Transport for NSW

Central Precinct Renewal Program

Response to Submissions Addendum - Environmental Sustainability Study

August 2023

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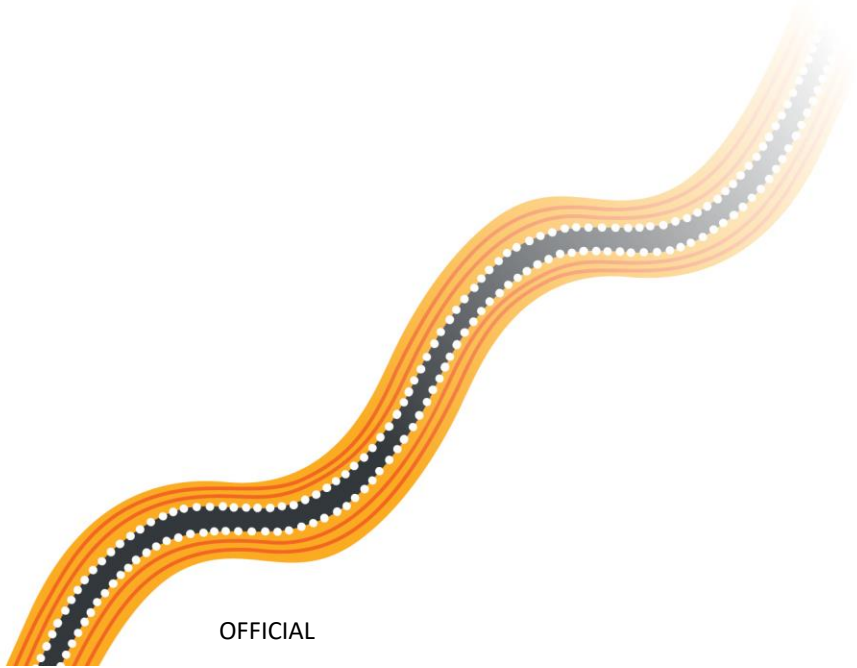
NSW GOVERNMENT

Acknowledgement of Country

We respectfully acknowledge the Traditional Custodians of the Central Precinct, the Gadigal and recognise the importance of the place to Aboriginal people and their continuing connection to Country and culture. We pay our respect to Elders past, present and emerging.



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Document control

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Approved by	Transport for NSW
Branch	IP Development
Division	Infrastructure and Place (IP)

Versions

Version	Amendment notes
1.0	Final for CPRP Public Exhibition 2022
2.0	Final for DPE Submission
3.0	Issued to TfNSW for Review – Standard text updated
4.0	Final

1. Introduction

The purpose of this addendum is to respond to feedback received from the public exhibition of the Central Precinct Renewal Program State Significant Precinct (SSP) Rezoning Proposal, specifically relating to the Environmental Sustainability Study.

This addendum aims to:

- Respond to key technical matters relating to environmental sustainability, climate change, and waste management raised during the public exhibition to inform the *Response to Submissions Report* for Central Precinct
- Assess the proposed changes to the revised scheme for Central Precinct
- Provide additional recommendations for the proposed planning framework for Central Precinct.

This addendum is intended to be read in conjunction with the exhibited technical study (Attachment 24: Environmental Sustainability Study).

2. The exhibited SSP Study

The Central SSP Study and supporting documents were made available for public comment from 22 August to 4 October 2022. During the exhibition period, community members and stakeholders were invited to provide their comments and feedback on the rezoning proposal.

2.1 The exhibited proposal

The exhibited rezoning proposal included a Place Strategy, Urban Design Framework, Public Domain Strategy, draft Design Guide, Explanation of Intended Effect and supporting technical studies, which seek to enable the delivery of:

- approximately 269,500 square metres of commercial gross floor area GFA.
- approximately 22,850 square metres of retail GFA
- approximately 47,250 square metres of education/ tech GFA
- approximately 14,300 square metres of community/cultural GFA
- approximately 84,900 square metres of residential GFA
- approximately 53,600 square metres of hotel GFA.
- approximately 22,500 square metres of student accommodation GFA.
- 15% of new dwellings to be provided as affordable housing
- over two hectares of new and improved publicly accessible spaces, including:
  - Central Square, a new approximately 7,000 square metre publicly accessible square located at the George Street and Pitt Street junction
  - Central Green, a new approximately 6,000 square metre publicly accessible park located immediately south of the Sydney Terminal building
  - Mortuary Station Plaza, an approximately 4,470 square metre publicly accessible plaza (excluding the Mortuary Station building) located at Mortuary Station
  - Sydney Terminal building western rooftop, a 970 square metre publicly accessible space above the Terminal building roof
  - upgrades to Eddy Avenue Plaza and Ibero-American Plaza.
- an integrated network of streets, laneways and other movement corridors, including:
  - Central Avenue, as Central Precinct's new main street
  - Devonshire Link, as Central Precinct's main east-west linking street
  - a north-south link as an intimately scaled, active laneway
  - a supporting network of other open-to-the-sky laneways generally running east-west through the Precinct
  - a number of through-block links to provide further permeability for pedestrians
  - an eastern colonnade having a generous, double-storey height
  - three new active transport over-rail bridges
  - a revitalised Goods Line.

