SJB Urban

Moore Point Masterplan
Urban Design Report

Bridges Road and Haigh Avenue
Moorebank
Sydney

Prepared for
Coronation and Leamac

Issued
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At SJB we believe that the future of the city is in generating a rich urban experience through the delivery of density and activity, facilitated by land uses, at various scales, designed for everyone.

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Executive Summary

Moore Point in Sydney's south-west is a peninsula next to the Liverpool CBD and train station surrounded by the Georges River and major public parks. It is in an opportune location and site for development.

This Urban Design Report, which is also recognised in state and local policy, underpins the Planning Proposal for rezoning of the site and is the basis of *strategic framework* as outlined by the Government Architect of NSW. It has been crafted over several years and collaboratively shaped with Liverpool City Council and a multitude of interdisciplinary consultants.

This site encompasses the entire peninsula, including landholdings on the northern side of Newbridge Road which are outside the ownership of Leamac and Coronation. The structure plans, design concepts and recommendations cover this broader area at the request of Council, and reflect a holistic approach to the planning of the area identified in the Place Strategy.

The report has also been prepared according to the planning policy and strategic framework that identified the site for high-density mixed use development, and guidance by GANSW for the preparation of strategic frameworks, masterplans and implementation plans. The principles that underpin the masterplan have been based on the analysis regeneration precincts in CBD-fringe locations, at both a local, national and international perspective. This work has guided the scale of development, land use mix, provision of open space and community infrastructure and approaches to movement and connectivity.

The long timeframe of this project mean it will be several decades before the transformation of this precinct is complete. This requires the foundation of the masterplan to be robust enough to withstand unforeseen changes in the way we plan, develop, construct and live. We've therefore sought to strike a balance between certainty (i.e. provision of open space, upper limits in yield, access and circulation), whilst allowing some flexibility to accommodate the inevitable change (i.e. reliance on cars and parking).

The fundamental aim of the masterplan is to create a riverfront development that supports Liverpool as being a significant metropolitan CBD. A place that references its unique cultural, natural and built heritage, and ensures this once-in-a-generation is properly secured and celebrated.

The main body of the report is structured as follows:

1. Baseline and analysis, outlines the site investigations and spatial attributes of the site
2. Strategic framework, provides the planning and policy context alongside comparable benchmarks to inform the masterplan
3. Masterplan, highlights the vision, principles and broad concept plans for the place
4. Structure plans, illustrates the key plans and supporting drawings and information to deliver the place and inform future planning controls
5. Precinct plans, explores the masterplan place-by-place and explains the design intent, principles and key about how each character area could be delivered
6. Technical studies, details the assumptions and approach to DA compliance for the masterplan
7. Recommendations, summarises the conclusions of the report

In summary this Urban Design Report has been undertaken based on the following spatial and strategic reasons:

- The site is adjacent to Liverpool City Centre and Liverpool Train Station
- The site is the nearest subregional centre to the Aerotropolis and the focus of significant state and national investment in transport and other infrastructure
- The site is surrounded by Georges River, Haigh Park and Lake Moore which are unique natural assets
- The site can supply additional dwellings addressing the pressure for housing in the area
- The proposal will contribute significant public benefit such as a significant riverfront park and plazas, new public facilities, adaptively reused heritage sheds, recreational paths and space for primary school and bus interchange
- The establishment of site-specific precinct plans based on a holistic approach can ensure cohesive design excellence for the place
- The site offers the opportunity to reconnect Liverpool to its to the river by re-establishing Moore Point as a riverfront for people

Executive summary

Project background

Moore Point is a large and strategically significant site as well as a major opportunity for Liverpool, the south-west district and metropolitan Sydney. Several key policies, studies and previous proposals have led to a consolidated approach demonstrated in this urban design report. Key catalysts for the project include:

- Site identified as ‘mixed use’ in the Greater Sydney Commission *Liverpool Collaboration Area Place Strategy.*
- Site identified as ‘mixed use’ in the *Georges River Precinct Plan.*
- Liverpool LSPS identifies Moore Point as ‘investigate residential/mixed use to support CBD and innovation precinct’.
- The need for a holistic approach which unifies the total of four previous planning proposals for various parts of the site undertaken by Coronation and Leamac over a period over several years.
- The significance of the combined Coronation (light blue) and Leamac (yellow) landholdings (equates to 32ha of approx. 38.5ha) which together have the potential to deliver the masterplan vision.

Over the past several years SJB in collaboration with Liverpool City Council have shaped the Moore Point Masterplan with input from a multitude of consultants. Policy and guidance from the Government Architect of NSW has directed the process and design approach. As such this report has been formulated as the ‘Strategic Framework’ for the project moving forward which is defined as:

“a statement of aims and objectives for the physical regeneration of large areas of land, parts of an urban area or for complex projects. Strategic frameworks provide vital background information for master planning and high-level decision making.” (GANSW Advisory Note: Strategic Frameworks)

As well as an overall vision document for the place, it is envisaged that chapter 4 (structure plans) and chapter 5 (precinct plans) could be extrapolated into site specific development control plans to ensure design intent is carried through to delivery.

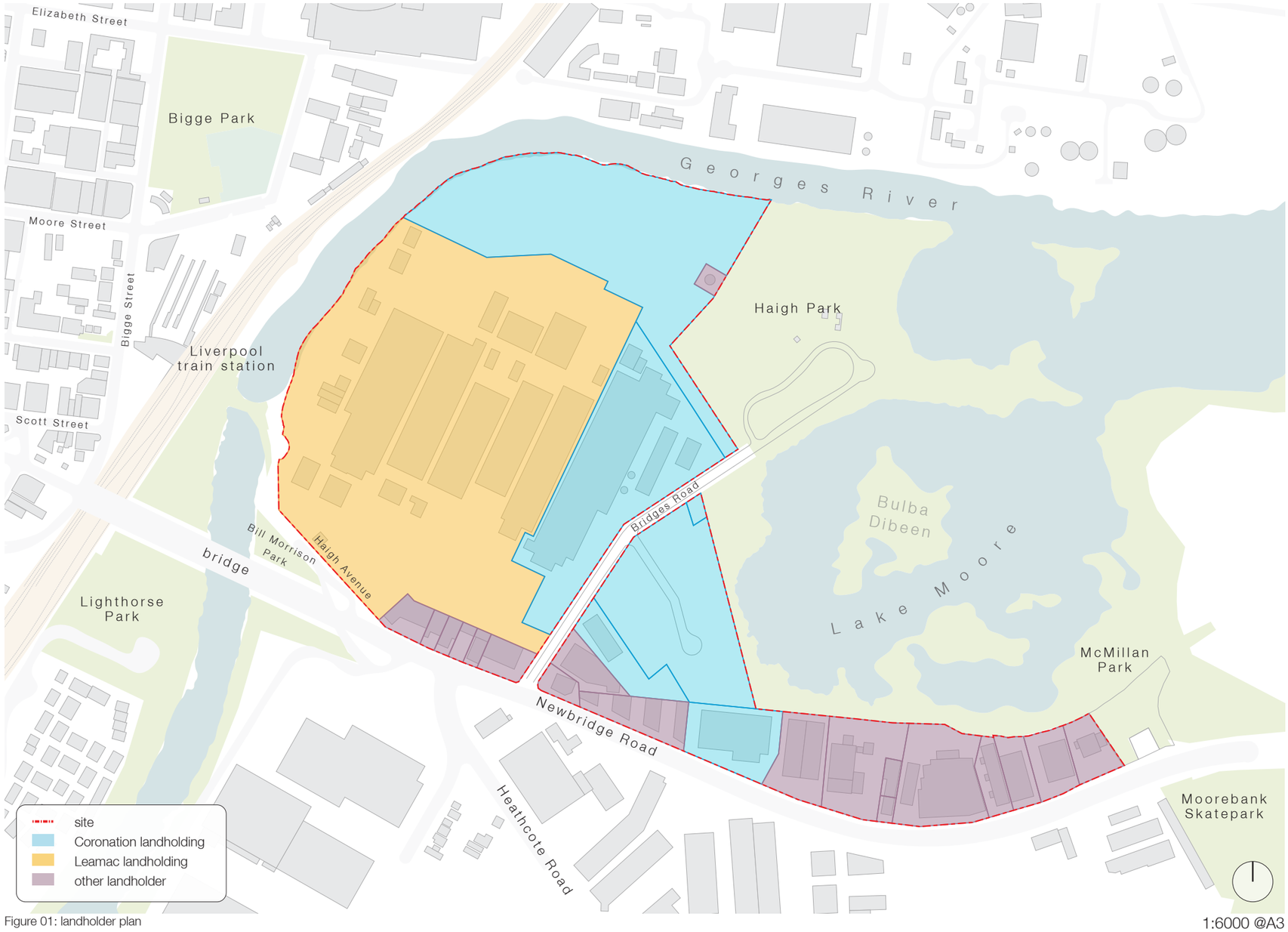

Figure 01: landholder plan

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Executive summary

Study process

Baseline Analysis

site specific spatial attributes, constraints and opportunities



Metropolitan scale | Regional & municipal scale | Site scale

Strategic Framework

strategies and policies guiding development

- GSC metropolitan Plan
- GSC western city district plan
- Liverpool collaboration area place strategy
- GANSW design policy
- Georges River Precinct Plan
- Draft LSPS
- Draft Public Domain Masterplan
- Liverpool City Council LEP & DCP



Masterplan



Vision

- Places for everyone
- Liverpool city centre
- Transport oriented development
- Connected landscape
- Mixed use
- Variety of housing
- Streets and spaces for people
- Staged development

Principles



Concept



Masterplan

Structure Plans



Movement and access



Landscape and open space

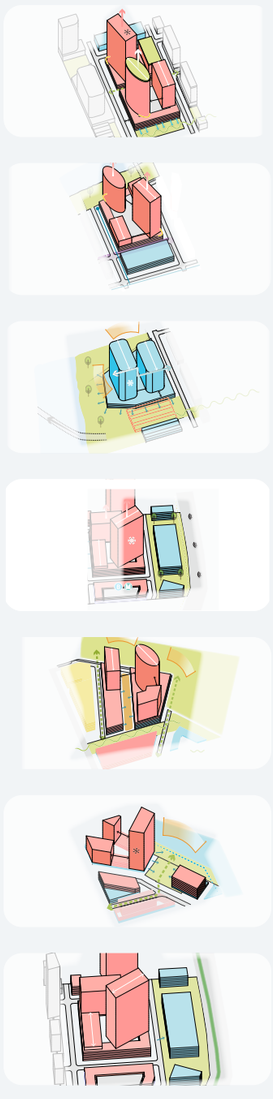


Built form and landuse



Activation and servicing

Precinct Plans



Recommendations

- Land use zoning
- Floor space ratio
- Height of building
- Special provisions
- Comittees

Figure 02: study process diagram

Baseline and Analysis

1

Multi-scalar spatial analysis of the city and site

1.1 Metropolitan context

Liverpool sits at the intersection of Sydney's urban growth areas in the south west and the Sydney CBD. It is the gateway to the planned Badgery's Creek 'aerotropolis' as well as the south-west growth corridor. The NSW government is currently investigating the extension of Sydney Metro westwards from Bankstown to Liverpool which will eventually complete the outer metro loop, as well as creating a minor secondary loop through Campbelltown. Liverpool is also a gateway to the Royal National Park to the south and the Georges River Corridor, which extends eastwards to Botany Bay.

The focus of infrastructure investment and surrounded by natural assets including the Georges River and Royal National Park, Liverpool is an opportune metropolitan centre to accommodate the significant housing and population growth in Sydney. Moore Point is well placed as an area available for regeneration and revitalisation to support Liverpool as an emerging CBD.

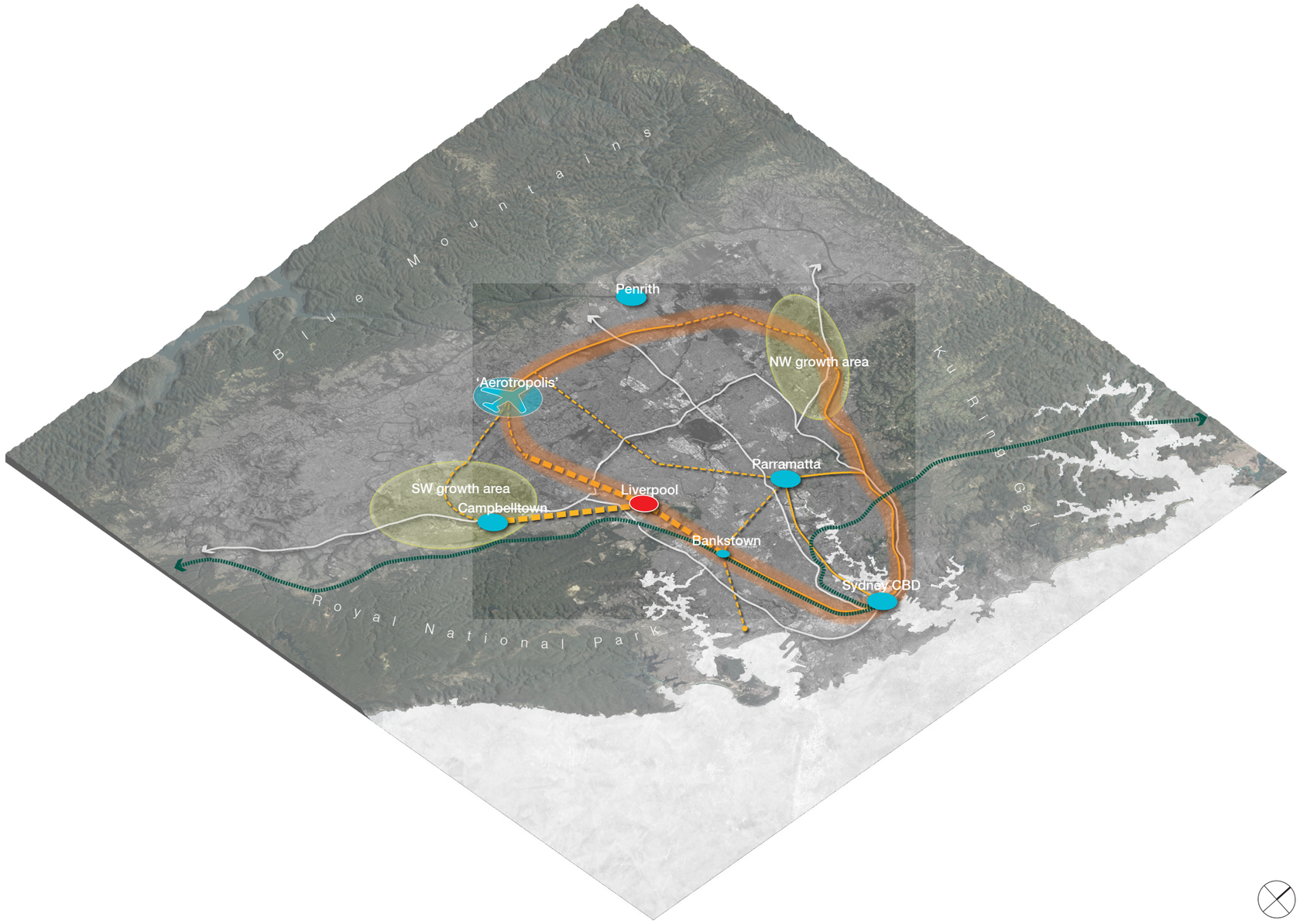


Figure 03: metropolitan context diagram

1.2 The site and city today

Moore Point sits east of the Liverpool city centre across the Georges River in the suburb of Moorebank, as illustrated in the adjacent map. The Georges River wraps along its western and northern edge and into Lake Moore which defines its eastern edge. The southern boundary of the site is defined by Newbridge Road which bridges the river and links into Liverpool.

The site is adjacent to Liverpool Train Station and Lighthorse park to the west. Over the river to the north sits Liverpool hospital, light industrial factories, equine sheds and s a sewerage treatment plant. To the east of Lake Moore is the suburb of Chipping Norton which comprises mostly of detached houses. Light industrial sheds and suburban houses sit to the south of the site.

Historically Moore Point was an alluvial bushland peninsula, which was transformed into colonial era farmland and later industrial factories.

This broader area of Liverpool, beyond the extent of the CBD and encompassing Moore Point, has been addressed in the *Liverpool Collaboration Area Place* study which describes Moore Point as a *'High amenity mixed use precinct complementing city centre and health and education' p.28*



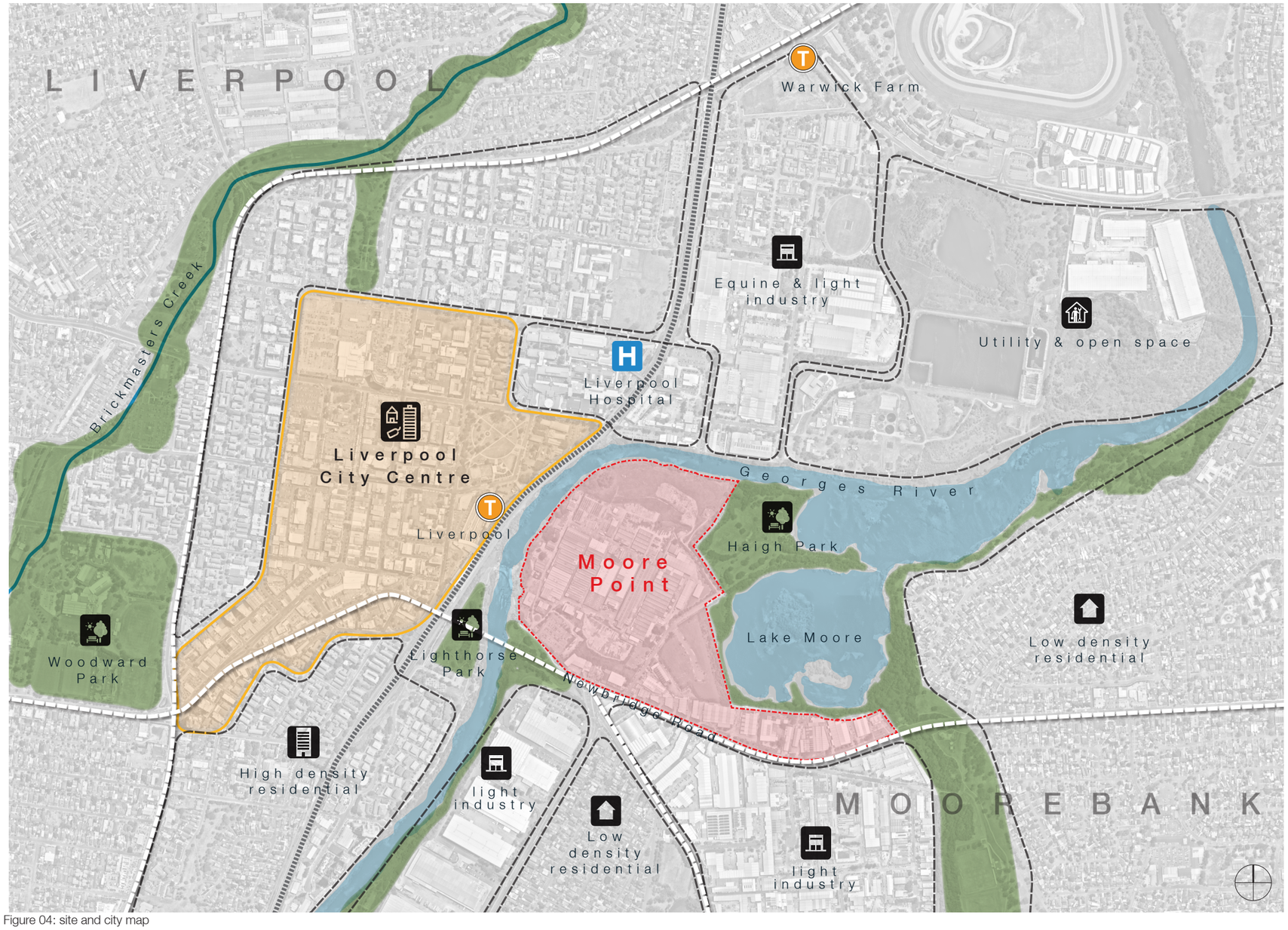


Figure 04: site and city map

1.3 Subregional analysis

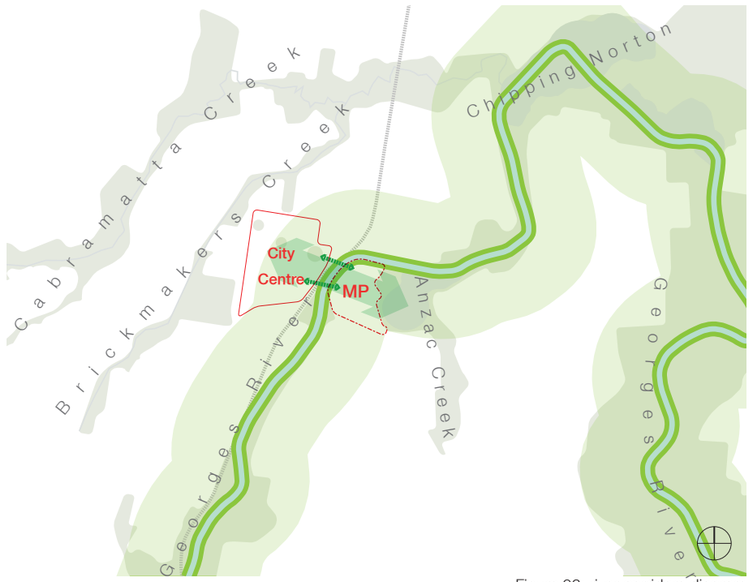


Figure 06: river corridors diagram

1) River corridors

There is an opportunity to reinstate the Georges River corridor as the pre-eminent recreational arterty through south-western Sydney. Historically, transportation, culture, economy and leisure for local people was focused along the river which connects the the broader system of creeks and joins Liverpool to Botany Bay and broader Sydney.

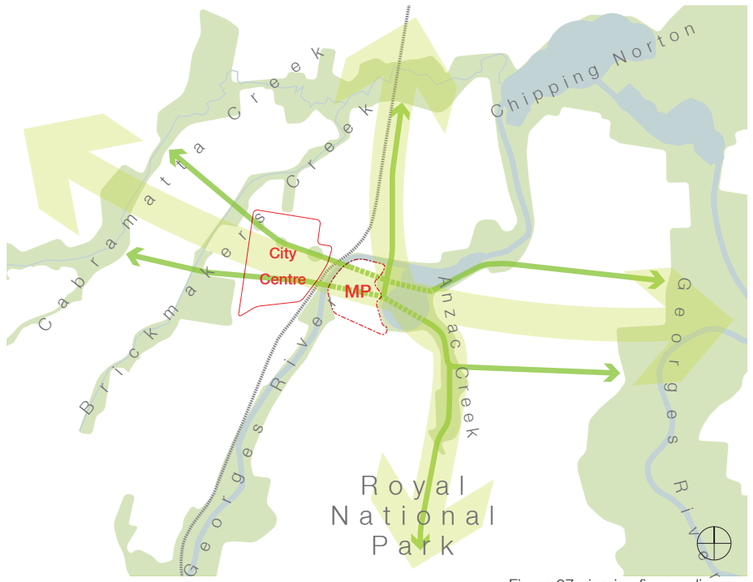


Figure 07: riparian fingers diagram

2) Riparian fingers

Linking green corridors is a policy priority in the GSC ‘Blue and Green Grid Strategy’. Moore Point presents the opportunity to connect two of four riparian fingers which lead into the Georges River and significantly strengthen the subregional network of open spaces as has been demonstrated at Shepherd Street to the south.



Figure 08: emerging ring of height diagram

3) Emerging ring of height

There is an emerging ring off current and proposed building heights around the edge of the Liverpool City Centre. This ring of landmarks reinforces the visual legibility of the place and is clearly visible on major roads into the centre as well as the Georges River. Moore Point can complement this distribution of height and frame the River to complement the distribution of height.

primary focus of height

secondary focus of height

1.4 Subregional analysis

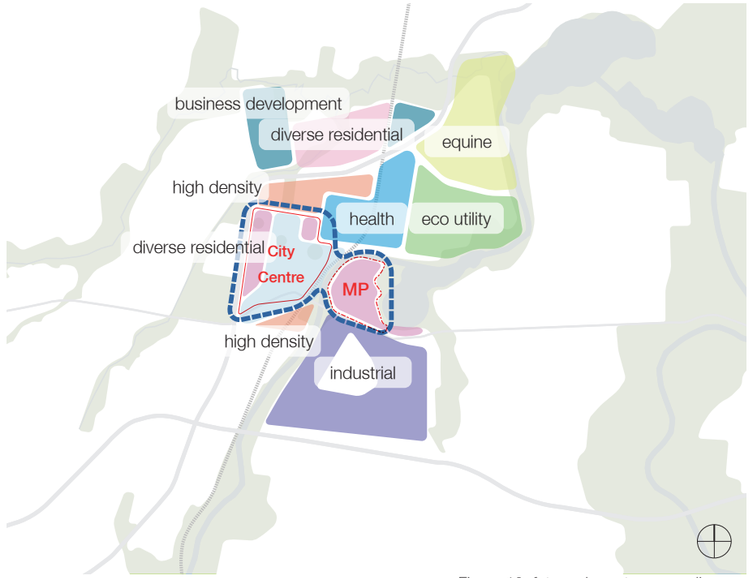


Figure 10: future character areas diagram

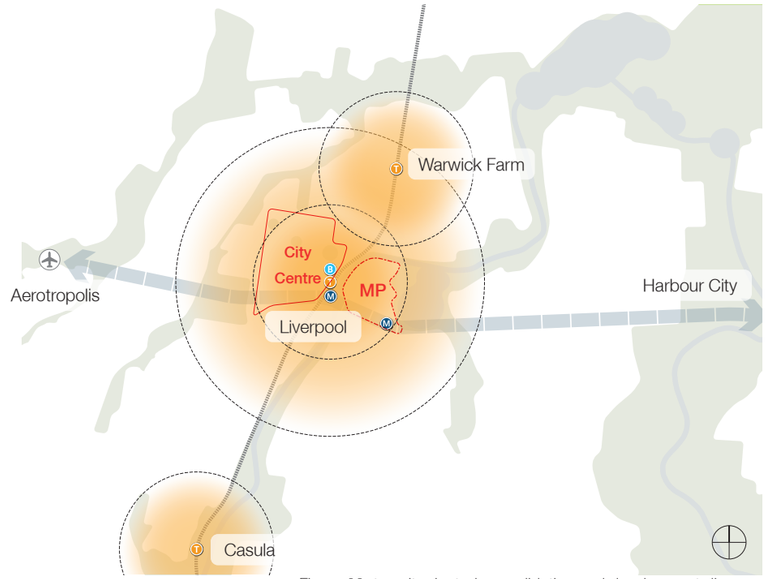


Figure 09: transit oriented consolidation and development diagram



Figure 11: key local amenities diagram

4) Envisaged character areas

Liverpool is consolidating itself as a significant metropolitan CBD which is highlighted in the *Liverpool Collaboration Area Place Strategy* which classifies Moore Point as 'diverse residential.' As part of this maturation Moore Point will complement not compete with Liverpool and support adjacent character areas such as the commercial centre and health and innovation/education precincts to the east and to the north.

- Liverpool City Centre – Core
- Diverse residential
- High density residential
- Equine
- Eco / Utility / Recreation
- Business development
- Industrial
- Innovation / Research / Health / Advanced manufacturing
- Mixed use
- Existing use
- Green space

4) Transit oriented consolidation and development

Moore Point is adjacent to the Liverpool Train Station and Bus Interchange and on the route (under investigation) for a future metro line making it a key node between the aerotropolis and the 'Harbour City' and Sydney CBD. The aerotropolis will drive the development of the south-west of Sydney making this key transport nexus a prime opportunity for transit oriented development.

5) Key local destinations

The Liverpool subregion has an evolving series of key cultural and leisure destinations. Alongside the services and facilities in Liverpool City Centre (i.e. Woodward Park, Civic Centre), Warwick Farm Racecourse, and the Casula Powerhouse Arts Centre are significant drawcards for visitors to the area. As the exemplar of active mixed-use precincts supported by high-quality amenity and services Moore Point can support Liverpool as a great river city. and focus of culture in Sydney's south-west.

1.5 Movement and access

Moore Point is defined on its southern edge by Newbridge Road which is the major east-west road into Liverpool City Centre. Access to the site is off Newbridge Road via Haigh Avenue (underpass) and Bridges Road which provides access to Haigh Park. Light industrial premises get access directly from Newbridge Road.

Riverfront pedestrian pathways run through Lighthorse Park and terminate at the Weir, as well as eastwards from Haigh Park along the Georges River. Moore Point waterfront presents a significant opportunity to link these paths. A pedestrian bridge is currently proposed over the old rail viaduct from Liverpool train station across the river to Bill Morrison Park. There are Government proposals to extend a metro line and station to Liverpool City Centre.

Key findings

- Potential for future metro interchange within close proximity to the existing train station.
- Site could accommodate bus interchange to alleviate bus traffic crossing the bridge.
- Site access from Newbridge road potentially along Bridges Road.
- Opportunity to integrate proposed pedestrian bridge and explore additional pedestrian connections.
- Riverfront pedestrian pathway could be linked around Moore Point foreshore to provide a seemless route from Chipping Norton, around Lake More and Haigh Park to Moore Point and into the city.

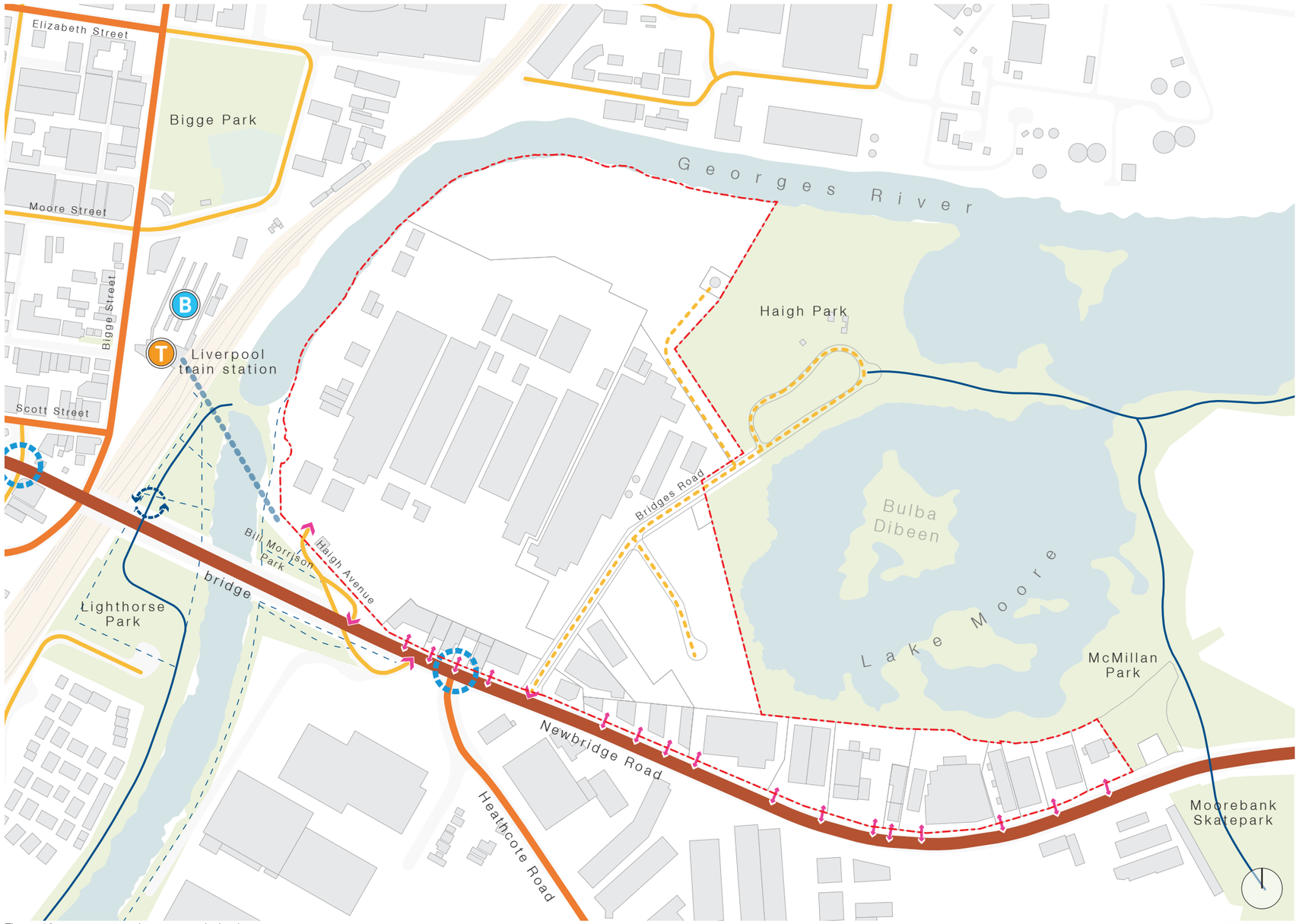


Figure 12: movement and access analysis plan

1.6 Landscape and open space

The site is well surrounded by natural assets, bound by the Georges River to the north and west, and Lake Moore to the east. It also has access to significant open spaces, which include Haigh Park to the east, and Lighthorse Park to the south-west. The site remains relatively flat throughout, with a gentle slope from a central high- point to the south-west and to the east, down to the respective water bodies.

More distinctive landscape zones can be found on the borders of the site, namely the riparian edges along Georges river on the northern and eastern edges, which are distinguished by its denser native tree canopies. Haigh Park also contains a small beach along its eastern edge that adds to its offering of passive recreation.

Key findings

- Site has direct access to open public space and outdoor facilities, including playing fields, playgrounds and outdoor dining.
- Potential to connect surrounding open space around the river foreshore and through the site via a series of green links, spaces and destinations.



Figure 13: landscape and open space analysis plan

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1.7 Water and ecology

Moore Point fits into the broader system of the Sydney Basin which is defined by its ancient sandstone geology carved by rivers over time. The adjacent analysis and proposed approach by Realm Landscape Architects highlights how the site has changed over time while the diagram to the far right illustrates the integrated approach to water and landscape on the site.

1) Ancient Sydney

During the last ice age, 20,000 years ago, sea levels were up to120m below present levels. Botany Bay was a river delta where the Georges River and Cooks River flowed into one another before entering the Tasman Sea.

2) Pre-european settlement

Prior to 1788 the Georges River then known as Kai'eemah flowed a similar course as it does today. Sea levels were similar. Sea level rise had drowned the river valley to create the river and estuary environment of today. This process of drowning the ancient river valley gives the lower Georges River a unique morphology. Steep and narrow banks characterise some area along the Georges River. These steep narrow banks have implications when the river floods. They act as bottle necks which can exacerbate a flood event.

3) Georges River and urbanisation today

Liverpool was the fourth town to be founded in Australia post European settlement and since that time much of the Georges River catchment has been urbanized. This has meant that the land that now surrounds the Georges River is impervious. Water can no longer infiltrate into the ground. Water now flows rapidly from where it falls into the city's stormwater system, creeks and rivers. This has a dramatic impact on the water quality of the river and the flood regime.

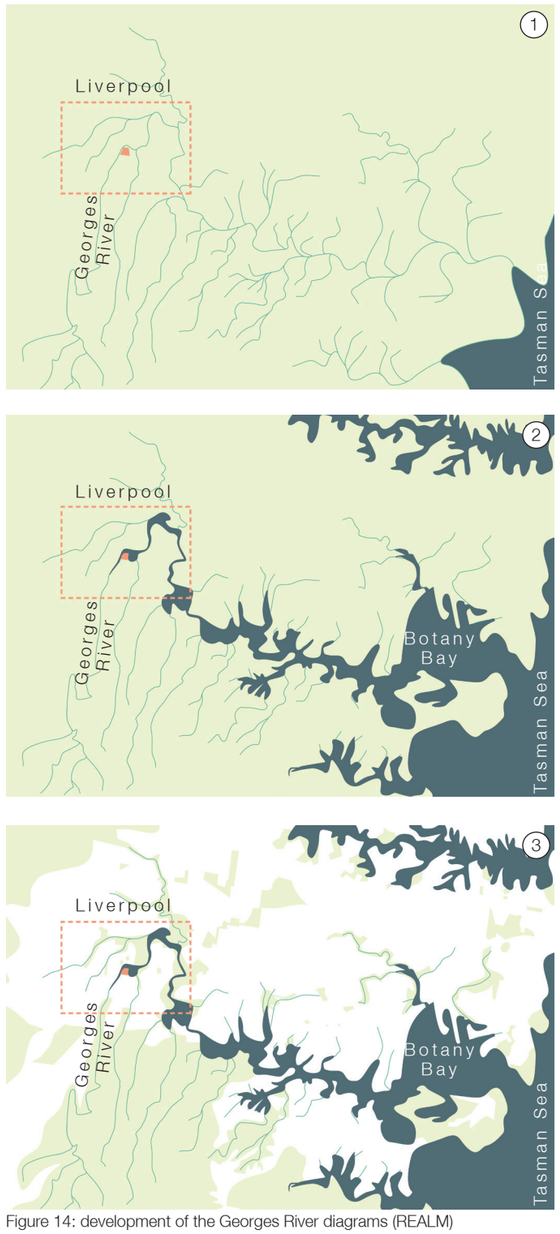

Figure 14: development of the Georges River diagrams (REALM)

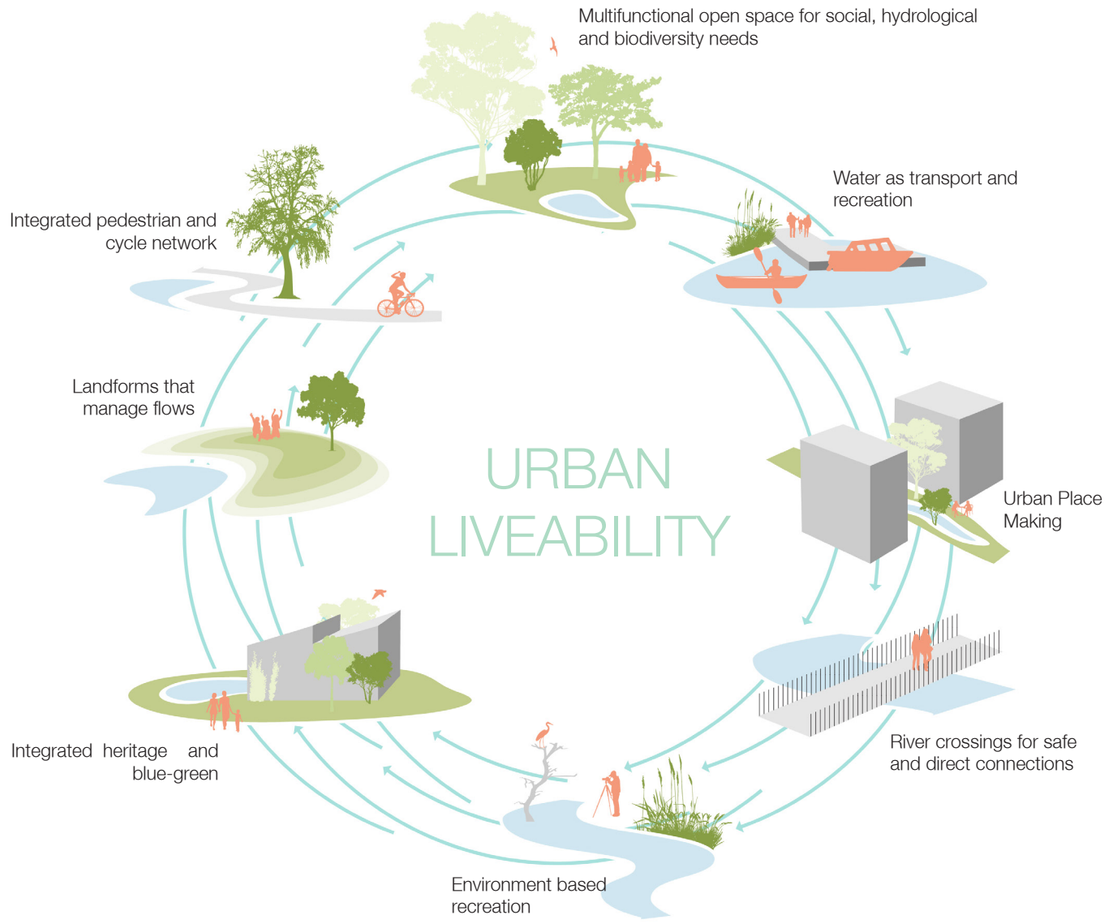

Figure 15: integrated approach to urban liveability diagram (REALM)

1.8 Land use and built form

The site currently comprises low rise industrial buildings, with areas of vacant land to the north. The Liverpool City Centre and train station are located to the west, forming the eastern edge of the CBD and commercial hub, which also features major retail, local services, community the main commercial hub in the area with major retail, community facilities and key health and education offerings.

