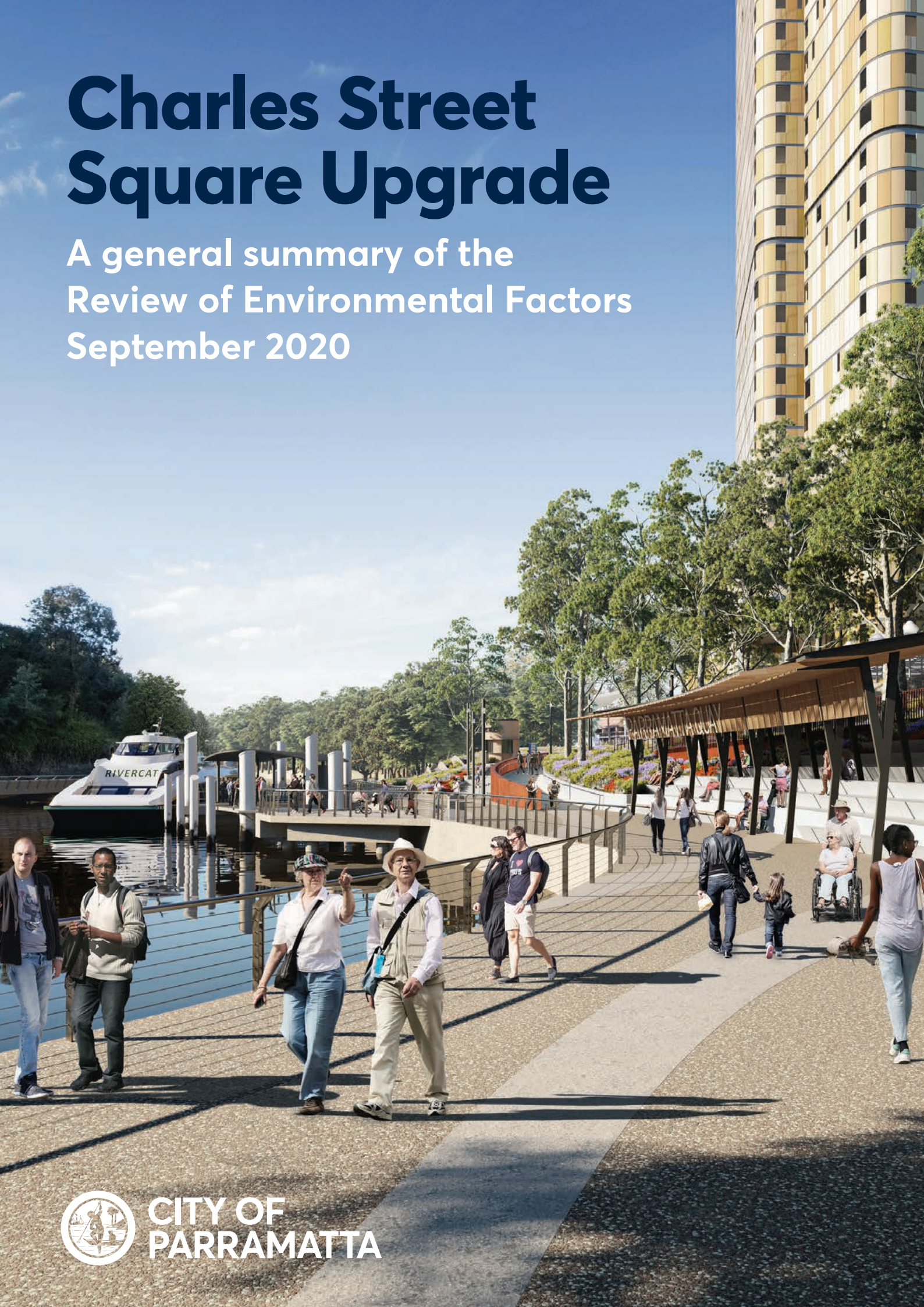


Charles Street Square Upgrade

A general summary of the
Review of Environmental Factors
September 2020



CITY OF
PARRAMATTA



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1. INTRODUCTION

The City of Parramatta (Council) is proposing to undertake a range of improvements to Charles Street Square as part of its broader commitment to providing a high-quality river foreshore along the Parramatta River.

The proposed design was placed on public exhibition in March 2020 and endorsed by Council in May 2020. Visit [Council's community engagement platform](#) for further information.

The approved concept has undergone design development and a detailed description of the proposed works is provided in the Review of Environmental Factors (REF). The full REF is available to view [here](#).

The design seeks to create a memorable experience at this unique point in the river and a welcoming space for locals and visitors alike, with accessible links between the riverfront and the city streets for pedestrians, cyclists and people of all abilities.

1.1. Review of Environmental Factors (REF)

The REF describes the proposed works to be completed to upgrade Charles Street Square. It documents the potential impacts on the environment of the design and its construction and identifies safeguards and management measures required to minimise these impacts.

Part 5 of the Environmental Planning and Assessment Act 1979 (EP & A Act) requires that where an activity is proposed to be undertaken, the determining authority must consider "to the fullest extent possible all matters affecting or likely to affect the environment by reason of the activity". For the Charles Street Square project, the City of Parramatta is the project owner (proponent) and the determining authority under Part 5 of the EP&A Act.

The REF considers the proposed urban design, landscape and engineering works with respect to any potential effect on Aboriginal cultural heritage and archaeology, European heritage and archaeology, flood and stormwater, biodiversity and other possible impacts.

The findings of the REF also provide a basis for making the decision on whether an Environmental Impact Statement (EIS) is required under Section 5.7 of the EP&A Act.

This document is a concise summary of the REF includes the following sections:

- Context and Background
- Project Description
- Legislative Compliance and Alignment
- Consultation
- Environmental Assessment

1.2. Limitations of this REF

Within the project, there are two components not included in this REF:

- **The relocation of existing public toilets closer to the street.** This item is subject to Part 4 of the EP&A Act, and a separate Development Application has been submitted for approval.
- **A major new public artwork** including a sculpture and a night time digital projection of images. This REF considers the setting for the sculpture, the housing of the projectors and the projected light onto the escarpment. The final design for the sculpture and the content of the projection are still in development and will be subject to separate Part 5 assessment later this year.

2. CONTEXT AND BACKGROUND

Charles Street Square is located north of the Parramatta CBD on the southern bank of the Parramatta River, adjacent the Parramatta Ferry Wharf and Charles Street Weir.



Figure 1 Aerial photograph looking east with site of Charles Street Square outlined in red



Figure 2 Aerial photograph looking west with site of Charles Street Square outlined in red

Most of the site is a public reserve, which is community land owned by Council. The site also includes an unmade section of Charles Street which is a public road reserve owned by Council.

Charles Street Square is characterised by a significant height change (5.9 metres) from the city to the river foreshore. Transition between levels is achieved through a series of shared paths and stairs. Due to the level change between the city and the river, the current site is essentially divided into three tiers. Other features of the existing site include public toilets, various public artworks, and several mature trees which provide shade and amenity.