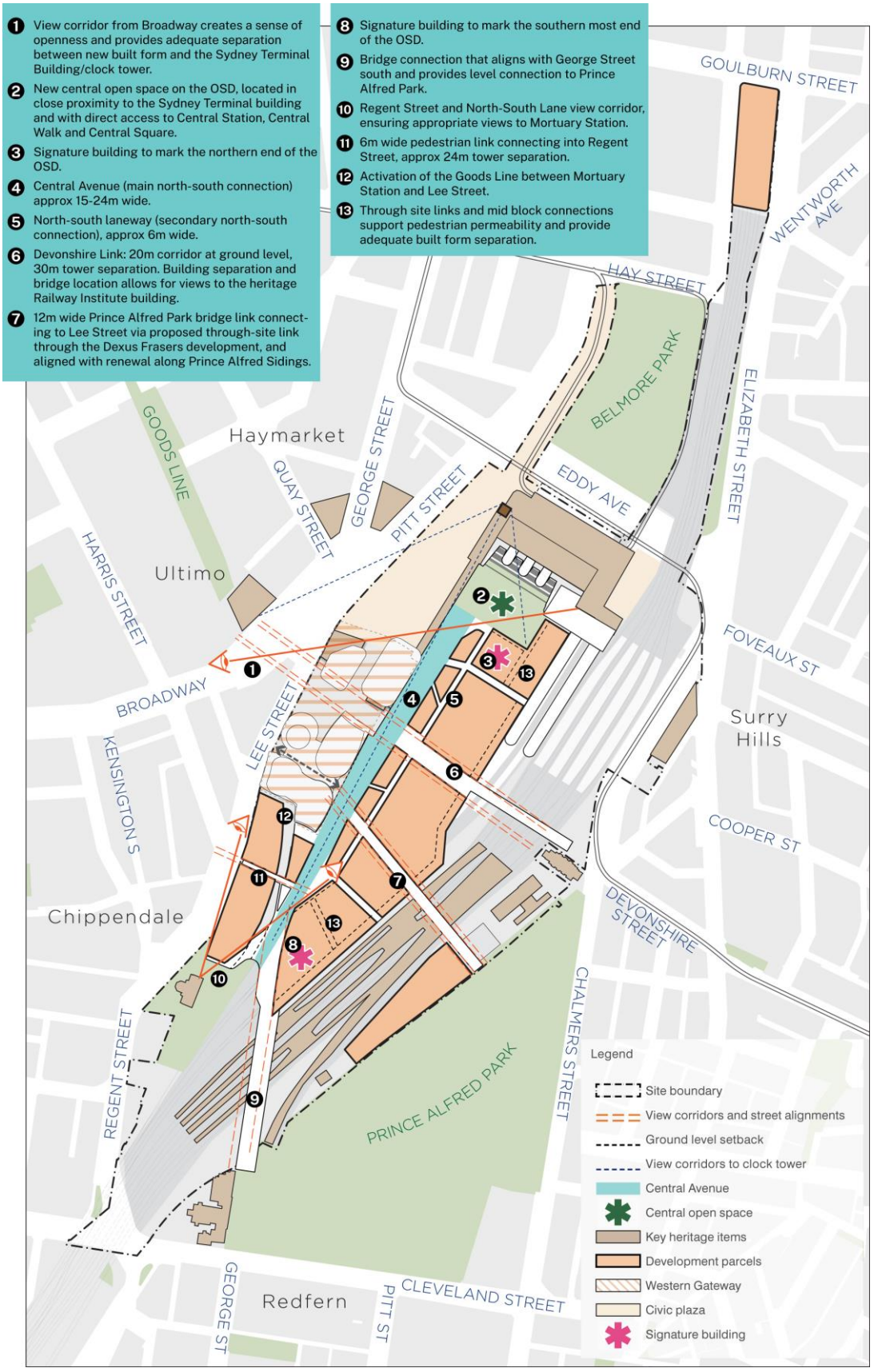


Figure 1: Exhibited Urban Design Framework
Source: Architectus, 2022

3. Feedback relating to sustainability received during exhibition

A total of 368 submissions were received from individuals, local council, government agencies, industry bodies, non-government organisations and interest groups. Table 1 below provides an overview of the feedback relating to sustainability based on our review of the submissions.

Table 1 Summary of feedback from public exhibition relating to sustainability.

Theme	Summary of feedback
Sustainability impacts	1. Nomination of a high level of ambition, and clear commitments in the Design Guide to support realising a sustainable outcome which demonstrates leadership a. The need for a higher level of ambition and commitment in the Design Guide b. Concerns about non-committal language and requirement for firm and specific requirements to achieve sustainable outcomes precinct-wide c. Concerns about the proposed controls to create a 'world-leading environmental sustainability outcomes' d. The requirement of increasing the sustainability targets e. The requirement for more ambitious sustainability targets
	2. Meaningfully addressing climate change a. The requirement to address the climate emergency b. Concerns on climate change and GHG emissions c. The need for better focus on future need d. The need for climate change scenarios to be accompanied by a suitable future point in time.
	3. The need for identifying the parties responsible for delivering precinct-wide sustainability systems and setting requirements for investigation and delivery
	4. Enabling zero waste solutions across the precinct a. The need to demonstrate leadership in zero waste and circular economy outcomes b. Requirement of a centralised waste management network and an integrated waste management strategy c. The need for stringent waste-to-landfill reduction and resource recovery requirements.
	5. Integration of technology and sustainability.
	6. Concerns over the environmental outcomes of the proposed deck over the slab.
Further technical studies and amendments	7. Strengthen waste management by referencing the Better Practice Guide for resource recovery in residential developments.
Green infrastructure	8. The requirement to integrate Sustainability Initiatives with Green Infrastructure, Ecology, Urban Forest & Greening as a systems-based approach.

Theme	Summary of feedback
	9. The need for the public domain of the Precinct to be founded on system-based green infrastructure networks.
Biodiversity impact	10. Concerns about the new climate pollution to be caused by the project post-2025, when emissions are required to peak, according to UN reports
	11. Impact of climate change.
Waste management	12. Concerns in waste management in residential and commercial spaces.