Light industrial areas can be found both to the north and south of the site. The residential neighbourhoods to the south consist of single and semi-detached housing as well as residential flat buildings and apartments. Other notable features include:

- Liverpool Hospital, located approximately 500m from Liverpool Station
- Recycling plants and similar utilities to the north of the site
- Haigh Park provides a key recreational area for the site, overlooking both Lake Moore and the Georges River

Key findings

- The site is an ideal location for a range of high-density uses (residential, commercial, community) to complement the adjacent Liverpool CBD as it progressively develops.
- Opportunity for connections to key service provisions to the north, namely Liverpool Hospital
- Potential adaptive reuse of heritage and/or industrial buildings currently on the site to provide a unique retail, commercial and community offering that isn't currently available in Liverpool.

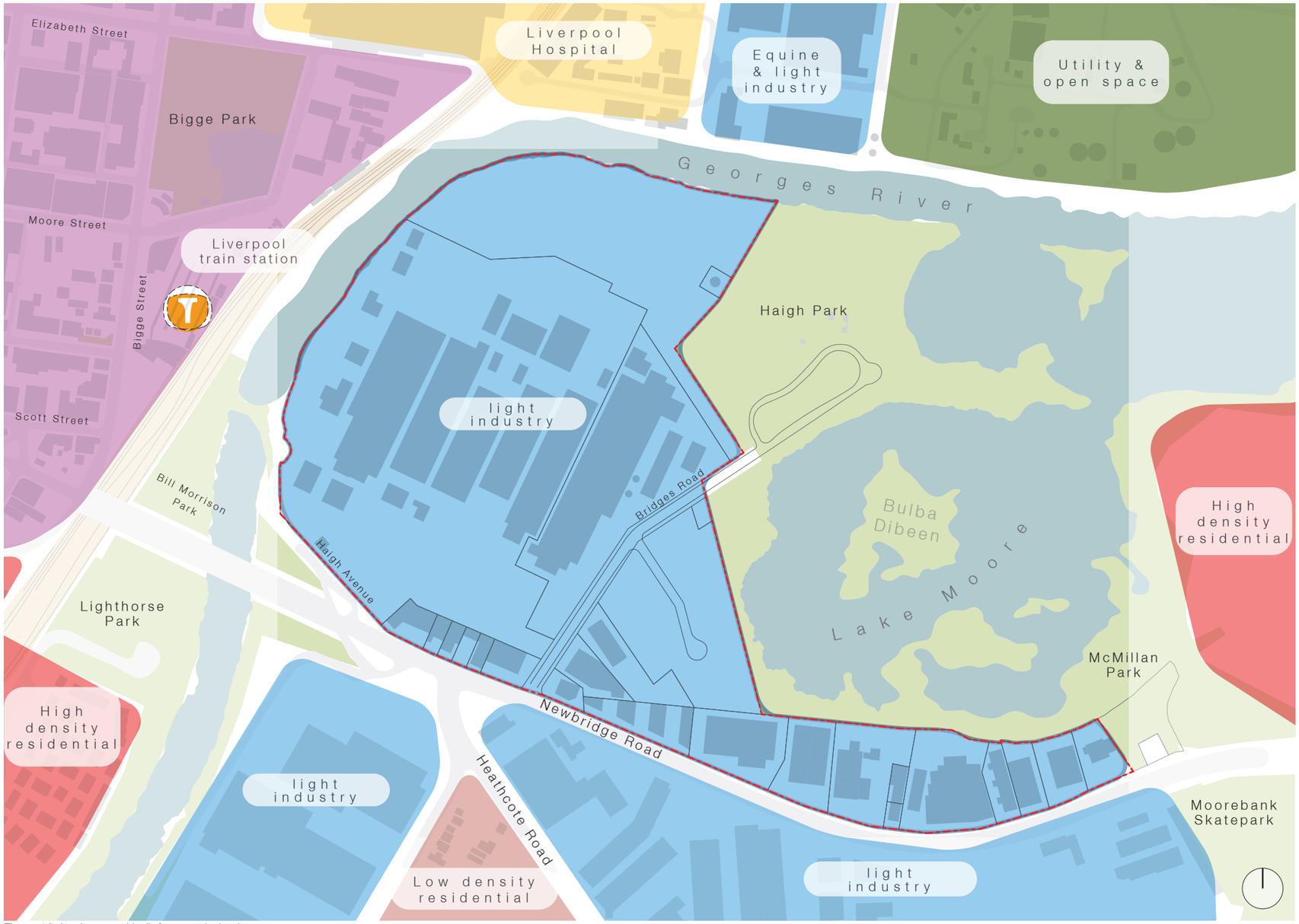

Figure 16: land use and built form analysis plan

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1.9 Heritage

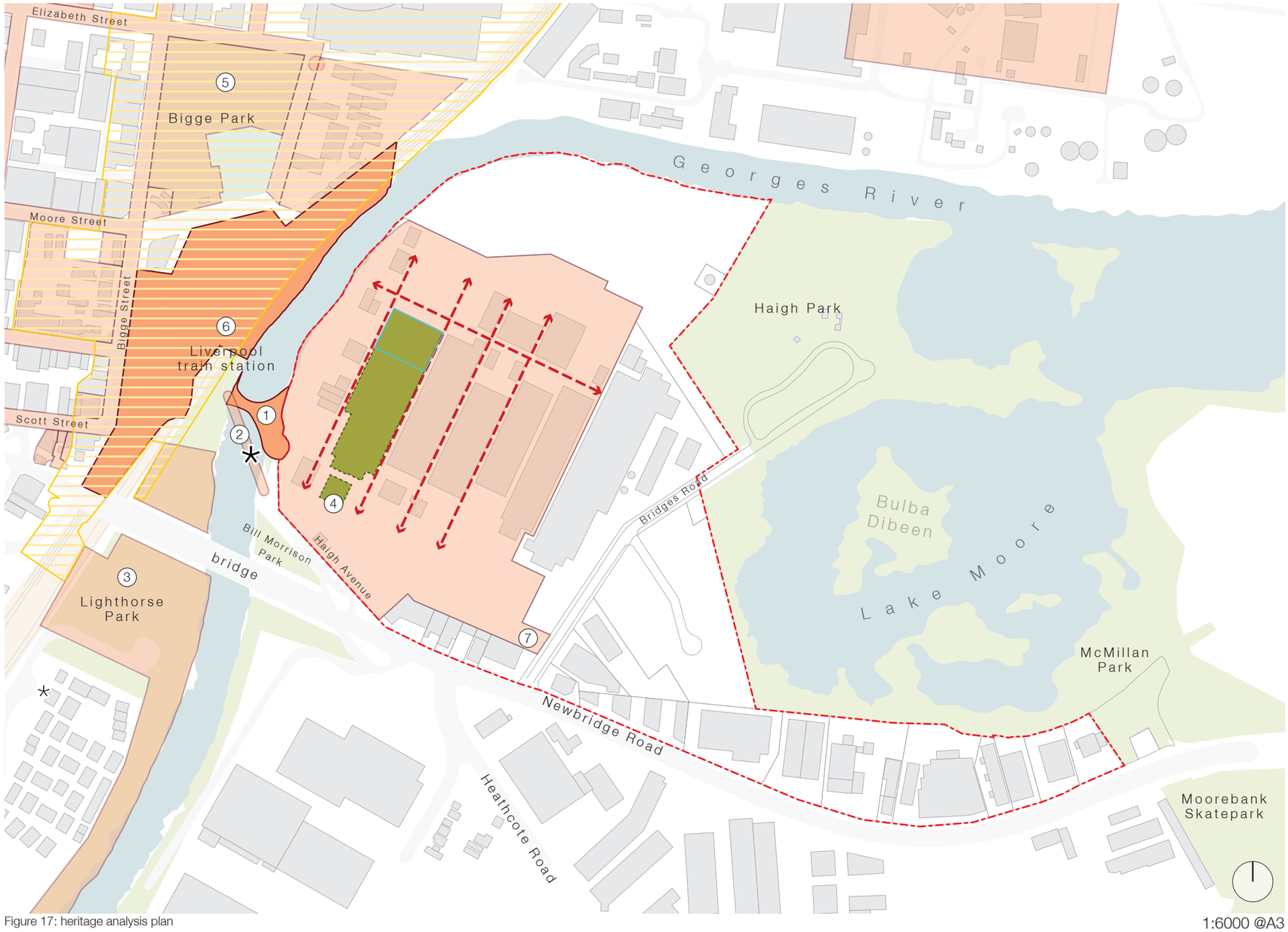
The site and its context feature a number of heritage items and conservation area designations. Liverpool Weir is one of the oldest structures in NSW and was constructed in 1836 as a source of fresh water for the town and hinterland. The site itself was occupied by Pirrelli Power Cables and MM Cables, which were the first electrical factories in Australia, and were important for manufacturing during WWII. In addition to the heritage listed street grid of Liverpool, key items include:

1. Liverpool Weir (01804 LEP87)
2. Bridge Pylons (LEP86)
3. Lighthorse Park (LEP70)
4. MM Cables Admin Building (LEP76)
5. Bigge Park
6. Old Liverpool Railway Station
7. 1 Bridges Street

The Liverpool Weir has also been identified as a significant artefact under the Aboriginal Heritage Information Management System, as a former camp site *(source: Eco Logical Australia July 2016. Liverpool Waterfront Precinct, Bridges Road, Moorebank - Aboriginal Heritage Assessment. Prepared for LAC JV Pty Ltd)*

Key findings

- Potential to maintain the footprints of factory buildings on site by maintaining references to the existing grids. This could be achieved through integrating the proposed built form, streets, spaces and reinterpretation in the public domain.
- While Liverpool Weir has long ceased its primary function, it is a major placemaking opportunity as a leisure space with historical references
- Potential for adaptive reuse and interpretation of the MM Cables Administration Building, and a majority of the adjacent manufacturing warehouse and external walls



site
heritage listed (LEP)
state heritage listed
conservation area
retain footprint/'structure
post-1943 addition
Aboriginal heritage significance
existing grid

Figure 17: heritage analysis plan

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1.10 Urban form and heritage

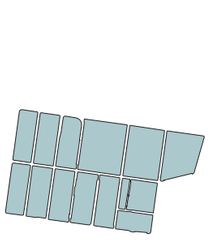
The celebrated gridded street layout is a definitive element of the urban form of Liverpool and its heritage listing. James Meehan as well as Robert Hoddle had roles in surveying and documenting the original grid respectively.

“Although key elements of the new town of Liverpool had been decided upon in 1810 [by James Meehan] and surveyed in 1814-1815, the first full plan of the town was nor presented to Governor Macquarie for his approval and signature until 1819. The 1819 plan, by an unamed surveyor, shows a fully developed street system, in an L shape enforced by the great bend on Georges River. Some of the names must have been newly introduced in 1819 (Bigges Square, Bigges Street and Scott Street), but others, such as Elizabeth, Macquarie and George Streets, had been common in other new towns from 1811 onwards. The two areas shown as reserved public squares both lie, unusually, on the periphery of the town” (p.18 Maquarie’s Towns by Ian Jack 2010).

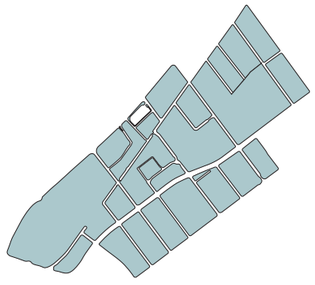
Moore Point also has a grid which differs from the adjacent Liverpool City Centre grid, as it is more aligned to the Georges River. It is both a physical urban factory and cadastral grid originally established according to crop rows and field delineations. The diagrams to the right illustrate a range of grid orientations highlighting the fact that the ‘Hoddle grid’ has no specific orientation and grids are usually a product of their immediate landscape, topographic features and prevailing planning theories of their time (i.e. Vitruvian principles).

Key findings

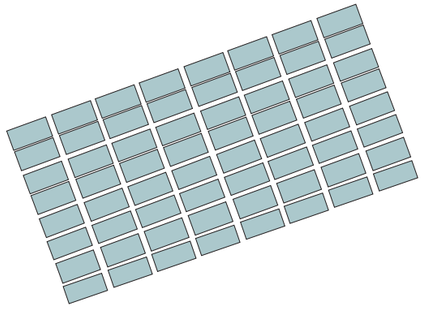
- Urban street grid of Liverpool is 8º off north
- Moore Point crop, factory and cadastral grid is 25º degrees off north
- Liverpool grid is perceptually indiscernible from Moore Point
- Moore Point grid originates from place-specific factors and should be kept as intact as possible



Liverpool
8º off north ‘Meehan grid’
(later documented by Hoddle)



Campbelltown
35º off north ‘Hoddle grid’

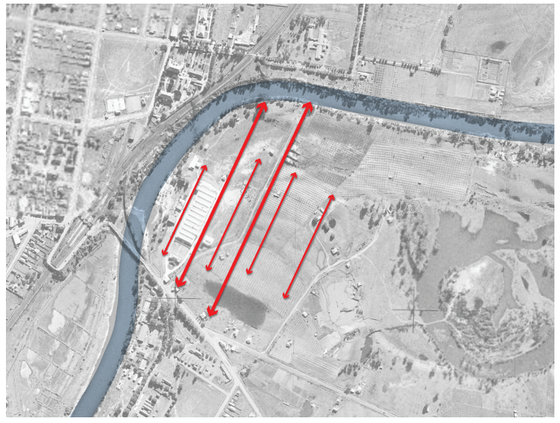


Melbourne
20º off North ‘Hoddle grid’

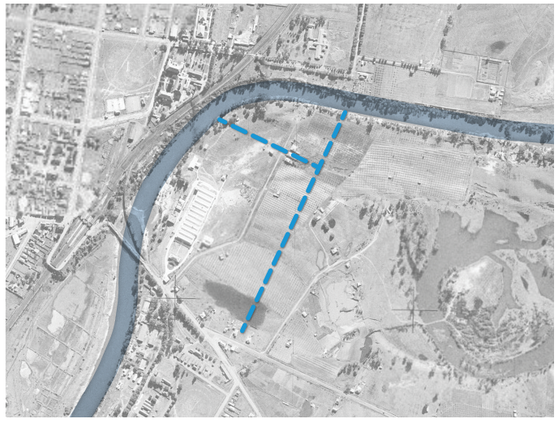


Barcelona
45º off north ‘Cerda grid’

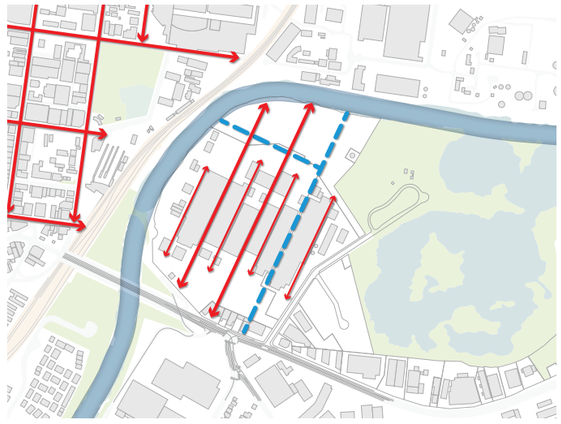
Figure 19: comparable grid figure ground plans



1) Moore Point 1943 factory, crop and orchard rows on 25º degrees off north. Note Lake Moore and Haigh Park were originally Oxbow lakes and wetlands which became sandmines



2) Moore Point 1943 original cadastral grid also on 25º degrees off north



3) Current Moore Point grid originates from the crop rows, factory grid and responds to the Georges River in contrast to the Liverpool grid

Figure 18: Moore Point historical grid study diagrams

1.11 Local character and place

1. **Liverpool Weir** - Opportunity to celebrate significant heritage items such as the Liverpool Weir and original factories to be retained on the site. Liverpool Station is located directly to the north-east over the river, however there are no existing direct connections and few visual references between the site and CBD.

2. **Georges river** - Water corridor with native tree canopies lining the riparian edges. Opportunity to provide connections to Liverpool Hospital across the river.

3. **The site** - Peninsula-like industrial area, with vacant land to its north. Natural assets are a key part of the surroundings, namely the Georges River and Haigh Park to the east. Defined by the heavily trafficked Newbridge Road to the south.

4. **Lake Moore** - Significant open space and waterfront recreational opportunities adjacent to the site, providing opportunities to capture key views across the lake. Recreational paths allow for pedestrian connectivity.

5. **Lakefront industrial** - Small scale industrial uses between Newbridge Road and Lake Moore. Access and views to the waterfront is restricted as pedestrian activity is discouraged, with minimal passive surveillance to a key waterfront setting.

6. **Newbridge Road** - Main enterprise corridor flanked on both sides by predominantly industrial uses. Newbridge Road provides key vehicular access to the surrounding industrial uses as well as the site, however pedestrian activity is undesirable due to the high traffic volumes.





Figure 20: local character oblique aerial photographs

1.12 Constraints summary

The drawing to the right spatially illustrates the site-specific constraints. Each feature requires an approach to address or solve the issue. Constraints can often be interpreted as having a positive resolution, with careful consideration of their attributes often results in place-specific design solutions. Constraints for Moore Point include:

- Flooding - The site is prone to flooding from the Georges River and Lake Moore. A 'building limit line' according to engineering and ecological advice should be carefully established to ensure development is appropriately located relative to the vegetated riparian zone along both sides of the river. Bridges Road is also prone to flooding from Lake Moore.
- Vehicular accessibility - Current access to the main portion of the site is currently limited to Haigh Avenue and Bridges Road. Future site access relative to anticipated traffic movements should be considered.
- Railway corridor - The railway corridor and trains on the western bank to the Georges river is both a barrier to potential movement (via bridges) between Moore Point and Liverpool as well as a source of noise.
- Future metro - Indicative schemes have shown there is a 30m setback along Newbridge Road in order to accommodate a potential future Metro viaduct.
- Poor connection to train station - There is poor connection to the Liverpool Train and bus station currently requiring people to take a circuitous route around Newbridge Road
- Height restrictions - Early aeronautical advice has identified the site has Pans Ops constraints of between RL136 and RL108 which should be considered with any development.

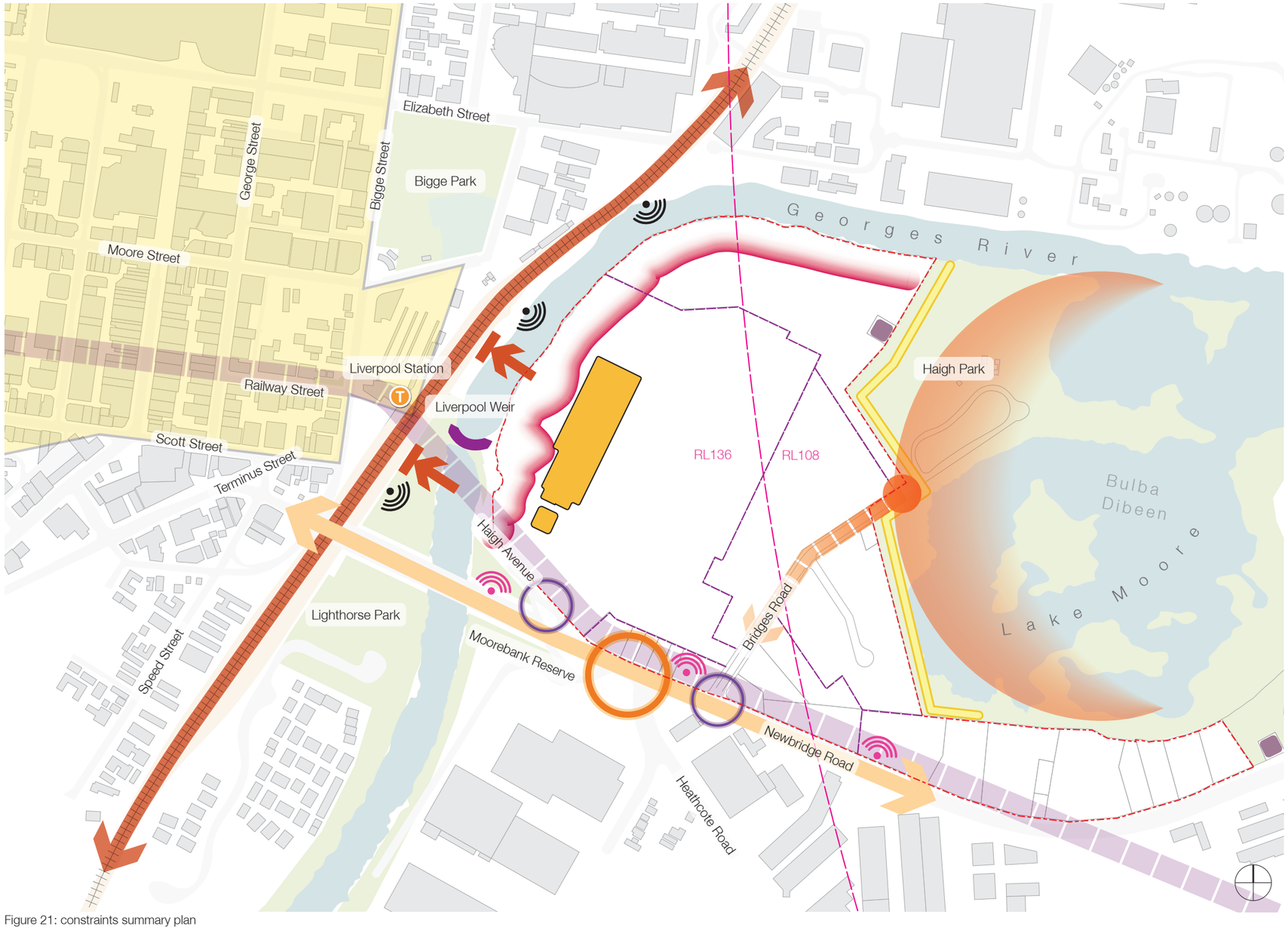


Figure 21: constraints summary plan

1.13 Opportunities summary

Moore Point has an array of opportunities which should be integrated into the masterplan. Key opportunities include:

- Proximity to Liverpool City Centre - Moore Point is directly adjacent to Liverpool City Centre and associated employment opportunities and services such as Liverpool Hospital. This proximity alongside major planned public and private investment for the centre make it a prime site for development.
- Liverpool Train Station and bus Interchange - sit on the adjacent bank offering fast train services to the Sydney CBD and an array of regional bus routes. Improved connections across the river could establish direct connections from the site to the station.
- Heritage - remnant factories, river weir, viaduct pylons and especially the existing factory and crop grid are significant historical elements to be integrated into the masterplan.
- Reconnection to the river - and the potential to relink Liverpool and Moorebank back to the River.
- Georges River - The river and vegetated banks wrap the eastern and northern edge of the site which offers an immense opportunity for riparian recreational spaces. For aboriginal peoples and colonial settlers the River was a vital source of food, transport route and place of leisure. Moore Point can reconnect the residents of both Liverpool and Moorebank to the Georges River.
- Lake Moore and Haigh Park - Together these natural assets provide sporting pitches, playgrounds, kilometres of recreational pathways which join into the broader Moorebank and Liverpool recreational path network.

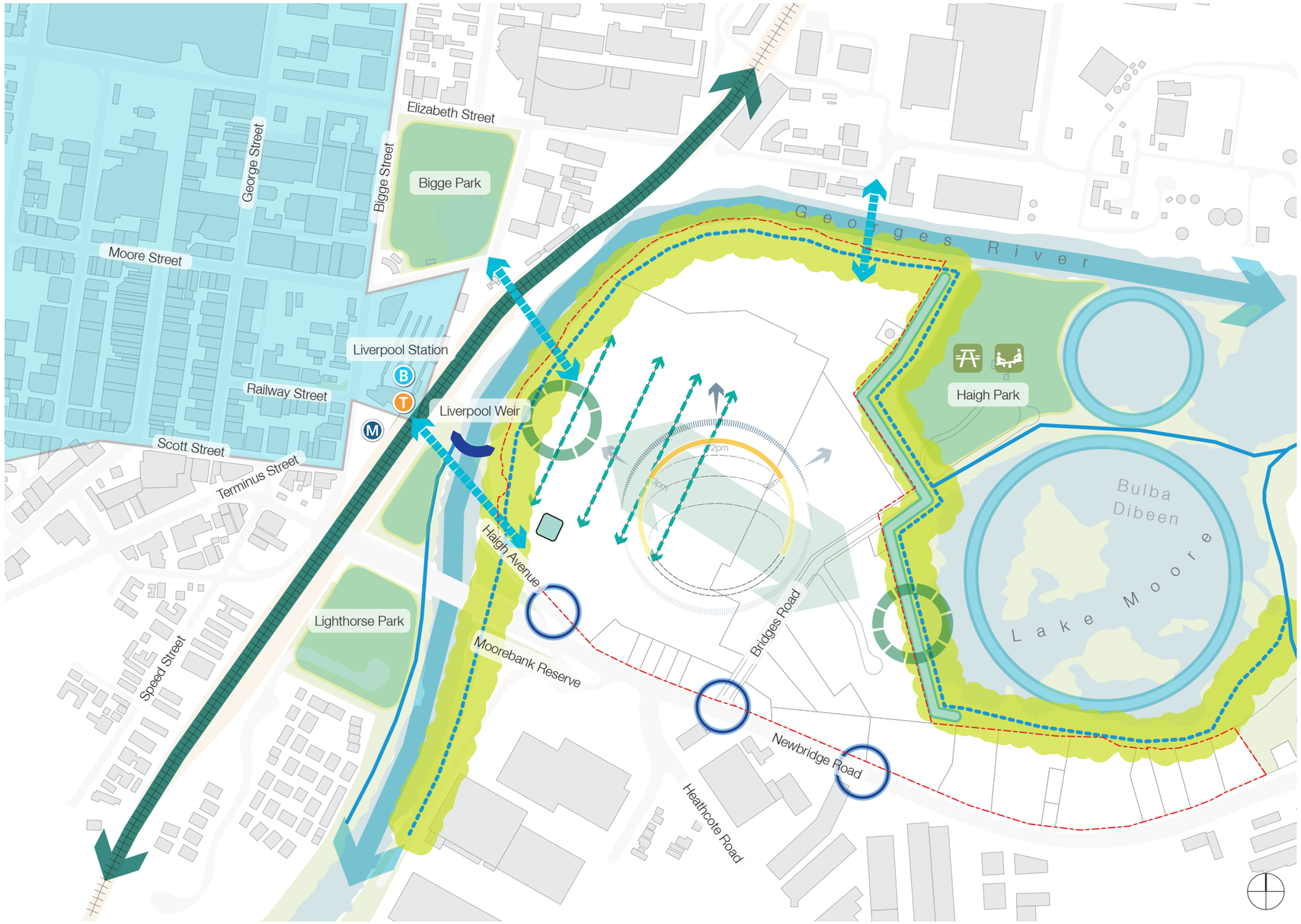


Figure 22: opportunities summary plan

Strategic Framework

2

Policies and planning strategies guiding development in the Region, Liverpool and Moore Point

Strategic Framework

2.1 Strategic framework overview

This strategic framework underpins the Moore Point masterplan and establishes a common understanding of what is collectively sought for the future of the region across local and state government. A thorough understanding of existing government strategies and policies will establish the base assumptions and drivers for the project, and enable the masterplan to incorporate and respond to the higher level thinking that has already taken place.

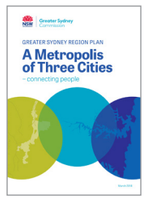
The masterplan will become a vehicle for the implementation through combining aspirations for the project with an understanding of the planning context which supports its delivery.

The policies and plans shown to the right have been considered as part of the masterplan's strategic framework. Select documents have been explored in more detail in the following pages.

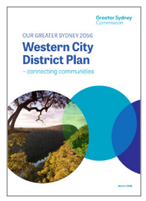
Glossary of abbreviations:

GSC: Greater Sydney Commission
LCC: Liverpool City Council
TfNSW: Transport for NSW
GANSW: Government Architect NSW
DPIE: NSW Department of Planning, Industry and Environment

Strategic Policies and documents



Greater Sydney Region Plan (GSC)



Western City District Plan (GSC)



Liveropool Place Strategy (GSC)



Connected Liverpool 2050 - Local Strategic Planning Statement (LCC)



Public Domain Masterplan (LCC)



Community Strategic Plan (LCC)



Draft Georges RIver Precinct Plan (LCC)

Transport Strategy



Future Transport 2056 (TfNSW)

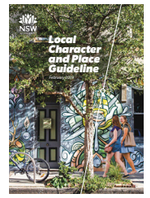
Design Guidance



Better Placed (GANSW)



Creating Places for People



Local Character and Place Guideline (DPIE)



Implementing Good Design



Greener Places



Design Guide for Heritage



Good Urban Design



Aligning Movement and Place

2.2 Design excellence and government policy

The policies referenced below have been prepared by the Government Architect of NSW to guide and improve the design process from the outset. Both the overriding intent and the specific principles within them have shaped the masterplan.

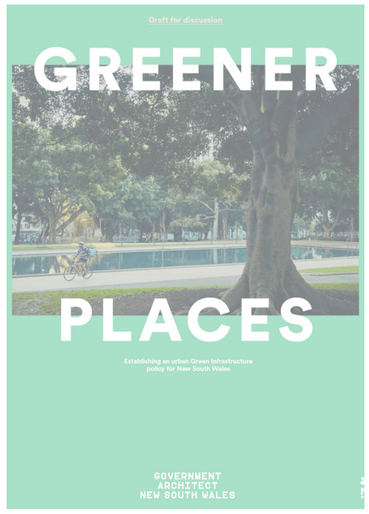


Better Placed is the overarching policy by the Government Architect of NSW. It establishes seven criteria which define a ‘good built environment’

- Better fit
- Better performance
- Better for community
- Better for people
- Better working
- Better value
- Better look and feel



Implementing Good Design is the complementary policy to Better Placed and outlines the approach for measuring places and spaces to assess whether they meet the expectations and requirements of GANSW policy.



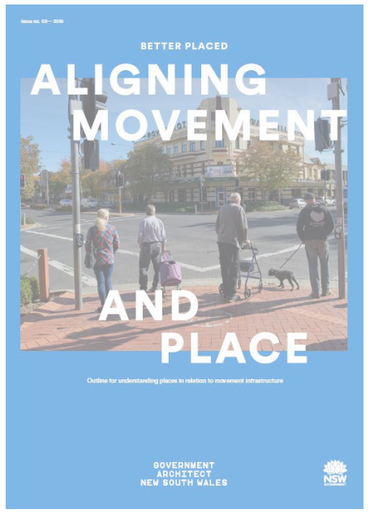
The draft Greener Places policy outlines the importance of green spaces in towns and cities and the approach to integrating them into broader connected networks which support recreation for people and biodiversity in the urban environment.



The Design Guide for Heritage is a guideline for preserving, restoring and integrating heritage into spaces, buildings and precincts. Formulated in collaboration with the Heritage Council of NSW it defines heritage places and thematically unpacks key practical considerations for design.



The Good Urban Design Guidance note builds on the Draft Urban Design Guide which is currently being updated. It builds on the objectives in Better Placed and focuses on the strategic scale and design process for running masterplanning projects.



Aligning Movement and Place seeks to outlay the functional, aesthetic and communal importance of roads and streets. It has been produced in collaboration with Transport for NSW and provides advice and a toolkit for approaching transit oriented development at many scales.

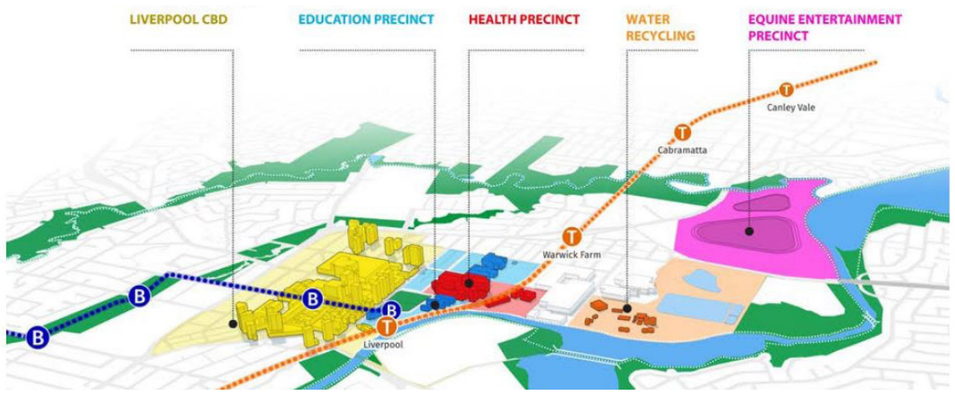
2.3 State policy and studies

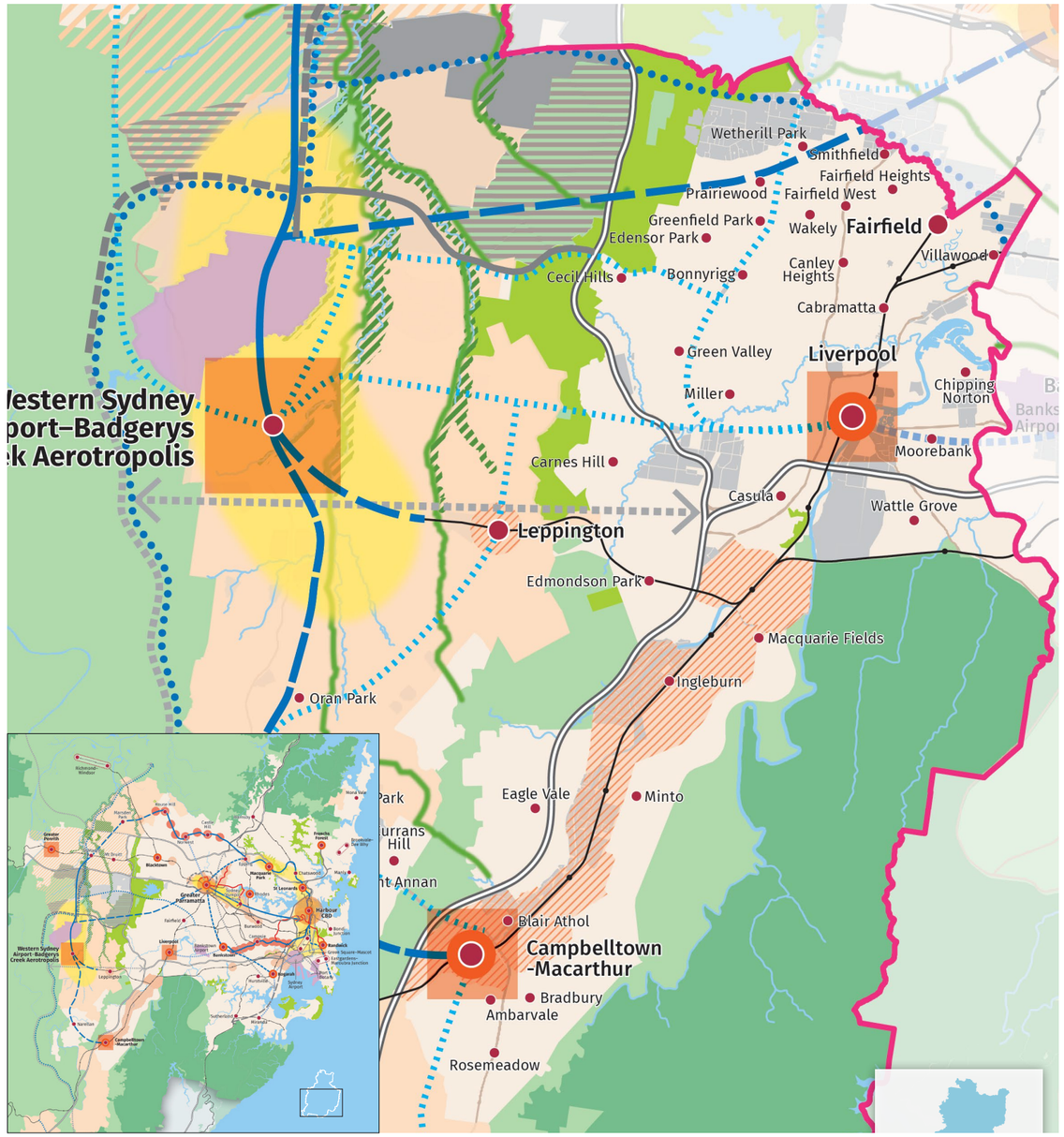
The Greater Sydney Region Plan establishes the vision for a metropolitan region consisting of the western parkland city, central river city and eastern harbour city anchored by Penrith, Parramatta and the Sydney CBD respectively. The plan designates Liverpool as part of the Western Parkland City Metropolitan Cluster.

The Western City District Plan also illustrates Liverpool as a Metropolitan Cluster and at the intersection of the Upper Georges River, a train line and a city serving transport corridor. The plan identifies Liverpool as an area which has high housing demand and specifies a 0-5 year housing supply target of 8,250 dwellings. It states Liverpool should support the Badgerys Creek Aerotropolis and should have a 2036 baseline target of 36,000 jobs. It will be part of a 'Collaboration Area' in addition to the following actions (42);

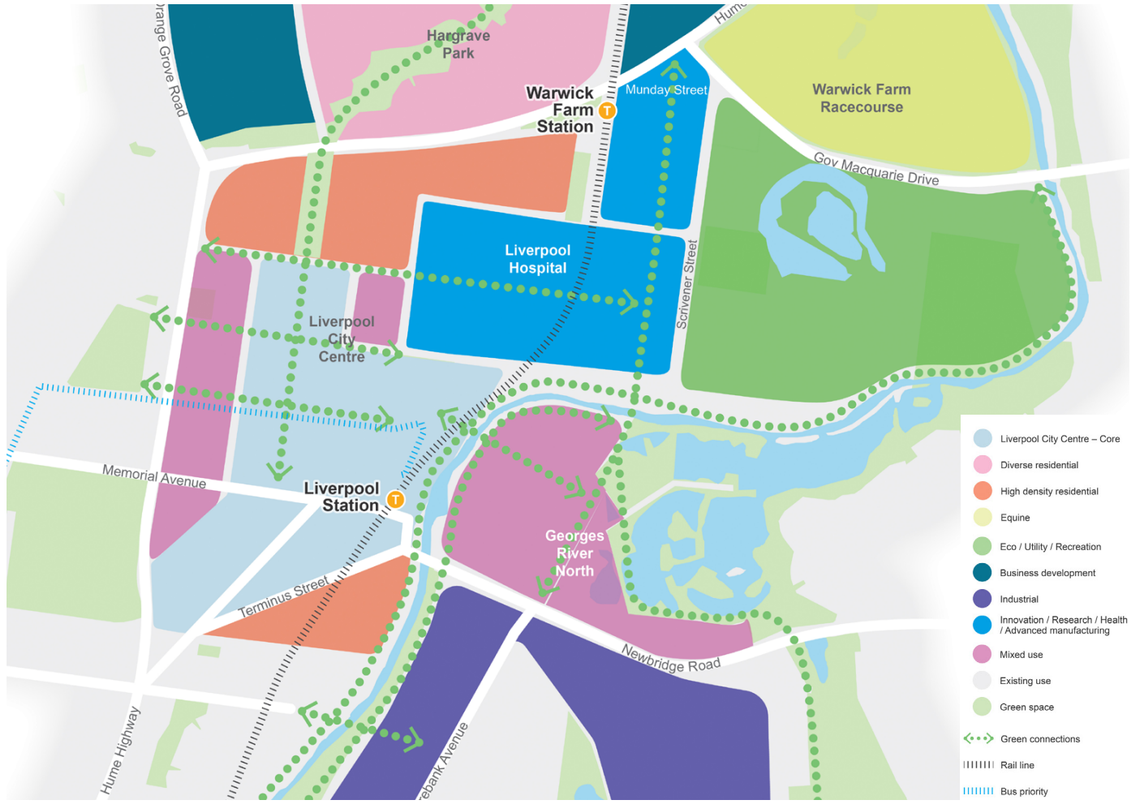
a. protect and develop the commercial core
b. improve and coordinate transport and other infrastructure to support jobs growth
c. develop smart jobs around the health and education precinct
d. build on the centre's administrative and civic role
e. improve public domain including tree-lined, comfortable open spaces and outdoor dining
f. improve connectivity and links to the Georges River and prioritise pedestrian, cycle and public transport facilities
g. encourage a vibrant mix of uses, new lifestyle and entertainment uses to activate streets and grow the night-time economy
h. capitalise on the Western Sydney Airport and Western Sydney City Deal initiatives.