3. PROJECT DESCRIPTION



CHARLES STREET SQUARE UPGRADE

LOCATION AND SITE PLAN

Figure 3

KEY

- Riverfront promenade**
- 1 Wharf shelter
- 2 New public artwork—sculpture component
- 3 New public artwork—projection component
- 4 Ramped walkways
- 5 Stairs
- River Amphitheatre**
- 6 Floral garden
- 7 Terraced seating
- 8 Existing trees
- 9 Proposed tree removal
- 10 New trees

- Garden Terrace**
- 11 Bench seating
- 12 Drinking fountain
- 13 Bike parking
- 14 Ferry office
- 15 Store room (under)
- Public Square**
- 16 Feature tree & seating
- 17 Rain garden
- 18 Public toilets (existing, relocated)
- 19 Existing driveway

- Lots**
- A 38 Charles Street Lot 2, DP 869816
- B 36A Charles Street Lot 2, DP 869820
- C Charles St road reserve
- D 340A Church Street Lot 1, DP 1172250
- E 21 Charles Street Lot 2, DP 532539
- F 182C George Street Lot 1, DP 506760 (CBD Foreshore Reserve)

- G Lot 1, DP 532539 (Parramatta River)
- H Lot 22, DP 1346 (Stewart St Reserve)

The Charles Street Square renewal seeks to create a memorable experience that celebrates the special qualities of this unique point in the river. It responds to the surrounding landscape of escarpment, trees and parkland, the curving geometry of the river, the rich cultural heritage of the place, and the sense of arrival, to create a welcoming space for locals and visitors alike.

The Charles Street Square upgrade improves connections between the river and the city and along the riverfront for all users – pedestrians, cyclists and people with limited mobility.

Flood resilience is fundamental to the design, which seeks to minimise flood obstructions and provide a clear and continuous path of evacuation. It's also easy to maintain with robust materials, finishes and detailing.

This project is part of a larger, long term plan by the City of Parramatta to provide a high quality river foreshore along the Parramatta River to improve the environment for the benefit of the community.

You can read more about the Parramatta City River Strategy adopted in 2015 [here](#).

The Charles Street Square upgrade is guided by the Charles Street Square Strategy which explored the future urban design of the square and adjacent precincts.

You can read more about the Charles Street Square Strategy adopted in 2017 [here](#).

3.1. The spaces of Charles Street Square

The new spaces that make up Charles Street Square have been designed for inclusivity and flexible use. They allow for programmed events and activities as well as everyday informal gatherings. The following is a list of the main spatial components of the proposed upgrade: the Riverfront Walk, Ramped Walkways, River Amphitheatre, Garden Terrace and Upper Square.

Riverfront Walk



Figure 4 Artist's impression of the improved Riverfront Walk

The riverfront promenade has been widened to better accommodate all users along the river foreshore. The promenade has been expanded from a minimum width of 3.6 metres to 5.8 metres wide at its narrowest point, and a maximum width of about 12.9 metres compared to the existing maximum width of 10.9 metres. The extra width eases potential conflicts between pedestrians, cyclists and ferry passengers in this busy riverfront space.

The 'landside' edge to the riverfront walk has been decluttered and reshaped to form a ramped walkway and stepped seating areas that rise up from the riverfront to the new garden terrace and upper square.



Figure 5 Proposed plan of the improved Riverfront Walk

Ramped Walkways

The design provides access between the riverfront and the city streets with three ramped walkways, each 3.0 metres wide, that function as shared paths for pedestrians, cyclists and people with limited mobility



Figure 6 Three ramped walkways traverse the height change between the city and the riverfront.

River Amphitheatre

The River Amphitheatre is a series of curved seating terraces with capacity for more than 400 people, stretched along the riverfront between Charles Street Weir and the ferry wharf.

The terraces are constructed using polished precast concrete that can withstand regular flood events. Some of the seating terraces are made from timber decking to accommodate significant trees.

At the riverfront, a distinctive new wharf shelter is integrated with the River Amphitheatre's seating. This creates an additional covered space to wait for the ferry or to stage riverfront events.



Figure 7 Precast concrete & timber seating terraces form a new amphitheatre for riverfront events.

Garden Terrace



Figure 8 Artist's impression of the proposed Garden Terrace

Edged by the lower level of the adjacent Port Bar (36 Charles Street), the Garden Terrace is a new mid-level space within Charles Street Square for outdoor dining and public seating within a garden setting.

The Garden Terrace discretely integrates a combined storage and electrical room.

A ferry and visitor office located on this terrace functions as a customer service point for ferry passengers, and houses projectors for the digital component of the new artwork being created as part of the Charles Street Square upgrade.



Figure 9 Artist's impression of the new ferry and visitor office which overlooks the wharf from the Garden Terrace

Upper Square

At the upper level, the square has been updated to create a welcoming public space at the corner of Phillip and Charles streets. This area has been designed to be free of clutter and to allow for clear views down to the river.

Vehicle access to the square is controlled with the addition of bollards along the street edge of the square. Access to the carpark at 94 Phillip Street is maintained via the existing driveway.

The existing automated public toilets are relocated to the upper square (subject to a separate Development Application), providing fully accessible amenities that are available 24/7.



Figure 10 Artist's impression of the street level square, which forms the entry from the CBD

You can view the detailed plans illustrating the proposed development, design concept, materials and finishes, planting schedule, furniture and fixtures etc. [here](#).

Architectural plans of the proposed wharf shelter and ferry office are available [here](#).

The full Urban Design Report is available [here](#).

3.2. Design details for Charles Street Square

Across these spaces, the following design details have been incorporated:

Environmental sustainability measures

- » Recycled, renewable, and/or recyclable materials have been used where possible.
- » Rain gardens in some of the garden beds capture and filter stormwater.
- » Drought tolerant native plant species have been selected to reduce water usage and create wildlife habitat.

Public artwork

- » A major new public artwork is proposed, comprising both a static sculpture and digital content projected onto the rock face and vegetation of the escarpment across the river.
- » The projection will feature video artworks that respond to the people, geography, history and perceptions of Parramatta.
- » The projection will be displayed for a three (3) hour period on a nightly basis and cover an area of up to 30 metres wide by 10 metres high on the northern escarpment.
- » **Note:** the content of the video artworks and the final form of the sculpture is being developed through a consultation process with the community, and will be subject to a separate assessment process to be undertaken by Council.

Planting

- » A total of 28 new trees are proposed on the site.
- » Species have been selected to build on the existing palette of mixed native and exotic species found on site and along the river corridor. The tree planting scheme aims to restore the landscape character of the site, connect to the landscape character of the adjacent riverside parklands, and create a distinctive identity for the square that enhances the sense of arrival.
- » The planting plan is available [here](#).

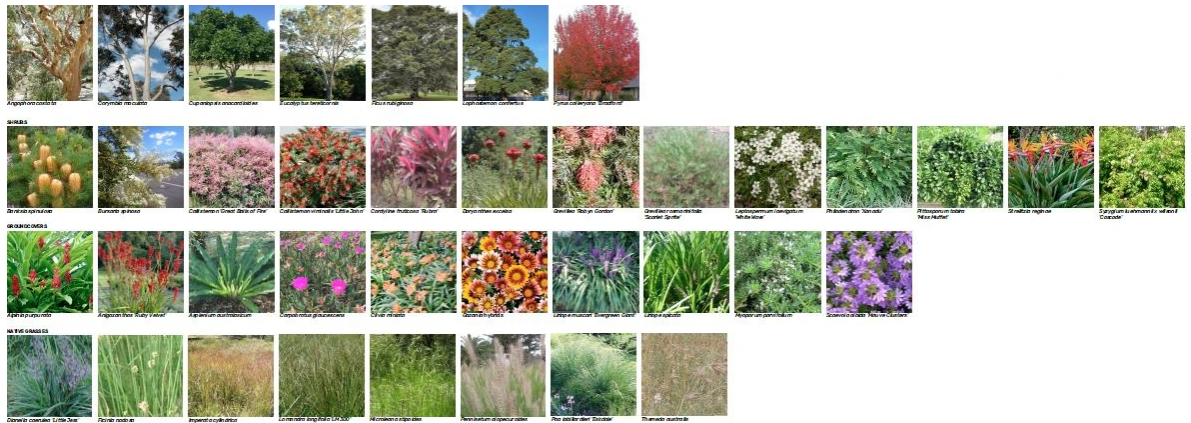


Figure 11 Planting that responds to the existing site, neighbouring parklands and endemic species in the river corridor

Lighting

- » New pole top lighting will provide safety and wayfinding throughout the square. The lighting poles house power for events and maintenance and provide for future expansion of the CCTV network.
- » Feature lighting will highlight signature trees and architectural features like the ferry shelter.

