium plasticity; pale grey streaked yellow-brown; trace fine to medium grained sand		St	
			4 6 10 40mm				1.0			SANDSTONE: extremely weathered, soil strength, recovered as clayey sand, fine to medium grained, pale grey and yellow-brown *HA21 terminated at 0.85 m.* *Refusal*			WEATHERED ROCK

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Engineering log should be read in conjunction with AECOM soil and rock description sheets.

AECOM Engineering Log

BOREHOLE No. HA3

Sheet: 1 of 1

Client:	City of Sydney Council	**Project No:**	60613074	**Start Date:**	03/11/2020
Project:	Hyde Park Lighting Pole	**Logged by:**	NB	**End Date:**	03/11/2020
Location:	Hyde Park Sydney	**Checked by:**	PJW	**Location Meth.:**	MAP5
Driller:	AECOM	**Hole Diameter:**	-	**Easting:**	334682 m
Drill Rig:		**Inclination:**	-90°	**Northing:**	6250771 m
		Bearing:	N/A	**Hor. Proj/Dat:**	MGA94/GDA94-56H
				RL:	
				Ver. Datum:	AHD
				Surface:	Topsoil

Field Data								Material Description			Soil Condition		Comments
Method	Support	Ground Water	DCP (blows per 100mm)	Field Tests	Samples	Reduced Level (m)	Depth (m)	Graphic Log	Classification Symbol	MATERIAL NAME: plasticity/particle characteristics, colour, secondary and other minor components, structure	Moisture Condition	Density / Consistency	Additional Observations (Geological Unit)
HA	None	NOT ENCOUNTERED	2							TOPSOIL: sandy SILT: non-plastic; dark brown; fine to medium grained sand, with clay			TOPSOIL
			2						CH -CI	silty CLAY: medium to high plasticity; yellow-brown, red-brown		F- St	RESIDUAL SOIL
			3				0.5						
			3										
			4							from 0.70 m: pale grey and red-brown			
			4										
			14							*HA3 terminated at 0.80 m.* *Refusal*			
			16				1.0						
			11										
			14										
			12										
			13										
			13				1.5						
			13										
			12										
			19										
			18										
			17				2.0						
			18										
			18										
			15										
			12										
			16				2.5						
			17										
			20 /80mm										
							3.0						
							3.5						
							4.0						

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