2.4 Subregional strategic studies





The Liverpool Collaboration Area Place Strategy

The study aims to inform public and private investment decisions by identifying and recognising complex, place-specific issues. The vision statement for Liverpool is as follows:

"By 2036, Liverpool is a rejuvenated river city, offering diverse and growing residential and employment opportunities underpinned by global leadership in health, education, research and innovation." p.9

The plan shown above indicates Moore Point as 'diverse residential' which is defined as "a mix of housing densities and typologies from affordable to executive housing, from low to high density, retaining or enhancing the current proportion of affordable housing."

Page twelve and thirteen of the document summarises the nine priorities of the plan, all of which can be facilitated with the coordinated development of Moore Point.

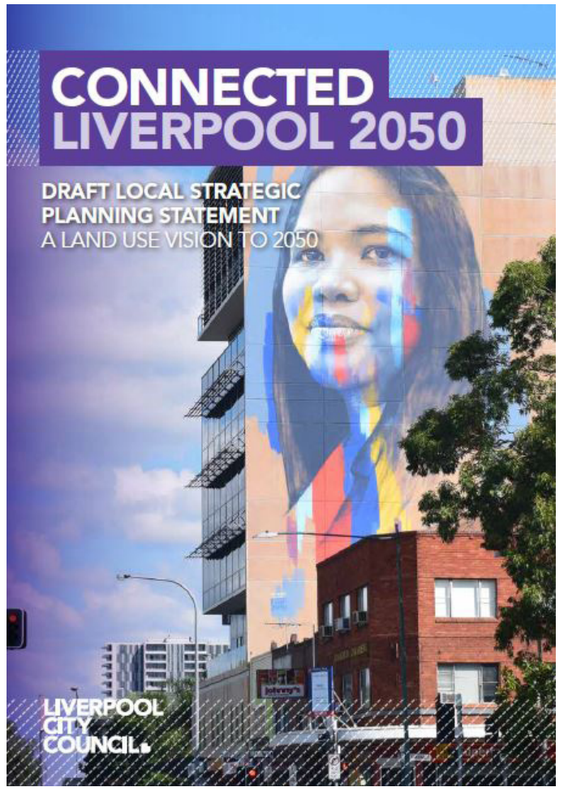
Further information on the Place Strategy is provided in the accompanying Planning Report by Mecone.

Georges River Precinct Plan

The site sits in the Georges River Precinct and several key drivers of the The Draft Georges River Precinct Plan (GRPP) justify intensifying land uses in the area and have direct implications for the site:

- Access to Airports: Liverpool is uniquely positioned within the Sydney metropolitan context to be equally accessible from Sydney Airport and Badgerys Creek Airport.
- Southwest Metro Line Extension: The potential extension of the Metro line to Liverpool will improve its integration with the rest of Sydney, helping to sustain growth in the area and
- Enhance its liveability. Vice versa, the ability of the site to accommodate population growth strengthens the case for the extension of the Metro to Liverpool.
- Upgrades to Regional Roads: Future upgrades to regional road infrastructure have the potential to alleviate traffic volumes within the Precinct, laying the foundations for sustaining higher densities.
- Highest and Best Use: Existing riverfront areas are dominated by industrial uses, under-utilised, and/or difficult to access.
- Re-development of riverfront sites for mixed use residential development can open up the river for everybody to enjoy.

2.5 Local policy and studies

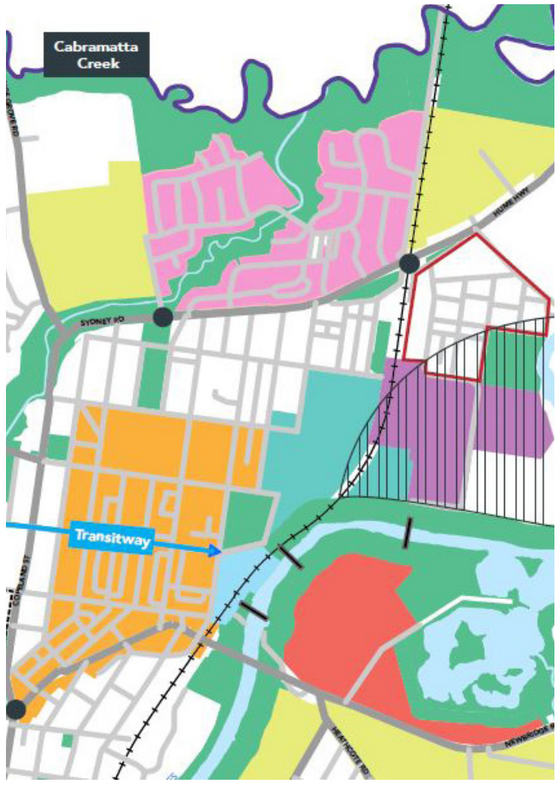


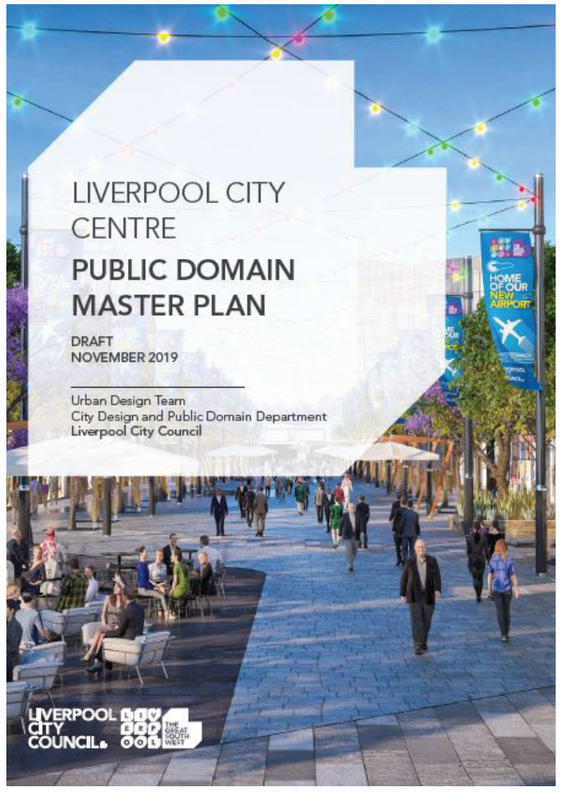
Connected Liverpool 2050 - Liverpool Strategic Planning Statement (LSPS)

Prepared by Liverpool CIty Council, the LSPS will inform the review of Liverpool CIty Council's LEP and guide future development, housing mix, the provision of jobs as well as public open space, community facilities and maintenance of the natural environment.

The LSPS outlines a number of objectives which should be considered in the Moore Point Masterplan:

- Investigate amendments to LEP to rezone River precinct north of Newbridge Road (Moore Point) as a mixed-use zone to support the Liverpool CBD and Innovation Precinct, with an extensive open space system and cross-river linkages (short to medium term)
- Improve community access to riverfront land around Georges River to provide cool, clean, green spaces in which to connect, play, swim and relax.
- Investigate cross-river links
- Refocus Liverpool CIty Centre around the amenity of a healthy Georges River, connected to Pasrkland and open space with development that is of appropriate scale which respectes the natural character of the river environment
- Foster a 24-hour economy with a lively and well-integrated mix of activities



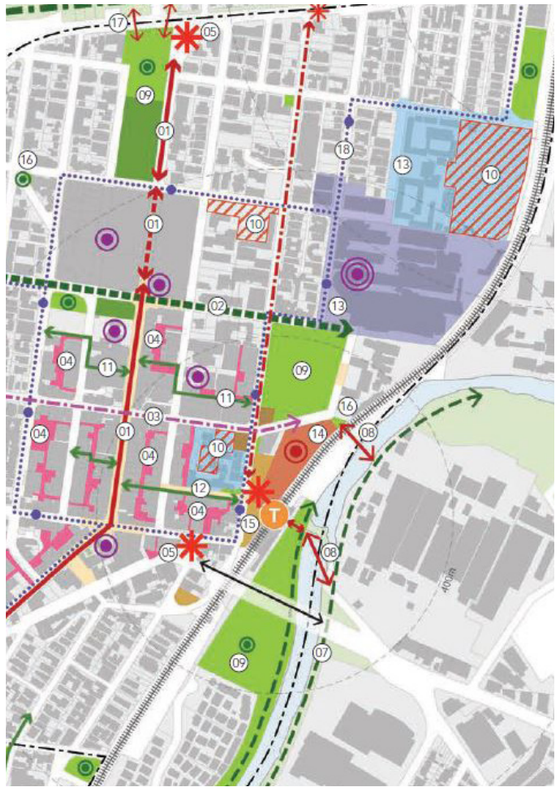


Draft Public Domain Masterplan

Prepared by Liverpool CIty Council, the draft masterplan outlines the 10 year plan for public domain improvements across Liverpool City Centre. The principles and strategies outlined within this document should be considered as part of the Moore Point Masterplan.

High level strategies which permeate through the masterplan include:

- street designs that encourage active and public transport, and provide increased pedestrian amenity.
- improve serviceway/laneways to support service requirements, as well as activation and events.
- upgrade existing, and provide new, open spaces to increase amenity and facilities.
- improve water quality, and increase access to, and
- activation of, the Georges River and Brickmakers Creek.
- conserve, enhance and promote Liverpool's heritage.



Objectives that specifically relate to Moore Point include:

- improving the condition of the Georges River to support biodiversity and the ecological community
- providing pedestrian and bicycle tracks along the Georges River
- establishing new pedestrian connections across Georges River

2.6 Benchmarking

The benchmarking analysis below provides examples of other local urban renewals of a similar scale, level of transport service and development context. The key findings from this analysis have informed the masterplan.

What is apparent from this research is that a project of the scale proposed at Moore Point is truly unique in the NSW and Australian context, and comparisons to international precincts become irrelevant based on the differences in social, economic, geographic and development contexts. Despite this realisation there are a number of important findings shown on the following page.

Development precinct	Wentworth Point	North Ryde	Wolli Creek	Ivanhoe Estate	Central Park, Sydney	Darling Quarter
Precinct site area	18.6ha	12.7ha	35ha	8.3Ha	6.2ha	3.7ha
Former predominant land use/ownership	Roads & Maritime Services	Industrial	Industrial	Residential	Industrial	Mixed Use
Number of Dwellings	2,300	3,000	6,100	3,585	4,172	1,510
Height	25	30	30	24	40	40
FSR Ranges	1:1 - 2.6:1	0.5:1 - 3.5:1	2:1 - 4:1	3.44:1	3.91:1	5.2:1
% of RE1 open space within precinct	25%	22%	4%	7%	21%	7%
Land use	Residential, Mixed Use, School	Residential, Mixed Use, Community	Residential, Mixed Use	Residential	Residential, Mixed Use, Commercial	Residential, Community, Commercial
Public transport within 800m (planned or existing)	F, B	M	T, B	M, B	T, B	T, B, M, F, L

2.7 Key strategic considerations

Following the review of the State and Local policies and guidance, and interrogation of similar precincts across NSW, there are eight key fundamental strategies that must underpin the masterplan and future revitalisation of Moore Point. Many of these strategies have also been identified through our early engagement with Council at the officer level, which has enable the design team to incorporate them into the foundations of the masterplan.



Establish Moore Point as a mixed use precinct to support Liverpool CBD and Innovation Precinct



Deliver a mix of residential typologies and tenancies



Connect to Liverpool City Centre and the health and education precinct through new cross-river connections



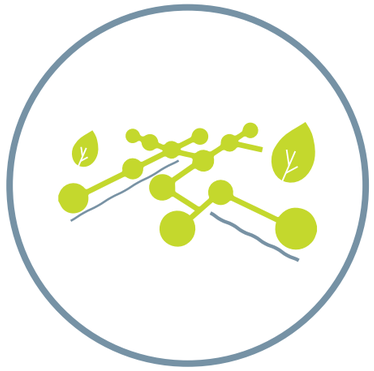
Unlock public access to Georges River and riverfront lands



Capitalise on the delivery of significant public transport infrastructure including Western Sydney Airport and South-west Metro



Embed and celebrate the indigenous and non-indigenous history of the site, connecting communities to the past and place



Create an interconnected network of open space combined integrated with urban development



Balance the need for movement with the creation of places for people and communities

Illustrative Masterplan

3

The vision, principles, concept and illustrative masterplan for Moore Point

3.1 Vision







Moore Point will be a riverfront place for people

which is well served by public transport, connected to its surrounding landscape and complements Liverpool City Centre. It will be mixed use with cultural and educational opportunities for residents and visitors. Connected with green gridded streets, bridges and landscaped waterfront it will be a focal point for the growing Western Sydney metropolis and place for everyone.







3.2 Design principles



A memorable **Place** for everyone

- Public spaces should be designed to accommodate day and night events as well as temporary and informal activities
- Buildings, streets and spaces should be arranged to promote passive surveillance in the public domain, according to principles of CPTED
- Indigenous, colonial and landscape history should inspire design at all scales especially detailing of public domain and building facades
- Public art, such as murals, sculptures, mosiacs and interactive art should be integrated into the public domain to create a rich ‘sense of place’
- Heritage elements, structures and infrastructure should be repaired and integrated into the built form and public domain



Strengthens **Liverpool City Centre**

- The urban structure of Moore Point should form a connected sequence of streets and spaces, which complement and integrate with Liverpool City Centre
- The proposed Moore Point skyline should consider the current and future growth of Liverpool City Centre, and desired future character for the Greater City of Liverpool
- Streets and landscape should encourage east-west movement from Liverpool City Centre, through the train station to the Georges River corridor, Lake Moore and the green spaces beyond
- Commercial, retail, civic and institutional buildings should complement the existing landuse configuration of Liverpool City Centre



Transport oriented development

- New transport infrastructure should be considered proportional to the expected population of the precinct (i.e. bus interchange) and improve access to Liverpool City Centre
- The masterplan should accommodate a future metro station
- Streets and spaces should connect the train station, metro station and bus interchange, and harness the associated pedestrian movement to activate the public domain
- New connections such as bridges should be established over the Georges River and major roads into surrounding areas to improve regional connectivity
- Bike and pedestrian paths should create loops linking the Georges River and Lake Moore to public transport and the broader network of green public spaces and recreational facilities



Connected and repaired **Landscape**

- Public spaces should harness the unique existing natural aspects of the site such as the Georges River, Lake Moore, Haigh Park and surrounding spaces
- Streets and spaces should consider the site, climate, aspect, topography, vegetation and watercourses to create microclimates to encourage pedestrian activity throughout the year
- Native vegetation should be prioritised, although evergreen and deciduous trees can be used in site specific conditions
- Planting should strengthen the legibility of the grid and complement the interfaces with buildings and public spaces to shade them at appropriate times
- Water should be harnessed according to WSUD principles to improve the environmental performance of streets, promote biodiversity, improve pedestrian amenity and filter runoff to improve the water quality of the Georges River Catchment
- Remnant pollution such as acid sulfate should be removed, capped or treated and rehabilitated using appropriate vegetation

3.3 Design principles



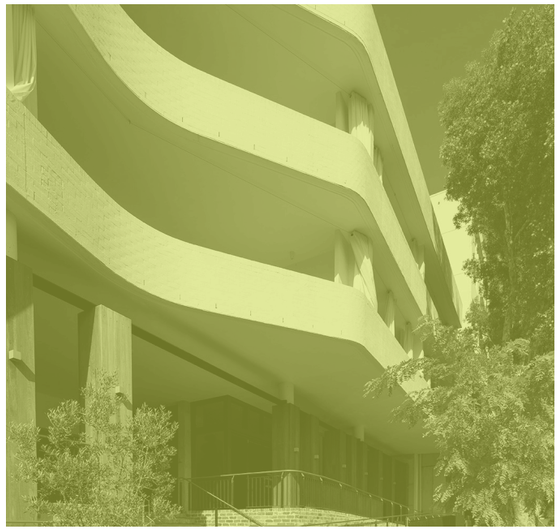
A mix of strategically located **Landuses**

Functional requirements such as entrances and servicing associated with different landuses should be appropriately highlighted or screened to complement the streetscape

A mix of complementary landuses should be clustered and stacked to create a vibrant public domain throughout the day and night

Compact, commercial frontages should be clustered around public spaces to promote activity

Landuses should satisfy the needs and requirements of the surrounding neighbourhood, mitigating negative aspects, such as noise and protecting visual privacy



Variety of site specific **Building Typologies**

The built form must respond to the scale and density of existing context and desired future character

Buildings should define the public realm through articulation, and facade detailing and the interface should reflect and establish the desired street character

Building setbacks and podiums should be used to minimise visual bulk where possible and create fine grain street frontages, especially on streets that experience significant movement

Massing should be carefully designed to ensure solar access in accordance with the Apartment Design Guidelines as well as ensure privacy and amenity of dwellings is not compromised

Built form and facade articulation should create a comfortable microclimate for dwellings and the public domain

Built form should clearly deliniate public spaces, internal communal spaces and private spaces and ensure dwellings provide passive surveillance where appropriate



Public streets and spaces for **People**

Street design and detailing should prioritise pedestrians and cyclists by slowing vehicular movement to promote cycling and walking

Pedestrian links and cycle routes should be shaded and visually interesting to encourage physical activity and create and integrated active transport network

Details and materials of footpaths, cycling routes, crossovers, entry thresholds and public furniture must be suitable for the elderly, disabled and children during all weather conditions

Public domain structures, elements, lighting, signage and furniture should encourage tactice engagement and encourage intuitive wayfinding



Staged development to unlock new pieces of the city

The development sequence of sites should consider access to public transport such as the pedestrian bridge to Liverpool Train Station

Development of lots should be staged to ensure the viability of retail and commercial landuses relative to the number of new residents and connections to Liverpool CBD

Multifunctional structures that can be adaptively changed should be considered to accommodate different uses such as commercial offices, retail and carparking to provide flexibility over time

Development should be staged to create unified streets and ensure infrastructure and public amenities are provided alongside residential development

Catalyst developments and programming can promote a range of small and large businesses, events and different financing models could be considered throughout the development

3.4 City to Moore Point concept

Moore Point can standalone, and function as a vibrant community with access to services, public spaces and amenity of the highest quality that sets it apart from any precinct in Sydney. Its strength and unique attributes however, are derived from the proximity to the Liverpool City Centre. There lies the opportunity to leverage the co-location and shared offering of an emerging Central Business District on the doorstep of the new Western Sydney International Airport.

To make this possible, there is a need to provide a number of accessible, convenient and desirable connections that draw people across the Georges River between the two destinations. Duplication of services and spaces will be avoided. The emphasis will be on place-specific experiences, destinations and spaces that support the needs of the Moore Point community and Greater Liverpool. This can be embodied in the adaptive reuse of the heritage buildings, opening up the riverfront to the public for the first time in more than a century, and creating a series of new and reimagined spaces that activate the river, the peninsula and surrounding neighbourhoods.

The Georges River will be is the focus of the place and 'public living room' for visitors and residents. As it sits at the interface between the CBD and Moore Point, it is a natural attribute that needs investment and attention, and a project of this scale has the capacity to breathe new life into this natural asset and restablish Liverpool as one of Sydney's great River Cities.

The following pages summarise the key conceptual moves which have been guided by the the vision and principles to shape the masterplan.

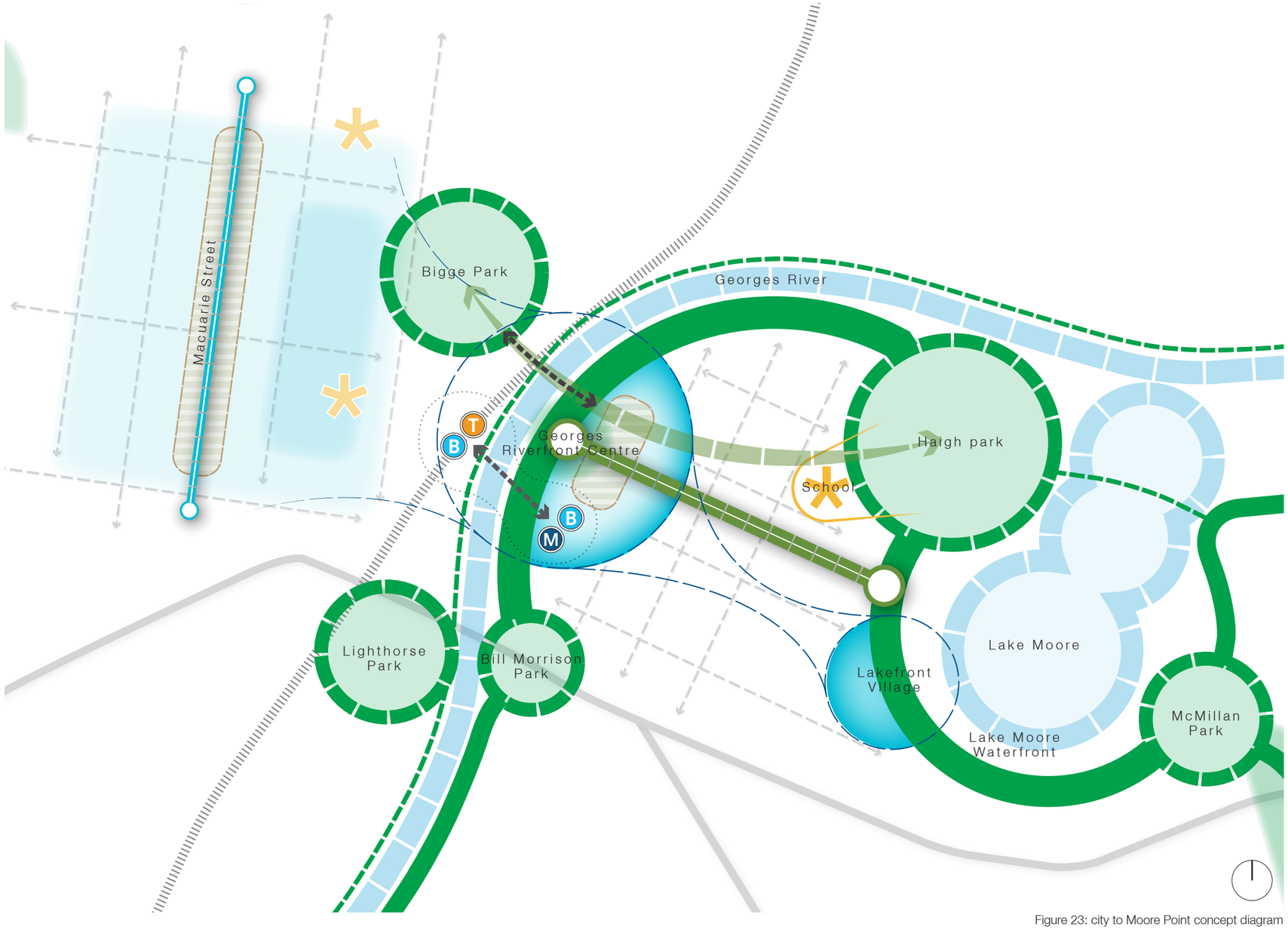
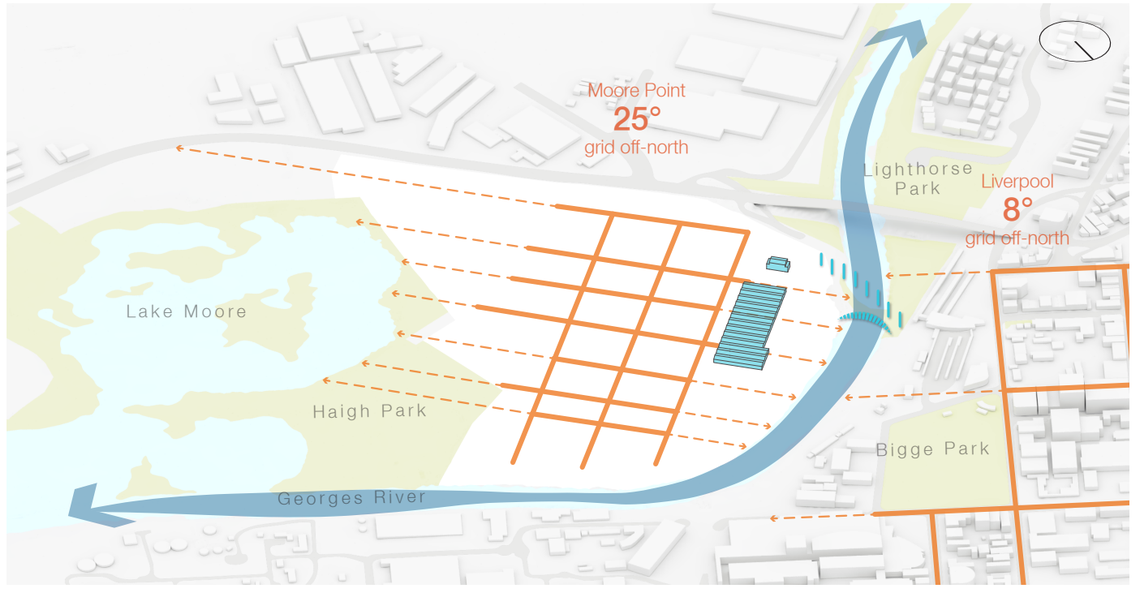


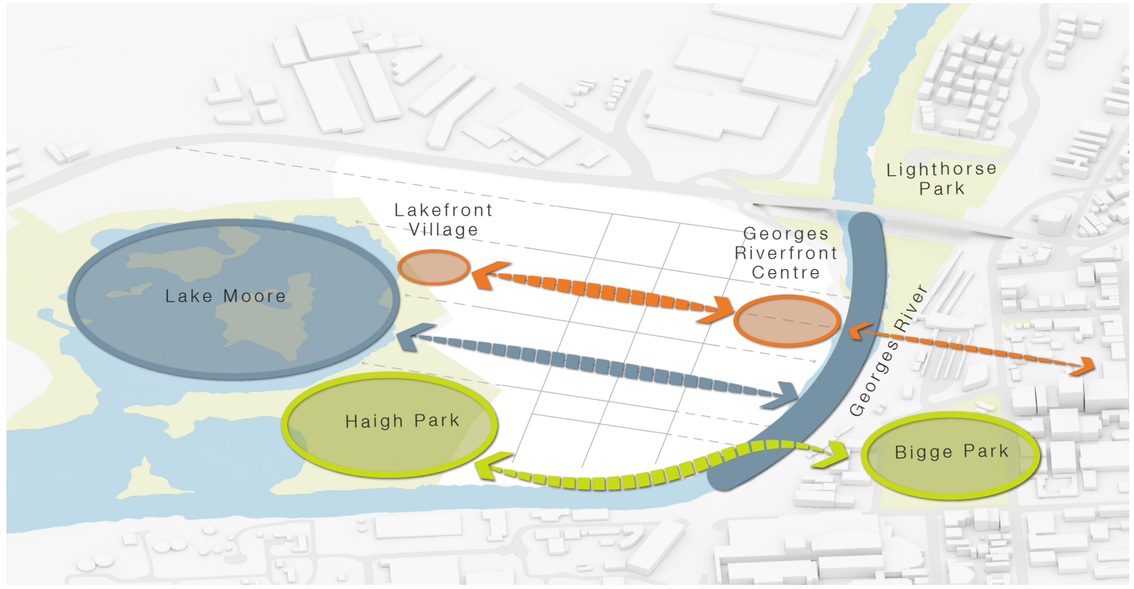
Figure 23: city to Moore Point concept diagram

3.5 Masterplan concept - grid, heritage and structuring elements



1) Aligning to the Moore Point site grid and celebrating heritage

- The Moore Point grid is 25° off north compared to the 8° off north colonial street grid of Liverpool
- The Moore Point urban grid originates from farming and factory uses that date back to the early nineteenth century. The street layout is parallel to the bend in the Georges River which segments the differing street grids of Liverpool, Bigge Park and the hospital precinct.

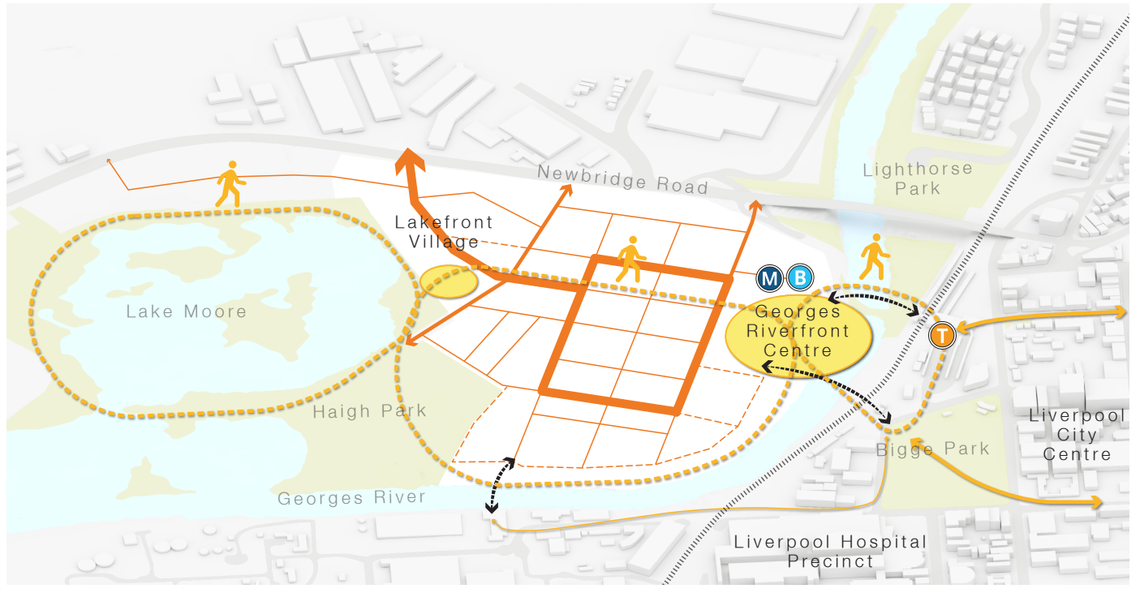


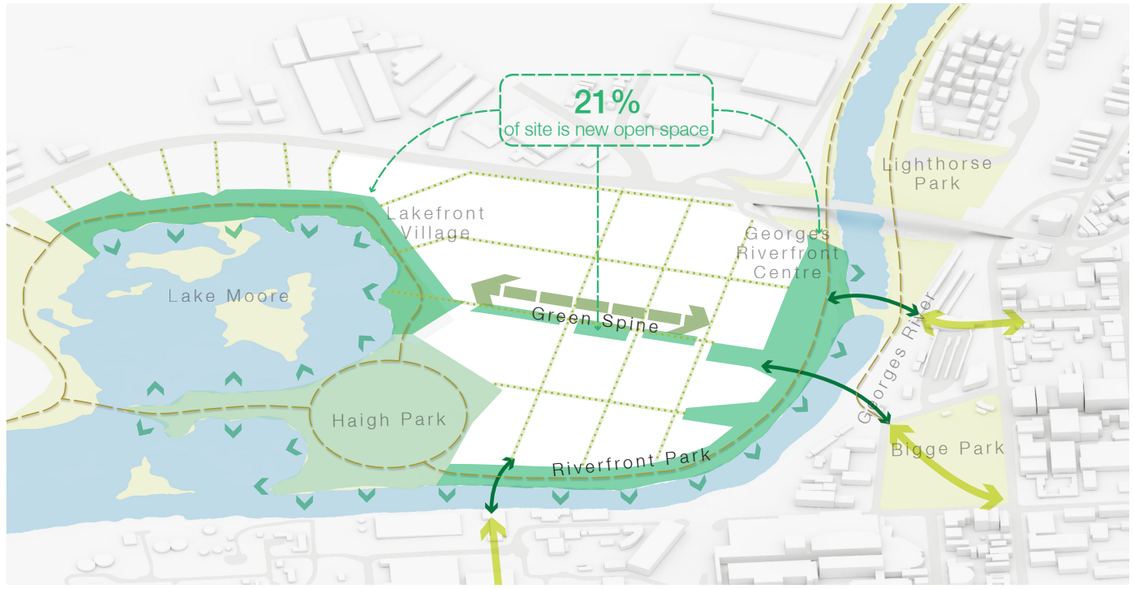
2) Structuring elements - park to park, river to lake, centre to centre

Three east-west axes emerge from the heritage grid to link major elements within and around Moore Point. They create structure and legibility for the 40ha precinct. They include:

- Linking Haigh Park which is the major green space on Moore Point to Bigge Park which is the formal civic public open space for Liverpool
- Linking Lake Moore, the intertidal basin to the Georges River next to Liverpool City Centre to make a direct connection along the green spine
- Linking the Georges Riverfront Centre, the major new civic space to the Lakefront Village Centre which is the secondary civic space

3.6 Masterplan concept - connections and open space





3) Create a permeable street network and pedestrian oriented loops throughout Moore Point and Liverpool

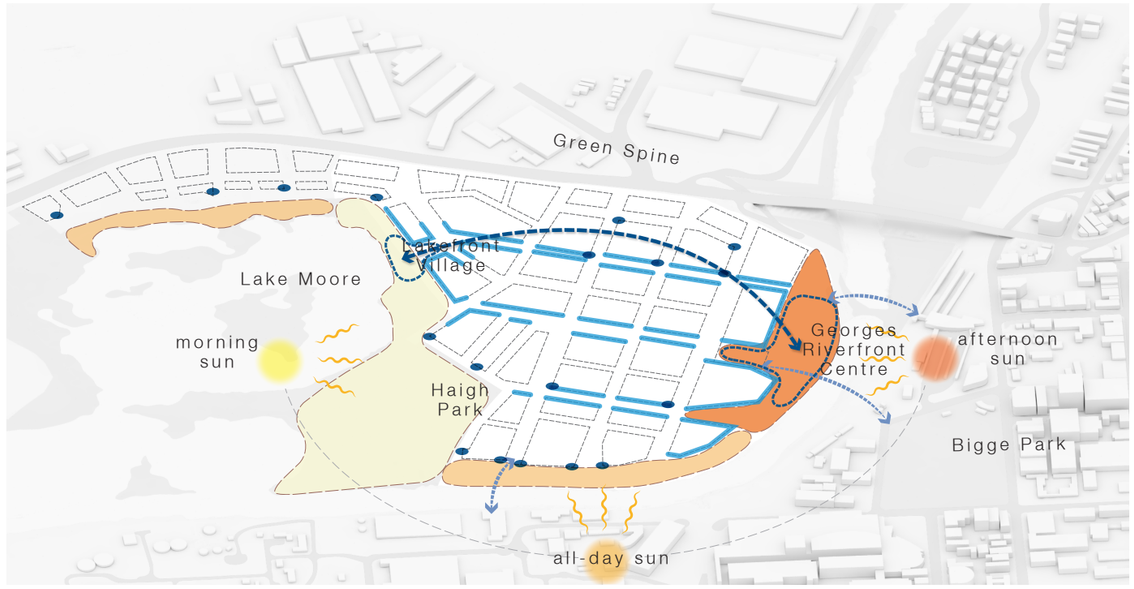
- Access to Newbridge road via the main collector loop which anchors the hierarchical street grid
- Three pedestrian bridges connect Moore Point to Liverpool City Centre, Train Station and Liverpool Hospital Precinct
- Several pedestrian loops are created linking Lake Moore, through the precinct, to Georges Riverfront Centre and over the bridges to Liverpool City Centre

4) Green streets and a riverfront park to reconnect people to the Georges River

- Park creates a sensitive riparian buffer around the edge to the Georges River and Lake Moore
- Bridges span the river to connect Moore Point to Liverpool and to share the amenity of the riverfront and services of the city
- Green spine runs through the centre of the precinct connecting ‘river-to-lake’
- Landscaped streets support raingardens and a dense canopy to cool the city
- New recreational links to connect the regional waterfront recreational path network

3.7 Masterplan concept - community infrastructure and activation





5) Community infrastructure

New community facilities will be integrated into the streets, buildings and public domain of Moore Point to establish an enriching place for residents. Key elements as per the CRED Community Benefits Analysis include:

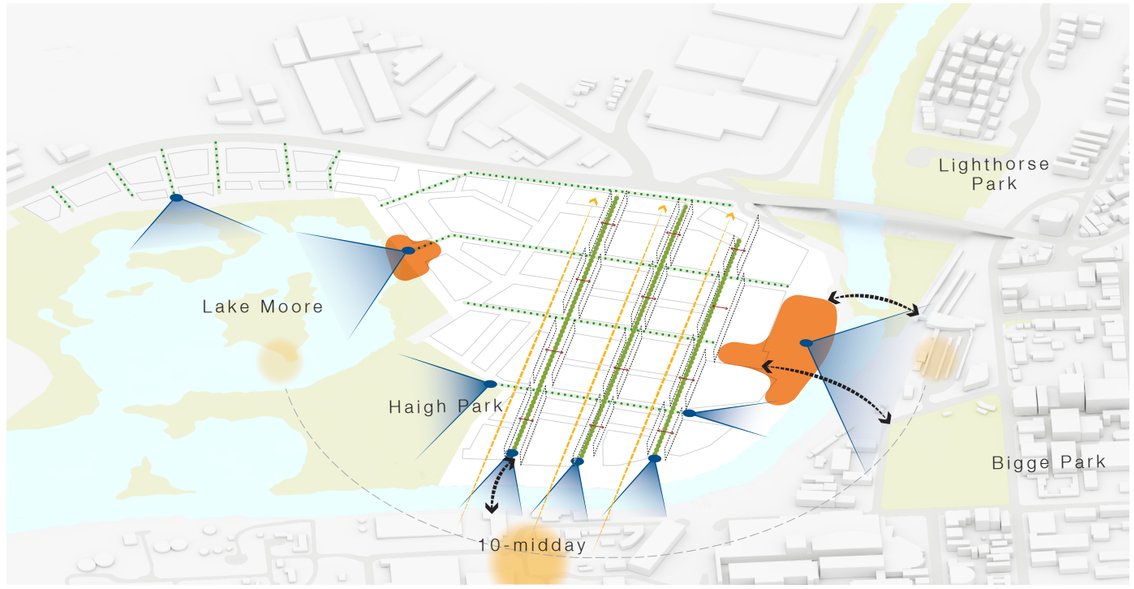
- 2x major public plazas
- 1x school (primary)
- 1x bus interchange
- 3x bridges
- 1x multi-purpose community centre (2,000m^2)
- 1x cultural hub (400m^2)
- Up to 3x new (or upgraded) sports fields (including upgrades to Haigh Park)
- Up to 4x sporting hardcourts integrated into site and surrounding public domain
- Up to 8x playgrounds throughout the site and surrounding public domain
- 1x new indoor leisure centre
- Pontoons and water recreational facilities around Lake Moore and Georges River
- Potential for swimming pool along river or Lake Moore
- 10x childcare centres throughout the precinct
- Fitness stations and youth recreation facilites in public domain
- Recreational pedestrian and cyclepaths with riverfront boardwalk
- Upgrades to surrounding community facilities

6) Activation and experience

- Active street frontages on key routes and corners between eastern edge and western edge of Moore Point public spaces

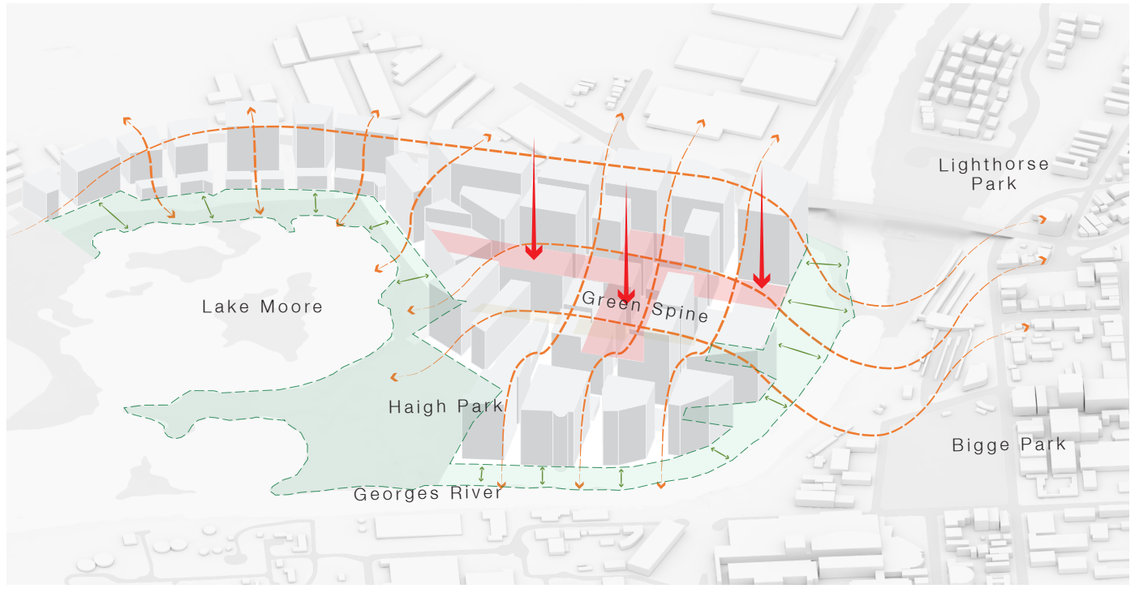
- Program and orientation favours:
  - Haigh Park and Lake Moore as an east facing morning space
  - Riverfront Park and Lake Moore as a north facing all-day spaces
  - Georges Riverfront Centre as a west facing evening space