Interpretation

- » Stories of the place, its people and history will be integrated into the fabric of the site. These interpretation elements will explore themes like
 - a meeting place (meeting of people, of salt and fresh water);
 - Aboriginal stories connected to the river; and
 - the dynamic landscape experience of flood.
- » A draft Interpretation Plan has been prepared which considers the wider heritage context of the Parramatta River foreshore, existing interpretative elements and the historical themes and stories that are already being told in the area. It also documents the themes and ideas supported in community consultation to date.
- » These ideas will be elaborated and refined through consultation with stakeholders, with Aboriginal interpretation of the site to be further developed in close consultation with First Nations communities.
- » The draft Interpretation Plan can be accessed [here](#).

Materials and Public Furniture

- » High quality seating, bins, drinking fountains, and bike parking bring cohesion to the public domain with clean contemporary design.
- » Details of public furniture and materials can be viewed [here](#).

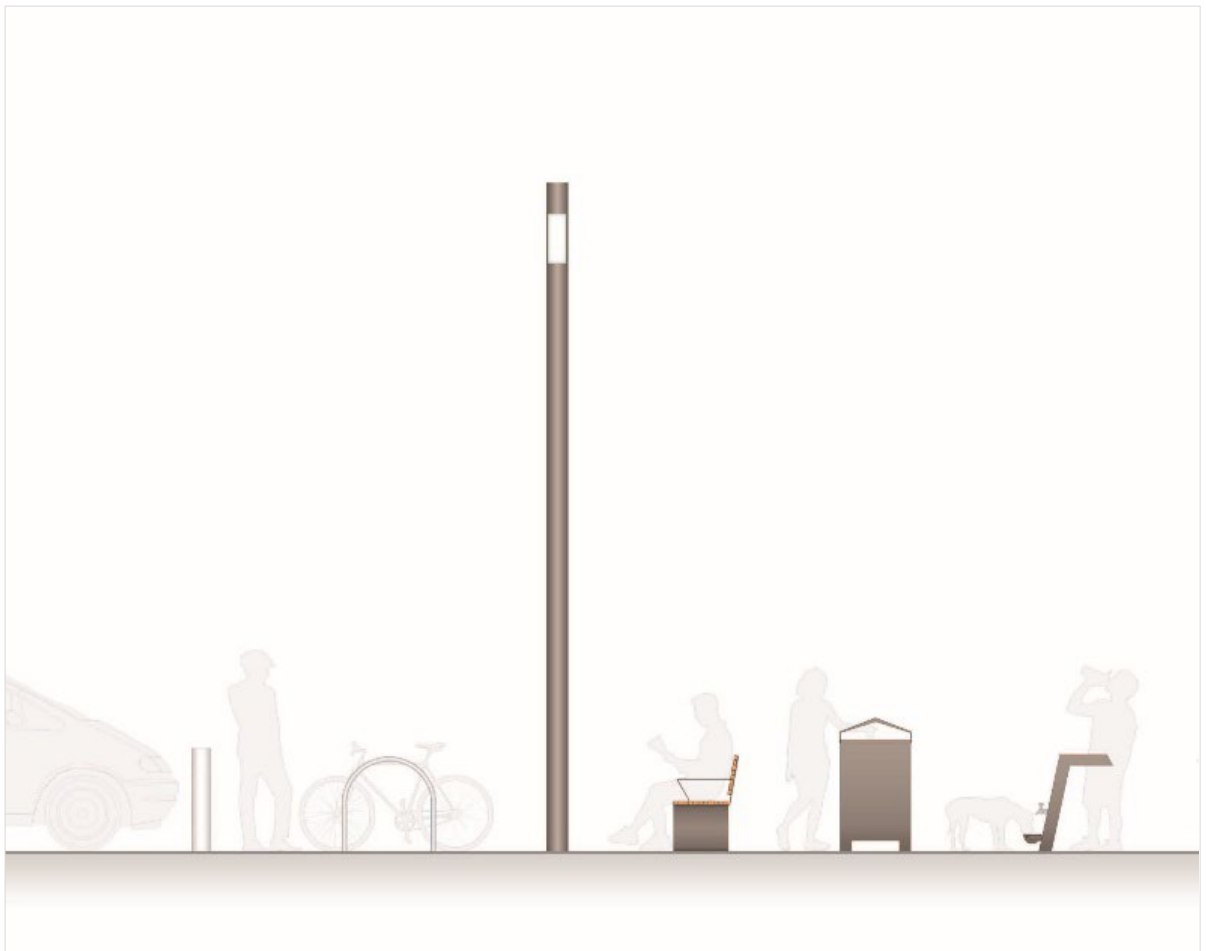


Figure 12 High quality public domain furniture and materials are used throughout the upgraded square

Accessibility

- » Stairs, ramps and walkways, handrails, tactile ground surface indicators, luminance contrast, and furniture, fixtures and fittings specified for the project are in accordance with relevant Australian Standards, and with the recommendations of the Access Review Design Development report, available [here](#).

3.3. Demolition and Construction

The Charles Street Square upgrade will require demolition of all existing paving, structures, furniture and landscape within the site area with the exception of:

- the public toilets module, which is to be relocated on site
- the public artwork by Ruth Downes which is to be salvaged and relocated by the artist
- four (4) trees which will be retained
- the driveway on the western side of the site which serves the basement of 96 Phillip Street
- the balustrade along the foreshore
- the awning extending from the Port Bar (36 Charles St).

A demolition plan is included in the drawing set available [here](#).

The proposed civil engineering works required for the project include:

- sediment and erosion control
- both bulk and detailed earthworks
- site works and stormwater management
- utility services.

The proposal will require cut and fill of existing levels. Approximately 175m³ of hardstand will be removed from the site. There will be another 170m³ of excavated material, some of which will be removed from site, and some of which will be used for fill to create the new levels. The total amount of clean fill required on site is approximately 990m³.

All civil works will be monitored to ensure contaminated materials are dealt with appropriately, and environmental impacts minimised – further detail is provided in the Environmental Assessment section below.

Civil works plans are available [here](#).

A preliminary Construction Environmental Management Plan (CEMP) has been prepared to provide a framework to plan construction with measures to minimise construction impacts, including:

- access to and egress from the site for construction vehicles
- traffic and pedestrian management during construction
- storage and transfer of materials and waste containers
- protection of existing vegetation and trees
- erosion, sediment and dust control.

The preliminary CEMP is available [here](#). The final CEMP will be prepared by the construction contractor once the construction methodology is finalised. The detailed CEMP will be thoroughly tested to demonstrate that environmental impacts can be mitigated.

Construction hours will generally be as follows:

- Monday to Friday, 7am to 5pm
- Saturday, 8am to 5pm.