4. Responses to key issues raised

4.1 The need for a higher level of ambitions and clearer commitments in the Design Guide

Issue

Nomination of a high level of ambition, and clear commitments in the Design Guide to support realising a sustainable outcome which demonstrates leadership.

Response

The level of ambition as articulated in the Design Guide is, at a high level, world's best, as it is understood today. The commitment to this outcome is clear, however, the language has intentionally been left open, to allow the space for design teams to provide the most progressive design solutions available at the time they are put forward. As noted in the proposal, and in some of the submissions, this project will be developed over a long time. Expectations for sustainable performance have increased in quantum as well as matured in scope over the last 20 years. This is so that what is understood today does not constrain the design responses over the life of the project.

That said, the following updates to the Design Guide further clarify that intention:

- Section 12.1 of the Design Guide has been updated to reference the NSW Government's 2030 & 2050 emissions targets.
- Section 12.6 of the Design guide to include Natural Ventilation Objectives in Part 4b of the Apartment Design Guide (ADG) (Department of Planning and Environment July 2015).
- Section 12.1 of the Design Guide has been updated to state the precinct will achieve net-zero emissions in operations
- Section 12.3 of the Design Guide has been updated to include a commitment to 100% renewable energy
- Section 12.3 of the Design Guide has been updated to include additional guidance on the delivery of an embedded network supplied with 100% renewable energy, and whether it is delivered at building or precinct scale, including a requirement for investigations and a delivery plan prior to any concept development application. An additional requirement is included under Provision 5 to procure 100% renewable energy for the precinct and each building in the event the private network is not established to ensure the commitment to net zero is realised
- Section 12.7 of the Design Guide has been updated to provide additional guidance for carrying out and implementing the Climate Risk and Adaptation Plan (CRA) with development applications by stating the relevant development applications are to provide a CRA for each building development application, using the applicable Green Star protocol. Part of the application process will be to ensure the existing CRA remains relevant; the project team is permitted to make a case to update the existing by submitting a revised CRA with justifications for the proposed changes, and then Transport will update the precinct scale CRA as necessary.

4.2 The need to nominate responsible parties for various aspects of delivery

Issue

The proposed Design Guide must be reviewed in order to identify the parties responsible for delivering precinct-wide sustainability systems, and to set requirements for investigation and delivery in relation to concept development applications and building development applications.

Response

It is essential that the responsibility for each stage is clear. This does not necessarily require identifying or assigning that responsibility to certain individuals or parties, as different forms of contract will assign these responsibilities. The Design Guide speaks to the points when these decisions need to be made. The Design Guide, which is similar to a DCP, is not the appropriate location to identify the parties responsible for delivering the sustainability outcomes. The delivery of the Central Precinct is being led by Transport for NSW (Transport) and will include a variety of delivery partners including the private sector proponents. The high level sustainability outcomes are included in the planning framework and will need to be delivered regardless of the party or parties undertaking the delivery, and the requirements for more detailed investigations during the detailed design and SSDA / DA phases are included in the Design Guide.

4.3 The need to meaningfully address climate change

Issue

The Climate Emergency demands that we consider the embodied energy in existing buildings and infrastructure and the emissions generated in the demolition and construction of new buildings and infrastructure. This must be coupled with an awareness of the operational energy and emissions of the proposed development.

Response

Embodied energy is important – not wasting the useful life of things which are already built means that adaptive re-use is the first best choice, and this being a redevelopment project includes that possibility for parts of the precinct. Where the existing infrastructure is no longer fit for purpose, either in quantum (total space available) or in character (use, technology) there are two key questions which must be answered well:

- How can anticipated growth be accommodated in such a way as to maintain amenity in our City?
- How can the allocation of sufficient space for other life processes be ensured?

This means maximising the performance of land already modified, and it also means considering increased density to mitigate further encroach into dwindling wildlife and agricultural spaces.

A key premise of the Design Guide is a Circular Economy approach to the development of this precinct. Refer to section 12.9 on the ambitions of the project, specifically the need to use previously developed land to greatest potential, and noting that both embodied and operational aspects are addressed in the Guide.

Operational emissions are addressed directly in Section 12.1 Energy and greenhouse gas emissions, and indirectly in Sections 12.3 Electrical energy, 12.4 Thermal energy, 12.5 Solar gain, 12.6 Natural ventilation and 'buildings that breathe', and 12.10 Waste management, while embodied emissions are addressed in Section 12.9 Circular economy and materials.

In addition, Green Star requirements include a performance-based approach as the one which allows the best solutions for overall embodied/operational carbon to be addressed. In the version of Green Star at the time of writing, Section 12.2 of the Design Guide, High Performance Precinct and Buildings embeds the requirement for 6 Star Green Star Buildings ratings for all buildings nominating the following minimum expectations: to be 100% renewably powered, use 30% less energy than a typical building, have 40% less embodied carbon than a typical building, and have all emissions offset. It is noted that a key advantage of using Green Star is that it will be updated over time; the intention is that projects use the version which is current at the time of submission, and as such the details noted as examples above may change.

Issue

The proposed controls are not specific enough to provide the intended level of resilience to potential changes in rainfall intensity.

Response

It is agreed that changes in rainfall intensity will influence design requirements. As an overall principle, prescriptive guidance has been avoided for two reasons:

- Experience shows that these approaches change drastically within timeframes shorter than the anticipated development timeline of this project, and
- In this instance, it is impossible to accurately predict what the changes in rainfall intensity will be 10-20 years from now.