3.8 Masterplan concept - views, amenity and built form



7) Views and amenity

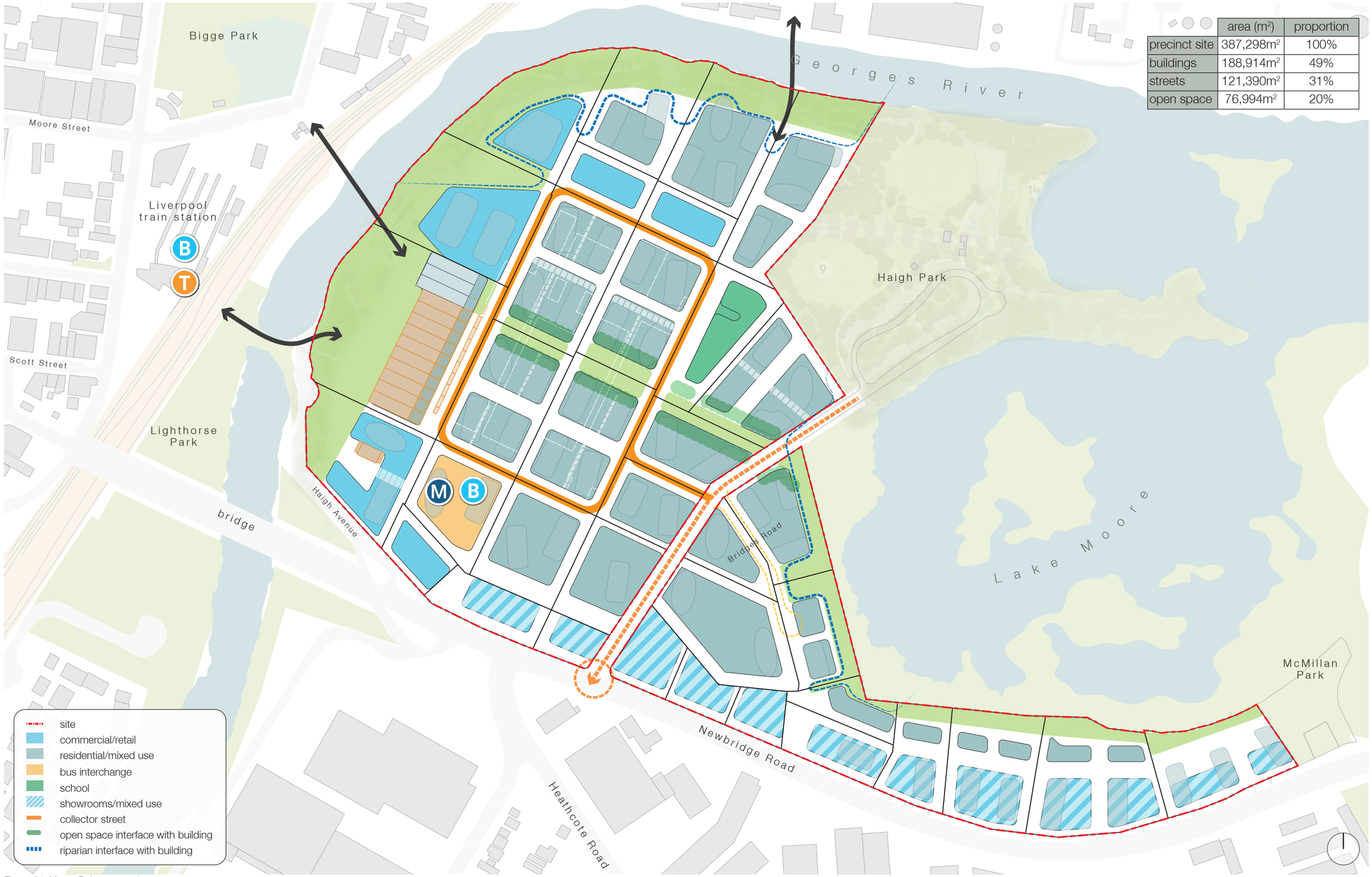
- Streets terminate with views to open space, landscape and public plazas
- Grid alignment optimises solar access down N-S streets between 10am-midday and down E-W streets from 4-5pm
- Tree canopy and shade on southern and western street edges to maximise growing potential
- Generous street widths framed by matching by streetwall heights (approximately 1:1 ratio)



8) Built Form

- Built form height transition down to Lake Moore, Haigh Park and Georges River and back up to Liverpool City Centre.
- Significant building setback line from riparian waterfront to define public domain
- Central north-south primary street depressed to maximise solar access into centre of precinct
- East-west primary street depressed to maximise solar access to green spine

Illustrative Masterplan



	area (m²)	proportion
precinct site	387,298m²	100%
buildings	188,914m²	49%
streets	121,390m²	31%
open space	76,994m²	20%

1:4000 @A3

Figure 24: Moore Point masterplan

Illustrative Masterplan



Figure 25: Moore Point illustrative masterplan

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Structure Plans

Thematic explanation of the masterplan

4

4.1 Movement and access structure plan

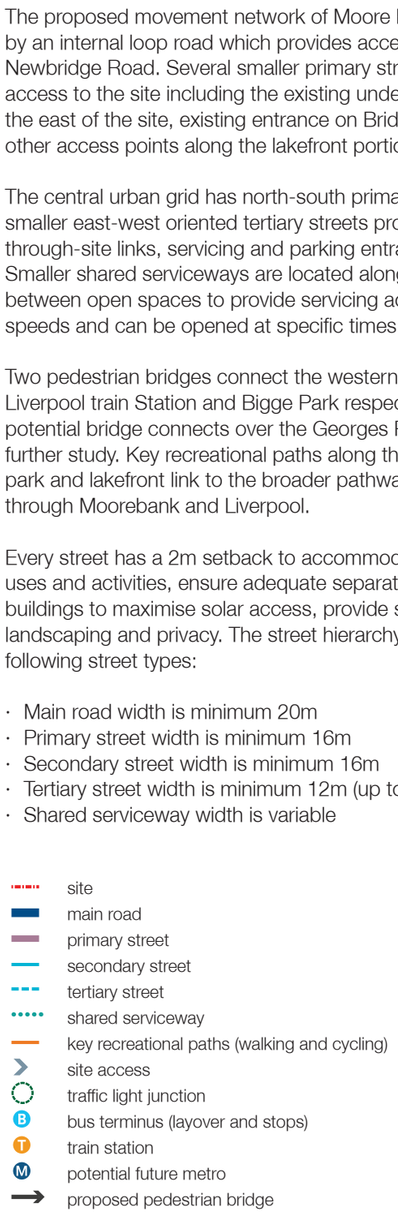
The proposed movement network of Moore Point is defined by an internal loop road which provides access from Newbridge Road. Several smaller primary streets also offer access to the site including the existing underpass access to the east of the site, existing entrance on Bridges Road and other access points along the lakefront portion of the site.

The central urban grid has north-south primary streets with smaller east-west oriented tertiary streets providing pedestrian through-site links, servicing and parking entrance access. Smaller shared serviceways are located along sensitive edges between open spaces to provide servicing access at slow speeds and can be opened at specific times of the day.

Two pedestrian bridges connect the western riverfront to Liverpool train Station and Bigge Park respectively. Another potential bridge connects over the Georges River subject to further study. Key recreational paths along the waterfront, park and lakefront link to the broader pathway network through Moorebank and Liverpool.

Every street has a 2m setback to accommodate a range of uses and activities, ensure adequate separation between buildings to maximise solar access, provide space for landscaping and privacy. The street hierarchy includes the following street types:

- Main road width is minimum 20m
- Primary street width is minimum 16m
- Secondary street width is minimum 16m
- Tertiary street width is minimum 12m (up to 16m)
- Shared serviceway width is variable



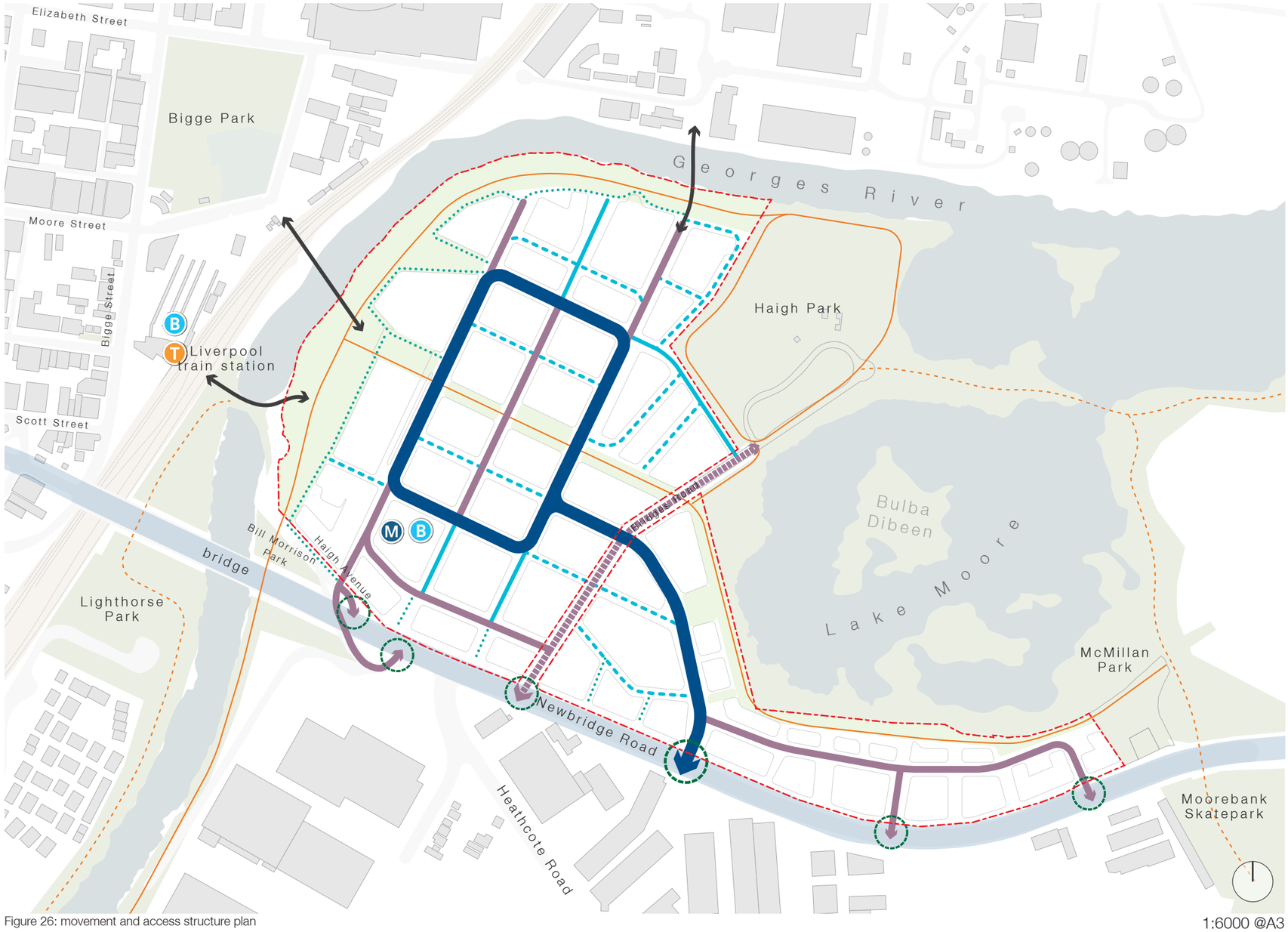


Figure 26: movement and access structure plan

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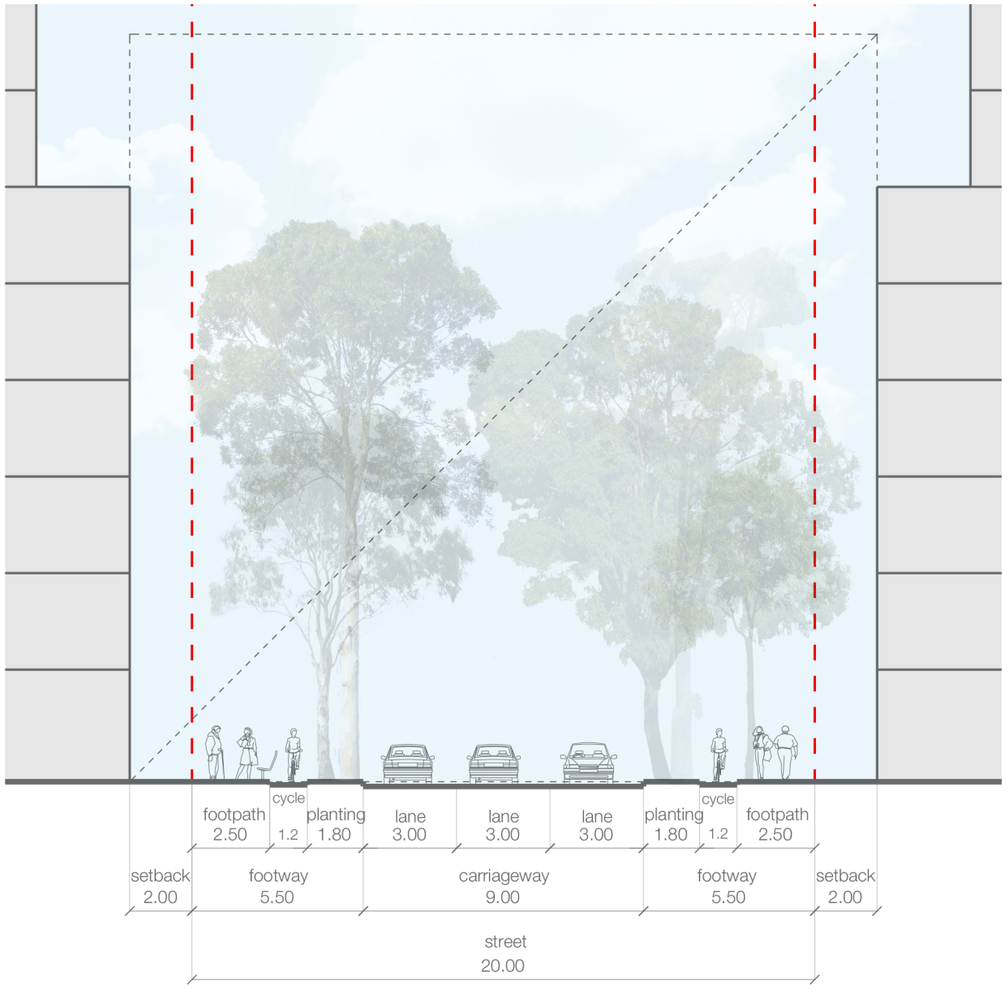
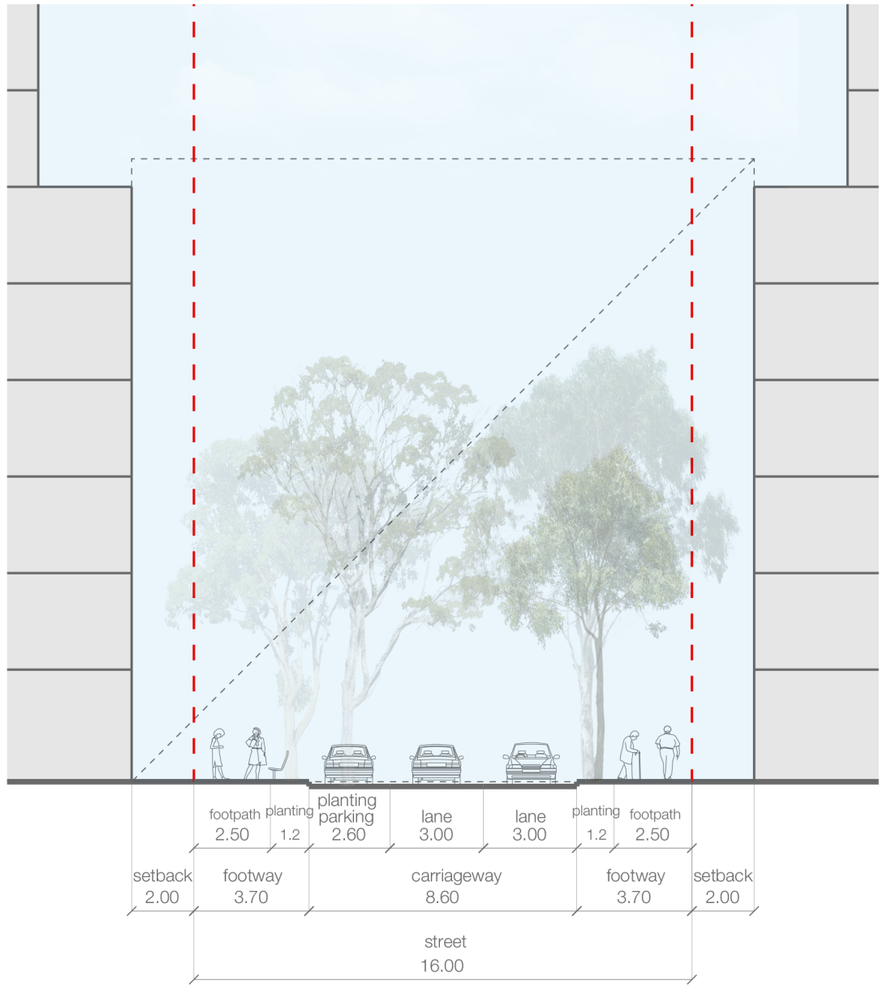
4.1.1 Street types 1



Main road

0.8 : 1 : 0.8

The main collector road for the precinct provides access from Newbridge road and carries the most vehicular traffic. the streetwall height is proportionally smaller than the perceptual street width.

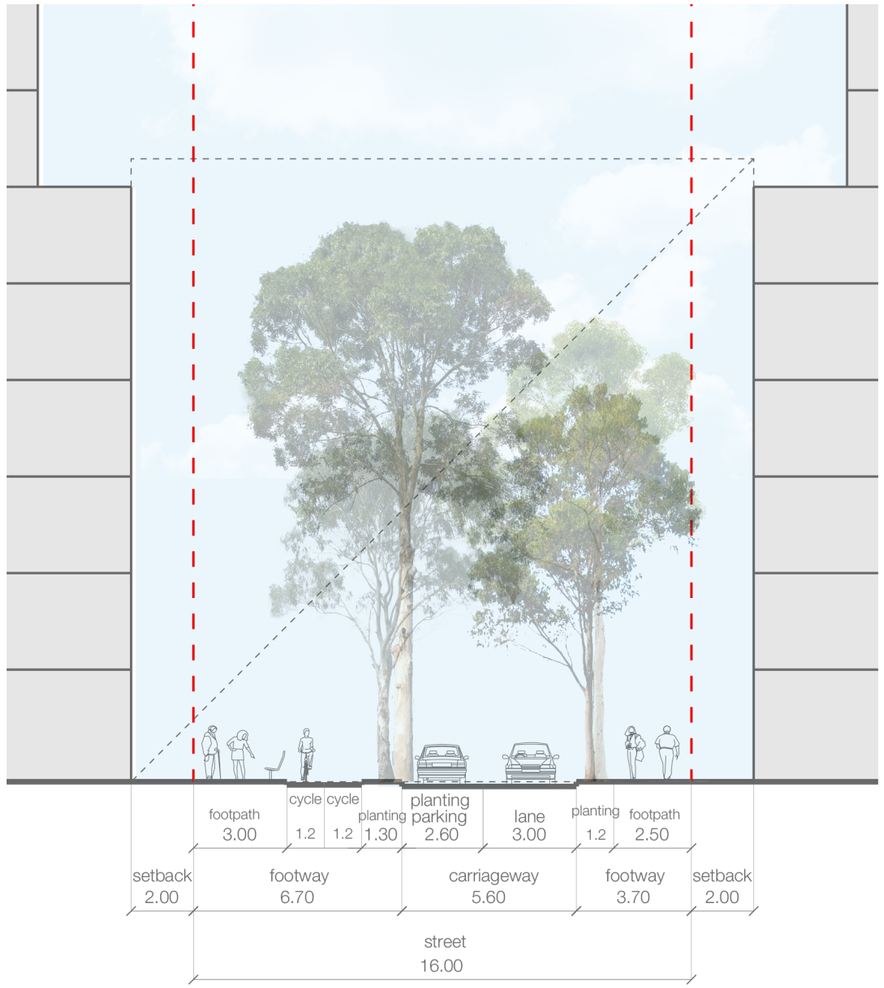


Primary street (two way)

1 : 1 : 1

Primary two way streets are typical for the core of the precinct. The streetwall height is approximately equal to the perceptual street width which is common throughout Sydney.

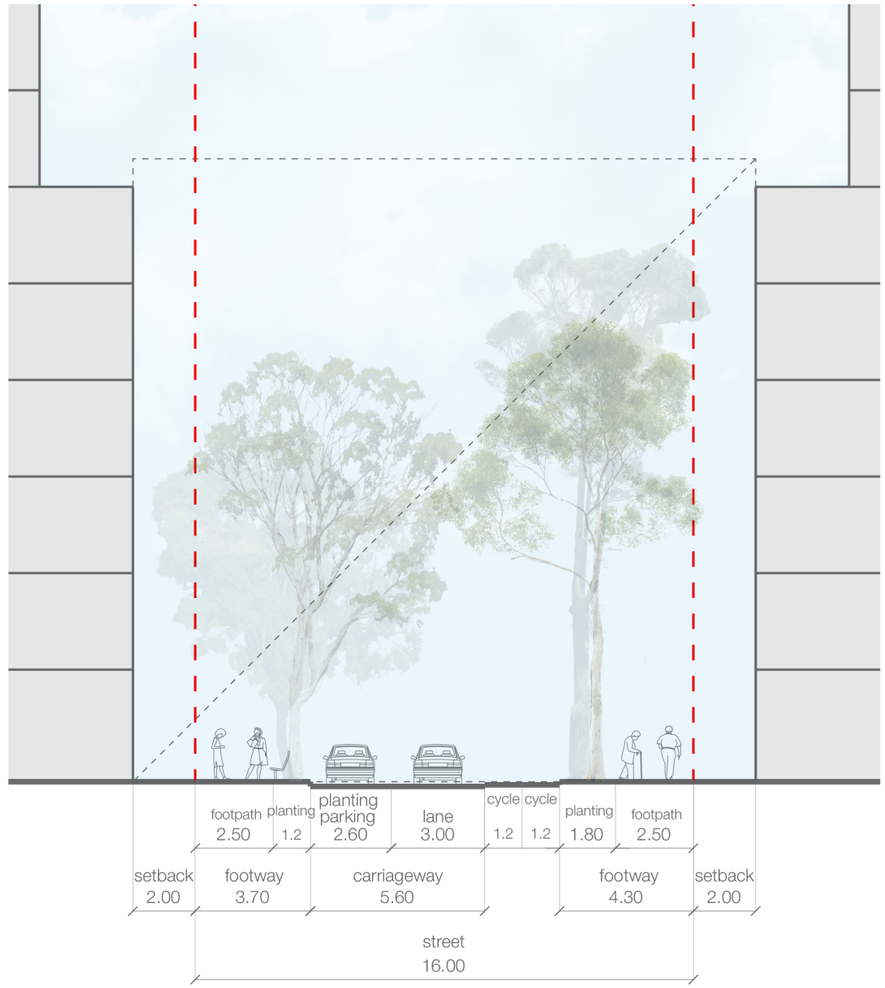
4.1.2 Street types 2



Primary street (one way)

1 : 1 : 1

This is a one way version for some primary streets which are intended to be more pedestrian and cyclist oriented. The streetwall height is approximately equal to the perceptual street width which is common throughout Sydney.

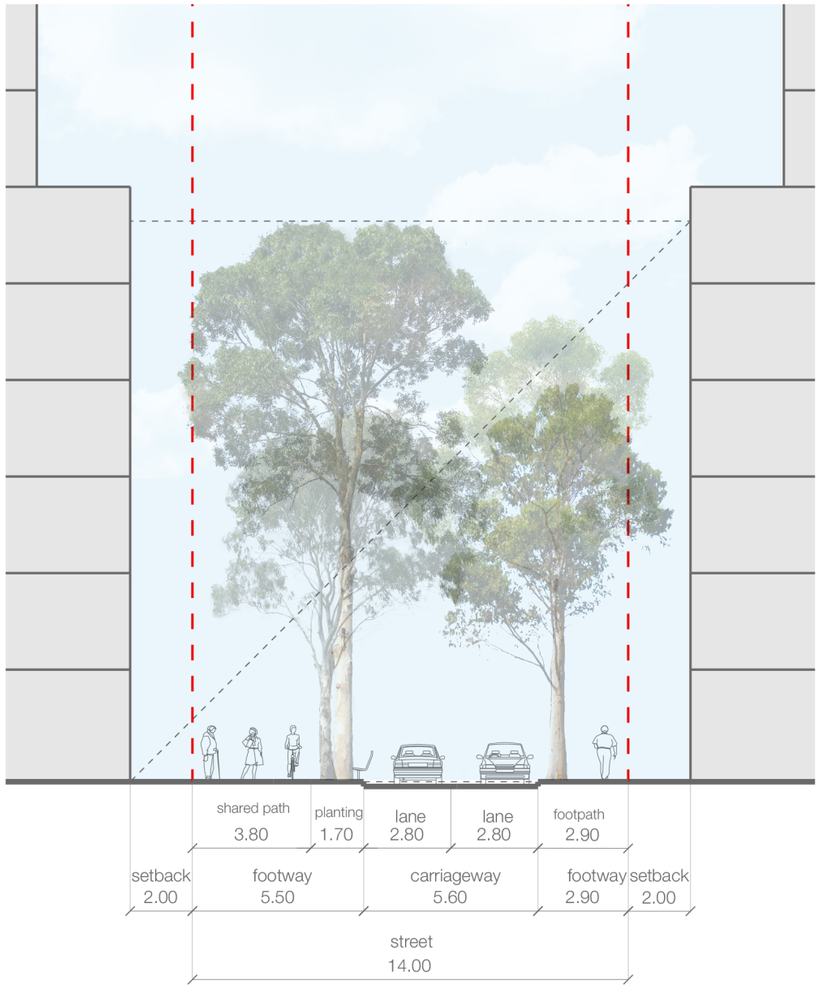


Secondary street

1 : 1 : 1

Secondary streets are typical for the core of the precinct especially at streets which terminate at open space. The streetwall height is approximately equal to the perceptual street width which is common throughout Sydney.

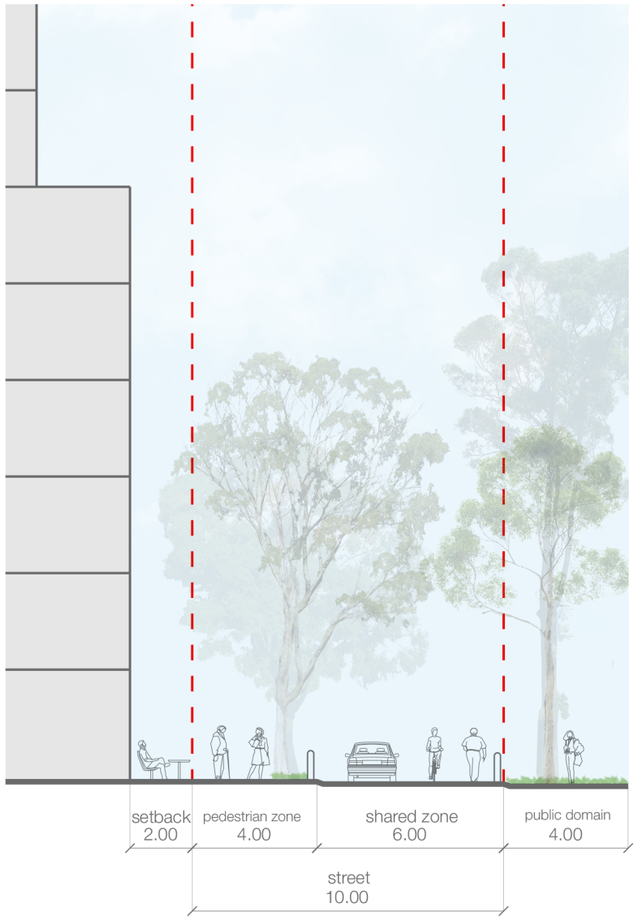
4.1.3 Street types 3



Tertiary street

1 : 1 : 1

Tertiary streets range in width from 12m to 16m in the plan. They provide a range of functions such as serviceways, pedestrian laneways or combinations of both. Often the south side of the street is screened podium parking.



Shared street serviceway

Shared street serviceways are along public space interfaces. They allow timed and managed access for vehicles but are predominantly pedestrian oriented throughout the day.

4.2 Public domain and landscape structure plan

Moore Point is defined by the Georges River, Haigh Park and Lake Moore. Thus the landscape and public domain network of the site aims to connect these unique assets while reinforcing the urban grid of the site. Key open spaces include:

1	Georges riverfront park A	19,850m²
2	Georges riverfront park B	33,651m²
3	Linear park A	1,671m²
4	Linear park B	2,672m²
5	Linear park C	2,720m²
6	Lakefront park A	8,151m²
7	Lakefront park B	8,419m²

A network of landscaped street raingardens (swales) run north-south and east-west to collect, store and filter runoff. The swales also provide optimal conditions for landscaping and trees for canopy cover to mitigate the urban heat island effect and create good urban microclimatic conditions for people. The plaza in front of the adaptively reused factories should have good solar access plane to this space between 11am and 1pm on the winter solstice is recommended.

	Coronation & Leamac sites	Moore Point Masterplan (red boundary)
site area	319,001m²	387,298m²
open space area	68,575m²	76,994m²
proportion of OS	21.5%	20%

site
active Georges riverfront park
passive Georges riverfront park
linear park
lakefront park
riparian interface with building
open space interface with building
major east-west swale
north-south swale
key recreational paths (walking and cycling)
surrounding open space (RE1)
sun access protection area
proposed pedestrian bridge
potential vehicular bridge



Figure 28: public domain and landscape structure plan

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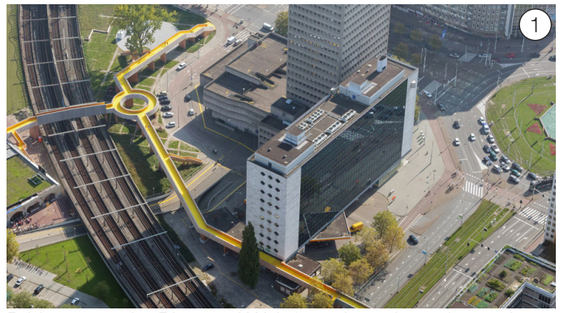
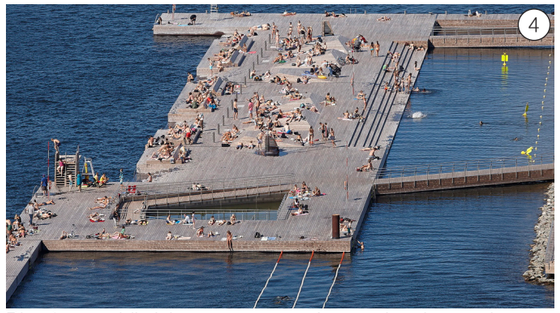
4.2.1 Georges riverfront plaza



Bridges over the River and Weir from the train station and Bigge Park prioritise walking, cycling and public transport access to the area activating the riverfront.



Riverfront public leisure spaces such as swimming pools are important recreational amenities for waterfront precincts around Sydney and connect residents to the water.



Existing heritage factories adaptively reused as a marketplace similar to Carriageworks or the Paper Mill nearby. This retail and F&B space is a destination anchor animating the plaza.



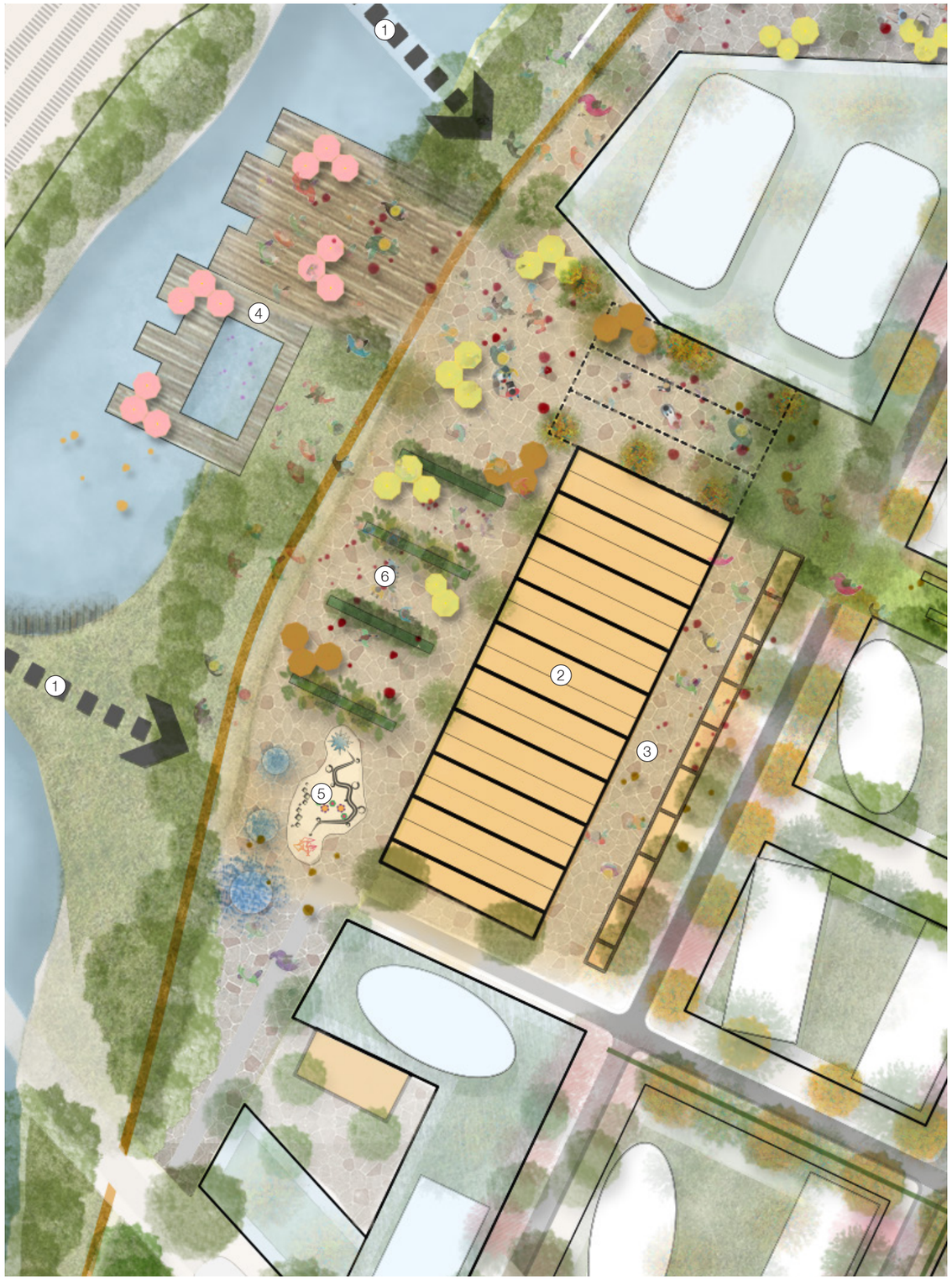
Accessible playgrounds such as Darling Quarter are important for social cohesion and anchor public spaces.



The existing service corridor between factories can be transformed into retail, food and beverage pods creating an intimate pedestrian laneway imbued with the heritage of the site such as Spice Alley on Kensington Lane.

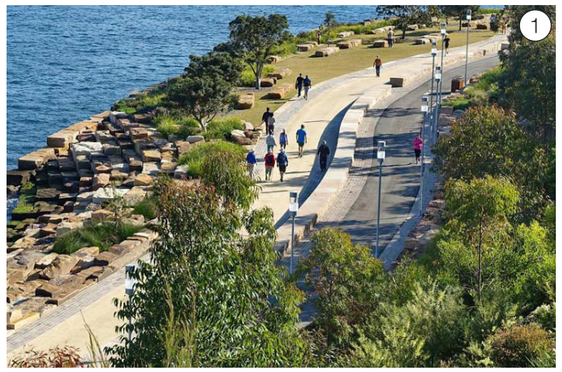


Desirelines and paths can deliniate functional portions of the plaza such as waterplay, landscaping, lawns, playgrounds, retail stalls and hardscape temporary spaces. Riparian waters edge and bridge access points are important interfaces to consider.

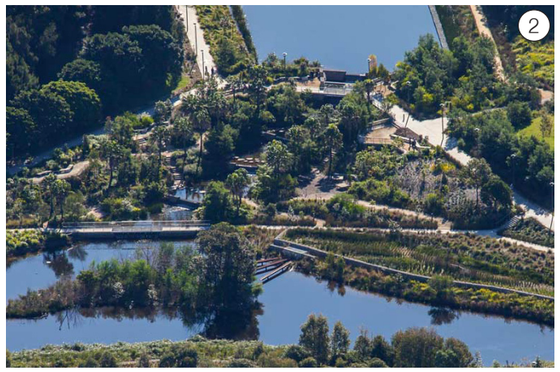


4.2.3 Georges riverfront park





The extensive waterfront path should change in character depending on its place. It should provide opportunities for the public to engage with the water. Some portions may be next to the water shrouded in existing mature trees while other portions may be a raised boardwalk offering elevated views of the river. The picture above of Barangaroo Headland Park illustrates a multi-modal path, textured sandstone seating down to the water set amongst native trees and grasses



Water sensitive urban design systems such as swales, ponds and dikes should be aligned with landscaping to maximise water for trees. It should be holistically designed into the public domain to create an enriching enviroment which can accommodate, attenuate and filter tidal changes and surface runoff. These elements can double as recreational spaces for informal play and exploration for people and pets such as at Sydney Park south of Erskineville.



Pontoons and public decks allow direct engagement with the riverfront by extending out to Georges River. They can be paired with facilities to support watersports, temporary performances and shaded outdoor seating next to the river,



Recreational facilities along the riverfront, such as fitness stations, playgrounds and small scale hardcourts ensure there are places for people of all ages to exercise and play. A series of loops with adequate distances should create an integrated system of routes around Haigh Park and the waterfront.

4.2.4 Water sensitive urban design approach

As a riparian peninsula ringed by the Georges River and Lake Moore, the site is well suited to a range of water sensitive urban design elements which ameliorate rain and flood events as well as harness water in the public domain and landscape. The site-specific approach by Realm Landscape Architects is outlined in the integrated approach diagram below.

The solution requires a connected network between the build form, streets, open spaces and river. The aim is to detain water close to its runoff point and safely discharge it into the Georges River once extreme weather events have passed. Surface management should be prioritised, however conventional pipe and pumps may also be required. Detention areas will hold water for a period of time until the Georges River water level has subsided and water can be discharged passively.