Council will endeavour to complete all works during the designated construction hours however there may be certain aspects of the project that require after-hours work. Any requests for after-hours work will be documented and submitted to Council for approval prior to commencement. Construction works may also be undertaken in accordance with the hours specified in the *Environmental Planning and Assessment (COVID-19 Development – Infrastructure Construction Work Days) Order 2020*, made to allow construction hours of infrastructure projects to be extended to weekend and public holidays.

The construction phase of the project is expected to take approximately 12 months to complete.

4. LEGISLATIVE COMPLIANCE AND ALIGNMENT

The Charles Street Square project is subject to a number of NSW legislation and statutory planning instruments. The proposed works have also been assessed against a range of legislation and policies. These are summarised below.

4.1. Environmental Planning and Assessment Act 1979

The Charles Street Square proposal is consistent with the objects of the Environmental Planning and Assessment Act (EP&A) 1979.

These include promoting:

- social and economic welfare of the community and a better environment
- integration of these considerations into decision-making
- orderly and economic use and development of land
- delivery and maintenance of affordable housing
- conservation of threatened and other species of native animals and plants
- sustainable management of a place's heritage
- good design, construction and maintenance
- sharing of the responsibility between the different levels of government
- increased opportunity for community participation in environmental planning and assessment.

4.2. Environmental Planning and Assessment Regulation 2000

Clause 228 of the Environmental Planning and Assessment Regulation (EP&A Regulation) details environmental factors that must be taken into account when considering the impact of a project and associated construction activity. These include how the project will impact the community, ecosystems and habitats for flora and fauna, significance of place, environmental qualities and demand for scarce resources, and how the project might transform the locality or reduce environmental values through waste disposal, pollution or safety risks.

Some of these factors are likely to be negatively impacted during the construction period, for example by increased noise, traffic & dust, demolition waste removal, visual impacts like temporary fencing, demolition and excavation, and loss of amenity and accessibility for the community. These potential impacts would be minor and temporary, and will be managed through the mitigation measures summarised under the section below, Environmental Assessment.

Analysis of the proposed upgrade project against the Clause 228 factors shows that once complete the project will have either negligible impacts or will improve community and environmental outcomes. Charles Street Square will provide a high quality public domain designed to enhance the amenity of the Parramatta River foreshore and offer safe, accessible and connected walking and cycling opportunities in this important location.

4.3. State Environmental Planning Policy (Infrastructure) 2007

State Environmental Planning Policy (Infrastructure) 2007 (the Infrastructure SEPP) seeks to facilitate the effective delivery of infrastructure across NSW. It sets out the planning approval pathways for infrastructure carried out by public authorities. It is this SEPP that has determined the project does not require development consent, but requires environmental impact assessment and has led to the preparation of this REF.

4.4. State Environmental Planning Policy No 55 – Remediation of Land (SEPP 55)

SEPP 55 provides a state-wide planning approach to the remediation of contaminated land by considering whether the land is contaminated and, if it is contaminated, whether it can be made suitable for the proposed purpose.

Based on the assessments undertaken for the investigation, it was concluded that Charles Street Square can be made suitable for the proposed redevelopment subject to supplementary assessment and subsequent remediation.

A Detailed Site Investigation can be viewed [here](#). The necessary mitigations and safeguards in response to the findings are outlined in the next section, Environmental Assessment.

4.5. State Environmental Planning Policy (Coastal Management) 2018

The Coastal Management SEPP defines the coastal zone and establishes state-level planning priorities and development controls to guide decision-making for development within the coastal zone.

Under the Coastal Management SEPP, the Charles Street Square site is located within the coastal environment area. Development consent must not be granted within the coastal environment area unless the consent authority has considered whether the proposed development is likely to cause any adverse impacts.

As demonstrated through the Environmental Assessment of the REF (the next section), the proposal would not result in adverse impacts on the environment. Appropriate safeguards and management measures are recommended to ensure the environmental values of the site are protected.

4.6. Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005

The Charles Street Square site is located within the designated hydrological catchment of the Sydney Harbour and the Foreshores and Waterways Area and is subject to the provisions of the Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005 (Sydney Harbour REP) which is now a deemed SEPP.

The proposed upgrade for Charles Street Square is consistent with The Planning Principles for the Sydney Harbour Catchment and Foreshores and Waterways Area which are to:

- increase, maintain and improve public access to and along the foreshore
- maintain, protect and enhance the unique visual qualities of Sydney Harbour and its islands and foreshores
- protect and improve hydrological, ecological and geomorphologic processes
- consider cumulative impacts of development within the catchment
- improve water quality of urban runoff.

The proposal will significantly improve access to and along the Parramatta River foreshore and enhance the visual amenity of the area. It will also improve water quality through the introduction of water sensitive urban design (WSUD) measures and will not adversely impact hydrological, ecological or geomorphologic processes.

4.7. Parramatta Local Environmental Plan 2011

The Parramatta Local Environmental Plan 2011 (LEP 2011) applies to the Charles Street Square site. Under LEP 2011 the site is zoned part RE1 Public Recreation, part B4 Mixed Use and part W2 Recreational Waterway.

The Charles Street Square upgrade aligns with relevant zone objectives and is compliant with requirements.

A number of LEP considerations have been dealt with under the Environmental Assessment of the REF including:

- heritage conservation
- acid sulfate soils
- earthworks
- flood planning
- biodiversity protection.

Appropriate mitigation measures and safeguards have been proposed to ensure any potential impacts are minor or eliminated.

4.8. Local Government Act 1993

The Local Government Act 1993 requires a Plan of Management to be prepared for all public land that is classified as 'community' land under that Act. The community land on which the project is located is categorised in the Plan of Management as 'general community use'. The core objectives for this land are prescribed by the community land provisions of the Act, as follows:

To promote, encourage and provide for the use of the land, and to provide facilities on the land, to meet the current and future needs of the local community and of the wider public:

- *in relation to public recreation and the physical, cultural, social and intellectual welfare or development of individual members of the public, and*
- *in relation to purposes for which a lease, licence or other estate may be granted in respect of the land (other than the provision of public utilities and works associated with or ancillary to public utilities).*

The part of the proposed upgrade that is located on community land is consistent with the core objectives for general community use land in that it will promote and encourage use of the land by the public for recreation purposes. Further, the upgrade is consistent with the permissible development and uses, which include:

Uses: Casual or informal recreational use, Cultural / social / educational / recreational meetings, Private / public functions, Concerts and performances (including film and stage), Exhibitions / fairs / parades / tradeshows / auctions e.g. antiques, art, Workshops / training classes, Childcare (including before / after school care and vacation care), Regular organised group use e.g. scouts / guides, Educational / information resource centres e.g. libraries

Development: Multi-purpose buildings including community centres and halls to facilitate community use and enjoyment; Landscaping and other structural improvements to improve access, amenity and aesthetics; Building improvements to cater for the needs of particular user groups e.g. stage facilities

4.9. Water Management Act 2000

Under Section 91E of the Water Management Act it is an offence to undertake a controlled activity in,

on or under waterfront land (land within 40 metres of the bed of any river) except with an approval from the Office of Water.

A controlled activity includes the carrying out of works. However, a public authority, including a council, is exempt from this requirement as set out under Clause 41 of the Water Management (General) Regulation 2018.

4.10. Commonwealth Environment Protection & Biodiversity Conservation Act, 1999 (EPBC Act)

Approval of the Federal Minister for the Environment is required for any actions that may have a significant impact on matters of National Environmental Significance, except in circumstances which are set out in the Commonwealth Environment Protection and Biodiversity Conservation Act, 1999 (EPBC Act).