The issue raised points to the need for design parameters to be derived from the best information available at the time, and then to be consistently applied. As with climate change, effectively addressing changes in rainfall due to climate change scenarios is noted as a requirement in Sections 14.3 and 14.4 of the Design Guide, and specific design responses will be reviewed against the level of information available at the time of submission.

4.4 The need to enable zero waste solutions across the precinct

Issue

A centralised waste management network should be addressed in the guidance in order to meet the stated objectives. This network would set the framework for all developments to consider how they integrate into this network for waste storage, transfer, and collection. The integrated waste management strategy should be more comprehensive to support the appropriate sizing of infrastructure, storage and loading areas and servicing requirements for waste and recycling management for the entire precinct. The precinct must be designed to accommodate leading source separation of materials including separated organic and inorganic recycling streams e.g. food organics. All developments must demonstrate how they are

designed to integrate with the precinct-scale waste management network and strategy. All waste and recycling management systems must demonstrate how they minimise negative impacts of waste management on the streetscape, public space, building presentation and amenity of pedestrians, occupants, and neighbouring sites.

Response

All these requirements are included through the application of the Green Building Council of Australia's Green Star rating system and required through section 12.2 of the Design Guide for all buildings in the development. The reference design is predicated already on a centralised waste management strategy; refer to the Design Guide sections 12.9 on circular economy and materials and section 12.10 on waste management.

Issue

While the Environmental Study and the Design Guide identify high-level objectives in terms of waste the level of ambition falls short of what the City would expect for a 'best practice' precinct. Central Precinct should not be locked into minimum-standard waste requirements; it should instead seek to deliver beyond them including innovative ways to achieve NSW and City of Sydney targets and minimise waste to landfill and maximise resource recovery. Consideration must be given towards precinct-scale strategic oversight on waste and recycling infrastructure design, space, access and management. Without adequate consideration at the design stage, significant opportunities for precinct-wide resource recovery and best-practice waste management will be missed.

Response

The masterplanning work for the SSP has included a precinct-wide servicing and centralised waste management strategy as core shared infrastructure to enable best practice outcomes across the precinct. It is not appropriate to mandate this through the planning instrument; the detailed design and delivery stages post-SSP rezoning are the appropriate time to further investigate waste management solutions, as the uses will have been determined and waste streams can be identified.

It is agreed that Central Precinct should not be locked into a minimum standard. It is widely accepted practice for a planning document to nominate a minimum standard in the Design Guide, including language around the intention to improve and maximise resource recovery. This makes it clear to applicants that this is a priority and encourages projects to exceed expectations in this regard.

The primary reason that specific, prescriptive guidance is being avoided here is that a key risk with a project that has such an extended timeframe is that performance is linked to mandated outcomes that will be out-of-date by the time the first buildings are being constructed (circa 2030).

This is particularly true of circular economy a concept that only entered the modern development industry lexicon in the past decade, is being continually and rapidly developed, and will undoubtedly be one of the defining megatrends of this century.

Where possible preference has been to tie performance to independent third-party standards that will be regularly updated to reflect global best practice (e.g. Green Star and NABERS).

The Design Guide currently references the City of Sydney Waste Management Guidelines in Section 12.10. It has been updated to refer to alignment with the latest version of Australian, New South Wales, and City of Sydney waste management and circular economy policies and strategies. While the City of Sydney 2017-2030 waste targets and the NSW Government's 'Stage 1: 2021-2027' circular economy targets are ambitious right now, they will likely not be even at the end of their stated time frames.

The Design Guide will reference these current standards, with a proviso that any revised versions of these documents or new documents clearly stated to replace these documents will become the new standards for performance.

Issue

As the authors of the NSW Circular Economy Policy Statement, the State Government should ensure that large scale new developments, especially those with a tech focus such as Central Precinct, are demonstrating leadership in achieving real and measurable zero waste and circular economy outcomes in the built environment. The reports should go beyond identifying opportunities and principles. Prescriptive controls on specific stated outcomes need to be included as requirements for this development. In particular, there is a need to consider how circular economy is incorporated during the design phase of the precinct and not simply the operational phases.

Response

The Design Guide's guidance on circular economy and materials should be specific, providing sufficient detail or specifications to assist developers or planners on how buildings or infrastructure could be designed and constructed to meet the stated objectives. This would be important to consider at all stages of the development. Section 12.9 of the Design Guide has been updated to refer to 'Circular design guidelines for the built environment' from NSW Government to address this additional detail for the benefit of design teams.

Issue

The EPA supports the Rezoning Proposal's focus on waste management in the strategic planning stage of Precinct development by reference to the Circular Economy Policy Statement: Too Good to Waste (NSW Government, 2018). This focus would be strengthened by amending the Rezoning Proposal and Sustainability Plan to reference and encourage the implementation of the Better Practice Guide for Resource Recovery in Residential Developments (EPA, 2019), which provides strategic planning tools to ensure that waste is managed effectively for mixed use residential developments.

Response

The Environmental Sustainability, Climate Change, and Waste Management study already sets out guiding documents; some from the DPE Study Requirements, some additionally added as relevant to the particular section. For example, Section 10. Integrated waste management includes a review of NSW Circular Economy Policy Statement (Section 10.1.2).

An additional note, similar to those in other sections, has been added to the Design Guide in Section 12.9 Circular economy and materials which states:

> Related reference documents
>
> The objectives and guidance contained in this section should be read in conjunction with the latest version of following documents:
>
> - NSW Circular Economy Policy Statement: Too Good To Waste (EPA, 2019)
>
> - Better practice guide for resource recovery in residential developments (EPA, 2019)
>
> - Circular design guidelines for the built environment (OECC, 2023)
>
> - Leave nothing to waste: Waste strategy and action plan (City of Sydney, 2017)

4.5 Integration of technology and sustainability.

Issue

The future plans for the site will have the potential to showcase Sydney and its technology and sustainability. For all points on sustainability, the site should use and showcase the best of the best, attracting global tech firms that have environmental status at the forefront of their minds.