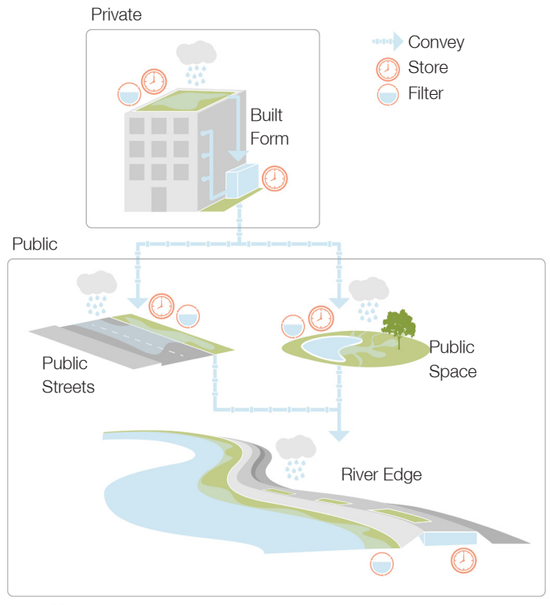


Figure 30: integrated water management approach (REALM landscape architects)

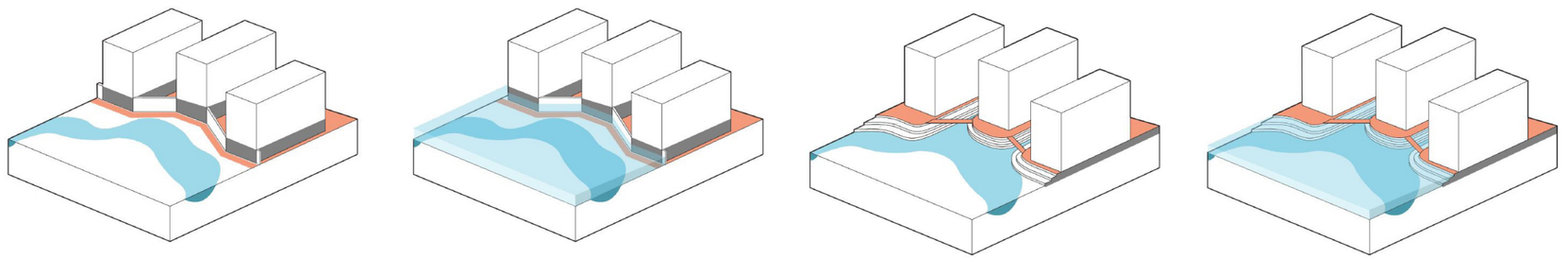


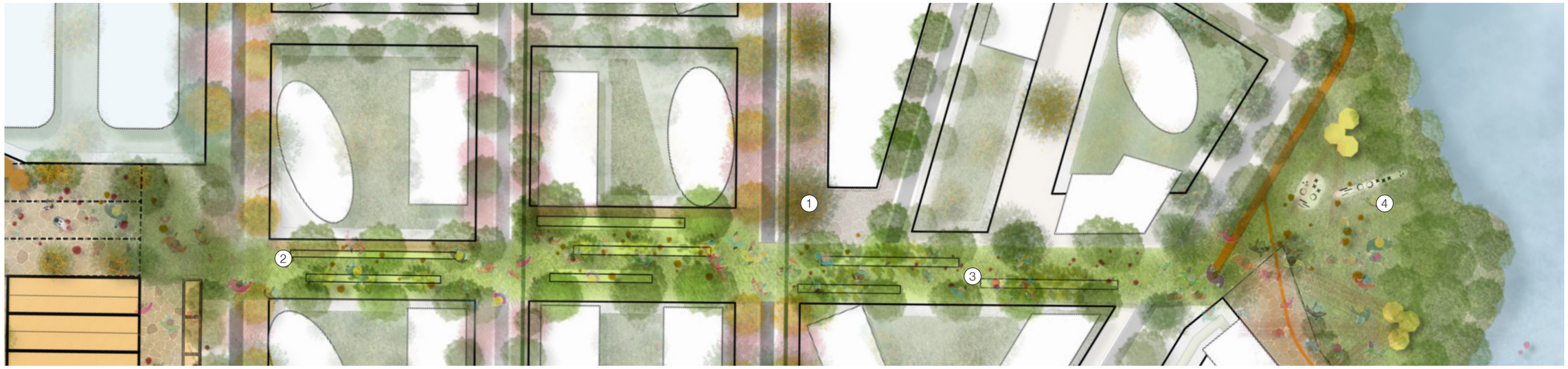
Figure 31: innundation mitigation strategy (REALM landscape architects)

1. slow vehjcular access road
2. parking entrance
3. dedicated pedestrian road with controlled service and emergency vehicle access only
4. inner dike offline water cleansing wetland
5. linear outer dike offline stormwater cleansing system
6. pedestrian and cycle water linkages
7. shaded pedestrian boulevarde
8. recreational spill-out spaces for buildings (restaurantes, markets etc)
9. pontoon launch point
10. extensive riparian zone



Figure 32: Georges riverfront concept (REALM landscape architects)

4.2.6 Linear park





Pedestrian priority street interface to support school drop-off and pick-up as well as pedestrian amenity and safety. The connection to the school from the linear park (green spine) should prioritise walking and cycling modes.



The linear park should be planted with significant trees which establish a large tree canopy for shade. It should be programmed according to different block sections and be contextually designed with fine grain, ground floor retail tenancies along the edges, with spaces for local businesses, small bars and the like.



Intersections should be carefully designed to mediate rainwater swales, tree planting pits, seating and various modes of transport. Pedestrians and cyclists should be prioritised as much as possible.



The lakefront edge will be a heavily used public open space with a range of facilities leading to the Lakefront Village. A combination of hardscaped spaces and soft landscaped spaces support opportunities for retail uses at ground overlooking Lake Moore.

4.3 Land use structure plan

Moore Point will have a range of land uses and built form typologies which reflect their role, function and access to the public. The spatial considerations and parameters for the built form and spaces which surround them are explored in detail in the precinct plans section of the report.

The predominant typology throughout the precinct is the mixed use tower/podium. Some mixed use buildings along Newbridge Road have residential towers on top while others are standalone.

Key elements of this building typology include:

- Retail, commercial and/or residential ground floor
- Integrated 'terraces' over two storeys can form the podium base to provide dwelling diversity
- Residential or commercial podia can wrap (sleeve) parking in the core of the structure
- Range of staggered and differently aligned tower orientations to allow solar access to apartments and communal rooftop spaces.

Commercial typologies range from large retail/F&B ground floor with commercial towers above to shorter 'boutique' buildings

Specific program (subject to further study) within typologies includes

1. supermarket
2. hotel
3. market hall
4. school
5. transport interchange

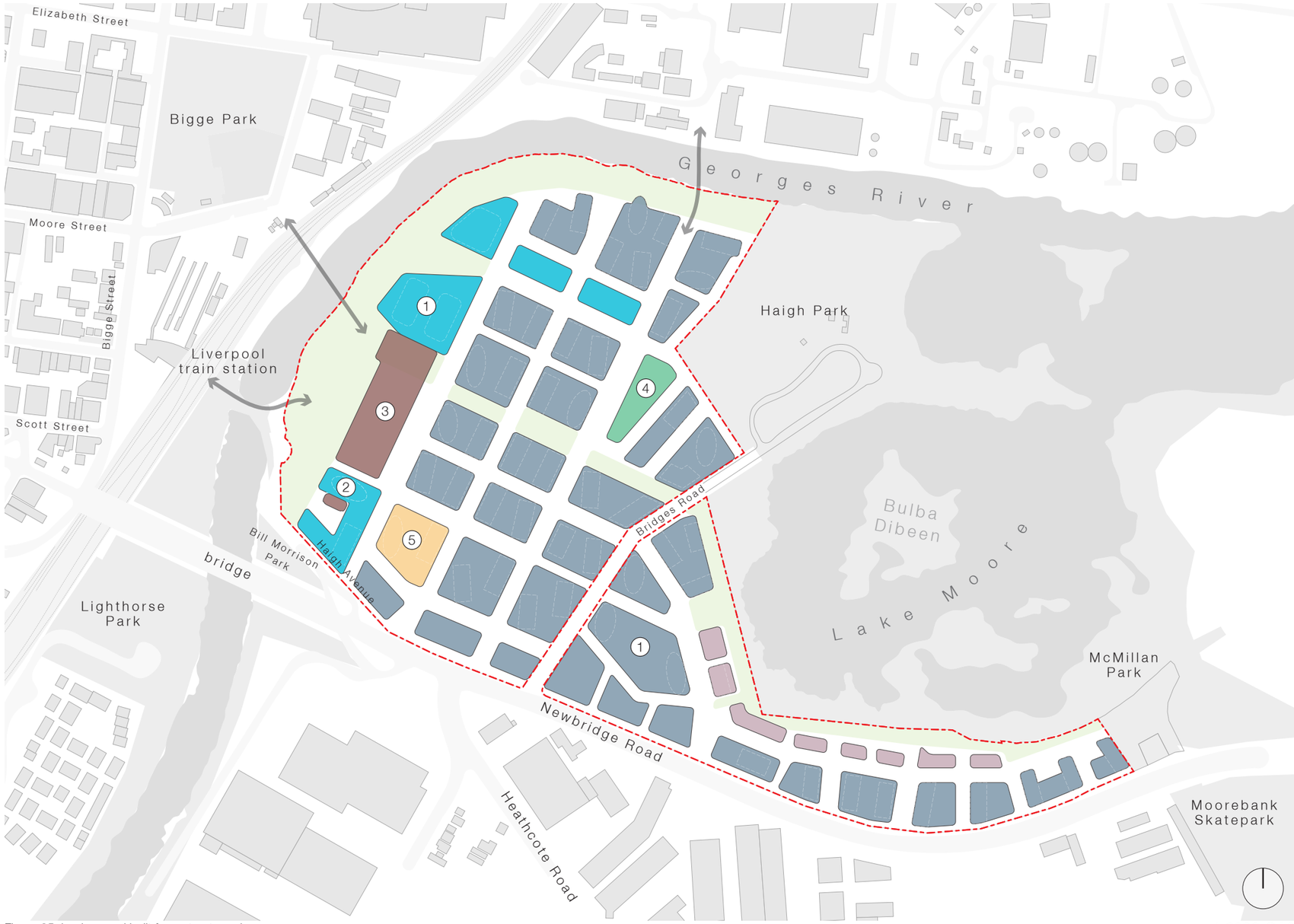


Figure 35: landuse and built form structure plan

4.3.2 Land use typologies

Mixed use

1. Retail ground floor and residential tower. Example adjacent is Rhodes Station Precinct by SJB.
2. Commercial ground floor and residential tower. Example adjacent is NOMA by WOHA.
3. Commercial/retail ground floor with residential podium and tower. Example adjacent is Air Apartments by Ian Moore Architects.

Key considerations include:

- programmatic relationship between the retail, food/beverage, commercial and residential uses
- locating retail along key active frontages to maximise window exposure
- proportions of commercial floorplates are flexible for a range of tenancies and receive appropriate solar access
- locating commercial and residential lobbies to complement desirelines, building orientation and floorplates
- internal circulation, core location and waste disposal
- minimising conflict between pedestrians and active frontages relative to basement and servicing entrances
- minimising duplication of circulation, lifts, core location, parking and waste disposal for different uses
- minimising noise impact for residential built form and communal space throughout the building
- shared or separated parking for different uses
- building facades and interfaces complement the surrounding public domain







Residential flat building

Retail and residential ground floor with residential tower Example below is Carter Street Phase 1 by SJB.

Key considerations include:

- separation distances, solar access and other requirements specified in the apartment design guidelines
- locating residential lobbies to complement desire lines, building orientation and floorplates
- parking in basement and/or podium should take into account potential flooding, natural ventilation
- basements and servicing access should be screened where possible and complement building facades and public domain
- communal spaces on rooftops and ground plane should have adequate deep soil and support mature trees with significant canopy where appropriate
- ground plane interface between dwellings and public domain should ensure good passive surveillance of streets and spaces as well as visual privacy for occupants



School

High density school with adjacent open space. Example below is Cook and Arthur school by BVN.

Key considerations include:

- appropriately sized built form according to the NSW EFSG which caters for the envisioned number of pupils
- mitigation of overlooking by adjacent buildings through landscape screening and appropriately situating classrooms
- provision of appropriate recreational area on and adjacent to the school
- appropriate solar access for classrooms, circulation space and recreational spaces
- safe and efficient vehicular and public transport access for teachers and pupils to and from the school



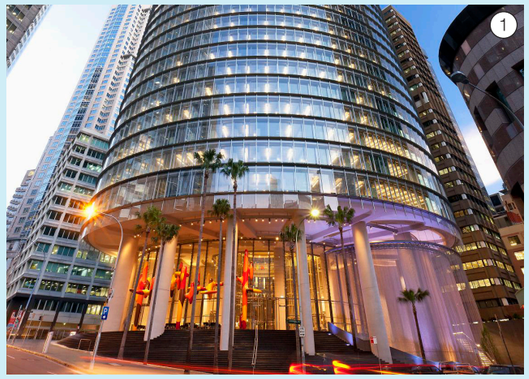
4.3.3 Land use typologies

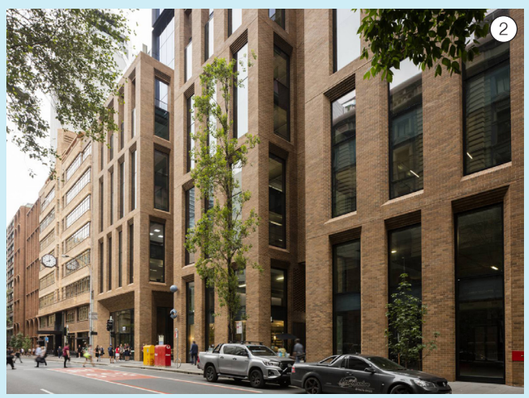
Commercial

1. Commercial tower example by Ingenhoven and Architectus.
2. Commercial tower with retail and commercial podium by Architectus
3. Commercial office (‘boutique’) and food and beverage by Durbach Block Jaggers.

Key considerations include:

- programmatic relationship between the retail, food/ beverage and commercial uses
- locating commercial lobbies to complement route from public transport, desire lines, building orientation and floorplate design
- lobby design sand threshold should complement adjacent public domain and street with landscaping, stairs, awnings and other architectural approaches
- locating retail along key active frontages to maximise window exposure
- facade design and architecture should passively optimise solar access for offices and where possible mitigate wind impact for communal spaces and the public domain
- proportions of commercial floorplates are flexible for a range of tenancies
- internal circulation, core location and waste disposal
- minimising conflict between pedestrians and active frontages relative to basement and servicing entrances
- minimising noise impact for offices and communal space throughout the building
- shared or separated parking for different uses







Adaptive reuse

Adaptively reused Tramsheds at Harold Park by GBA, Esquisse and Woods Bagot.

Key considerations include:

- creating the optimal layout for pedestrians using and moving through the space relative to contextual elements such as pedestrian bridges over the river, street layout and surrounding built form
- situating shopping and dining spaces to creative positive interfaces and maximise exposure to streets and public domain
- using and enhancing the existing aesthetic and structure of the building and complying with heritage guidance and studies
- establishing a discrete vehicular and goods servicing route for tenancies throughout the building
- adding necessary services into heritage structure such as electricity, water, sewerage, disposal and fire requirements



Transport interchange

High density school with adjacent open space. Example below is Manuka transport interchange by Warren and Mahoney.

Key considerations include:

- programmatic relationship between the transport, commercial and residential elements of the building
- locating entrances to interchange according to key pedestrian desire lines and complementing lobbies to commercial and residential portions above.
- structural and servicing implications inherent in clustering metro with buses and commercial/ residential buildings above
- mitigating noise from transport for office workers and residents
- potential for the interchange to increase patronage and physical size in the future



4.4 Active frontages and servicing

Moore Point will have a clear distinction between pedestrian oriented active frontages and serviceways for loading and parking access, however these functions aren't mutually exclusive. Active frontages reflect land uses, built form and resulting activity and are concentrated in the following locations:

1. Along adaptively reused factories and commercial podia facing riverfront public domain which constitute the Georges Riverfront Centre
2. Along the linear park connecting the Georges River to Lake Moore
3. Along podium edges and lakefront facing buildings in the Lakefront Centre
4. On alternating visible corners which receive good exposure from main roads or on the extensive connected system of riverfront and lakefront green spaces

Serviceways throughout Moore Point are predominantly located on mid-block east-west connections directly off collector or primary streets. These east-west serviceways which receive less direct solar access than other streets provide direct access to podia parking and basements. These serviceways can also be pedestrian friendly shared ways which improve east-west urban permeability for pedestrians.

The remaining frontages not characterised as 'active' or 'serviceways' will be prioritised for activation, or at the very least 'animation', which refers to the passive uses and activation created by residential and commercial, lobbies, terraces at street, and frontages that feature a degree of animation or visual interest - public art, landscaping or visual permeability.



Figure 37: Active frontages and servicing structure plan

4.4.1 Frontage types and serviceway character





Active frontage - Primary

Capitalising on foot traffic and a mix of land uses, primary active frontages will support direct engagement and interaction between vendors within the building and pedestrians outside. The inclusion of engaged shop fronts will enable shops to playfully interact with the interface between the public domain and the interior,by framing spaces for people to interact, exchange goods, and rest to enjoy the activity of the street.



Active frontage - Secondary

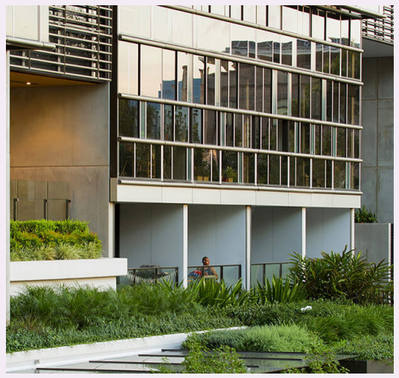
Secondary active frontages provide opportunities for passive surveillance and interaction between in building and outside, housing larger format uses, building entrances and foyers. Many larger foyers often provide supportive uses to create increased opportunities for interaction and visual engagement. This also breaks up the large expanses of glass that foyers can provide by housing multiple activities in the same space



Animated/Passive frontage - Non-residential

Larger format commercial, retail or community uses provide opportunities for visual connection with the street. While they may feature a reduced door density, and less direct interaction with pedestrians or a setback from the street, they can frame the street, provide visual interest and passive surveillance.

4.4.2 Frontage types and serviceway character



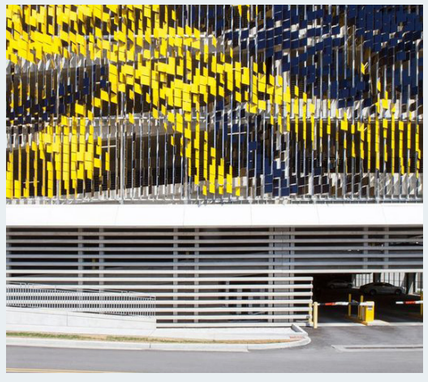


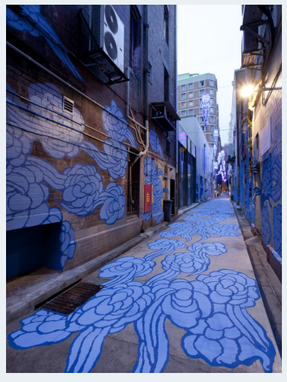


Animated/Passive Frontage - Residential

Residential uses can contribute to the quality of the street, the character of an area, passive surveillance and safe streets. Designed well, they balance the need for internal privacy with a connection to the activity and life of the street. The incorporation of landscaping as part of the building setback helps soften and provide a human scale to the interface.



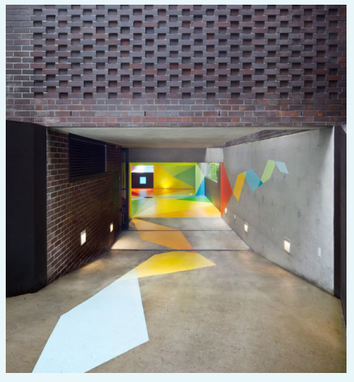




Serviceway - Vehicular priority

Services are an integral part of the functioning of buildings within the city and do not provide opportunity for activation in the street scape of the city. Dedicated vehicular serviceways can support service, car park, and basement entries and utilise public art and or high quality finishes to either hide or celebrate what typically would be a blank facade creating points of interest along a street wall.







Serviceway - Shared

Shared serviceways provide the opportunity to support servicing, car park and basement entries alongside some retail and commercial uses, foyers, pedestrian and cycle movement. Establishing a shared surface treatment, opportunities for passive surveillance and human-scaled street frontages will create safe environments for people along these serviceways.

4.5 Character and built form structure plan

Georges Riverfront Centre

This character area is an active pedestrian oriented civic and commercial precinct directly connected to Liverpool City Centre, the Georges River foreshore and the urban core. Adaptive reuse of existing warehouse buildings could accommodate markets and community uses. Built form in this area takes advantage of the views and solar access afforded by its proximity to open space.

Urban Core

This is the residential heart of Moore Point. It is defined by the internal collector road loop road and fronts the east-west linear park which links the Georges Riverfront Centre and Education and Mixed Use Parkway areas. Height is focused on key grid corners and some towers are reoriented on podia shaped to optimise amenity for surrounding buildings, spaces and streets.

Riverfront Neighbourhood

This area is defined by its north facing riparian foreshore and front to Haigh Park. These interfaces provide sweeping regional views to the north and south and ample opportunities for recreation. Height and built form takes advantage of good solar access and views to the north. The southern portion of the character area features smaller scale commercial buildings which are less reliant of direct solar access.

Education and MIxed Use Parkway

Hosting a mix of uses alongside the Moore Point School, the character area is located at a key junction between the east-west linear park, Lake Moore foreshore and Haigh Park. Built form supports a range of different spaces at ground.

Newbridge Edge

This precinct is key to providing a built and landscaped buffer to Newbridge Road. Buildings will be smaller in scale and support a range of easily accessible, commercial and retail uses.

Lakefront Village

This character area is the secondary centre for Moore Point and a commercial and retail focus. Located on the edge of Lake Moore, built form is staggered to enable views and solar access to both the street and surrounding buildings.

Lake Moore Foreshore

This character area supports residential and commercial uses with height placed along the southern edge creating a transition in height from Newbridge road down to the lake foreshore. This enables view sharing, solar access and allows residential to be located away from the noisy Newbridge Road interface.



Figure 39: character and built form structure plan

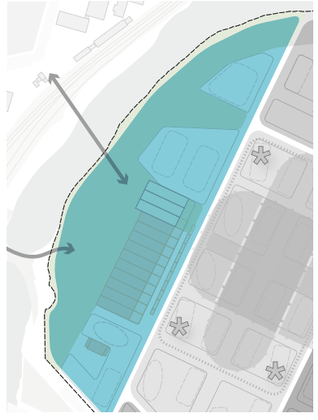
Precinct Plans

5

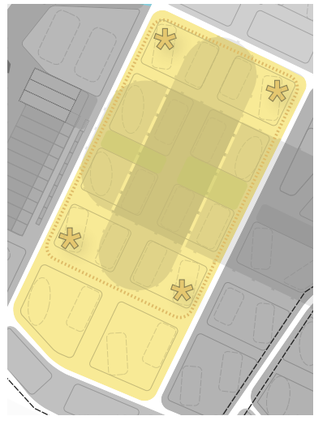
Exploration of spatial principles and design intent of each character area

5.1 Character areas overview

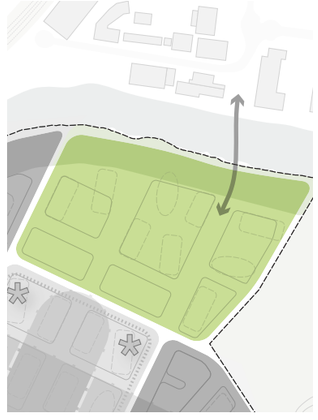
Moore Point is structured around seven unique character areas. This builds upon existing environmental features including relationships with Georges River, Lake Moore, Haigh Park and Newbridge Road. Where heritage fabric is retained, opportunities to integrate built form and reinterpret the history of the site have been embedded. These character areas will be further refined in parallel with the precinct vision through a working group who will collaboratively explore and assess place-led opportunities, ensuring the precinct vision is delivered based on world's best practice.



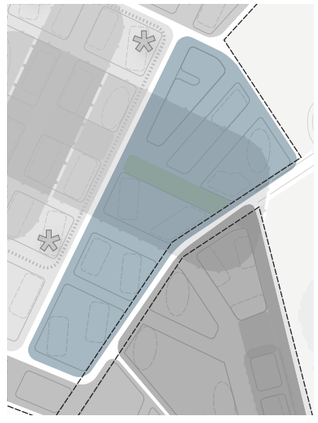
Georges Riverfront Centre



Urban Core



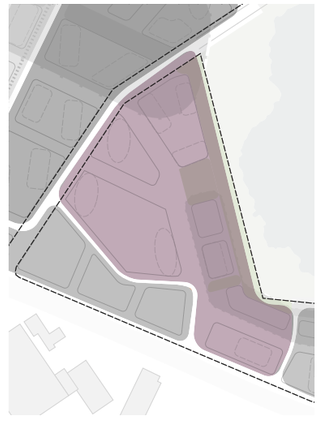
Riverfront Neighbourhood



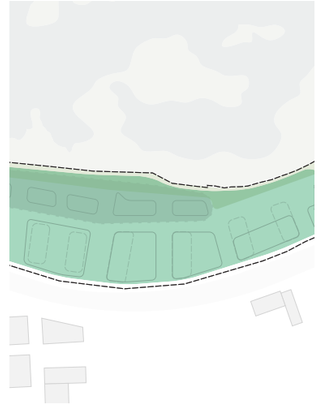
Education and mixed use parkway



Newbridge Edge



Lakefront Village



Lake Moore Foreshore

5.2 Georges Riverfront Centre precinct plan

The Georges riverfront centre will be a key employment area for Moore Point, capitalising on new bridge connections to Liverpool City Centre and a new large riverfront park that will host opportunities for recreation, gathering and fitness. The industrial history of Moore Point will be showcased through the adaptive reuse of heritage fabric and warehouse buildings for markets and community events. New buildings will connect through to this existing built form, referencing their scale and seeking to activate shared edges.

- site
- bus interchange
- train station
- residential/mixed use
- retail/commercial
- landscape/open space
- open market
- transport interchange
- heritage items
- gateway
- cross-river connection
- green link
- trees
- flooding impact
- landscape buffer
- foreshore building line
- active frontage
- urban marker

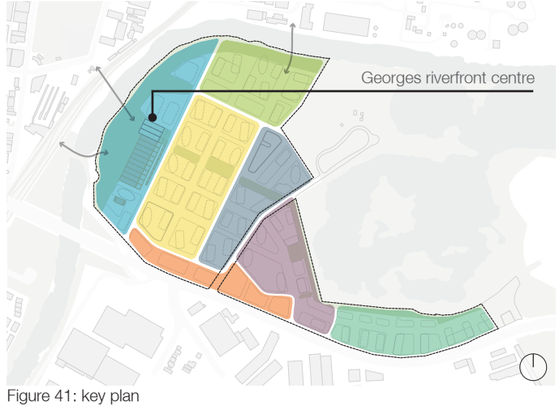


Figure 41: key plan

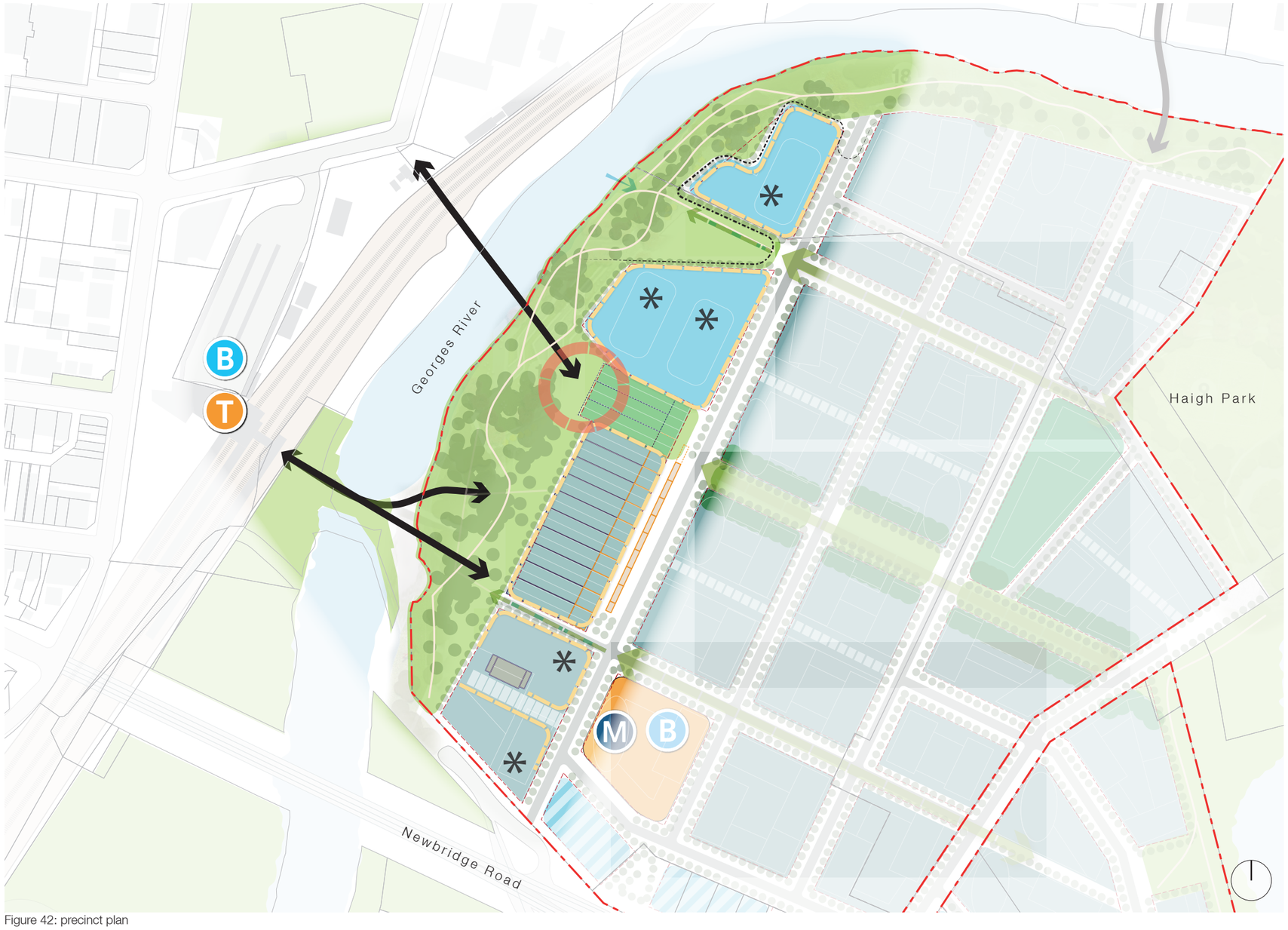


Figure 42: precinct plan

5.2.1 Built form

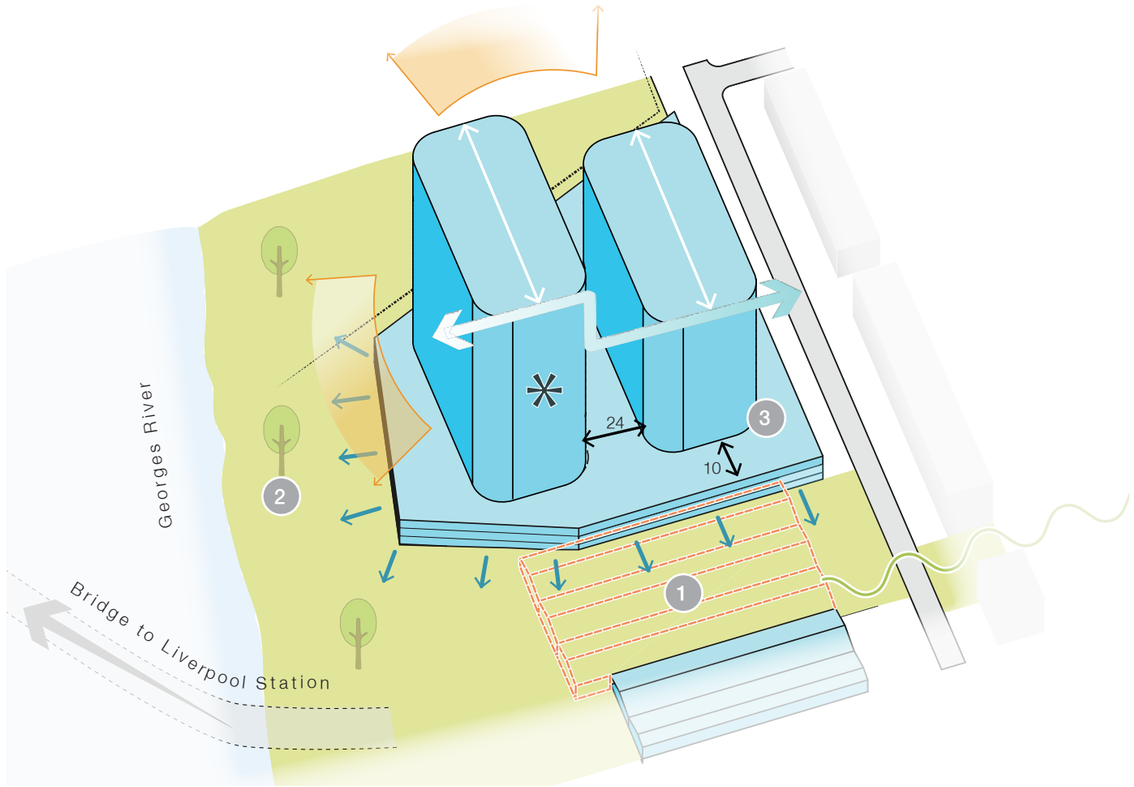


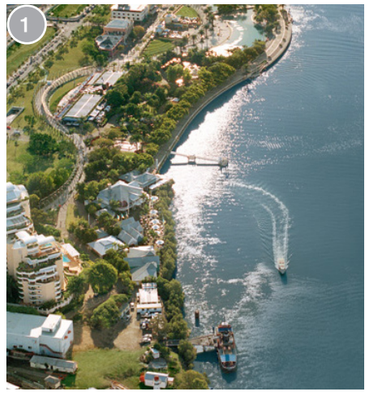
Figure 43: example block

Key objectives

The key objectives for this precinct include:

- unlocking public access to the Georges River
- adaptive reuse of existing heritage buildings and incorporation of heritage interpretation
- deliver commercial and retail uses in areas well connected to Liverpool CIty Centre
- seek opportunities for activation along the edges of open space and streets
- locate and orient buildings to take advantage of regional views

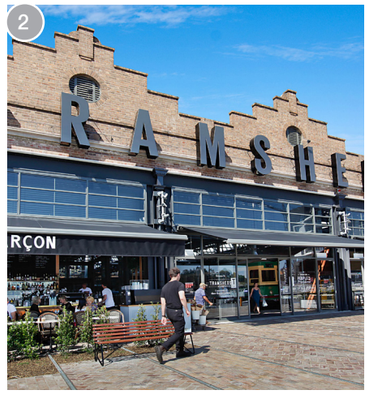
site
retail/commercial
landscape/riparian zone
heritage item
Georges river
adjacent built form
active frontage
green corridor
urban marker
views
foreshpre building line



Riverfront Park

The Riverfront Park will be Moore Point's pre-eminent park and contribute to increased community accessibility to the Georges River. Pedestrian and cycle paths established here will connect through to Liverpool City Centre in the west through new cross-rive connections. This park will also be connected to a new foreshore park in the north, Haigh Park and Lake Moore to the east. Tree canopy and soft landscaping across the park will be key in creating cool and comfortable spaces for the public to enjoy.

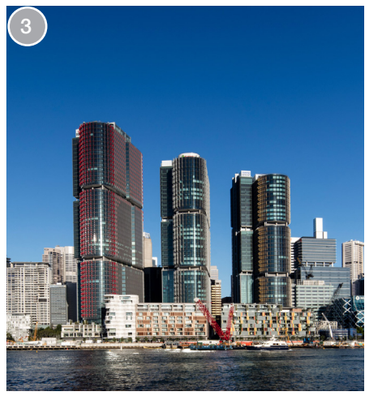
The riverfront park will support a range of uses from community events, playgrounds, barbeques and seating for picnics and gatherings and fitness stations. Areas adjacent to buildings will support opportunities for outdoor dining.



Adaptive Reuse

Warehouse buildings in the south of the Precinct will house markets, retail and community events. The existing large spans and generous ceiling heights make these structures perfect for large gatherings. To enable the extension of the east-west green connection through to the riverfront, public access is proposed to continue through part of the existing buildings. This will also increase accessibility to new cross-river connections from Moore Point to Liverpool City Centre.

Heritage interpretation integrated into the design of buildings and the public domain will offer a window into the history of the site.



Built Form

The precinct will include a range of building typologies supporting predominantly commercial and retail uses. Some residential towers will be located in the south of the precinct. Buildings within this precinct have been located and oriented to maximise solar and daylight access to building façades as well as the public domain. Height variation has been used to reduce the visible bulk of tower forms across the landscape.

Buildings will be designed to address the street and provide active frontages to adjacent open spaces and streets. Podium heights connecting onto existing warehouse structures will seek to remain generally consistent with the street walll established by those buildings.

5.3 Riverfront Neighbourhood precinct plan

This precinct is characterised by its unique landscape setting with direct access to the Georges River foreshore and Haigh Park. Built form lined at ground with active edges along open space, will takes advantage of sweeping regional views and solar access afforded by its location. Areas in the south of the Precinct feature smaller scale commercial buildings which are less reliant of direct solar access. Diversity in land use and typology in this precinct will support opportunities for diverse engagement



Figure 45: precinct plan

- site
- residential/mixed use
- retail/commercial
- landscape/riparian zone
- gateway
- green link
- cross-river connections
- new tree planting
- flooding impact
- landscape buffer
- foreshore building line
- active frontage
- urban marker

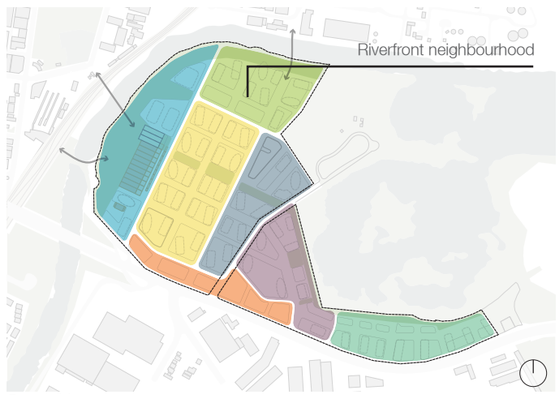


Figure 44: key plan

5.3.1 Built form

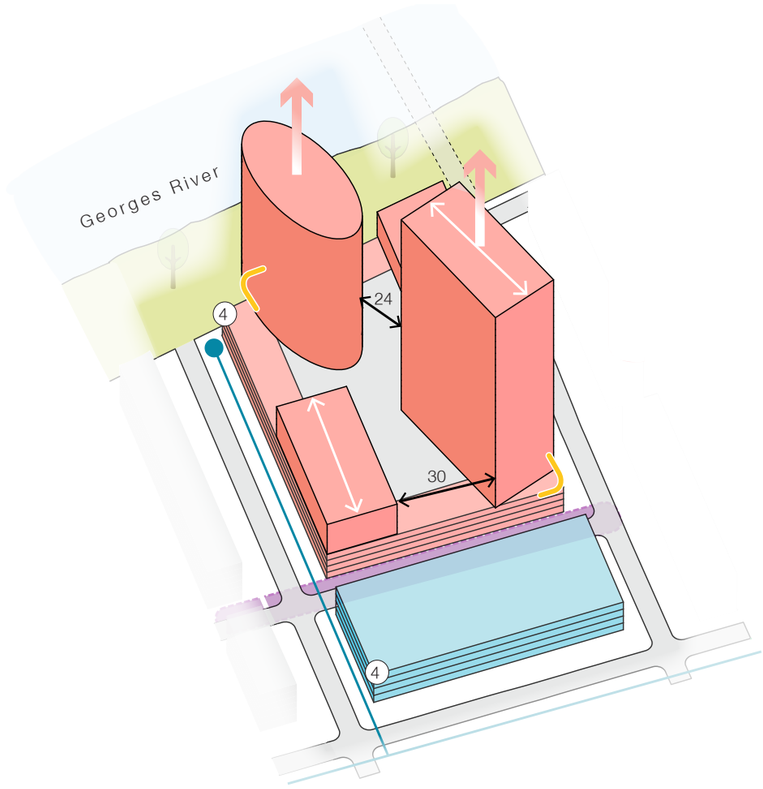


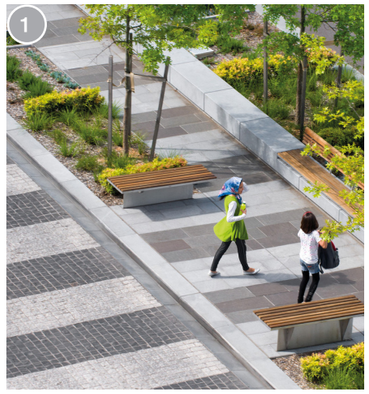
Figure 46: example block

Key objectives

The key objectives for the precinct include:

- shape built form and height to maximise solar access to the public domain and buildings to the south
- take advantage of regional views
- engage with interfaces to public open space by activating frontages at key locations
- deliver a diversity of land use and residential typologies
- manage flooding from the Georges River through integrated water sensitive urban design and landscape features

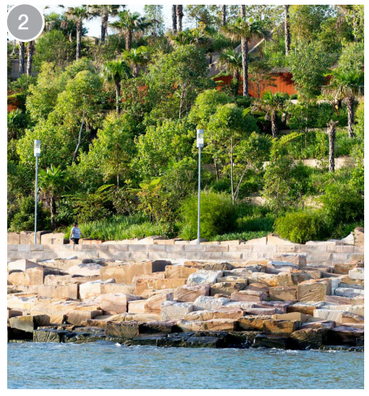
site
residential
retail/commercial
landscape/riparian zone
pedestrian focused street
adjacent built form
proposed WSUD element
variation in height



Streets

Streets will undertake a myriad of functions including supporting movement, spaces for the public to dwell, servicing and managing the effects of flooding and stormwater on the precinct. Opportunities for water sensitive urban design will be integrated into key streets to enable stormwater filtration and water retention during flood events.