An assessment in accordance with the EPBC Act was undertaken for Greyheaded Flying Fox. It was determined that the proposal is unlikely to have a significant impact on this species or any other matters of national environmental significance.

The full Biodiversity Impact Statement is available [here](#).

5. CONSULTATION

The design for the Charles Street Square upgrade was placed on public exhibition from 25 February to 16 March 2020.

A broad range of communication and engagement activities were undertaken during the exhibition period and these activities were further promoted through Council's various paid and unpaid communication channels including website, social media, media relations and the distribution of materials via direct mail.

Overall, it is estimated that more than 880,000 people across the Local Government Area and beyond saw the opportunity to provide input to the Charles Street Square project.

As a result of this communications and engagement program, eight (8) email responses were received, including from business/adjoining landowners (3); residents (3); and utilities (2), and 115 online survey responses were completed via the engagement portal.

The community also provided responses via social media and by sharing their views at community drop-ins.



800,000+
people
received information
about the draft concept
design.



Media coverage
2 television news stories
on Channel 9,
8 news print articles and
4 online news articles.



1,000+
postcards
distributed to residential
and commercial
properties.



2,200
direct mail letters
sent to residential and
commercial properties.



300
A4 brochures
distributed
explaining the project
in English and 4
community languages.



322
A4 brochures
downloaded
explaining the project in
English and 4
community languages.



100+
survey responses
were received via the
engagement portal.



450+
interactions
via social media,
community drop-ins and
a stakeholder briefing.



2,155
visits to Council's
engagement portal
'our say'.



1941
visits to project
webpages
on Council's website.



8
email submissions
were received.



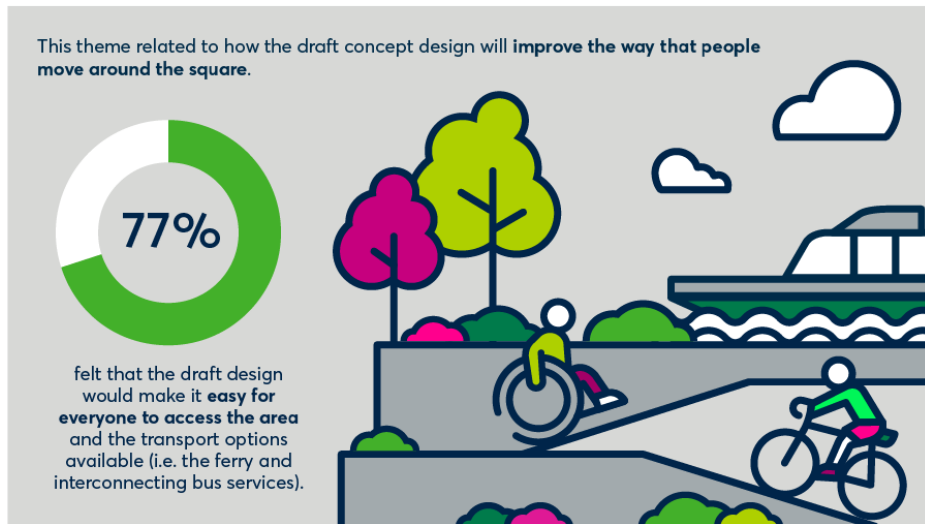
9
business owners
and tenants
at invitation only
stakeholder briefings.

5.1. Issues raised and response

Stakeholders expressed their perceptions of Charles Street Square. A clear majority of submissions expressed a view that the square was in need of an upgrade.

Overall, community submissions about the planned improvements were generally positive, and many expressed enthusiasm for the proposed upgrade.

Access



Liked the wide walkways, ramps and stairs to allow for various modes of travel (i.e. walking, cycling, running), and that access for prams, wheelchairs and people with limited mobility has been improved.



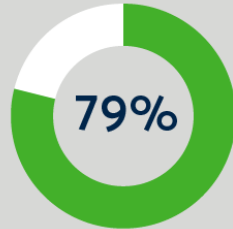
Liked the improved connectivity to a widened Parramatta River loop.



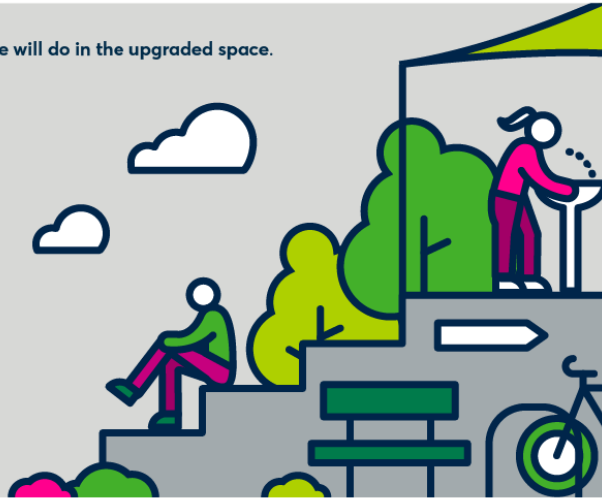
Suggested maintaining access to local businesses during construction and operation was important.

Use and experience

This theme related to **what people will do in the upgraded space.**



felt that the public spaces shown in the draft concept design **looked like places they would like to spend their time.**



Liked the **variety and flexibility of seating and furniture** and that the provision of amenities like water bubblers, public toilets, bike parking, bike pump station, play equipment, and bins would improve the overall experience.



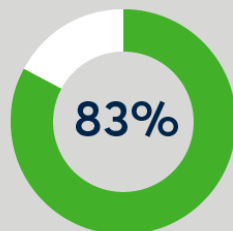
Liked the **increased shade** and would like more of it.



Suggested **improved signage**, for example to and from nearby entertainment venues or events, would improve their experience.

Character and identity

Within Council's engagement portal, people responding to the Charles Street Square project were able to use a variety of tools to indicate how they felt about the proposed character and identity of the draft concept design. As well as responding to survey questions and indicating reactions on a sliding scale, **people had the opportunity to indicate design features they liked on a photo-montage of the proposed upgrade.**



said they could see the space becoming a **nice place to wait for the ferry and meet friends.** Most respondents liked the terraced seating, sheltered seating, ferry wharf ramp and mature trees.



Liked the opportunities for **art installations and representations of Parramatta's identity.**



People also supported design elements which would see the space becoming a more welcoming place for families.



Agreement on the need to **increase safety**, and for landscaping to include the use of native species. Also:

- need for robust maintenance
- prevent rubbish and graffiti
- adjacent retail and commercial tenancies renovated/upgraded.

Design refinements were made in response to community feedback as captured below.



More shade and shelter

Enlarging the riverfront shelter to offer 43% more weatherproof area. This will be of benefit to visitors using the ferry service.

Four additional tall-trunked trees have been incorporated into the design to provide dappled shade while maintaining views to the Parramatta River.



More landscaping and green spaces

Together with the additional trees, more garden areas in the centre of the site (an extra 150m²) and more planting on the Garden Terrace adds more green space to Charles Street Square.

The extent of hard surfaces, including concrete terracing, is reduced. The River Amphitheatre offers seating capacity for more than 400 people.



Visible and accessible customer service points

The ferry office has been modified to incorporate a service window for customer interaction. Ferry staff are also provided with views of wharf operations.

The laser projectors essential to the public art project which features as part of Charles Street Square have been integrated into the roofline of the ferry office.



Access improvements

The amended design incorporates minor adjustments to ramps to improve clear width of the Riverfront Walk.