Response

This potential is certainly an important aspect of this project. These are the kinds of solutions that the Design Guide is calling for, and the competitive process and market forces will determine what solutions get adopted. This is addressed in Section 12.11, 'Digital'.

4.6 Concerns over the environmental outcomes of the proposed deck over the slab.

Issue

The proposed decking over of the slab is a poor environmental outcome.

- The concrete slab, which would require significant amounts of embodied energy, would support a landscape that is not naturally sustainable, has literally no connection to the soil below and is unlikely to develop mature trees as illustrated.
- The decked over platforms will require artificial lighting, ventilation and safety systems that represent very significant ongoing energy consumption, operational and maintenance costs. They also complicate and elevate the operational risk of operating trains in an enclosed space.

Response

The current level of landscaping/green infrastructure Central provides is poor. This design solution is being proposed in support of achievement of the significant green cover and canopy cover requirements for the City of Sydney. A design solution which involves decking over a train station is not without its challenges. This was discussed in detail in the exhibited Central Precinct Urban Design Framework (July 2022) technical study.

It is acknowledged that a development like this must consider its embodied and operational impacts. The renewable energy ambitions of the precinct nominate ambitious targets for both embodied and operational energy (refer to Design Guide section 12.1 Energy and greenhouse gas emissions). Transport has stated its commitment to delivering a net-zero Central Precinct (refer to Design Guide section 12.1).

It is also acknowledged that successfully growing large trees in these conditions requires careful design and maintenance. The Green Infrastructure Study Addenda Report has considered carefully how the over station deck design can support appropriate soil depth, volume, and type, matched to tree species to allow for trees to grow to maturity. The Design Guide also notes a soil connection from the deck to Prince Alfred Park (Section 13.3).

There are global precedents for this type of solution delivering beneficial social and ecological outcomes, including the High-Line in New York City, Bagley Walk of Kings Cross in London, Seoullo 7017 Skygarden in South Korea, and Bloomingdale Trail in Chicago. As per relevant studies and supporting Design Guide provisions, the proposed solution will achieve positive sustainability outcomes in the Sydney context.

4.7 The need for the public domain of the Precinct to be founded on system-based green infrastructure networks

Issue

To deliver a Central Precinct that is easier, safer, and more comfortable to use, whilst also retaining the Precinct's heritage, the public domain of the Precinct must be founded on system based green infrastructure networks. The project should develop an Integrated Green Infrastructure Framework (GIF) with ambitious specific targets to guide the delivery over the 30 year development framework.

Generally, the sustainability Initiatives are supported. However, there does not appear to be any integration with Green Infrastructure, Ecology, Urban Forest & Greening as a systems-based approach.

Response

Strategically, the approach taken has been to address these considerations an in integrated, systems approach. However, the Design Guide has been organised to highlight key considerations as core principles, which are aligned with this comment, and include ambitious commitments to address:

- Biodiversity
- Connection to Country
- Water
- Amenity
- Public domain.

For the avoidance of confusion, the Design Guide has clear sections and cross references between the core principles. This approach also ensures alignment across the core principles and avoids duplication. Similarly, a holistic approach has

been taken to Targets, which are precinct-wide, as infrastructure will be a key element in delivering on this level of ambition.

The revised Public Domain Strategy is now integrated with the revised Green Infrastructure report creating this Framework. Its recommendations are incorporated into the Design Guide. It is also coordinated with the Environmental Sustainability Study.

4.8 Concerns about the additional climate pollution to be caused by the project

Issue

Project documents do not mention the UN April 2022 reports or their scientific message that climate pollution must peak before 2025. The project documents don't quantify the significant new climate pollution to be caused by the project which is anticipated to take 20 years to build.

Response

The report in question, 'IPCC | Climate Change 2022: Mitigation of Climate Change,' does not provide any new tangible actions to address climate mitigation relevant in this context but does further substantiate the use of RCP8.5 climate scenarios in the Climate Adaptation Plan appended to the Environmental Sustainability Study which addresses mitigation, adaptation, and emergency preparedness.

All project documents were finalised prior to April 2022, however the Environmental Sustainability Study is informed by the UN Sustainable Development Goals (Section 7.1). It also quantifies operational GHG emissions (Section 8.3.2), embodied GHG emissions (Section 8.3.3), and total cumulative GHG emissions to 2050 (Section 8.3.4) demonstrating that 2.9 mt of GHG emission would be avoided by targeting 'best practice' ratings with independent third-party sustainability tools.

The Design Guide requirement for the precinct and all built projects within the precinct to achieve Green Star ratings assures that by time precinct construction is able to commence the precinct and all buildings will be delivered with net zero emissions and will be operated with net zero emissions.

4.9 Concerns about waste management in residential and commercial spaces

Issue

Waste management in residential and commercial spaces should be designed for the best possible outcome. For example, in residential spaces, space for waste separation and drop off/collection to be part of the design (such as multiple spaces in the kitchen & laundry) to allow for easy recycling.

Response

This has been included in the Design Guide as something to be addressed in the Development Application stage. Refer to section 12.10 Waste management.