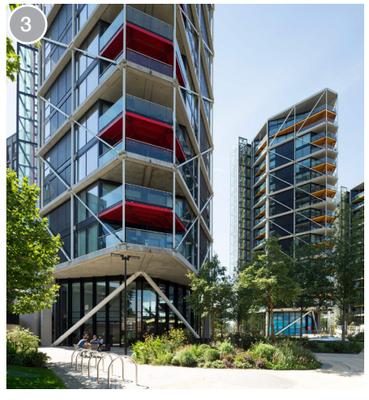
A pedestrian focussed street will be established between residential buildings in the north and commercial buildings in the south of the precinct. This street will prioritise pedestrian movement through the provision of a shared surface, soft landscaping and seating which promotes use across the day.



Foreshore Park

The foreshore park will be important in mediating the effects of flooding and providing important recreation space to support residents, workers and visitors. It will include pedestrian and cycle paths that connect into the Riverfront Park to the south-west and Haigh Park to the east.

The park will include significant tree canopy to ameliorate the intensity of direct solar access provided by the park's northern aspect. Soft landscaping will also contribute to creating a cool and comfortable space for the public.



Built Form

A diversity of building typologies are proposed for this precinct to attract a range of residents and businesses. This includes residential towers of varying heights, residential uses skinning parking podiums and a smaller-scale commercial building in the precinct's south.

Smaller commercial buildings in the south of the precinct will attract more commercial tenants seeking a more "boutique" offering with smaller buildings and a closer relationship to the ground plane.

5.4 Urban Core precinct plan

The Urban Core is the residential heart of the precinct. Supported by the public transport interchange, internal ring road and green links, the precinct is well connected to employment, community, recreation and entertainment opportunities across Moore Point and the wider region.

Green links running east-west across the precinct are important to connecting through more significant pieces of open space along the Georges River and Lake Moore. The large green corridor at the centre of the precinct is important in providing easily accessible local open space for informal sport, walking and exercise.

The grain and porosity of the blocks will reflect the original grid of the industrial and agricultural operation, whilst also breaking down the scale of these blocks - the largest across the site.

- site
- residential/mixed use
- showrooms & mixed use
- landscape/riparian zone
- new intersection
- green link
- new tree planting
- flooding impact
- landscape buffer
- foreshore building line
- fine-grain activation
- opportunity for height
- urban marker

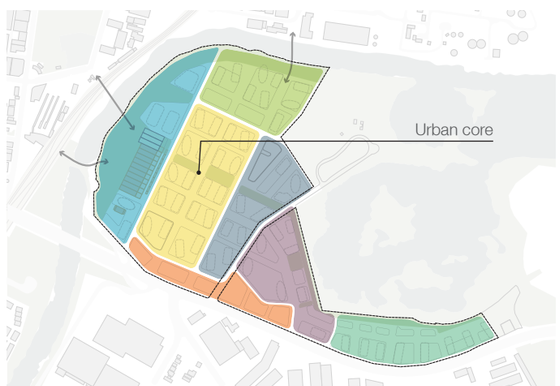


Figure 47: key plan

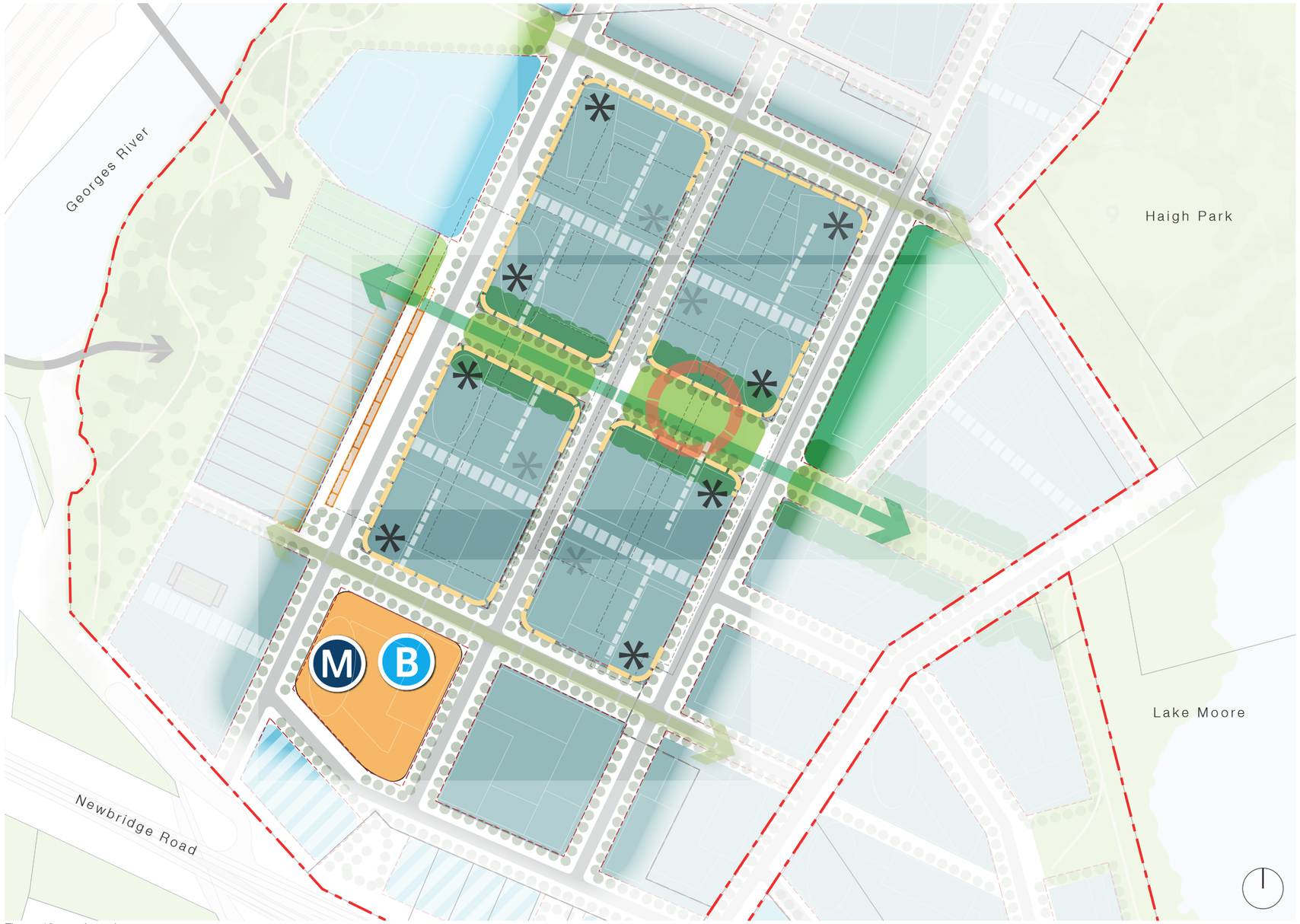


Figure 48: precinct plan

5.4.1 Built form

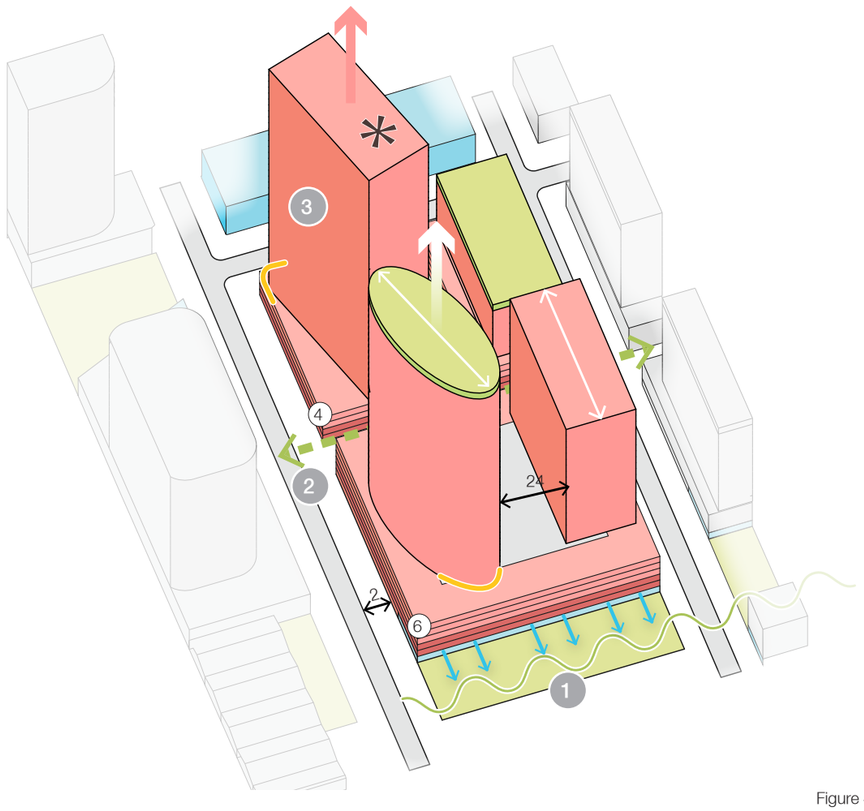


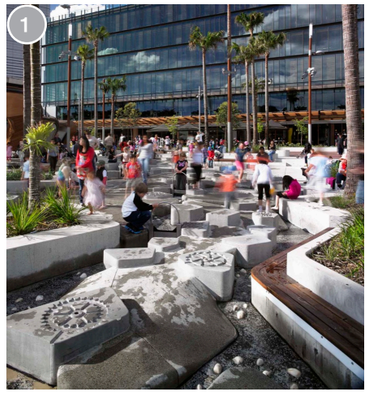
Figure 49: example block

Key objectives

The key objectives for this precinct include:

- Enabling pedestrian movement throughout the precinct and the large scale urban blocks via pedestrian links and internal circulation
- Creating opportunities for landscape and open space at multiple levels
- Balancing the need for solar access to the ground plane with building facades
- Focusing east-west movements along the green link, with servicing focused in key areas

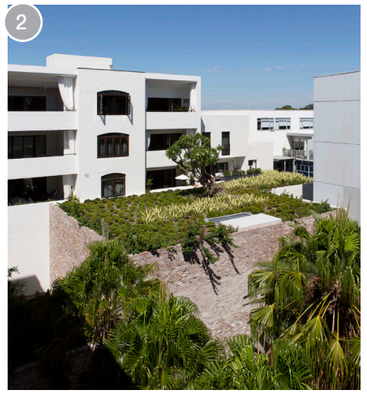
site
residential
retail/commercial
landscape zone
adjacent built form
active frontage
through-site link
urban marker
green corridor



Green corridor

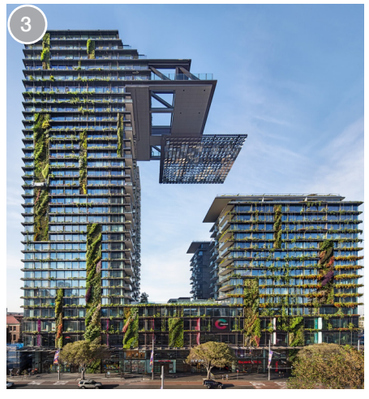
The green corridor extending through the centre of the precinct will be a focus for activity, movement and recreation. It will include walking and cycling paths, playgrounds and water play (as shown to the left), seating and places for gathering. Lined with active uses at ground and residential uses above, the green corridor will be well surveilled enabling its use across the day.

Significant soft landscaping and tree canopy in this zone will contribute to urban cooling and the provision of shaded and comfortable areas to dwell. Endemic and low water species will be included to establishing low maintenance, long lasting environments.



Landscape at multiple levels

Establishing opportunities for landscape across a range of levels will contribute to an overall cooling of Moore Point and the provision of varied private and public open spaces across the precinct. While open space at ground level is important for serving the wider community, as shown in the image to the left, upper level open spaces will have different opportunities for residents to take in views and gather.



Built Form

Urban markers have been located on the precinct's periphery at the corners of the internal loop road. These articulate gateways into different precincts and contribute to integrated wayfinding across Moore Point.

Built form has been shaped to maximise solar access to the street and landscaped areas, especially the north-south central spine and east-west landscape corridor which will be key axes for movement to employment, recreation and public transport

5.5 Education and Mixed Use Parkway precinct plan

This precinct is the lively community heart of Moore Point, anchored by a new school and connected through to open space and recreation in Haigh Park and Lake Moore. A green link with pedestrian and cycle infrastructure will also connect the precinct to employment opportunities in Liverpool City Centre and the Georges Riverfront Centre to the west.

- site
- residential/mixed use
- school
- showrooms & mixed use
- shared surface treatment
- landscape/riparian zone
- gateway
- landscape gateway
- green link
- through-site link
- new tree planting
- active frontage
- urban marker

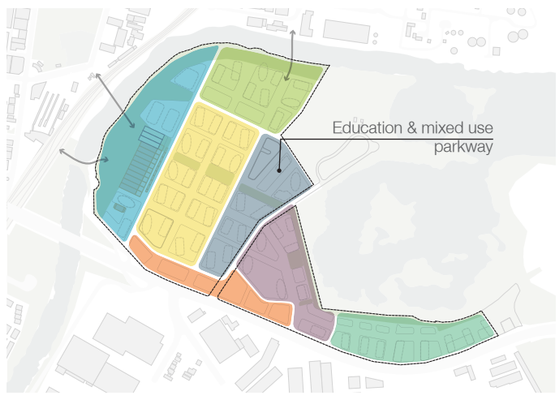


Figure 50: key plan

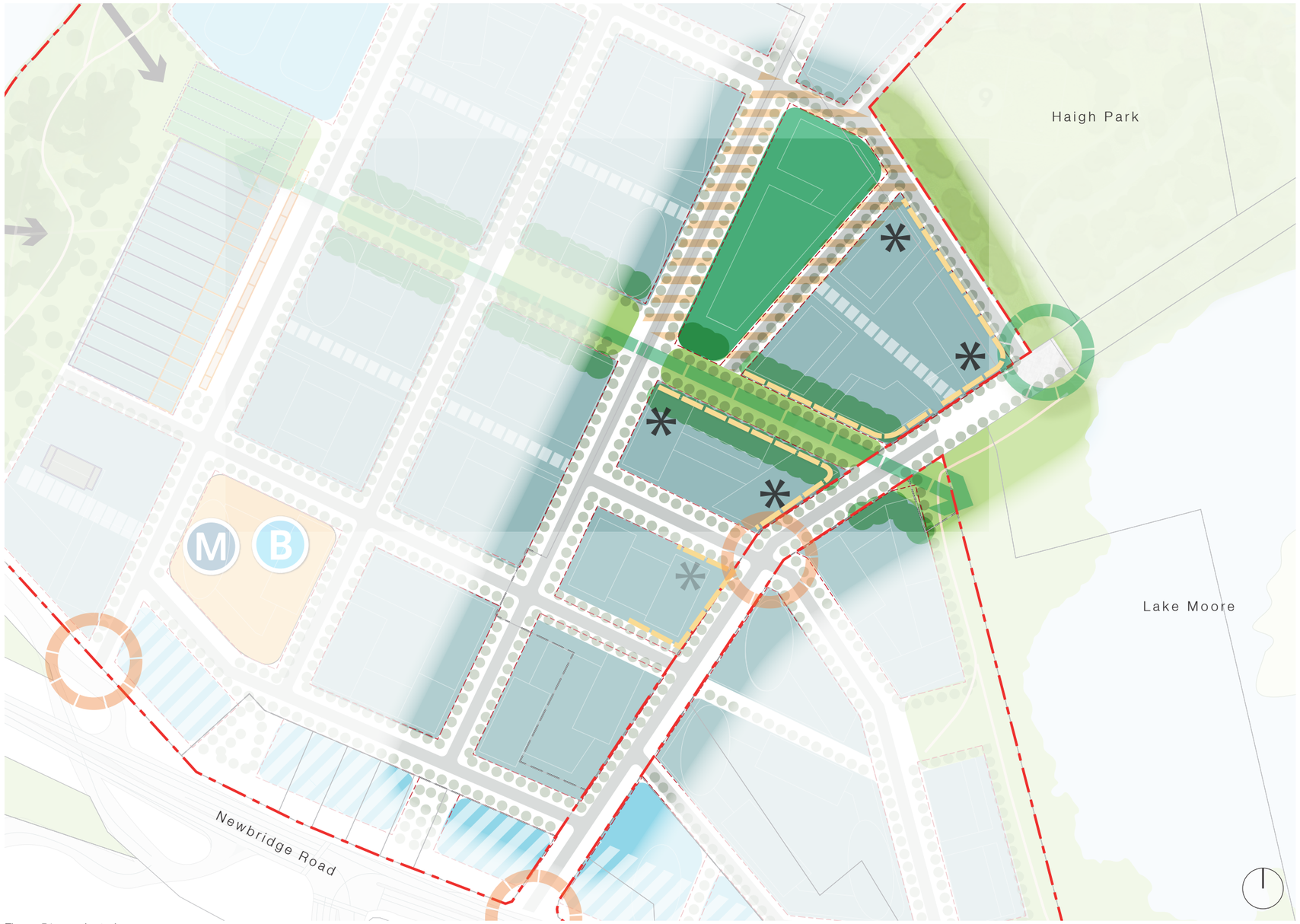


Figure 51: precinct plan

5.5.1 Built form

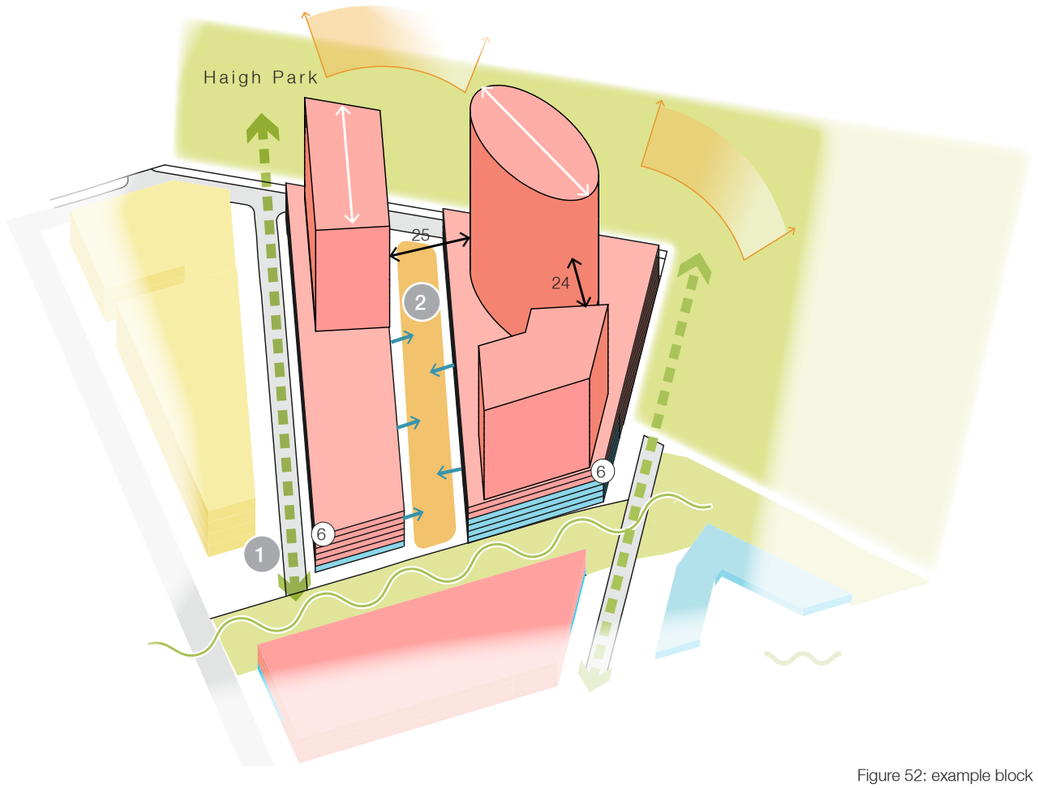


Figure 52: example block

Key objectives

The key objectives for this precinct include:

- Capturing views across Haigh Park and Lake Moore
- Creating a range of welcoming and comfortable streets
- Orienting and shaping built form to reduce the impact of overshadowing
- Establishing active and passive streets to provide equitable and inviting spaces for the community

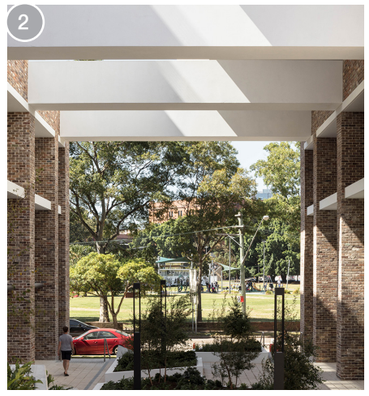
- site
- residential
- retail/commercial
- school
- landscape/riparian zone
- adjacent built form
- community plaza
- active frontage
- through-site link
- views
- green corridor



Streets

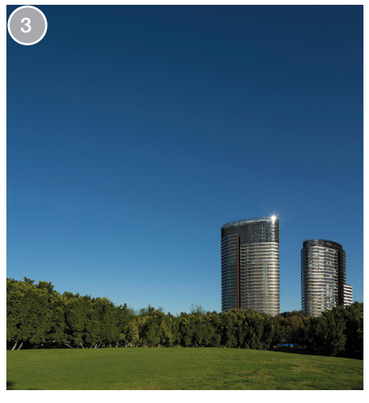
Life will take place on the traffic-calmed streets in this precinct, spilling into Haigh Park nearby and to the lake front. A varying set of street typologies will enable the community to engage with a range of active and inviting spaces. While some streets will deliver significant activation, retail, food and beverage opportunities, some spaces, especially adjacent to the school will have more non-transactional spaces that support use by families across the day.

As shown to the left, shared surfaces that extend from building line to building line will create pedestrian and cycle friendly spaces that mediate and slow vehicular movement. This approach will be applied to the streets surrounding the school.



Permeability and accessibility

As the community heart of the precinct, permeability at ground level is important to creating equitable and accessible spaces. As shown to the left, large blocks and buildings will be broken down by through-site links and passageways to ensure open space, community assets and services can be accessed. Enabling views to be captured through these links will support integrated wayfinding across Moore Point.



Built Form and Views

Located adjacent to Haigh Park and Lake Moore, the precinct has the unique opportunity to take advantage of regional views across multiple edges. Buildings will orient to capture views and reduce their overshadowing impact on public spaces, streets. Where possible, towers will be chamfered to enable increased solar access to above podium communal open spaces and adjacent buildings.

As shown in the image to the left, height variation and floor plate shape is key to reducing the visual bulk of built form. Reducing height where possible and establishing urban markers within the precinct forms wayfinding elements within the regional landscape.

5.6 Newbridge Edge precinct plan

The precinct establishes an important buffer to Newbridge Road, mediating the impacts of noise and vibration on Moore Point. Built form along this edge is broken up with landscaping between buildings and a significant setback along Newbridge Road, which can be used for surface parking or landscaping, and in the future may be required to accommodate a Metro line extension from Bankstown. This softens the interface to this arterial road and enables views down streets in Moore Point to terminate with tree canopy and soft landscaping.

More resilient uses including large format retail and commercial uses will be located in this precinct, to leverage the high visibility, poor amenity, and servicing from the rear.

- site
- residential/mixed use
- showrooms & mixed use
- landscape/riparian zone
- transport interchange
- gateway
- green link
- new tree planting
- landscape buffer
- active frontage
- urban marker

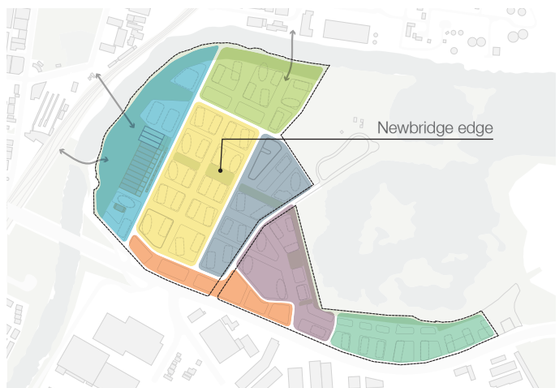


Figure 53: key plan

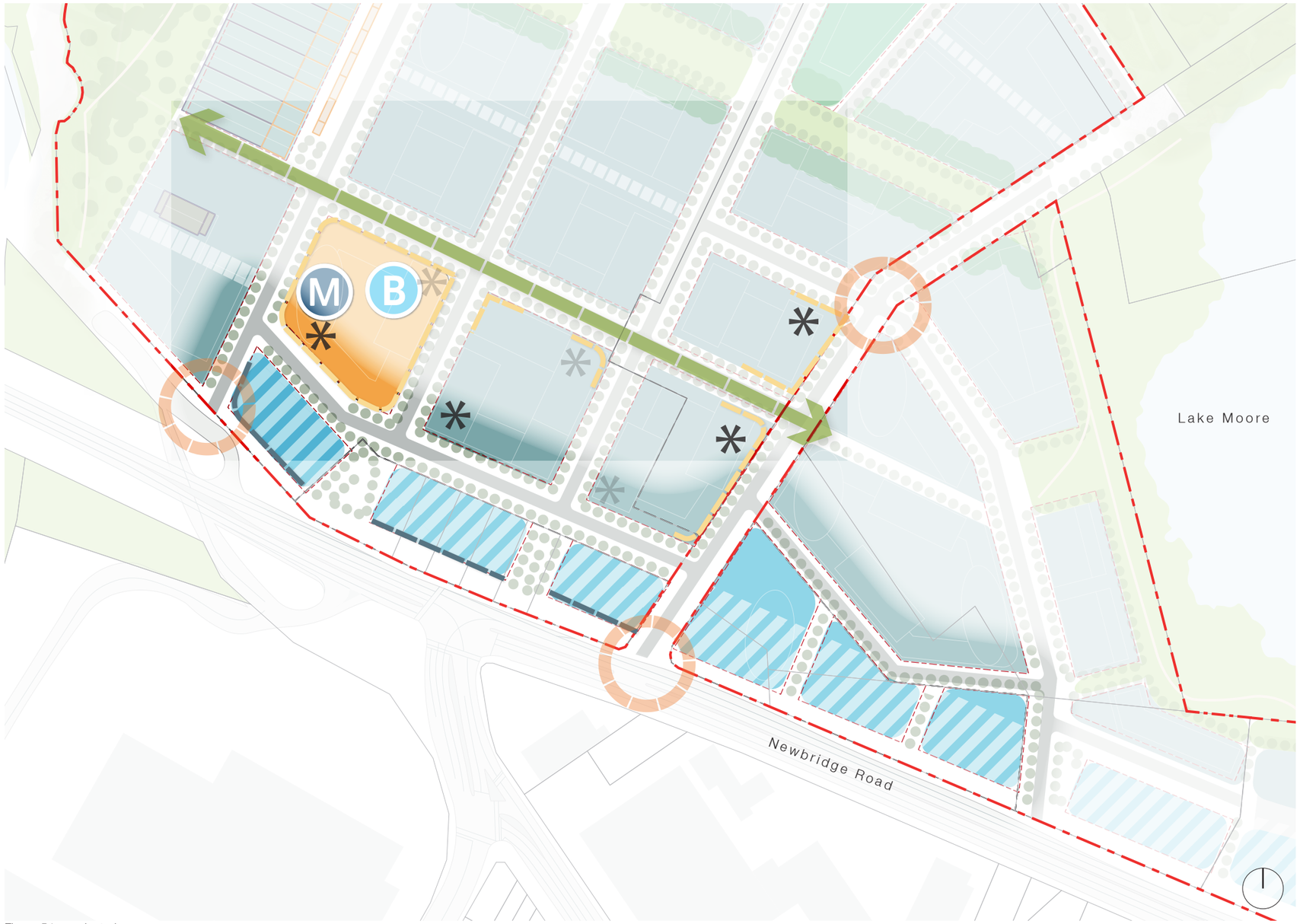


Figure 54: precinct plan

5.6.1 Built form

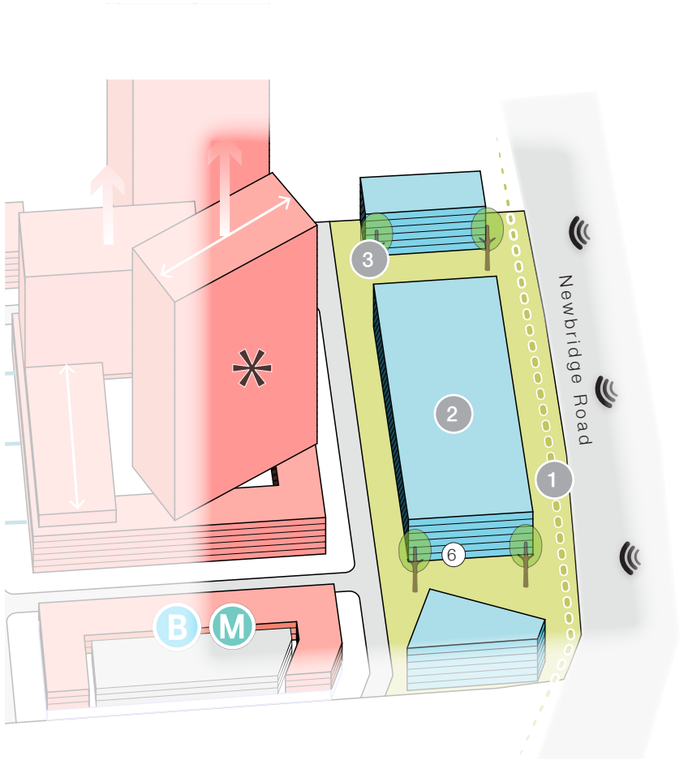


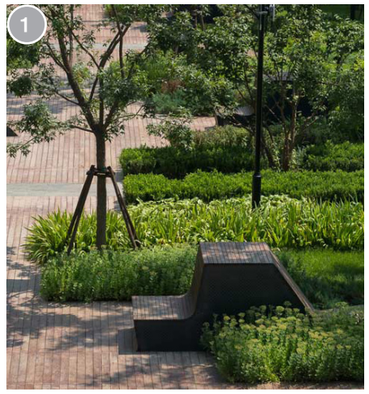
Figure 55: example block

Key objectives

The key objectives for this precinct include:

- establishing a built form and landscape buffer to Newbridge Road
- creating a landscaped edge to the new streets and pocket parks between buildings
- serviceway provided at the rear to enable access off Newbridge Road, and allow better intergration with Moore Point.

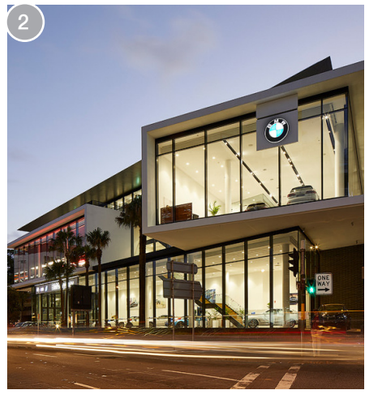
site
residential
retail/commercial
landscape/riparian zone
adjacent built form
landscape buffer
active frontage
urban marker
noise
variation in height



Landscape and Open Space

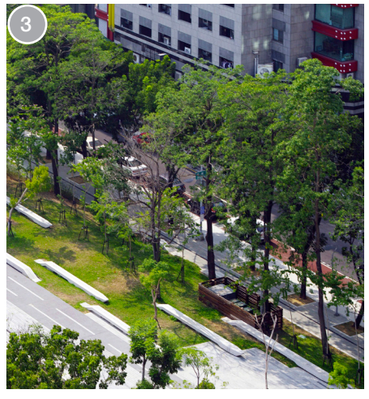
Landscaping in this precinct provides opportunities for increased tree canopy and softening of the Newbridge Road interface. As shown in the image to the left, these spaces will have seating, shade, planting and lighting. This will create small pocket parks for employees to take breaks and smaller spaces for adjacent residents to enjoy.

Where possible, endemic and low-water species will be used to reduce the maintenance required for these spaces.



Land Use

Large format retail and commercial uses will be housed in this Precinct. This is forms one part of the diverse commercial and retail offering across Moore Point. As shown in the left, these will include showrooms, hardware and furniture stores supported by on-site parking. Located opposite residential uses, direct pedestrian access and significant landscape along the street edge will ensure the high quality of the street frontage.



Street interface

The street interface between commercial/retail uses and residential buildings north of the precinct will be key in mediating the transition between these uses. Landscaping with significant trees along the street edge will balance the need for a visual buffer between uses above ground, with street level visibility supporting non-residential uses at ground. This landscaping will also support the creation of inviting and comfortable spaces for use across the day, including outside of commercial/ retail operating hours.

5.7 Lakefront Village precinct plan

Lakefront Village will be a vibrant and attractive place for the community, anchored by a supermarket and key service retail. Its location along Lake Moore provides opportunities for a retail, community and residential uses which take advantage of views and solar access across Lake Moore. Generous landscaped spaces opening up onto the Lake will connect through to wider east-west connections drawing people from across Moore Point to the Precinct.

Larger format commercial and retail uses will be clustered along Newbridge Road providing a noise buffer to the heart of the Precinct.

- site
- residential/mixed use
- showgrooms & mixed use
- potential metro corridor
- landscape/open space
- transport interchange
- gateway
- green link
- trees
- flooding impact
- landscape buffer
- foreshore building line
- active frontage
- urban marker

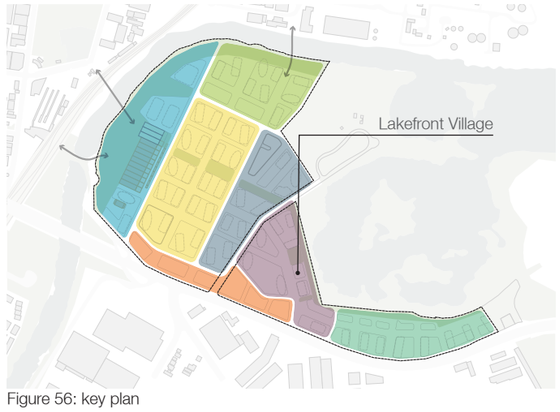


Figure 56: key plan



Figure 57: precinct plan

5.7.1 Built form

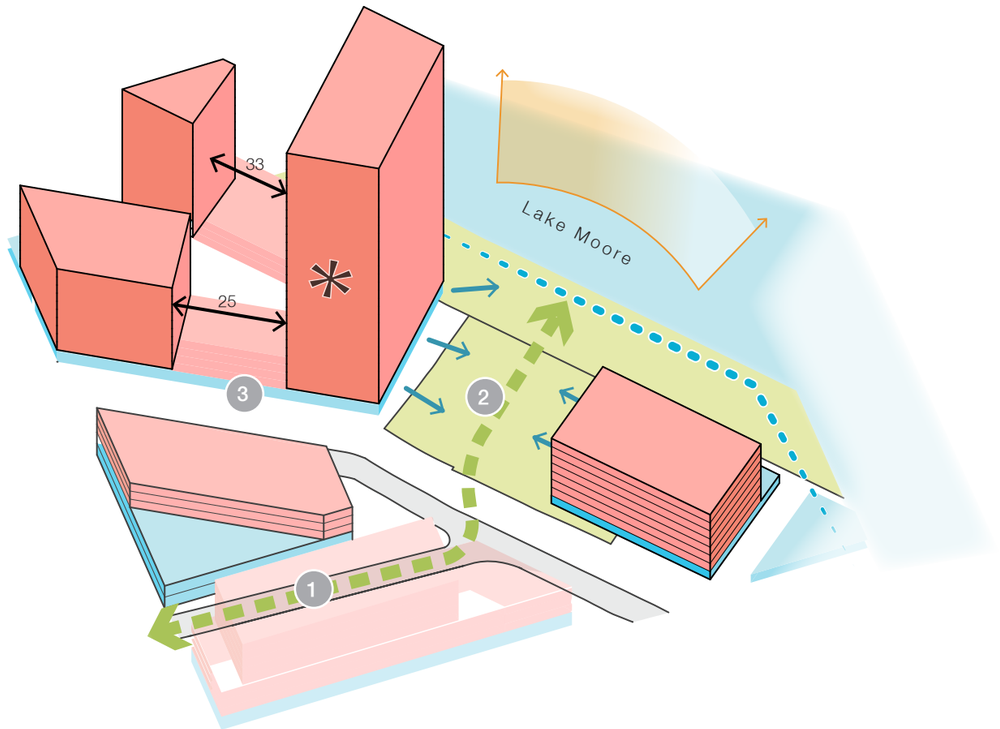


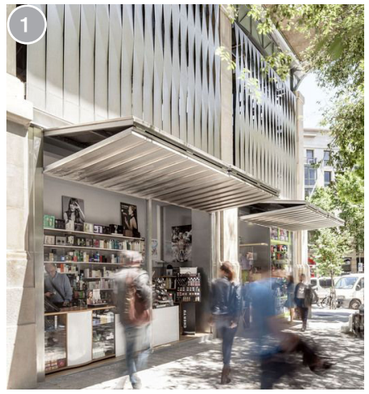
Figure 58: example block

site
residential
retail/commercial
landscape/riparian zone
Lake Moore
adjacent built form
through-site link
active frontage
views
height opportunity
riparian edge

Key objectives

The key objectives for this precinct include:

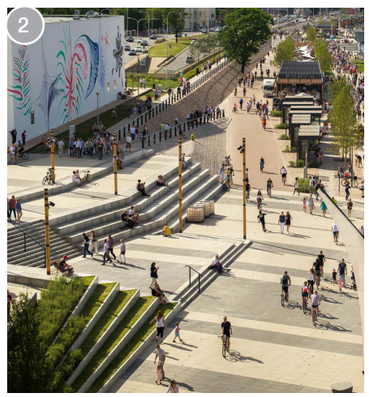
- opening up views and connections to Lake Moore
- establishing an active retail and commercial heart
- providing significant public domain spaces for community events and gatherings that seamlessly integrates with the lakefront spaces and connections.
- orientate ground floor uses, including food & beverage towards the lake front to provide improved activation and surveillance.



Vibrant public domain and streets

A range of different street types will run through the precinct enabling larger format retail along major roads and finer-grain retail along pedestrian links, open space and plazas. Key in this precinct will be the pedestrian link connecting to the Urban Core in the west to Lake Moore in the east. Lined with active frontages and with direct access to a new supermarket, it will harness foot traffic to create a vibrant public domain active across the day.

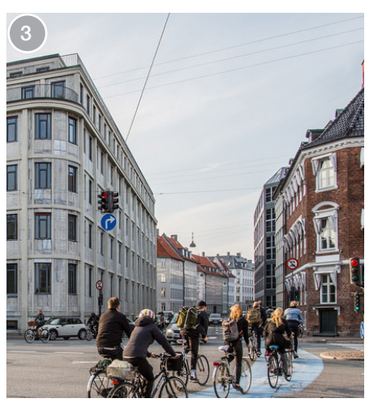
As shown in the image to the left, the east-west pedestrian link will have stores with open frontages and transparency enabling closer interaction with people moving through the streets.



Landscape and open Space

Landscape upgrades along Lake Moore will be complemented with new open spaces for community gathering and events. As shown on the left, larger hardscaped spaces will be included alongside soft landscaping and new tree planting. These spaces will be lined with retail, food, beverage and outdoor dining at ground, overlooking the space and taking advantage of solar access provided by its north-easterly aspect.