There is also a small reduction in the overall travel distance between street level and the riverfront. Double handrails to all stairs better assist people travelling in either direction.



Expanded work program

The project now incorporates public space connecting the Garden Terrace to the existing arcade from Charles Street, the proposed colonnade of 180 George Street, and the rooftop terrace of 36 Charles Street. Raising this area improves public access.



Public spaces designed for easy maintenance

The amended design incorporates minor adjustments to ramp geometry to ensure maintenance equipment including street sweepers can be accommodated. Small retaining walls within the lower level garden beds will improve the flood resilience of our landscaping.

5.2. Stakeholder consultation

In addition to community consultation, key stakeholders were consulted during design development and provided with a number of opportunities to provide input and feedback.

Consultation with stakeholders including Transport for NSW; Transdev (the ferry operators), Endeavour Energy, Sydney Water and adjacent landowners was undertaken to continue to understand key issues, opportunities and constraints.

The City of Parramatta's Access Advisory Committee and other advisory groups were also consulted. The design will continue to be refined to respond to existing operational requirements and to accommodate possible future change or redevelopment.

Consultation with artists whose existing artworks are impacted by the renewal was undertaken.

Aboriginal community members and organisations are being consulted to understand cultural values, and for input to cultural heritage management in accordance with statutory requirements for Aboriginal Archaeology.

Consultation with stakeholders will continue as required.

5.3. Future Consultation

Feedback received during the exhibition of the REF will be considered and any additional amendments or measures incorporated into the project.

Project communications will continue, including on-site hoardings that detail the project and provide project team contact details. Navigational signage (changes to pedestrian access etc.) will also be incorporated as required.

Stakeholders who registered during previous consultation processes will be updated regularly on the progress of the renewal project. The dedicated Charles Street Square web page on the City of Parramatta website will also be updated.

Pre-construction planning and liaison with stakeholders throughout construction will mitigate the potential impact on stakeholders and members of the public.

6. ENVIRONMENTAL ASSESSMENT

The REF considers proposed urban design, landscape and engineering works with respect to any potential effect on a range of issues, including Aboriginal cultural heritage and archaeology, European heritage and archaeology, flooding and stormwater, amenity, biodiversity, and contamination of air, soil and water. Mitigation measures for any impacts are identified for incorporation into the project to minimise impact and manage risk. These are summarised below.

6.1. Aboriginal Heritage

An assessment of risks to Aboriginal archaeological heritage has been undertaken, detailed in the Aboriginal Cultural Heritage Assessment Report (ACHAR), available [here](#), and accompanying Aboriginal Archaeological Technical Report (ATR), available [here](#).

The findings of these reports are also detailed in the Statement of Heritage Impact (SoHI) [here](#).

The design for Charles Street Square minimises below ground impacts however some impacts may still occur. There is the potential to impact the Parramatta Sand Body; accordingly appropriate Aboriginal archaeological management protocols will be in place.

The ATR for the project develops and presents an Aboriginal archaeological excavation methodology and research design for the study area. It aims to investigate the nature and extent of any subsurface Aboriginal archaeological potential within the impact zones of the proposed development.

Aboriginal archaeological investigation within the study area would be undertaken under an approved Aboriginal Heritage Impact Permit (AHIP) issued by the NSW Heritage Council.

For full details of the proposed Aboriginal archaeological investigation methodology, including sampling strategy, field methods and research design, please refer to Section 5.2 of the Aboriginal Archaeological Technical Report (ATR), available [here](#).

Aboriginal community consultation

A formal process of Aboriginal Community Consultation has been undertaken for the Charles Street Square upgrade project (in accordance with the Office of Environmental Heritage (OEH) Consultation Guidelines), including the preparation of the ACHAR, developed in accordance with OEH Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW.

Stage 1 of the consultation process identified seventeen Registered Aboriginal Parties for the project. Consultation with the Registered Aboriginal Parties provided several relevant comments regarding potential impact to intangible heritage values (social and cultural) associated with the study area.

In particular, the area is significant to the Dharug people due to the connection of sites and evidence for continued occupation. There are likely to be other significant connections to the study area in the context of its surrounding landscape.

Mitigation measures for Aboriginal Heritage

The following mitigation measures will be undertaken to limit potential impact to Aboriginal cultural heritage values:

- » archaeological test excavation will be undertaken in accordance with the requirements set out in the ATR
- » an application for an Aboriginal Heritage Impact Permit (AHIP) under Section 90 of the NSW National Parks and Wildlife Act 1974 will be submitted to the Biodiversity and Conservation Division of the NSW Department of Planning, Industry and Environment
- » the Aboriginal archaeological investigation will be undertaken in accordance with the approved AHIP
- » intangible Aboriginal heritage values (social and cultural) of the site will be addressed through the interpretation plan which will explore interpretation initiatives to celebrate and communicate the significance of the site and landscape to the local Aboriginal community.

6.2. Non-Aboriginal Heritage

A Statement of Heritage Impact (SoHI) has been prepared, and no adverse impacts on heritage items either nearby or on the site are anticipated.

Mitigation measures for non-Aboriginal Heritage

The following mitigation measures will be incorporated:

- » an interpretation plan for the site will be prepared prior to the commencement of construction works
- » the interpretation plan will specify the location, type, materials, finishes and contents of the interpretation devices proposed
- » the interpretation plan is to be prepared by a suitably experienced heritage interpretation specialist.

The Statement of Heritage Impact (SoHI) for the Charles Street Square upgrade is available [here](#), and the Archaeological Assessment & Research Design (AARD) is available [here](#).

6.3. Historical Archaeology

The Archaeological Assessment indicates that the majority of the substantial excavations proposed by the Charles Street Square project will avoid the most significant known historical structure, the house of Thomas Barber, c1820s to 1870s. Some small excavation work is likely to impact upon the northern-most twentieth century cottage fronting Charles Street.

Excavation for the project generally avoids areas with historically indicated structures. However, the installation of a stormwater system does have the potential to intersect with the footprints of the Barber house and the twentieth century structures. This warrants archaeological testing in the area prior to the commencement of development works. This and other mitigations are outlined below.

An Archaeological Assessment and Research Design (AARD) for the project is available [here](#).

Mitigation measures for historical archaeology

The following mitigation measures will be undertaken:

- » An application will be made to the Archaeologist, Department of Premier and Cabinet, for an excavation permit, issued under Section 140 of the NSW Heritage Act. The application will be supported by the Archaeological Assessment Report and the Archaeological Research Design and Excavation Methodology.
- » The information generated from archaeological investigations will be explored as part of a public interpretation strategy, which is currently being developed.

6.4. Flooding

The Charles Street Square site topography is steep, falling to the north from Charles Street at RL 7.9 (relative level to the Australian Height Datum) to the river edge at RL 1.80. There are multiple outlets from the piped drainage network into Parramatta River.

Charles Street Square is flood prone and subject to flash flooding events.

Detailed flood impact assessment was undertaken, including modelling of the flood conditions. The modelling indicates that as a result of the upgrade of Charles Street Square;

- only minor changes to the flood depth, velocity and extents are expected
- there are no changes in flood hazards in the properties surrounding the subject site
- there are no changes in flood durations in any of the flood events.