5. The revised proposal

Based on the feedback received during the public exhibition of the Central Precinct rezoning proposal, a revised proposal has been prepared for the Department of Planning and Environment's (DPE) consideration as part of its assessment. The revised proposal includes an updated Urban Design Framework and Public Domain Strategy, which establishes the updated Reference Masterplan and has informed updates to the proposed planning framework for Central Precinct. The updated Reference Masterplan comprises:

- approximately 263,000 square metres of commercial gross floor area (GFA).
- approximately 24,450 square metres of retail GFA
- approximately 46,000 square metres of education/ tech GFA
- approximately 14,800square metres of community/ cultural GFA
- approximately 82,350 square metres of residential GFA
- approximately 53,000 square metres of hotel GFA.
- approximately 20,700 square metres of student accommodation GFA.
- 30% of new dwellings to be provided as affordable housing
- over two hectares of new and improved publicly accessible spaces, including:
  - Central Square, a new approximately 7,000 square metre publicly accessible open space located at the junction of George Street and Pitt Streets at street level
  - Central Green, a new approximately 6,200 square metre publicly accessible open space located immediately south of the Sydney Terminal building at deck level, including the Sydney Terminal building western rooftop
  - Devonshire Square, an approximately 3,700 square metre publicly accessible plaza at the junction of Central Avenue and the Devonshire link
  - Southern Plaza, an approximately 4,700 square metre publicly accessible plaza at the junction of Central Avenue and the George Street Bridge
  - Mortuary Station Plaza, an approximately 6,500 square metre (excluding the Mortuary Station building) publicly accessible plaza located at street level at the junction of the Mortuary Station and the Goods Line
  - upgrades to Eddy Avenue Plaza and Ibero-American Plaza.
- an integrated network of streets, laneways and other movement corridors, including:
  - Central Avenue, as Central Precinct's new main street
  - Devonshire Link, as Central Precinct's main east-west sequence
  - a north-south link as an intimately scaled, active laneway
  - a supporting network of other open-to-the-sky laneways generally running east-west through the Precinct
  - through-block links to provide further permeability for pedestrians
  - three active transport over-rail bridges
  - a revitalised Goods Line as an active transport corridor.

The key features of the updated Reference Masterplan, include:

- A network of new and enhanced public spaces linked together by green connections. This will include:
  - A new Central Square that will deliver on the vision for a new public square at Central Station, as one of three major public spaces within the Sydney CBD connected by a people-friendly spine along George Street
  - A Central Green (Dune Gardens) at the north of Central Precinct will create a new civic park extension of the Sydney Terminal building and a new vantage point for Central Sydney
  - A new civic space (Devonshire Square) at the proposed entry/exit point to Central Walk from the OSD, giving access to all platforms within Central Station.
  - Mortuary Station Plaza at Mortuary Station will be a key public domain interface between Chippendale and the over-station development and a public link to the Goods Line
  - A reconfigured Southern Square at the southern end of the OSD deck will provide a new arrival and meeting space when coming from Redfern and a key connection to Redfern when coming from the city
  - Henry Deane Plaza which will prioritise the pedestrian experience, improving connectivity and pedestrian legibility within the Western Gateway sub-precinct and provide clear, direct links to and from Central Station and its surrounds
  - Eddy Avenue Plaza will transform into a more civic environment with improved amenity and an enhanced interface with the Sydney Terminal building.
- A new network of circulation spaces that are legible and provide for public access and use of the place. This will include:
  - Central Avenue, with a consistent minimum width of 18 metres located to provide long views of the Sydney Terminal Building clocktower. Central Avenue will be a place for people to dwell and move through while linking together a sequence of publicly accessible spaces on the OSD deck, including the Central Green, Devonshire Square and the Southern Plaza
  - A minimum 6-metre wide north-south laneway providing an additional intimate and active link between the sequence of publicly accessible spaces on the OSD deck, and opportunities for smaller courtyard experiences
  - Three new over-rail connections to enhance pedestrian and bicycle access to and from Surry Hills, Prince Alfred Park, Redfern and Chippendale and circulation to and through the Central Precinct
  - The extension of public access along the Goods Line offering a new connection to Darling Harbour from Mortuary Station Plaza
  - New vertical transportation locations throughout the precinct provide accessible vertical connections to the OSD.

The revised proposed land allocation for Central Precinct is described in **Table 1** below.

Table 1: Breakdown of allocation of land within Central Precinct

Land allocation	Proposed
Open-air rail corridor (Infrastructure)	89,781 sqm
Western Gateway	16,638 sqm
Developable area (Total)	131,593 sqm
Public Space (Including open space, squares, plazas, movement zones, streets and links)	71,603 sqm /54.4 % of Developable area
Building area	59,990 sqm / 45.6 % of Developable area
Central SSP total area	**238,012 sqm (23.8 ha)**

The revised Indicative Reference Master Plan for Central Precinct is illustrated in **Figure 2** below.