Flood mitigation strategies and accessible egress routes will be integrated into the landscape design as part of a holistic approach across the precinct. This will ensure spaces are safe for the public and resilient to flood events.



Built form and Height

Built form has been shaped to consolidate height into a few larger towers and establish a lower scale building form around key streets and pedestrian links. This height variation maximises solar access to the ground plane, above podium communal open spaces and enables smaller buildings to frame active street environments. This variation not only reduces the visible bulk but also supports:

- the reduction and better distribution of overshadowing
- tower separation which enhances the quality of residential uses
- the sharing of regional views.

5.8 Lake Moore Foreshore precinct plan

The Lake Moore Foreshore will support a new community with close connections to the water and unique wetlands of Lake Moore. Buffered by built form and landscape from Newbridge Road, a new east-west street will become an inviting and comfortable space for people with multiple connections through to the foreshore.

Small-scale retail, food and beverage, commercial and recreational uses will take advantage of locations along the foreshore while larger format commercial and retail will provide a built form buffer to Newbridge Road. This will be complemented by a landscape buffer to soften the noise and vibration impacts of the arterial road.

- site
- residential/mixed use
- showrooms & mixed use
- potential metro corridor
- landscape/riparian zone
- gateway
- green link
- trees
- flooding impact
- landscape buffer
- foreshore building line
- active frontage
- urban marker

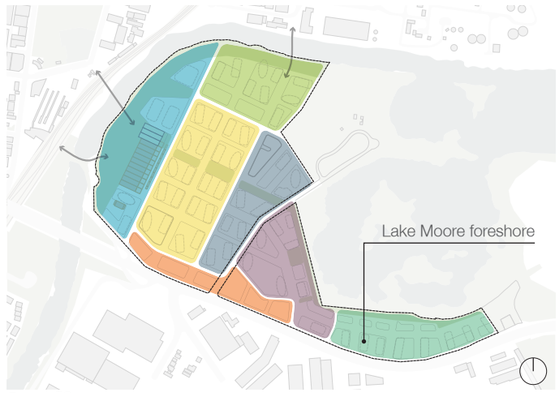


Figure 59: key plan



Figure 60: precinct plan

5.8.1 Built form

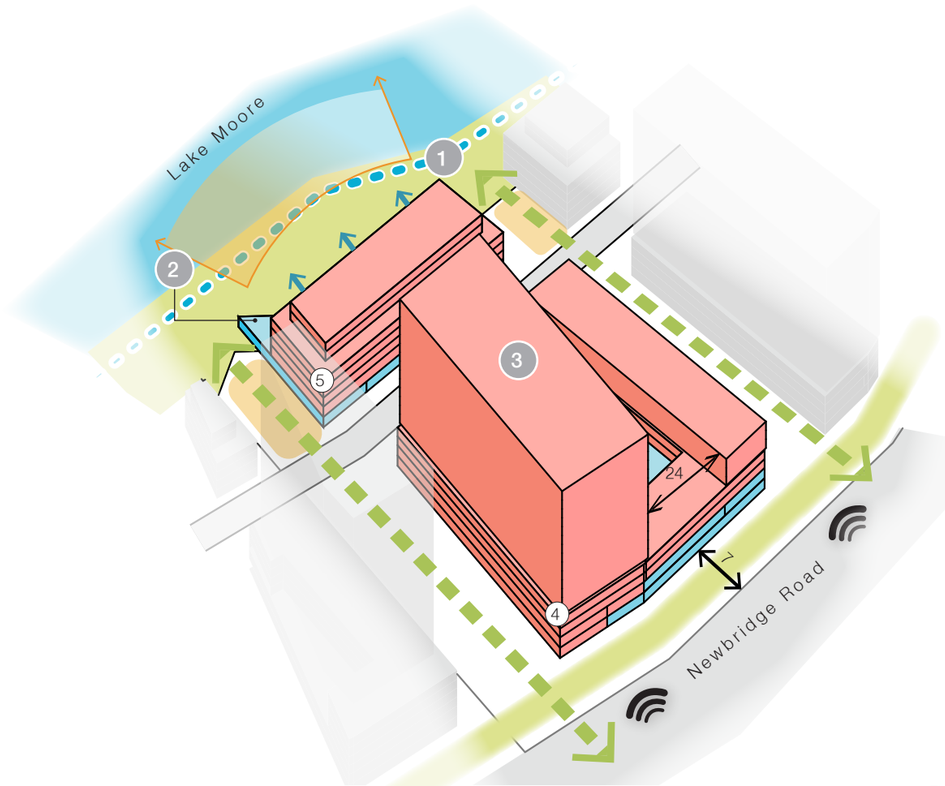


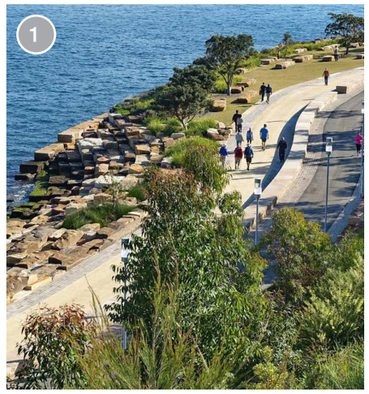
Figure 61: example block

Key objectives

The key objectives for this precinct include:

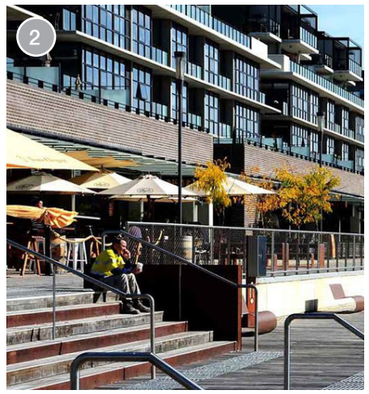
- unlock the recreational potential of Lake Moore
- provide a series of different street environments that capitalise on views to Lake Moore
- utilise built form and landscape to create a buffer to Newbridge Road

site
residential
retail/commercial
landscape/riparian zone
Lake Moore
adjacent built form
communal open space
through-site link
riparian edge
active frontage
noise
views



Landscape and open space

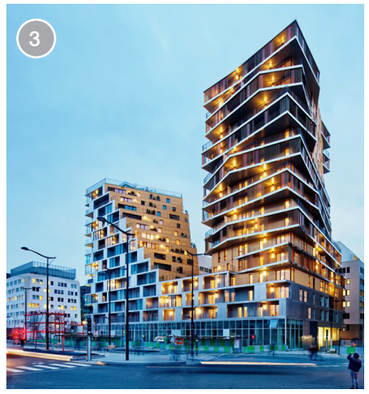
Landscape upgrades along the Lake Moore foreshore will unlock the potential for recreation and connectivity to Haigh Park and the wider Georges RIver corridor. As shown in the image to the left, landscape upgrades could enable the retention of a naturalised lake edge alongside wide and inviting walking and cycling paths. Smaller pockets of space could be provided for the public to take in views across the lake, have picnics and celebrations.



Activation and non-residential uses

Landscape upgrades to the foreshore will unlock the potential for small-scale activation and residential uses that capitalise on its setting. Buildings along this edge will be of a smaller scale to enable view and solar access within buildings located to the south. As shown in the image to the left, there will be opportunities for outdoor dining and gathering, taking advantage of its sun-soaked northern aspect.

Along Newbridge Road, larger format retail and commercial uses at lower levels and significant landscape setback would be utilised to reduce the impact of noise and vibration on the wider Precinct. In these blocks, residential uses are used to skin podiums, with landscaped communal open space above.



Built form

Built form in this precinct has been shaped to transition from smaller buildings along the Lake Moore Foreshore to taller buildings along the Newbridge Road interface. This enables sharing of views and solar access and limited overshadowing impact on adjacent sites.

Height variation and tower orientation on the southern edge of the Precinct reduces the visible bulk of built form and preserve solar access to communal open space above podiums.

Where servicing and basement entrances are required, they will be appropriately screened to enable a continuity in street frontages.

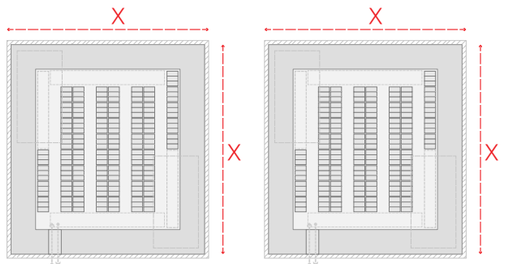
Technical Design Considerations

6

Analysis of the masterplan against the principles of SEPP65, the Apartment Design Guide and current ‘Best Practice’

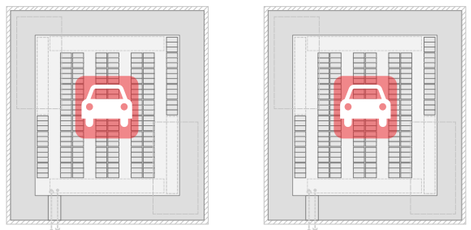
This section outlines how the foundation principles of the masterplan have considered the objectives and guidance outlined in current State Government Policy, including SEPP65 and the ADG. Throughout the evolution of the masterplan a balance has been maintained between a ‘place-based’ approach (i.e. heritage grid, relationship to the river and lake) and the requirement for ‘compliance’ with building separation, activation, solar access and over-shadowing guidelines.

6.1 Key policy and design considerations



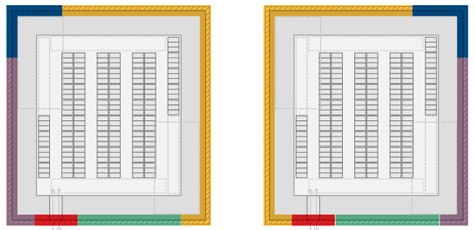
1. Block size and setbacks

The relationship between streets and spaces, the development sites and their interfaces with the private and public domain, and the efficient layout of buildings within the defined blocks have all been considered within the context of the site's heritage and natural features. Setbacks between the street and building edge also vary across the site in response to the character of streets, spaces and land use.



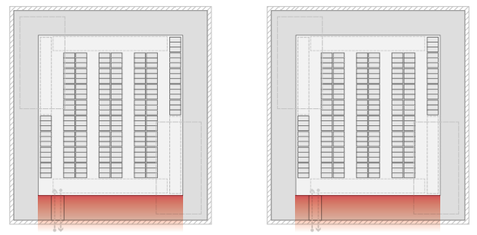
2. Parking provision

Allowances have been made in the scale, proportions and layout of the individual urban blocks to accommodate basement, combination of basement and above ground, and only above ground parking solutions across the site. Each approach presents a number of opportunities and challenges in relation to deep soil, adaptive reuse and amenity.



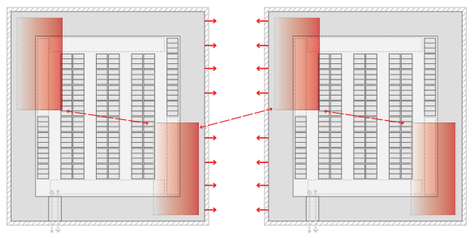
3. Active and positive frontages

The activation and animation of street frontages is a priority across the precinct, taking into consideration the characterisation and role of the frontage, its interface with uses above, and the amenity it receives (sunlight and aspect). Certain frontages will be prioritised for activation (retail and commercial), whilst others can be animated (residential), or serve a more function role (servicing & utilities).



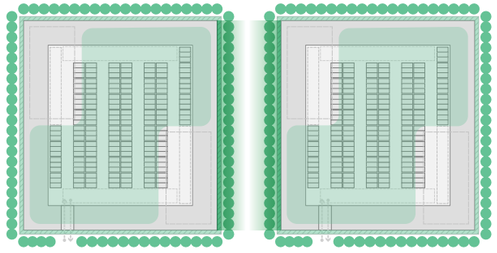
4. South-facing frontages and servicing

South-facing street frontages and podiums are inevitable across a precinct of this scale. These can be addressed through the co-location of servicing, vehicle access and utilities at ground, and non-residential uses at podium upper-levels, including naturally ventilated parking.



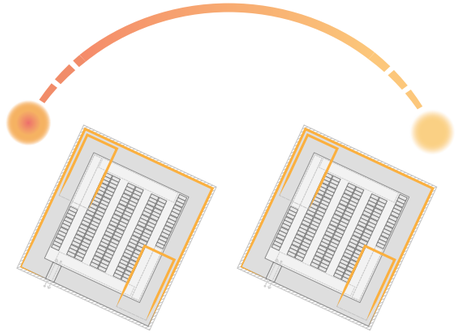
5. Building separation and depths

Block sizes, setbacks and street widths have all been considered to ensure the appropriate building separation at tower, podium and street levels, both in line with the ADG, but also to maximise the amenity and help define the character of the streets.



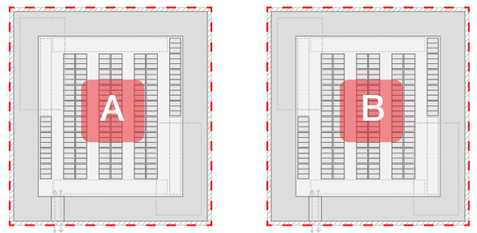
6. Landscape and public domain

A precinct-wide approach has been taken to the design and delivery of landscape, public domain and streetscape, as these are the character-defining elements that bind the blocks and streets together. The streets and spaces will support an integrated stormwater management and reuse system, whilst supporting the growth of up to 8,000 new trees, which will provide significant canopy and urban cooling of the precinct.



7. Solar access and over-shadowing

Solar access to streets, public spaces and residential uses has been a key driver for the layout of the site, block and building configuration, and individual building orientation. This approach also balances the impacts caused by the site's existing grid, which is orientated 25-degrees off north.



8. Staging

The delivery of the precinct over time has an influence on the management of impacts arising from placing new land uses within a former industrial setting and the pursuit of compliance on a building-by-building basis when the exact scale, land use and design of the neighbouring blocks is evolving over several decades.

6.2 Block size and setbacks

The urban block dimensions have been based on a number of fundamental spatial requirements; podium and basement layouts, sleeving of above ground parking with active uses (commercial & residential), and the potential for adaptive reuse of above ground parking. A range of block sizes have been used in order to achieve the same outcomes, whilst responding to site specific requirements (i.e. heritage grid, land ownership, open space and street hierarchy). Constant design parameters include:

- 12m deep residential sleeve
- vehicular entrance location
- ramp zone
- banks of carparking with space for structure
- towers with above-podium setback

It is important to note these are simplified diagrams to indicate the masterplanning parameters and dimensions used across the site. Core location, ventilation, circulation, access, structure and site specific considerations will alter these forms. However, they provide feasible and flexible dimensions for a podia based urban grid. The key podia width dimensions are:

- 60 (block A&E)
- 77 (block B&F)
- 94 (block C&G)
- 112 (block D&H)

Metrics per storey

Block	Res GBA	Res GFA (75%)	Parking spaces
A	2,884	2,163	66
B	3,300	2,475	93
C	3,715	2,786	129
D	4,130	3,097	165
E	3,254	2,440	84
F	3,669	2,751	126
G	4,084	3,063	171
H	4,500	3,375	219

Residential sleeve
2m setback in lot
Circulation & ramp
Servicing (ventilation, plant, storage etc)

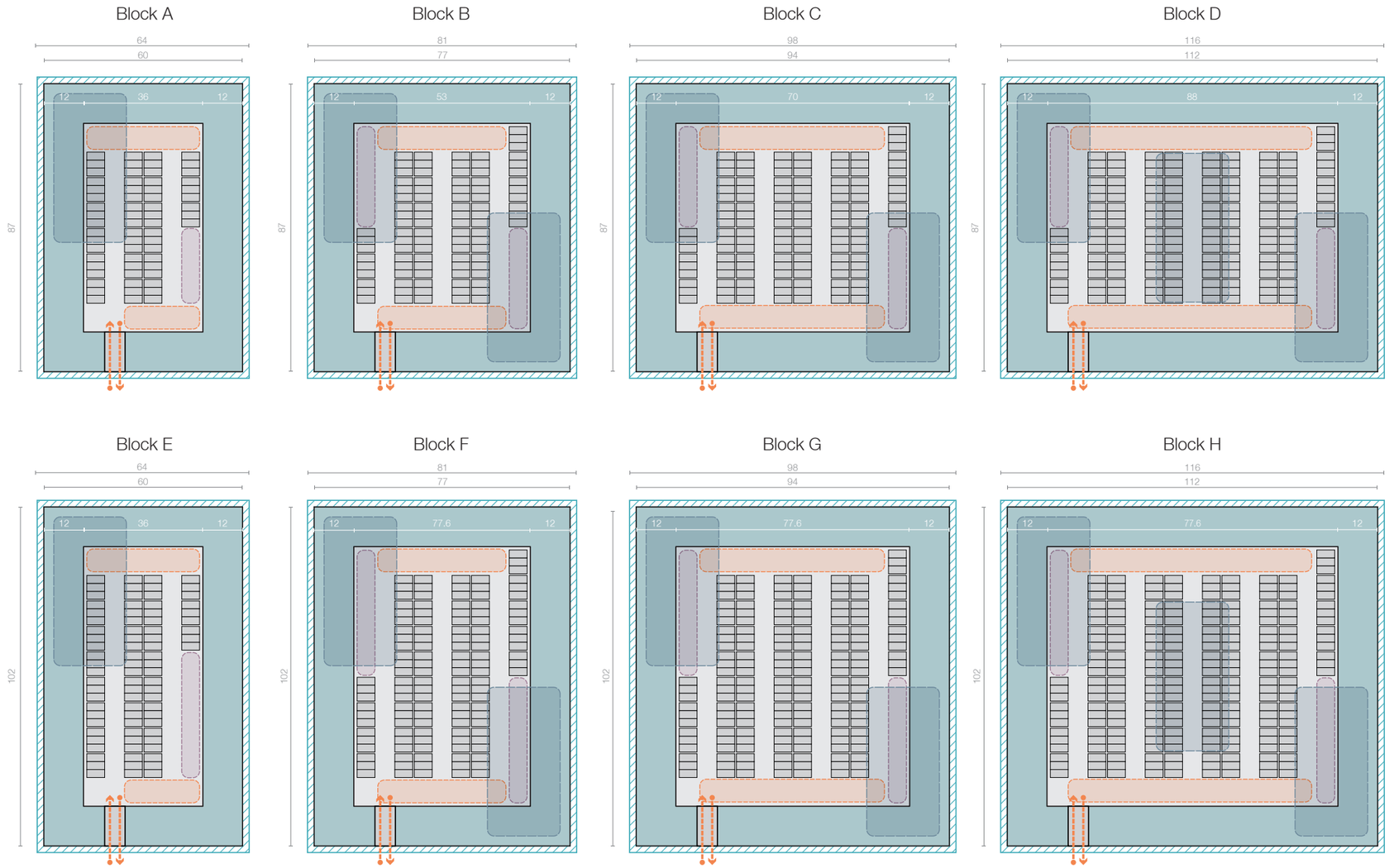


Figure 62: block size diagrams

6.3 Parking provision

Over the coming years our reliance on private vehicles and the associated need for parking spaces in residential and commercial developments will change. There is now a greater focus on the potential for above ground parking to be adaptively reused for commercial, community and recreational uses as the demand for parking reduces.

Factors such as the overall quantum, land use mix and dwelling mix have significant implications for parking and the associated built form and character of surrounding spaces. The adjacent diagrams outline three scenarios:

1. Podium parking - where car parking is internalised in the core of the structure with residential or other uses wrapping the edge of the podium. This can also be integrated with a basement.

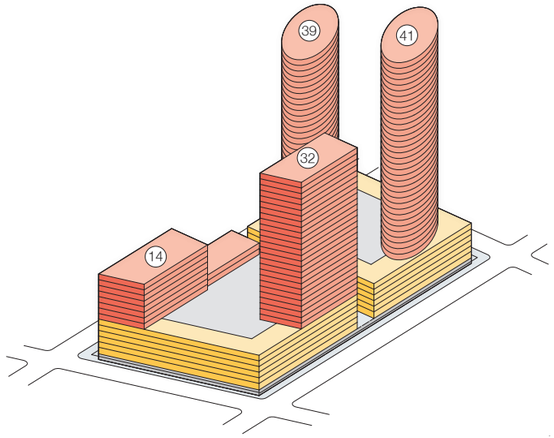
2. Podium parking with semi-perimeter block - where carparking is internalised in both podia with an integrated basement. The built form of the front of the block creates the impression of varied streetwall heights as opposed to the consistency of the podium behind.

3. Hybrid podium and perimeter block - where parking is provided both in basements and in the sleeved rear podium. This creates a front perimeter block with direct at-grade through site links and improved amenity for built form behind.

Assumptions include:

- Carparking rates as per the Liverpool DCP
- 12m deep residential sleeve
- Efficiency of 35m² per carparking space
- 70% residential GBA to GFA efficiency
- Vehicular entrances on southern elevation
- Integrated basements beneath both podia

It is important to note these are simplified diagrams to explore masterplanning parameters for parking. Core location, ventilation, circulation, structure and site specific considerations will alter these forms.



Podium parking

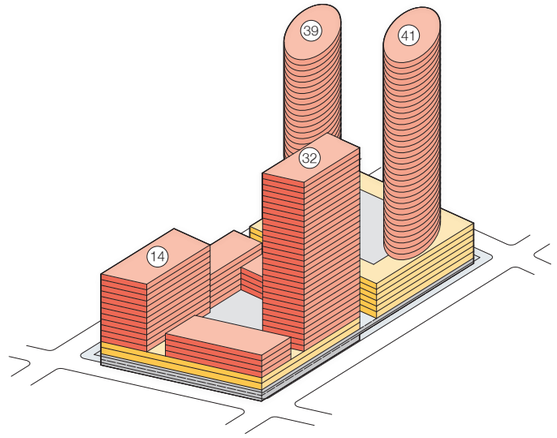
1,152 Units

1,250 Parking Spaces

6 Podium 1 Basement



Example: Pagewood



Podium parking with semi-perimeter block

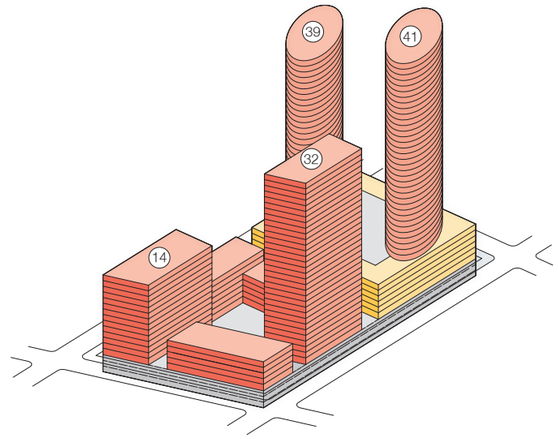
1,235 Units

1,300 Parking Spaces

6 Podium 4 Basement



Example: Carter Street



Hybrid podium and perimeter block

1,220 Units

1,195 Parking Spaces

2 & 6 Podium 1.5 Basement



Example: Rhodes 2A&3A

Figure 63: parking provision diagrams

6.4 Active and positive frontages

The masterplan features several approaches to interfaces depending on their land use, desired character and surrounding street or landscape. The points below outline some important considerations when designing lower storeys and public domain.

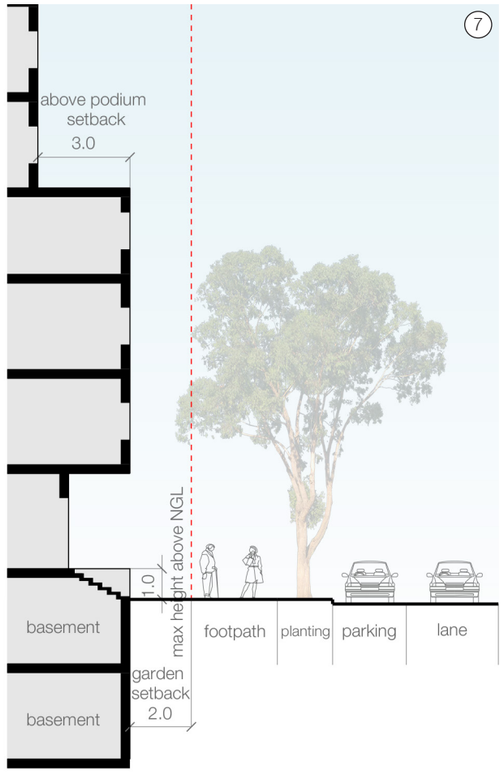
'Positive' residential frontage considerations

- Size and desired character of the setback to the street
- Manner of access to the dwelling - i.e. at grade (2) or via a set of steps (1)
- The ground floor can be elevated creating a private terrace for residents inside (1&7)
- Elevated ground floor can be paired with planting to screen the ground floor to improve privacy for occupants but also ensure passive surveillance of the street for people looking out (1&7)
- Basement ventilation can also be placed behind vegetation in some circumstances (7)
- Built form above can project over the ground floor setback depending on the desire typology (i.e. integrated terrace/ maisonette) which creates an enclosed space and shaded space.

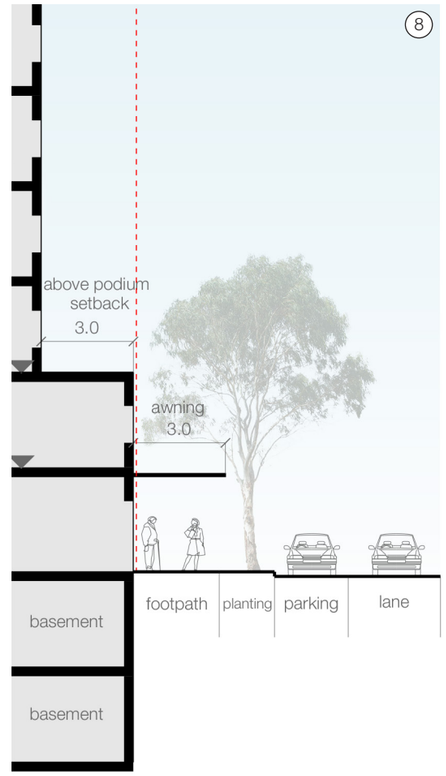
Active retail and commercial frontage considerations

- Position and character of lobbies and entrances (6) i.e. triple height with an open ground plane
- Elevation changes between the building and street need ramps and stairs for integration (5&6)
- Exposure for tenancies i.e. glass is often used for commercial and retail businesses to entice customers to the premises
- Moveable facade elements - i.e. doors and awnings which can change acording to time of day, weather and season (4)
- Ground floor design should address the outlook of the cafe cafe onto the space or street (3) especially if the entrance is at grade
- Section (8) illustrates a typical at-grade interface from the street into the ground floor
- Presence of a canopy or trees for shade





Example of raised residential terrace interface



Example of at-grade retail interface

Figure 64: active and positive frontage diagrams

6.5 Servicing and south-facing frontages

Each block in the masterplan will have south facing frontages which require careful design consideration to successfully combine residential and commercial land uses alongside necessary servicing and basement access.

Key considerations when designing south facing frontages include:

- Vertical stacking of land uses is responsive to the amount of solar access and adjacent street access. For example, servicing and parking on lower storeys with residential above.
- Ensuring the appropriate proportion of apartments of each development receive direct solar access according to the Apartment Design Guidelines (70% receive 2 hours direct solar access to living rooms and private open spaces).
- The number, dimensions and location of parking access points are proportional to the expected parking load and vehicular use.
- Access points should be integrated into the building facade and be as discrete as possible (i.e. 2) using strategies such as:
  - locating access points on secondary and tertiary lanes
  - street trees, planters and green walls should screen entrances where possible
  - materials and colour palette should soften the threshold between street and entrance
  - entrances should be located at the lowest point of the site to minimise ramp lengths and excavation
  - separating pedestrian access points (i.e. lobbies and through-site links) from vehicular ones
  - good design of entrance doors (i.e. lasercut screens)
- Cores, corridors, circulation spaces and spaces which are less reliant on good solar access can be positioned on south facing facades.
- Other services and requirements such as hydrants, risers, loading zones, waste collection zones and storage should be clustered and screened where possible

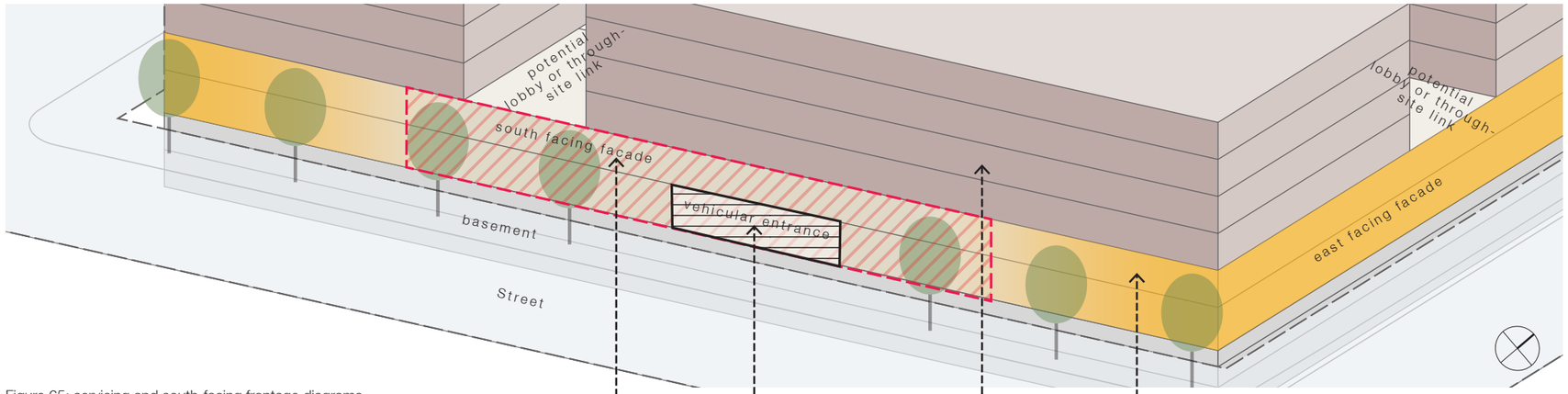
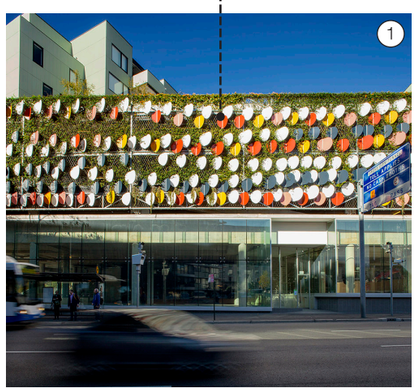
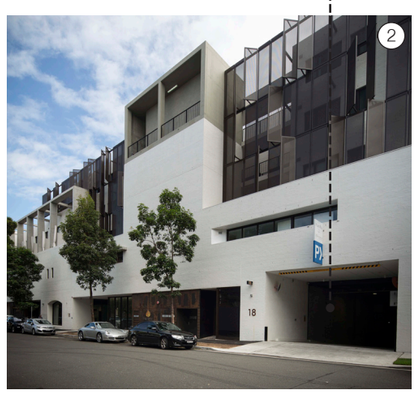


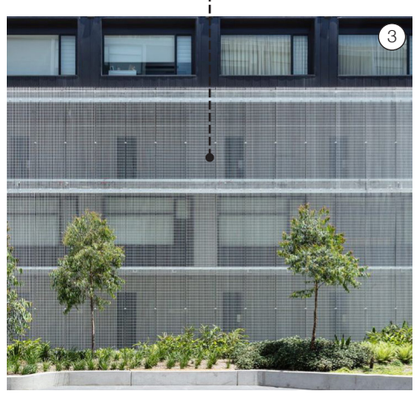
Figure 65: servicing and south-facing frontage diagrams



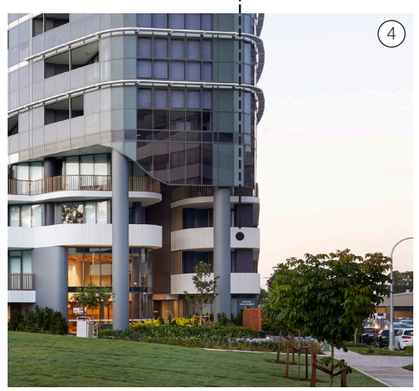
Above the commercial ground floor, these upper storeys are screened with vegetation and public art creating an attractive facade and allowing natural ventilation for the carpark behind.



The Casba development in Waterloo (Sydney) has a discrete basement entrance which complements the through-site pedestrian beside it. It is softened with street trees and has residential balconies above.



This south facing facade in Erskineville (Sydney) has been stacked with external apartment access corridors with mesh screens for privacy. It provides passive surveillance for communal open space behind.



Residential apartments can be wrapped around south-east and south-west corners and still receive excellent solar access especially at upper storeys.

6.6 Building separation and depth

The organisation and structure of the urban grid has been designed to balance the existing heritage fabric and grain of the site, ownership and cadastral boundaries, existing open space, established road network, and the provision of amenity through street setbacks and building separation at a block level.

The streets and blocks within the precinct have been sized to ensure that appropriate building footprints sizes can be achieved and provide adequate separation at tower, podium and street levels align with requirements of the ADG as a minimum, and ensure the amenity is maximised across the precinct.

All streets and setbacks have been designed to allow a minimum of 20m between the 4-6 storey podiums. All block depths have been design to allow for 18 to 24m separation above podium. The diagram to the right shows how building separation is achieved within the central core.

Building envelopes have been designed to between 22-24m to allow for 2-3m deep balconies along long elevations, whilst satisfying the 18m maximum depth glazing line to glazing line, as noted in the ADG. This approach also provides flexibility for these envelopes to accommodate a range of other uses, including hotel and commercial office.

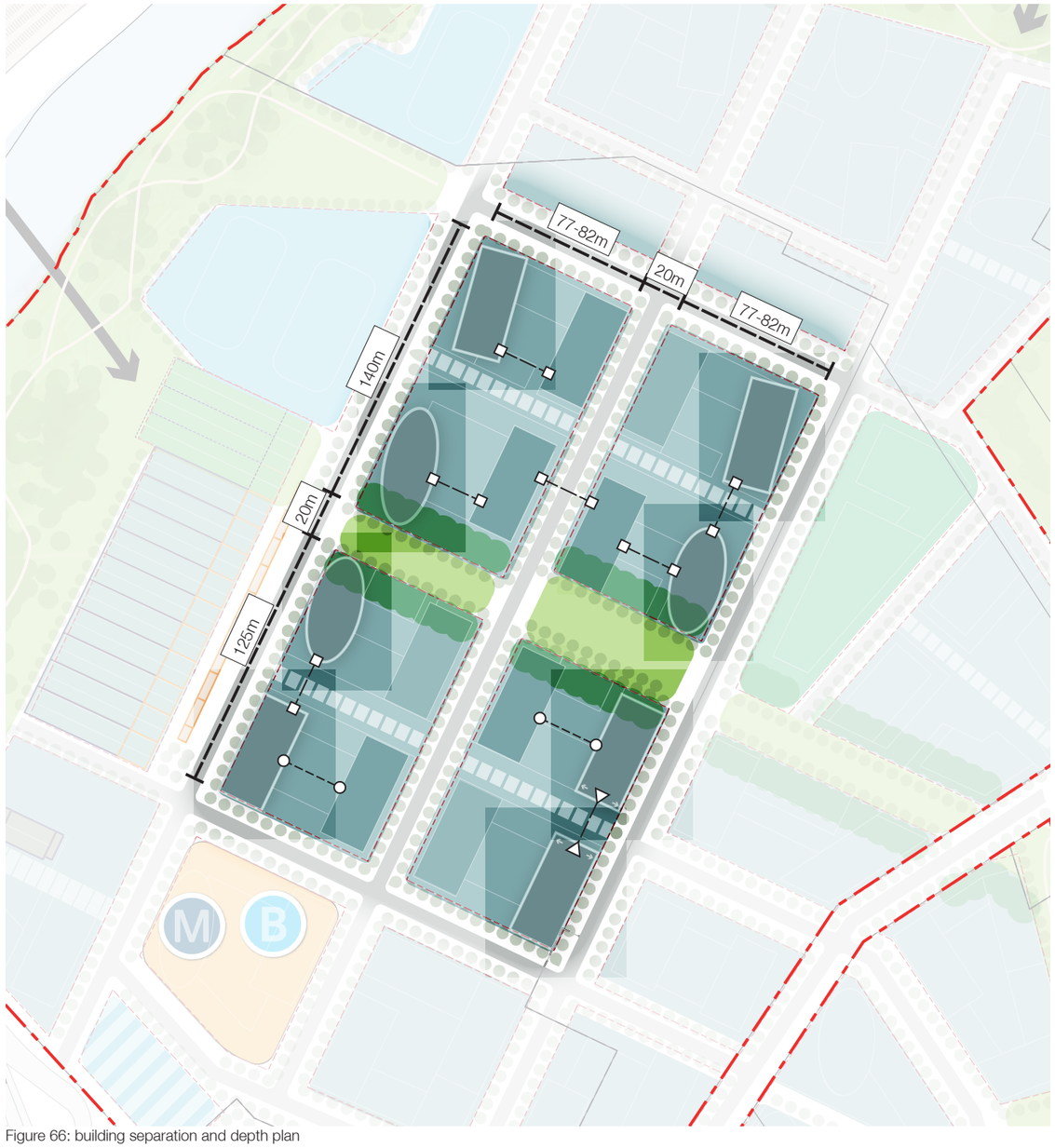
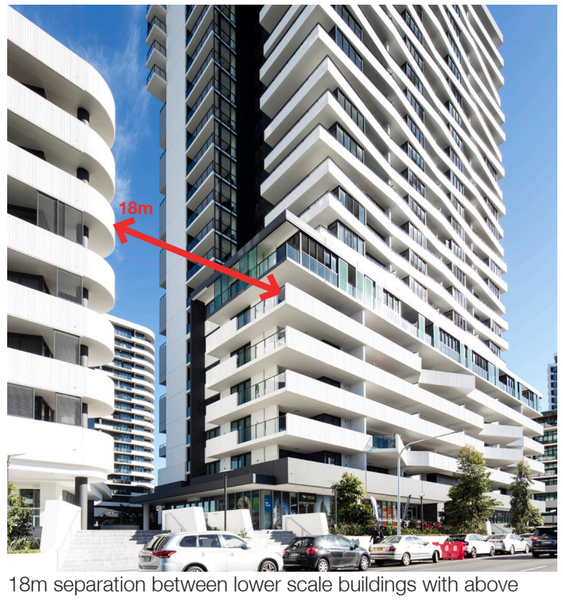


Figure 66: building separation and depth plan



24m separation for towers above podium



18m separation between lower scale buildings with above podium setbacks to towers to provide greater separation

Achieves 24m ADG separation

Achieves greater than 24m ADG separation

Achieves the aspirations of building separations

6.7 Landscape and public domain

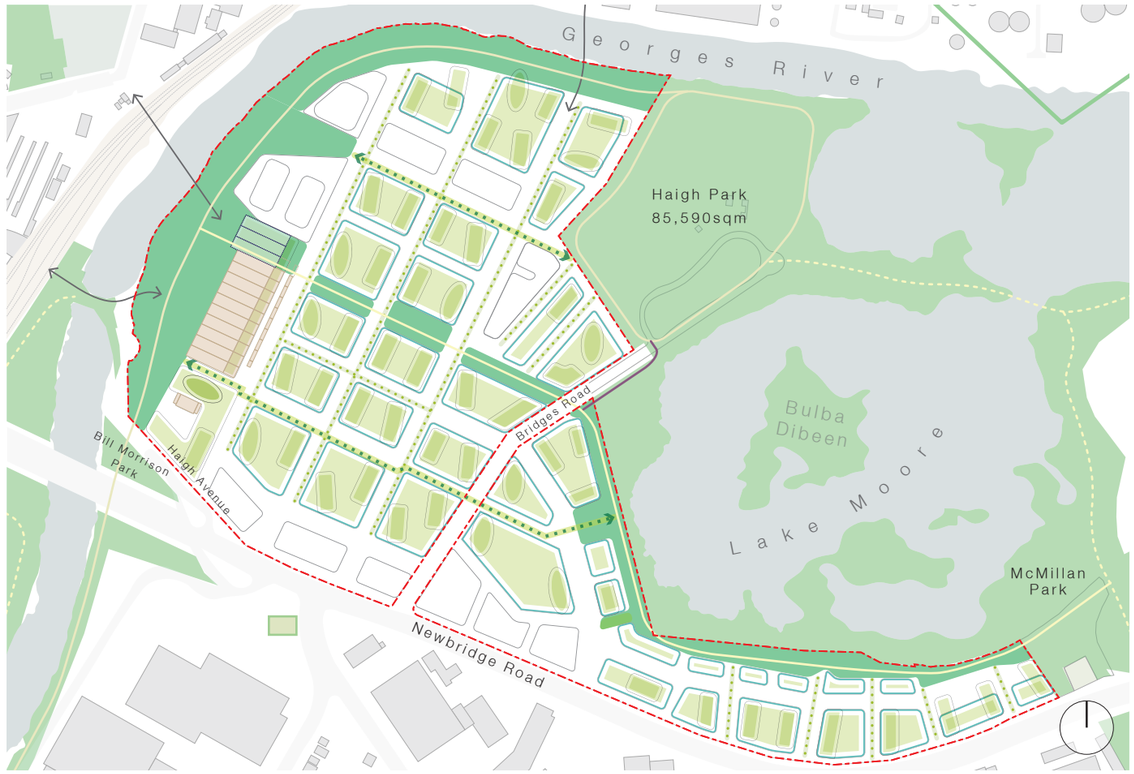


Figure 67: landscape and public domain diagram

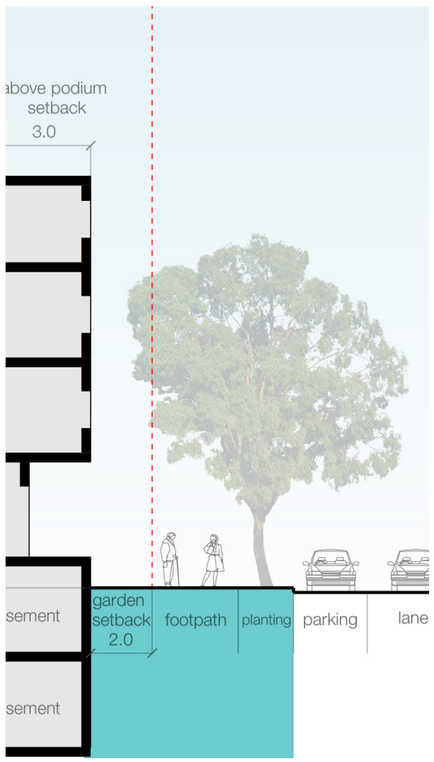


Figure 68: streetscape deep Soil zone

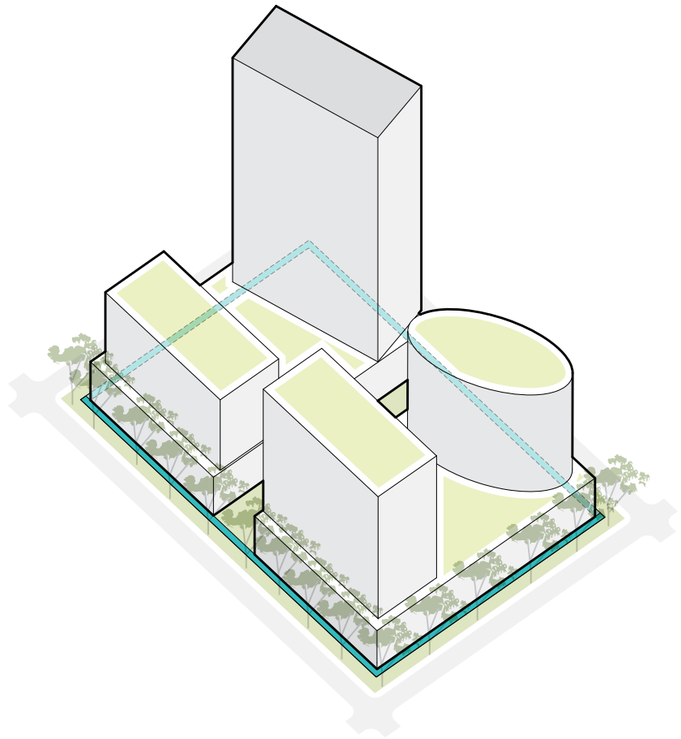


Figure 69: landscape setbacks and communal open space per block

A precinct-wide approach has been adopted to ensure that landscape, public domain and streetscape elements provides both environmental comfort and urban relief whilst contributing to the overarching character that binds the precinct together.