Mitigation measures for flooding

The following mitigation measures will be undertaken:

- » The proposal incorporates flood compatible finishes below the 1% AEP plus 500mm to allow for easy maintenance. AEP refers to Average Exceedance Probability, and is the probability of a flood of a given size occurring in any one year – in this case there is a 1% chance this level of flood will occur in a given year.
- » Electrical and communication components located below 1% AEP + 500mm freeboard (known as the Flood Planning Level) will be waterproofed.
- » The storage of goods and valuable items will only occur at a level above the Flood Planning Level.
- » Each structure in the project will be designed and certified to withstand the forces of floodwater, debris and hydro-dynamic forces, flotation and scour up to and including the Flood Planning Level and full-immersion conditions.
- » A Site Emergency Flood Response Plan will be prepared prior to commencement of construction. This will detail evacuation and response procedures and identify areas of refuge, and provide appropriate measures that apply both during construction and after completion.

A Flood Impact Assessment including a description of the modelling and results is available [here](#).

6.5. Stormwater

The proposed stormwater drainage layout retains the existing in-ground stormwater network where feasible and adjusts surface levels where necessary to finish flush with proposed surface levels.

Additional grated inlet pits and trench drains are proposed at newly-formed low points and subsurface drainage will be incorporated in the design and connected to the nearest downstream drainage pits.

There is an approximate 10% reduction in impervious area in the proposal compared to the existing scenario. Considering the proximity to downstream receiving waters and height relationship to neighbouring properties, no detention of stormwater on the site is required.

Mitigation measures for stormwater

The following measures will be undertaken to improve the water quality of stormwater runoff:

- » Water Sensitive Urban Design has been incorporated with the inclusion of two raingardens, where impervious surface runoff is directed through landscaped areas to 'polish' the water.
- » Where runoff is directed to the in-ground pit and pipe system, pits will be fitted with trash racks to collect litter and provide primary treatment prior to discharging into Parramatta River.

A Stormwater Management Report can be read [here](#), to be read in conjunction with the civil drawings located [here](#).

6.6. Biodiversity

Vegetation within the proposed redevelopment area is a mixture of native and exotic plantings. The northern bank, across the river from the site, features a mixture of remnant and native revegetation, as well as weeds and degraded vegetation. There are two previously identified threatened ecological communities (TECs) on the northern bank, which are not directly impacted by the proposed works. The nearby mangrove areas are also not affected by the proposed works.

There was no habitat identified in the study area that would be suitable for threatened flora species due to the high level of modification of the southern bank and the high level of weed incursion and disturbance on the northern bank.

Potential habitat was identified for a number of threatened fauna species, including a number of microbats, primarily on the northern side of the river. The impact of the night-time digital projection associated with the artwork was assessed for indirect impact on this nocturnal fauna, and it was determined that no threatened fauna species reliant on night time roosting would be impacted negatively as additional roosting habitat is available.

The four trees that are proposed to be removed are not considered significant with respect to the threatened species because of their relative immaturity and lack of hollows, and the isolated and urbanised context of the vegetation. These trees are not significant and represent marginal foraging habitat for Grey-headed Flying-fox. They are unlikely to provide roosting or breeding habitat, and no other threatened species are likely to frequently utilise these resources for foraging.

The proposed artwork which includes a night time projection component has the potential to indirectly impact nocturnal fauna. As the light levels of the proposed artwork may be as high as 254 lux, the foraging activity of bats is likely to be substantially reduced during operating hours (three hours in the evening) and the flight path may be altered to avoid the illuminated area.

Birds active during the day may also roost in the vegetation on the northern bank at night. The artificial lighting within the 30m projection area may deter birds and roosting fauna. However additional roosting habitat is available in escarpment vegetation outside the projection area and no threatened fauna species is reliant on night time roosting.

Tests of significance (5-part tests) in accordance with the NSW Biodiversity Conservation Act 2016 and assessment in accordance with the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 determined that the proposal is unlikely to have a significant impact on any threatened species or ecological community listed.

The full Biodiversity Impact Statement is available [here](#).

Mitigation measures for biodiversity

The following mitigation measures will be put in place:

- » Storage areas will be located away from the drainage lines and the Parramatta River to minimise risk of pollution and adverse impact to aquatic ecosystems.
- » Landscape plantings will include locally occurring species to enhance habitat for native fauna.
- » Digital projection associated with the artwork will incorporate lower level lighting in the artwork sequence so native vegetation is not illuminated at maximum brightness for the three hours the artwork is activated each night, to limit any disturbance to foraging habitat for threatened microbats or birds.

6.7. Tree removal

An Arboricultural Impact Assessment (AIA) was undertaken and assessed 26 trees, 11 of which are located within the subject site. All the trees on site have been planted within the last 30 years (approximately).

The proposed upgrade works will necessitate the removal of the following trees within the site, each of high retention value:

- Tree 4 Sydney Red Gum (*Angophora costata*)
- Tree 5 Sydney Red Gum (*Angophora costata*)
- Tree 8 Brushbox (*Lophostemon confertus*)
- Tree 13 Spotted gum (*Corymbia maculata*)



Figure 14 Plan showing trees to be retained (1, 2, 3 and 15) and trees to be removed (4, 5, 8 and 13)

Trees 4, 5, and 8 are located on a steep embankment, and the levels of the new seating terraces adversely impact the structural root zones (SRZ) of these trees. The levels around each of these trees could not be retained without having very high terraces with balustrades which would not provide a welcoming geometry for the seating terraces, and which would have contributed to increased flooding impacts.

Tree 13 conflicts with the bike parking area. A relatively flat space is needed to accommodate the required numbers of bike lockers, bike racks and bike hire spaces. There is no other suitable location for bike parking at the Garden Terrace, particularly as bike parking at the riverfront is not feasible due to flood risk.

The planting proposal replaces the four trees and provides for additional tree plantings. A total of 28 new trees is proposed. This is considered to offset the loss of four trees.

The Arboricultural Impact Assessment (AIA) and Tree Protection Plan and Specification is available [here](#).

Mitigation measures for tree impacts

The following mitigation measures will be undertaken:

- » The tree protection measures detailed in Sections 4 and 5 of the Arboricultural Impact Assessment Report & Tree Protection Plan and Specification will be implemented during the construction of the works to prevent inadvertent impacts on trees proposed for retention. These include careful excavation in the Tree Protection Zone (TPZ), monitoring during construction by a qualified arborist, tree protection fencing around the TPZ of all trees to be retained (apart from Tree 2 & 3), and individual trunk protection for Trees 2 & 3, due to heavy equipment operating within the TPZ of these trees.
- » Where the new works are close to the trunks of existing trees and built well above existing ground levels (Tree 2 & 3), tree grates are to be removable to allow ongoing inspection of the trunks at ground level.

6.8. Contamination and acid sulfate soils

The Detailed Site Investigation (DSI) followed the completion of a Stage 1 Preliminary Site Investigation, which identified one area of environmental concern (AEC) within the site. The main purpose of the DSI was to determine that the site could be made suitable, from a contamination perspective, for the proposed use.

The Detailed Site Investigation concluded:

- Detected concentrations of potentially concerning contaminants are unlikely to present an unacceptable human health exposure risk in terms of inhalation or vapour intrusion, or an unacceptable petroleum management limit risk.
- Benzo(a)pyrene was detected in some soil samples, which presents a direct-contact human health exposure risk during excavation, if exposed to skin or airways.
- Asbestos was detected in several soil samples and would present an unacceptable human health exposure risk during intrusive construction works if unmanaged.
- Ecological Investigation Levels were exceeded for Copper and Zinc at several sampling locations. This may present an unacceptable ecological exposure risk during intrusive construction works if unmanaged.

The majority of the site is covered by hardstand materials and landscaped areas and the detected contaminants in the soil were located at depth, so there is no immediate human health risk before redevelopment works commence.