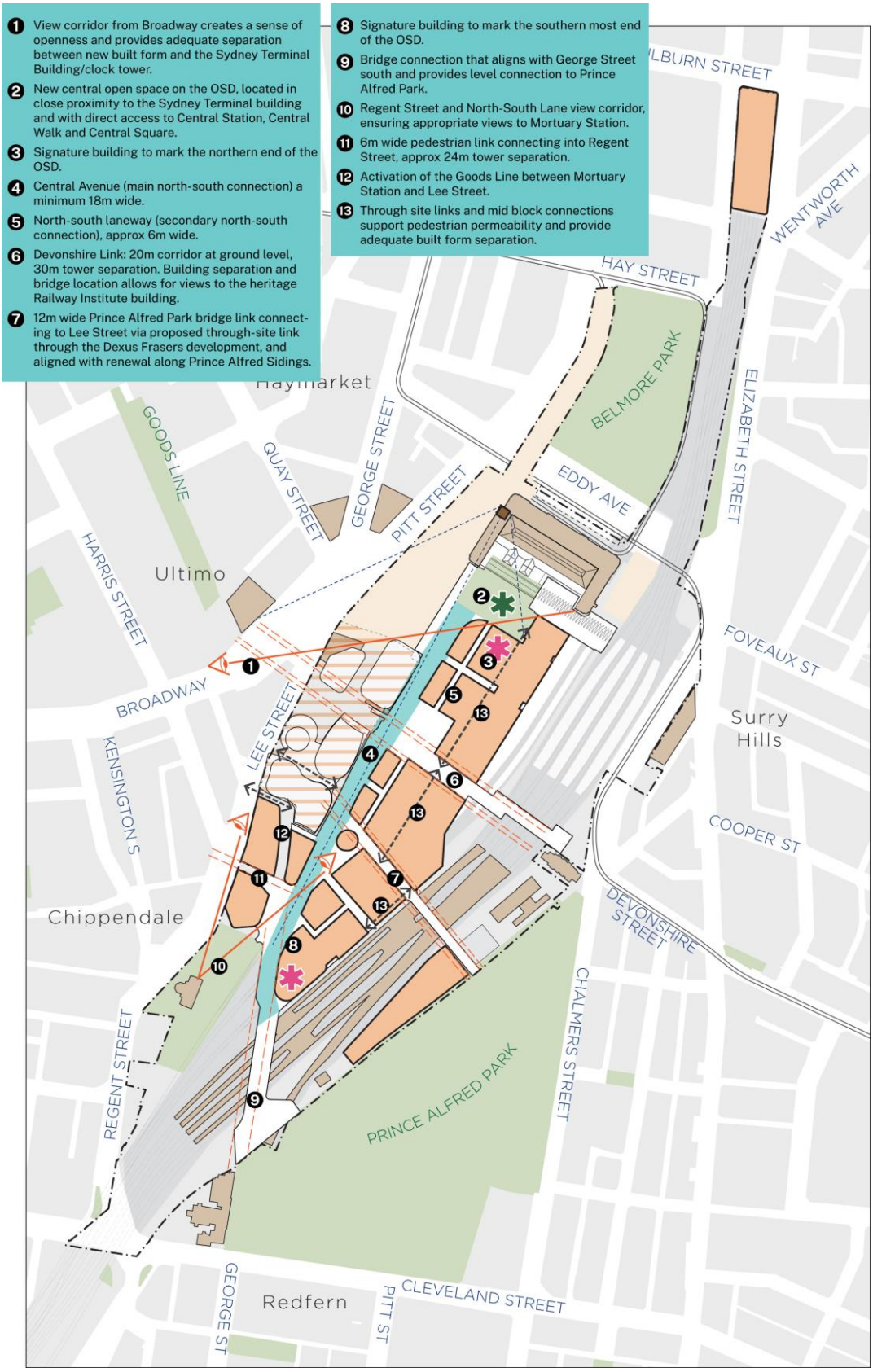


Figure 2: Revised Urban Design Framework

Source: Architectus, 2023

5.1 Key changes from the exhibited proposal

The feedback on the exhibited rezoning proposal has informed subsequent amendments to the Reference Masterplan. A summary of the key changes adopted as part of the revised Reference Masterplan are described below:

- **Improved interface between Terminal and OSD**: The interface relationship between the OSD deck and the Terminal Building has been further rationalised to improve the function of the station as a major interchange and better respect the heritage of Central Railway Station. The following changes have been made:
  - a reduced spatial extent of the stairs between the OSD deck and the Terminal to now be a consolidated vertical connection (stairs, lift and escalators) to the north-eastern edge of Central Green
  - an expanded concourse level with greater access to daylight and new opportunities for landscaping that will improve the passenger experience on the platforms and in the concourse, compared to the exhibited proposal
  - incorporating an interpretation of the platform canopies to deliver a heritage-responsive and weather-protected connection.
- **Consistent 18-metre-wide Central Avenue**: A consistent width of 18 metres has been provided for Central Avenue. The future role and function of this link has been revised from an avenue between the north and south of the OSD deck to now becoming a connector of a sequence of public spaces on the OSD deck.
- **Additional mid-block through-site links**: The introduction of additional mid-block connections to reinforce breaking up the podiums on the OSD deck level into interconnected smaller building forms.
- **Removal of the Eastern Colonnade**: The eastern colonnade has been removed from the revised Reference Masterplan.
- **Reconfiguration of Central Green**: The layout of Central Green has been adjusted to be a squarer geometry compared to the exhibited proposal. The primary movement path through Central Green is now focused toward the southern and eastern edges of this open space. The indicative design of Central Green has also been adjusted to improve its relationship with the Terminal Building through the incorporation of seating and greater landscaping at the northern edge of the park.
- **An enlarged Mortuary Station Plaza**: The reduction of the podium building envelope of the Regent Street Sidings building brought about through changes to the bus layover and basement entry /exit pathways provide for an enlarged public space at Mortuary Station Plaza by 2,030 square metres to a total area of 6,500 square metres. The increase in the size of this public space also presents the opportunity to retain the existing fig tree at Mortuary Station and provide a new playground that is accessible to the broader community.
- **Devonshire Square**: A new square of approximately 3,700 square metres has been included into the revised Reference masterplan at the junction of Central Avenue and the Devonshire link, which will provide a new civic space at the entry point to the proposed extended Central Walk. (Central Walk will provide access to all of the rail platforms in Central).
- **Southern Plaza**: A new reconfigured civic space of approximately 4,700 square metres at the southern end of Central Avenue, providing a new arrival and meeting space when coming from the south. Within the Southern Plaza, there is the potential for a marker building that is designed with a Connecting with Country focus.