The proposed network of open space features rain gardens, swales, and landscape setbacks allow for significant canopy to be established to reduce urban heat island affects associated with climate change and densification of our urban environments. Stormwater will be captured and managed for reuse as part of a precinct-wide WSUD system that cleans urban run-off before it re-enters our natural waterways, and the flanking riparian zones and parks that provide a line of defence against major flooding events.

The open space network covers 21% of the site area, in addition to the adjoining Haigh Park (8.5ha) and public space around Lake Moore and along the river foreshore. These substantial areas of usable green space are supported by an extensive network of streets and smaller public and private spaces, including 7-10% of each urban block dedicated to deep soil. This is in addition to the landscaped areas within the streetscape (much of which is deep soil), and private spaces on podium and roof levels across each development site.

Private amenity for each unit is to be supported by communal open space (min 25%) that will be provided above podium and on top of towers to maximise solar access (50% with direct sunlight on the winter solstice). both hard and soft landscaping to be considered for rooftop communal spaces to ensure green roofs are provided to assist in reducing urban heat island affect.

- site
- oipen space (deep soil)
- rooftop open space
- 2m deep soil setback
- major east-west swale
- north-south swale
- surrounding open space (RE1)
- proposed pedestrian bridge

6.8 Solar access to public space

The quantum, quality and usability of public open space across the precinct has been a central consideration for the masterplan. One way to protect the amenity of these newly formed public spaces is a ‘solar access plane’, which is becoming a commonly used policy and planning tool to preserve the amenity and solar access to key public open spaces. Two prominent examples of such controls include:

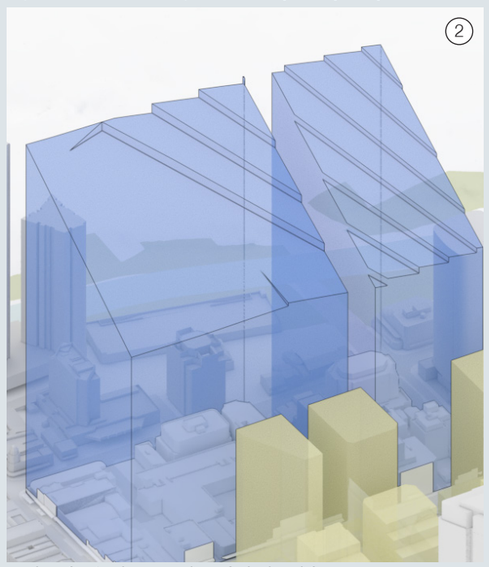
- City of Parramatta sun access plane to Lancer Barracks and Parramatta Square
- City of Sydney sun access planes to most significant major open spaces throughout the city. The example to the right (1) is Hyde Park

Typically these controls specify one of the following:

- No additional overshadowing of a defined space
- A nominated percentage (i.e. 50%) of a defined space must receive X (i.e. 2) hours of sunlight between X (i.e. 9am) and X (i.e. 3pm)



example of sun access plane in City of Sydney Draft DCP



example of a ‘solar envelope’ derived from a sun access

The Georges Riverfront Plaza is the premier civic space for Moore Point. Therefore it’s amenity should be protected.

The public space to be protected by the sun access plane is defined in decimal coordinates system according to GDA94, MGA 56 projection:

A) 308684.8 / 6244319.2

B) 308622.5 / 6244348.9

C) 308554.6 / 6244208.6

Each point should be calculated relative to ‘natural ground level’ which is approximately RL9 AHD. The proposed control should be: *no additional overshadowing of the space between 11am to 1pm on the winter solstice (21st of June)*.

The impact of this control has been tested and integrated into the masterplan to ensure the building marked X on the plan does not create any additional overshadowing of the new space according to the proposed control.

site
sun access plane
area to be protected
immediate area affected by sun access plane

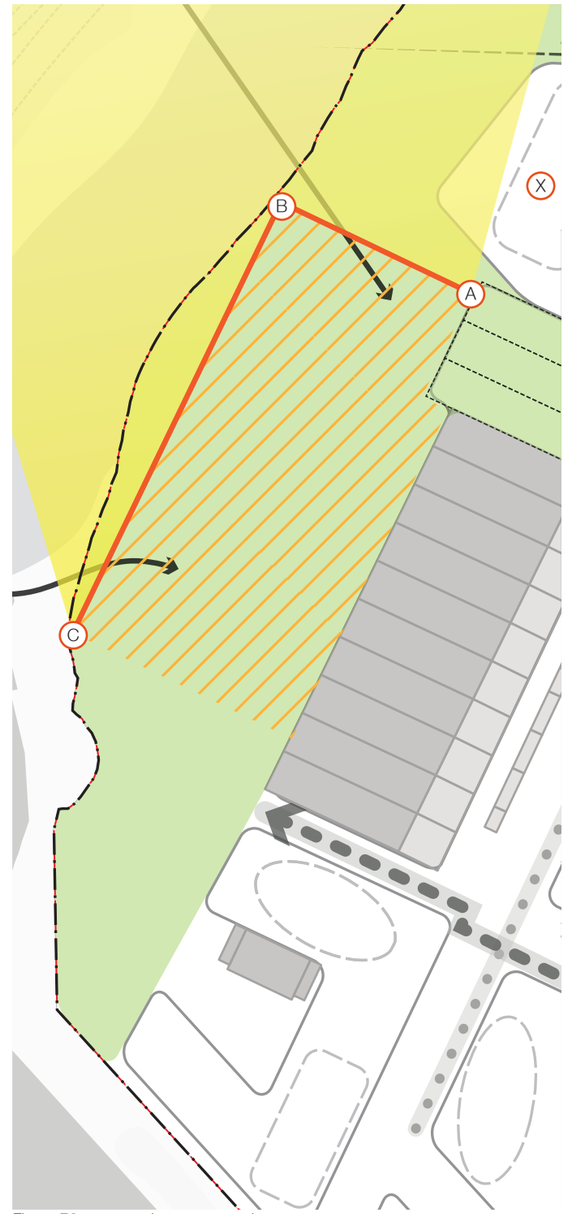


Figure 70: proposed sun access plane

6.9 Solar access and over-shadowing

The solar access and over-shadowing guidance outlined in the ADG has been used by the industry and government agencies as a development control, where numeral compliance is a requirement, without taking into consideration contextual or site-specific factors. When undertaking a precinct-planning exercise of this scale there are a number of approaches to ensure solar access and overshadowing is maximised without requiring every building to be designed in detail. These include the layout and scale of streets and blocks, the location of open space and approaches to built form (i.e. height, separation, siting and orientation of buildings).

The place-based approach to Moore Point has driven a particular layout and orientation of the streets and blocks, 25-degrees from north, which reflects the heritage grain and retained buildings on the site. This approach has been supported by Council, as it provides a strong link to the site's former uses, and provides a better relationship to the river and Haigh Park. The challenges arise when seeking solar compliance on an individual building basis, as only 2 facades will receive the 2-hours minimum direct sunlight in mid-winter, as compared to a building orientated on a north-south (or within 11-degrees of north), where three facades would receive the adequate sunlight.

The evolution of the masterplan has included extensive solar testing to provide certainty of solar compliance across the site by applying a number of principles;

- orientate towers as close to north as possible (11-degree tolerance), whilst maintaining podiums on the alignment of streets (25-degrees)
- maximise the number of units along the northern edges of the building, namely those elevations receiving the 2 hours of direct sunlight.
- limit the extent of residential along south-facing facades, particularly in blocks within the southern extent of the precinct

Another critical factor to take into consideration with regards to amenity and solar access for a precinct of this scale is the staging and evolution over time. Similar to other major regeneration precincts, like the Rhodes peninsula, the development of the area will be iterative and driven by market demands. The ultimate mix of land use may evolve over time to respond to Liverpool's growth and position within Metropolitan Sydney.

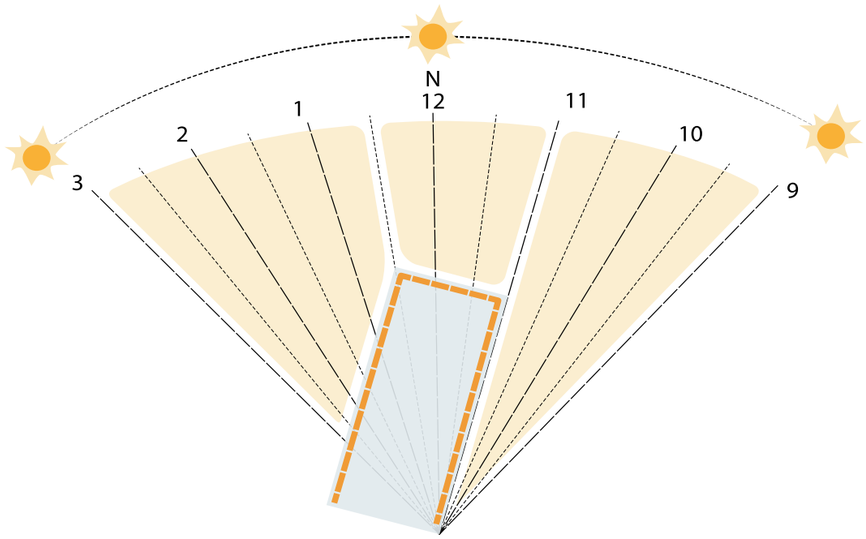


Figure 71: Residential towers can be rotated a maximum of 11 degrees off north to ensure three façades of a residential tower achieves 2 hours of solar access on the winter solstice.

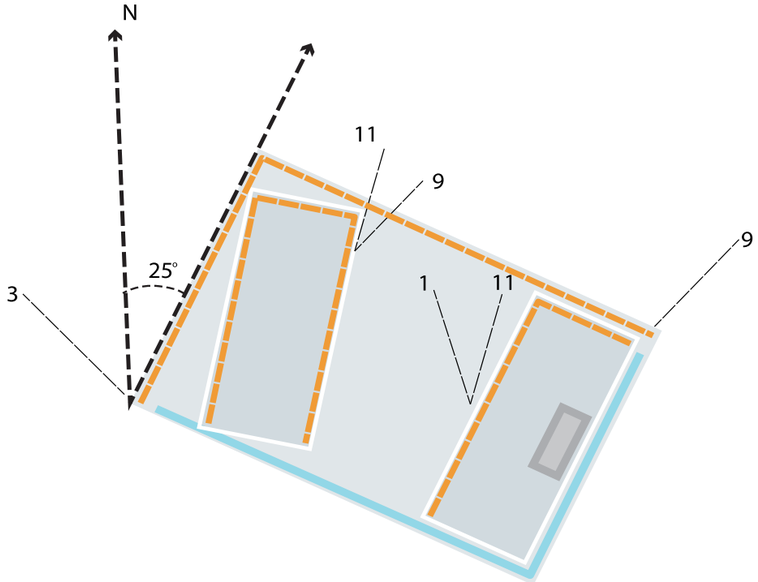


Figure 72: The proposed grid on the Moore Point peninsula is 25 degrees off north. The implications of the 25 degree orientation means that only two façades can achieve the 2 hours requirements of the ADG. Orientation of towers above podium should rotate to maximise solar access and or locate cores on the southern side of tower.

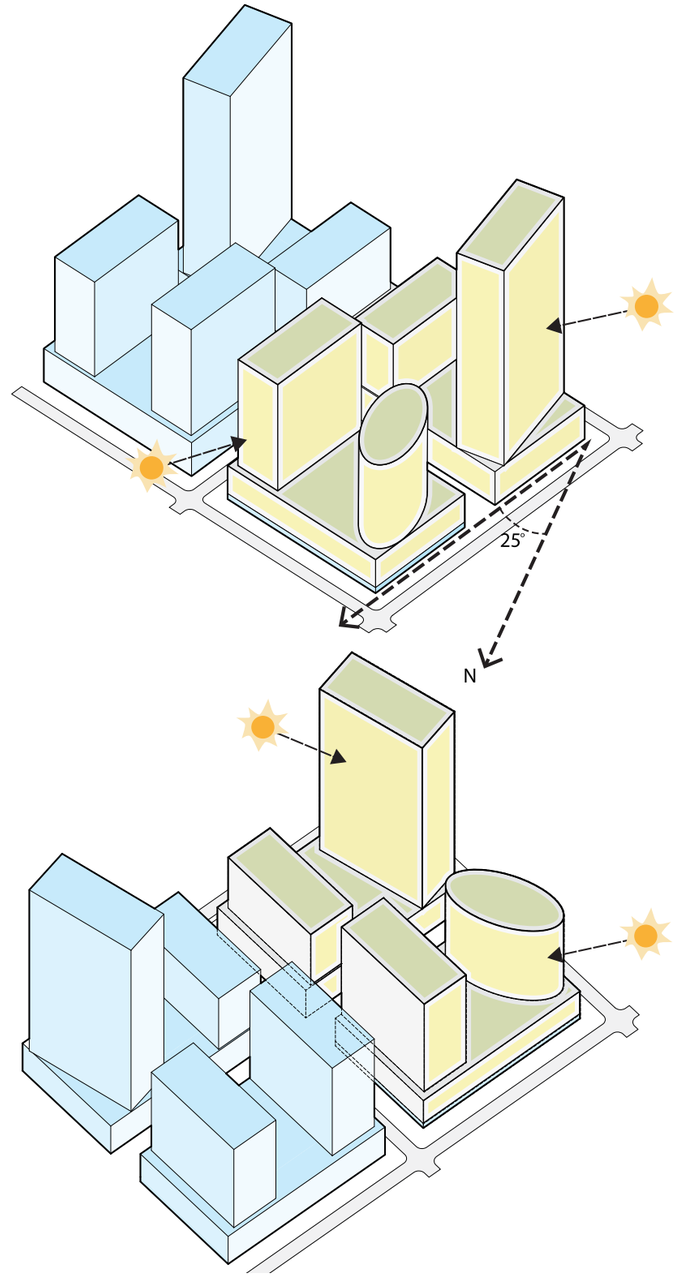


Figure 73: Diagram showing how a block can achieve solar based ont he 25 degree orientation of the site.

6.10 Staging and delivery

The staged delivery of Moore Point considers the Leamac and Coronation holdings (32ha), and doesn't assume the timing of those other sites across the precinct. The approach to staging considers the availability of land over time, the capacity of those stages to 2036, assumed take-up rates for residential and commercial floorspace, and the associated delivery of public open space and community infrastructure (i.e. primary school). The delivery of roads, utilities and other infrastructure required to support this scale of development also has a bearing on the timing and staging of development.

The adjacent plan indicatively illustrates the envisaged staging of the masterplan.

- The first stage is in the north east of the site closest to the Liverpool City Centre.
- The second stage is predominantly around Haigh Park, Lake Moore and two blocks in the urban core.
- The third stage is the consolidation of the southern portion of the masterplan.
- Sites outside the ownership of Coronation and Leamac will be determined in future discussions.
- Staging of the anticipated school site (or potentially other public facility) will be determined in future discussions.

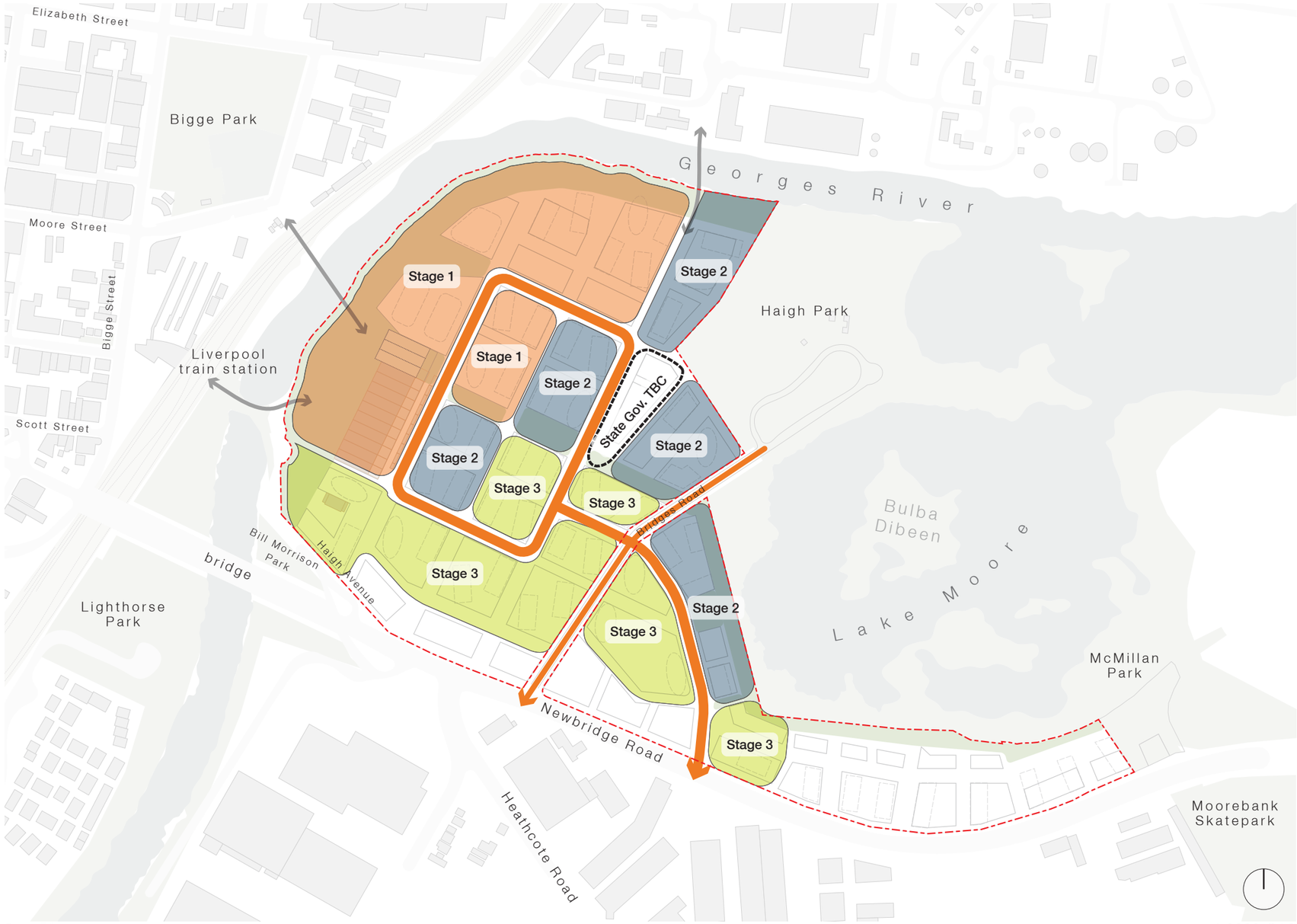


Figure 74: indicative staging and delivery diagram

6.11 Case study: Carter Street stage 1





Project Location
The site is located along Carter Street, Lidcombe, and is positioned just outside of Sydney Olympic Park, in close proximity to ANZ Stadium, Qudos Bank Arena and the Sydney Showgrounds.

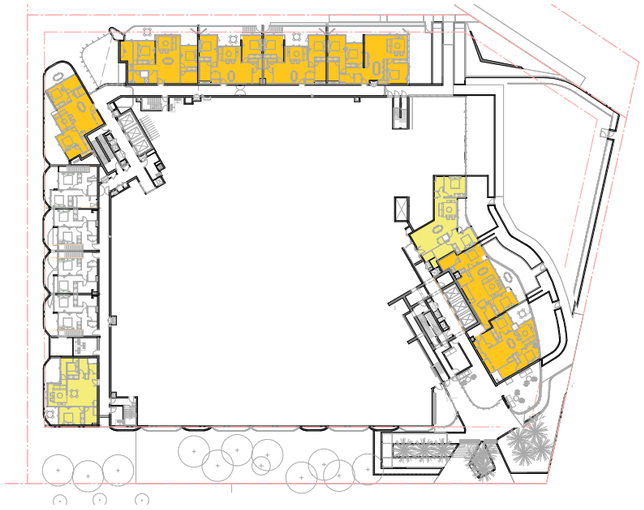
Grid orientation
Podium: North east - South east
Tower: North-south

Site Area
8,011sq.m

Height
21 storeys

Building typology
Podium and tower with parking in the podium

Approach to solar
The layout of the Carter Street precinct in Lidcombe is oriented 30-degrees off north, which limits solar access to two facades during mid-winter. Despite this, the first stage delivered in the precinct (by SJB) achieved 70% compliance by rotating the towers to a northern axis, whilst maintaining the podium on the street alignment. The podium frontages screened podium parking, with the southern elevation being naturally ventilated parking designed to appear like apartment balconies (see above). The residential towers disconnect from the streetwall and are orientated on a north-south axis to ensure both the east and west facades receive a minimum of two hours solar access on the winter solstice.



Ground



Typical Level 14-15

6.12 Case study: Carter Street stage 2



Project Location
The site is located along Carter Street, Lidcombe, and is positioned just outside of Sydney Olympic Park, in close proximity to ANZ Stadium, Qudos Bank Arena and the Sydney Showgrounds.

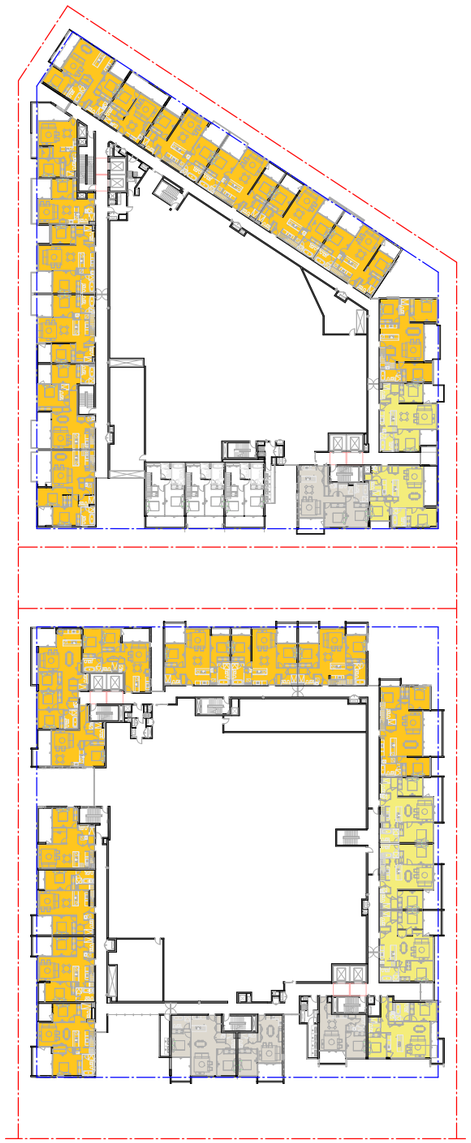
Grid orientation
North east - South east

Site Area
11,816sq.m

Height
12 - 13 storeys

Building typology
Podium and tower with parking in the podium

Approach to solar
The examples above achieves the 70% solar access locating residential on the northern elevations and minimises the residential to the south. The residential towers above podium align to the orientaiton of the streets and blocks and place the core on the southern facade maximising the number of apartments on the northern side of the block.



Typical Level 3

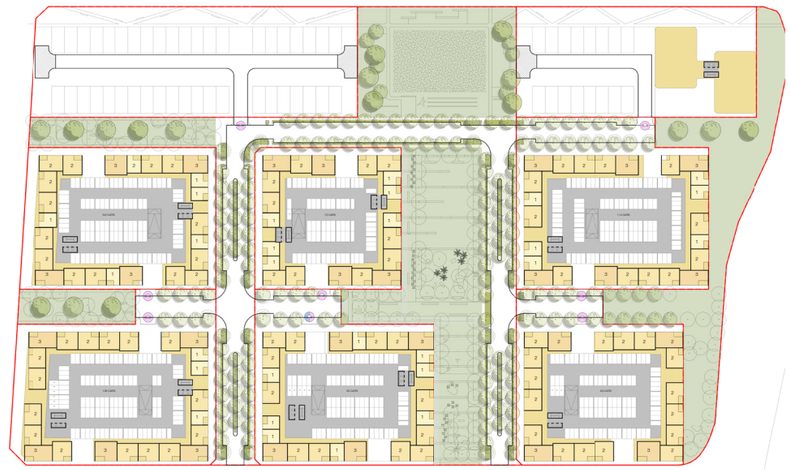


Typical Level 5

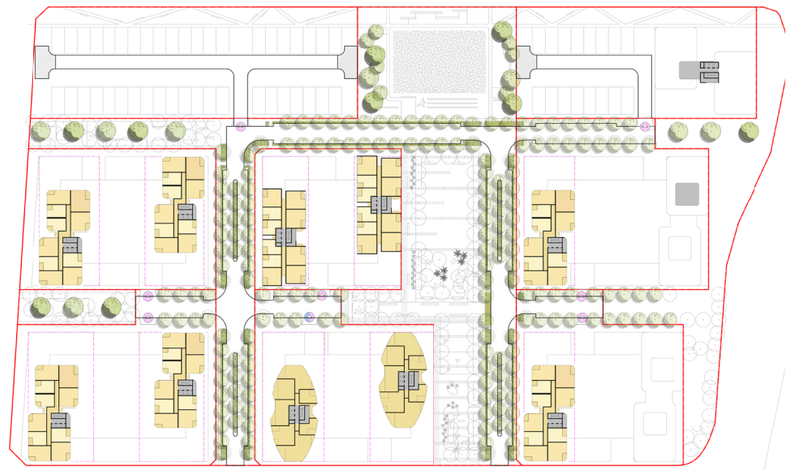
6.13 Case study: Pagewood BATA stage 2







Podium



Tower



Project Location
The site is located on the former British American Tobacco Australia (BATA) manufacturing facility. Prior to this it was used as the General Motors Holden Factory. It is located within 4.5 kilometres of Mascot Station and 2 kilometres to the future Kingsford Light Rail Station, with existing and future bus services providing direct access to and from the site.

Grid orientation
North-South

Site Area
8.95ha (~7,000sq.m per block)

Height
2 - 20 storeys

Building typology
Podium and tower with parking in the podium

Approach to solar
The examples above achieves the 70% solar access locating residential on the north, east, and western elevations. The residential towers above podium align to the orientation of the streets and blocks, and place the core on the southern facade maximising the number of apartments on the northern side of the block.

Recommendations & Appraisal

7

Conclusions and recommendations of the urban design report

7.1 Appraisal

In concluding the Urban Design Report for Moore Point, reference has been made to the 9 principles from SEPP65, which will form the basis for the final appraisal of the masterplan and its constituent parts.

The overarching vision is :

> *Moore Point will be a riverfront place for people which is well served by public transport, connected to its surrounding landscape and complements Liverpool City Centre. It will be mixed use with cultural and educational opportunities for residents and visitors. Connected with green gridded streets, bridges and landscaped waterfront it will be a focal point for the growing Western Sydney metropolis and place for everyone.*

The masterplan will create a riverfront place that supports the emergence of Liverpool as a significant metropolitan centre in Sydney. It articulates this vision for a place that references its unique cultural, natural and built heritage, and ensures this once-in-a-generation is properly secured and celebrated.

In summary this Urban Design Report has been undertaken based on the following spatial and strategic reasons:

- The site is adjacent to Liverpool City Centre and Liverpool Train Station
- The site is the nearest subregional centre to the Aerotropolis and the focus of significant state and national investment in transport and other infrastructure
- The site is surrounded by Georges River, Haigh Park and Lake Moore which are unique natural assets
- The site can supply additional dwellings addressing the pressure for housing in the area
- The proposal will contribute significant public benefit such as a significant riverfront park and plazas, new public facilities, adaptively reused heritage sheds, recreational paths and space for primary school and bus interchange
- The establishment of site-specific precinct plans based on a holistic approach can ensure cohesive design excellence for the place
- The site offers the opportunity to reconnect Liverpool to its to the river by re-establishing Moore Point as a riverfront for people

1) Context and neighbourhood character

Good design responds and contributes to its context. Context is the key natural and built features of an area, their relationship and the character they create when combined. It also includes social, economic, health and environmental conditions. Responding to context involves identifying the desirable elements of an area's existing or future character. Well designed buildings respond to and enhance the qualities and identity of the area including the adjacent sites, streetscape and neighbourhood. Consideration of local context is important for all sites, including sites in established areas, those undergoing change or identified for change.

The Moore Point Masterplan is both contextual in its approach but equally of a considerable scale and in a geographically contained position on a peninsula which allows it to adopt other important contextual cues to establish its own palette of character areas. It is contextually responsive in the following ways:

- Three pedestrian bridges connect Moore Point to the Hospital/Equine precinct in the north, Bigge Park and the Liverpool city centre north and Train station/bus interchange in the city centre south.
- Major connections through the site join the Georges River to Lake Moore, Riverfront Centre to Lakefront Centre and Bigge Park to Moore Park.
- The layout of the existing factory street grid has provided the key structuring element for the masterplan while a riverfront brick factory and heritage listed administration building are the focus of civic activity in the precinct.
- Seven character areas have been established each of which take their design and character cues from surrounding natural features and adjacent built form.

2) Built form and scale

Good design achieves a scale, bulk and height appropriate to the existing or desired future character of the street and surrounding buildings. Good design also achieves an appropriate built form for a site and the building's purpose in terms of building alignments, proportions, building type, articulation and the manipulation of building elements. Appropriate built form defines the public domain, contributes to the character of streetscapes and parks, including their views and vistas, and provides internal amenity and outlook.

The Moore Point Masterplan establishes a contextual desired future character based on policy and site analysis in chapter 3. The medium and high density mixed use built form outlined in both the structure plans (chapter 4) and precinct plans (chapter 5) is appropriate as demonstrated by:

- Transitions in height, density and form to natural features such as the Georges River, Haigh Park and Lake Moore.
- Lower building heights down the central northern oriented primary street and along the northern edge of the green spine to maximise solar access into the heart of the urban core.
- A range of tower orientations and placement on podia reinforce the corners of the urban grid and are rotated and optimised to receive solar access to residential facades.
- Varying street wall heights to reflect different environmental conditions, land uses and character. In-lot setbacks and above-podium setbacks clearly define key north-south streets and the east-west green spine as well as frame views out of the precinct to the river, park and lake.

7.2 Appraisal

3) Density

Good design achieves a high level of amenity for residents and each apartment, resulting in a density appropriate to the site and its context. Appropriate densities are consistent with the area's existing or projected population. Appropriate densities can be sustained by existing or proposed infrastructure, public transport, access to jobs, community facilities and the environment.

The Moore Point Masterplan envisions a medium to high density precinct defining the peninsula adjacent to Liverpool. This density is appropriate for the following reasons:

- The urban density of Moore Point is approximately 360 dwellings per hectare which is significantly less than comparable precincts such as Central Park (670 dw/ph) and Ivanhoe Estate (430 dw/ph) as outlined in chapter 2 but still corresponds with the type of high-density precinct with high-amenity and close proximity to a CBD.
- Moore Point is immediately adjacent to Liverpool City Centre, Liverpool Train stations and all the employment, recreational, transport and services in this metropolitan centre.
- The masterplan includes community infrastructure including but not limited too a school, bus interchange, multipurpose community centre, cultural hub, new sporting courts and recreational paths.
- 6.8 hectares of new open space as well as Haigh Park, Lake Moore foreshore and broader system of riparian parks provide appropriate access to open space and recreational facilities as expected of a high density neighbourhood.

4) Sustainability

Good design combines positive environmental, social and economic outcomes. Good sustainable design includes use of natural cross ventilation and sunlight for the amenity and liveability of residents and passive thermal design for ventilation, heating and cooling reducing reliance on technology and operation costs. Other elements include recycling and reuse of materials and waste, use of sustainable materials and deep soil zones for groundwater recharge and vegetation.

The Moore Point Masterplan outlines broad places where many sustainable processes and infrastructure may be integrated. These include:

- Water sensitive urban design systems such as street swales and raingardens which capture, store, filter and transport water to larger ponds integrated in the public domain
- Good access to public transport such as bus interchange on-site and Liverpool Train Station
- Focus on walking and cycling using waterfront recreational paths as well as cycling paths on streets and around precinct edge.
- Significant proportion of site open space (21%) for deep soil which in combination with street trees can provide dense canopy cover.
- A Sustainability Strategy has been provided as part of the planning proposal.

5) Landscape

Good design recognises that together landscape and buildings operate as an integrated and sustainable system, resulting in attractive developments with good amenity. A positive image and contextual fit of well designed developments is achieved by contributing to the landscape character of the streetscape and neighbourhood.

The Moore Point site has a total open space network which is 21% of the site area. The landscape approach was developed in tandem with Realm Landscape Architects who explored a range or water sensitive urban design elements. Other key landscape components include:

- Several spaces with different characters outlined in the structure plans (chapter 4).
- A contiguous connection of waterfront spaces wraps the precinct edge making an accessible recreational asset for residents as well as local biodiversity.
- Careful design of riparian interfaces can accommodate natural processes of flooding alongside boardwalks, sports facilities and leisure spaces.
- Water sensitive urban design elements such as rain gardens, swales, temporary ponds and dikes to control and harness rain and riverwater movement.
- New open spaces in addition to landscape setbacks allow for significant canopy to be established to reduce urban heat island affects associated with climate change and intensification of our urban environment.
- Landscaped areas within the streetscape (much of which is deep soil), and private spaces on podium and roof levels across each development site also create spaces for planting and mature trees to contribute to canopy cover and the amenity of both private and public spaces
- Improvement and embellishment of the landscape character and community facilities of existing surrounding open spaces including Haigh Park and Lake Moore Foreshore.

6) Amenity

Good design positively influences internal and external amenity for residents and neighbours. Achieving good amenity contributes to positive living environments and resident well being. Good amenity combines appropriate room dimensions and shapes, access to sunlight, natural ventilation, outlook, visual and acoustic privacy, storage, indoor and outdoor space, efficient layouts and service areas and ease of access for all age groups and degrees of mobility.

Moore Point has a range of approaches for good amenity for both public spaces and built form including:

- Groundplane streetwall-to-street ratio on primary north-south streets of 1:1.
- Street grid oriented to provide good solar access to north-south streets between 10 and midday.
- Arranging program and positioning residential landuses in places which receive good solar access.
- Block dimensions have been designed to accommodate efficient sleeved podia with with naturally ventilated carparks and efficient masses for flexible floorplate design to achieve ADG requirements such as solar access and cross ventilation.
- Unifying desired character with solar access throughout the day. Haigh Park receives exellent solar access in the morning through to the early afternoon while the Georges Riverfront Centre receives good solar access in the afternoon.

7.3 Appraisal

7) Safety

Good design optimises safety and security within the development and the public domain. It provides for quality public and private spaces that are clearly defined and fit for the intended purpose. Opportunities to maximise passive surveillance of public and communal areas promote safety. A positive relationship between public and private spaces is achieved through clearly defined secure access points and well lit and visible areas that are easily maintained and appropriate to the location and purpose.

Positive residential, retail and commercial frontages have been located to face public spaces and streets where possible to ensure good public surveillance of the public domain. Site specific strategies such as evening lighting, timed entry, clear viewlines and vehicular exposure should be explored in detailed design phase for each lot and public space.

8) Housing diversity and social interaction

Good design achieves a mix of apartment sizes, providing housing choice for different demographics, living needs and household budgets. Well designed apartment developments respond to social context by providing housing and facilities to suit the existing and future social mix. Good design involves practical and flexible features, including different types of communal spaces for a broad range of people and providing opportunities for social interaction among residents.

Social interaction refers to the opportunities provided for people to meet, interact, spend time formally or informally - all of these can be accommodated across the site, in addition to the provision of a school, public open space, community infra, and various retail spaces.

The Moore Point masterplan outlines the approach to the Apartment Design Guidelines in chapter 6. It is envisaged that each development would contain appropriate:

- communal spaces for residents with good amenity such as podia rooftops
- deep soil for mature landscape
- naturally ventilated circulation spaces with appropriate solar access where possible
- other requirements specified in the ADG

Envisioned residential typologies which could be integrated include:

- single aspect sleeved podia apartments
- integrated podia terraces (maisonettes)
- low and midrise single and double loaded residential flat buildings
- double and single loaded residential towers

9) Aesthetics

Good design achieves a built form that has good proportions and a balanced composition of elements, reflecting the internal layout and structure. Good design uses a variety of materials, colours and textures. The visual appearance of a well designed apartment development responds to the existing or future local context, particularly desirable elements and repetitions of the streetscape.

The Moore Point masterplan lays the foundation for this principle in the precinct plans chapter (5) which defines seven areas with different characters. It is envisaged that future studies would integrate this place-oriented approach to establish compositional approaches, material textural and colour palettes which are in a guideline such as a DCP.

SJB Urban

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We create spaces people love.
SJB is passionate about the possibilities of architecture, interiors, urban design and planning.

Let's collaborate.

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