The Detailed Site Investigation concludes that the site can be made suitable for the proposed redevelopment pending supplementary contamination assessment and appropriate remediation during construction.

The Detailed Site Investigation is available to read [here](#).

In response to the recommendations of the Detailed Site Investigation, a preliminary Remedial Action Plan (RAP) has been prepared.

The goal for this site is to remediate potential soil contamination (where identified) to a level that does not present an unacceptable human health and ecological exposure risk, based on the proposed land use setting. The RAP includes a number of recommendations and mitigation measures. With adherence to the RAP, the site can be made suitable for the proposed use.

The preliminary Remedial Action Plan (RAP) is available to read [here](#).

Acid sulfate soils

Under Parramatta LEP 2011, the site is classified as Class 4 Acid Sulfate Soils, meaning that if excavation is beyond 2 metres below ground level, an Acid Sulfate Soil Management Plan would be required. Currently, the proposal does not require excavation beyond 2 metres below ground level.

Mitigation measures for contamination and acid sulfate soils

The following mitigation measures will be undertaken:

- » The strategies, methodologies and measures set out in the Remedial Action Plan Charles Street Square (available to view via the link above) will be implemented.
- » Remediation, monitoring and validation works will be undertaken by a suitably experienced environmental consultant.
- » An addendum to the RAP will be prepared should newly identified unacceptable land contamination risks be identified during supplementary assessment works.
- » Prior to any removal of soils from site for offsite disposal during remedial works, a waste classification for soils to be disposed will be prepared by a suitably experienced environmental consultant.
- » A long-term environmental management plan (EMP) will be prepared that documents all areas where residual contamination is still present on the site and all capping and isolation measures that are required. Any provisions contained in the long-term EMP will be legally enforceable and will be publicly notified.
- » While excavation greater than 2 metres below ground level is not anticipated, an Acid Sulfate Soil Management Plan will be prepared in the event that it is determined that excavation beyond this extent is required.

6.9. Lighting

New lighting is proposed to improve safety and wayfinding throughout the square. Lighting in the public domain will be designed and certified to comply with the AS/NZS 1158:2007 Lighting for Roads and Public Spaces, as set out in clause 65(3)(iv) of the Infrastructure SEPP, and AS/NZS 4282:2019 Control of the obtrusive effects of outdoor lighting.

As noted in the Biodiversity section, the proposed artwork will involve a light projection onto the rock face and vegetation of the escarpment on the opposite side of the river to the site, which will run for a maximum of 3 hours per night before 11pm and incorporate varying intensities of light level over the screening time to minimise impacts on fauna. This timeframe will also ensure impacts on nearby residents are minimised, in line with the curfew set in AS/NZS 4282:2019.

Mitigation measures for lighting

The following mitigation measures will be undertaken:

- » Lighting in the public domain will comply with the Lighting for Roads and Public Spaces Standard (AS/NZS 1158:2007)
- » The artwork light projection will be displayed for a three (3) hour period to no later than 11pm nightly.

6.10. Public Safety

Crime prevention and public safety at Charles Street Square has been incorporated into the design, with consideration of the principles of Crime Prevention through Environmental Design (CPTED) including surveillance, access control, territorial enforcement and space management.

The Urban Design Report which includes an assessment against these principles is available [here](#).

Mitigation measures for public safety

No further mitigation measures are required.

6.11. Construction and waste impacts

The construction of the Charles Street Square upgrade works has the potential to result in minor amenity impacts on surrounding residential and commercial properties. These impacts may include construction traffic impacts, air quality and noise impacts as well as disruption to pedestrian and vehicular movements and the disruption of ferry services for limited periods of time.

There is also the potential for construction works to generate pollution, if appropriate environmental controls – such as sediment and erosion control devices, exclusion fencing, dust control, stockpile management etc. – are not put in place.

The Charles Street Square project will generate waste primarily from demolition of structures and from excavating spoil, but also from surplus materials, construction processes, packaging, and domestic waste generated by site construction workers. All construction waste will be managed in accordance with the preliminary CEMP, which will be updated by the contractor to reflect detailed construction methodology.

To read how waste and the temporary and minor impacts of construction will be managed, you can review the Construction Environmental Management Plan (CEMP) [here](#) and the draft Construction Traffic and Pedestrian Management Plan (CTPMP) [here](#).

Mitigation measures for construction and waste

The following mitigation measures will be undertaken:

- » The preliminary CEMP and CTPMP will be updated by the contractor to reflect detailed construction methodology and with regard to the objectives and strategies in the preliminary documents, and submitted for approval by Council prior to the commencement of works.
- » Construction activities and site management will be undertaken in accordance with the approved CEMP and CTPMP.
- » Suitable excavated spoil will be reused on site where possible, and if not, classified and disposed of at a licensed facility.
- » All spoil will be classified and stored separately to avoid contamination, in stockpiles within or adjacent the project site (location to be investigated and identified during the detailed design stage).
- » Any potentially re-useable or recyclable materials and fittings will be removed and stored safely and securely for reuse in the project or elsewhere.

6.12. Social and economic impacts

The Charles Street Square upgrade will have positive social impacts, resulting in improved access, safety, circulation and amenity to meet the needs of local residents and workers, as well as visitors to the area.

The community's appreciation of the heritage significance of the area will be enhanced through the implementation of the Interpretation Plan that will introduce meaningful ways of celebrating the Aboriginal and historical significance of Parramatta Wharf and Charles Street Square.

The upgrade works proposed will improve public domain amenity and may contribute to increased patronage of the foreshore and local businesses adjacent to the square.

The upgrade will also maintain necessary vehicle and pedestrian access for businesses adjacent the site area, in accordance with the CTPMP noted above.

Mitigation measures for social and economic impacts:

No further mitigation measures are required.

6.13. Cumulative impacts

Under Clause 228 of the EP&A Regulation 2000, the cumulative environmental effect of proposed works with other existing or likely future activities must be considered when assessing the impact of an activity for the purposes of Part 5 of the EP&A Act.

There are a number of major construction projects occurring in the vicinity of Charles Street Square, including:

- Escarpment boardwalk project – construction commenced and due to complete late 2020
- 180 George Street Parramatta residential apartments – construction commenced and due to complete mid-2022
- 36 Charles Street Port Bar upgrade – DA for redevelopment lodged August 2020, with concurrent construction possible
- 90-94 Phillip Street Parramatta – Planning Proposal under consideration.

During the construction period, there is likely to be some minor cumulative impacts during construction due to the current redevelopment underway at 180 George Street and possible works to the Port Bar.

Once operational, the proposal is unlikely to generate any substantial cumulative impacts.

Mitigation measures for cumulative impacts:

- » The City's appointed contractor will liaise with the developers of 180 George Street and Port Bar (if under construction) to manage the interface of construction of the improvements in proximity to these sites.

7. CONCLUSION

The Review of Environmental Factors (REF) forms the environmental assessment required under the EP&A Act for the proposed Charles Street Square upgrade.

This report:

- describes the proposed development
- demonstrates the proposed development complies with the intent of relevant statutory and policy documents
- provides an assessment of the likely environmental effects of the proposed development
- identifies required mitigations and safeguards.

The proposal is consistent with the zoning of the site and all relevant provisions contained within the Infrastructure SEPP.

The assessment concludes that there are no significant environmental constraints on the site that preclude the upgrade works, and that the proposed development will not result in any significant adverse environmental impacts, subject to the implementation of appropriate mitigation measures.

It is therefore considered that an Environmental Impact Statement (EIS) is not required.



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