- **Regent Street Sidings**: The podium envelope at Regent Street Sidings has been further rationalised to improve the integration between the OSD deck level and Regent Street Sidings, the Goods Line and Mortuary Station Plaza. This has been through the following changes:
  - undergrounding the bus layover into the basement to enable the reduction of the podium footprint
  - consolidating basement entry/exit into a single location for loading, residential parking and bus layover
  - locating basement entry/exit at a signalised intersection
  - increase the opportunity to activate the Goods Line and Mortuary Station Plaza
  - extending the OSD deck level to integrate with the podium rooftop of Regent Street Sidings.
- **Increased green cover**: An increase to the overall green cover in the precinct has been adopted as part of the revised Reference Masterplan.
- **Enhanced east-west view lines**: The indicative building envelopes on the OSD deck have been refined in location and shape to increase the separation of tower forms and enhance east-west view lines.
- **Reduction in overall GFA**: Based on refinements to the Reference Masterplan, the overall proposed GFA of Central Precinct has reduced by approximately 10,600 square metres.

6. Assessment

Based on the revised scheme, it is considered that no additional mitigation measures (beyond those identified in the exhibited report/study) are required by the proposed changes.

7. Recommendations

As discussed in Section 4 of this Addendum, the following recommendations have been adopted in the Design Guide in response to key issues raised in the submissions:

- Amendment to the Design Guide Section 12.1 to reference the NSW Government's 2030 & 2050 emissions targets and to Section 12.6 of the Design guide to include Natural Ventilation Objectives in Part 4b of the Apartment Design Guide (ADG) (Department of Planning and Environment July 2015).
- Amendment to the Design Guide Section 12.1 to state that the precinct will achieve net-zero emissions in operations.
- Amendment to the Design Guide Section 12.3 to include a commitment to 100% renewable energy.
- Amendment to the Design Guide Section 12.3 to include additional guidance on the delivery of an embedded network supplied with 100% renewable energy, and whether it is delivered at building or precinct scale, including a requirement for investigations and a delivery plan prior to any concept development application. An additional requirement is to be included under Provision 5 to procure 100% renewable energy for the precinct and each building in the event the private network is not established to ensure the commitment to net zero is realised.
- Amendment to the Design Guide Section 12.7 to provide additional guidance for carrying out and implementing the Climate Risk and Adaptation Plan (CRA) with development applications by stating the relevant development applications are to provide a CRA for each building development application, using the applicable Green Star protocol. Part of the application process will be to ensure the existing CRA remains relevant; the project team is permitted to make a case to update the existing by submitting a revised CRA with justifications for the proposed changes, and then Transport will update the precinct scale CRA as necessary.
- Amendment to the Design Guide Section 12.10 to align with the latest version of Australian, New South Wales, and City of Sydney waste management and circular economy policies and strategies.
- Amendment to the Design Guide Section 12.9 to refer to 'Circular design guidelines for the built environment' from NSW Government to address additional detail for the benefit of design teams.
- Amendment to the Design Guide Section 12.9 to include:
    - Related reference documents
    - The objectives and guidance contained in this section should be read in conjunction with the latest version of following documents:
        - NSW Circular Economy Policy Statement: Too Good To Waste (EPA, 2019)
        - Better practice guide for resource recovery in residential developments (EPA, 2019)
        - Circular design guidelines for the built environment (OECC, 2023)
        - Leave nothing to waste: Waste strategy and action plan (City of Sydney, 2017).

8. Conclusion

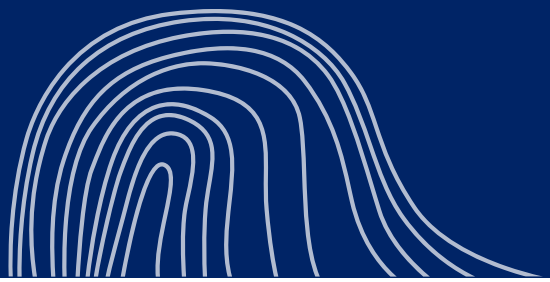
The feedback received during exhibition has highlighted a number of community concerns, aspirations and priorities for the Precinct. In relation to sustainability, this can be organised into five key themes:

- Sustainability Impacts: including nomination of a high level of ambition, meaningfully addressing climate change, ensuring that responsible parties are identified through the planning process, enabling zero waste at the precinct scale, integrating technology and sustainability, and ensuring the proposed deck results in an optimal environmental outcome.
- Further technical studies and amendments
- Green infrastructure
- Biodiversity impact
- Waste management.

The Environmental Sustainability Study as exhibited generally addresses the issues raised in submissions and adequately considers measures to respond. Particularly, feedback typically affirms findings gathered through the Study – such as in relation to climate change, biodiversity, circular economy/waste management, and the delivery of a world-leading outcome. The comments have not disputed the aspiration level, but rather queried the process on how to ensure those outcomes are delivered.

It is considered that the recommendations provided in this Addendum will sufficiently respond to the issues raised in submissions that are not currently addressed through the Environmental Sustainability Study. These recommendations consider the role of this proposal in the context of the overall project, and the need to consider time and scale in the response at this stage. Specific requirements in the Design Guide, particularly around preferencing performance versus prescriptive requirements, and the responsibility placed on future development partners at the post-rezoning phase are employed to maintain flexibility in the Precinct's response to evolving community needs.

Overall, it is considered that the Proposal in its amended form adequately responds to both the issues raised in submissions and the recommendations of the Environmental Sustainability Study.



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