

An architectural rendering of a modern, green urban development. The scene shows a wide, paved pedestrian walkway with a pattern of light and dark grey tiles. In the foreground, a man in a light blue shirt and khaki pants walks towards the left, while a woman in a hat and scarf walks towards the right. Further down the path, a man is walking a large, fluffy dog. The background features several multi-story buildings with balconies and lush greenery, including trees and plants. The sky is bright and clear.

Moore Point

Sustainability Statement
Planning Proposal

Final
May 2024

Sustainability Statement

Moore Point, Liverpool
Planning Proposal

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Mott MacDonald Australia Pty Ltd

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Acknowledgment of Country



We acknowledge the Darug and Tharawal Nations, the Traditional Custodians of the land on which Moore Point will be built. We pay our respects to First Nations Elders past, present and emerging.

Artist - Tom Avery

<https://kurranulla.org.au/artists/>

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Executive Summary

Purpose

This Sustainability Statement has been prepared by Mott MacDonald on behalf of Leamac Property Group and Coronation Property Co, referred to as the Joint Landowner Group (JLG), for Liverpool City Council (Council) in support of a Planning Proposal for land known as Moore Point, Liverpool (the site). This Sustainability Statement supersedes the Sustainability Statement submitted in April 2020, and responds to the Gateway Determination issued by the Department dated 3 April 2023.

This Sustainability Statement identifies and responds to relevant state and local government policy and statutory planning instruments in support of the Planning Proposal.

Vision

The proposal seeks to realise the vision for Moore Point.

Liverpool has the ambition to be the next Great River City of the world.

A City where the Georges River is its beating heart unifying both sides of the River into a pulsating waterfront experience.

The Moore Point vision will shape the City's eastern bank into an internationally renowned destination loved by locals and visitors alike. Reimagined Riverfront Parklands, River Pools, Creative Heritage Quarter and Marketplace inspire our people and residents to be the most productive, most happy and most healthy people on the planet.

About

Moore Point represents one of the largest privately-led urban regeneration projects in Australia. It will be a catalyst for Council and the NSW Government to realise its objectives for the Liverpool Collaboration Area and the Western Parkland City. When delivered, it will consolidate Liverpool's role as Sydney's third CBD, and provide a high-quality living and working environment for future generations.

Strategy

Moore Point will position itself as a catalyst for decarbonisation transformation, and the priorities and actions of the *Liverpool Place Strategy*, seeking to adopt and implement the following climate positive principles:

1. Build with lower upfront emissions
2. Deliver efficient buildings that reduce the stress on the transitioning grid
3. Create a walkable and livable precinct through good urban design that promotes active and low carbon transport options
4. Transition all stationary energy uses to fossil fuel-free operation as rapidly as possible
5. Deploy on-site generation technologies to supply a proportion of stationary energy uses
6. Integrate storage solutions and develop a demand response strategy to facilitate grid resilience
7. Utilise decarbonisation of the grid and electricity supply system
8. Implement nature-based solutions on-site to offset emissions

Net Zero

The JLG recognises the significant investment under way into decarbonisation of the electricity supply system and the part Moore Point must play in planning a transition to a net zero economy.

This transition planning acknowledges a shift away from fossil fuel use for on-site stationary energy applications. Where fossil fuel using equipment is installed, a Zero Carbon Action Plan will be developed that details the interventions and future ready requirements needed to electrify these systems when it reaches its end of life.

The intent is that by the completion of the Precinct build out, the Precinct will be operating fossil fuel-free and connected to a decarbonised electricity supply system.

Precinct Utilities

The transition to a net zero economy is rapidly gaining ground. Key policies and statutory planning requirements are already in place or emerging. A key principle being considered is the elimination of fossil fuel use and the electrification of all stationary energy uses, and the supply of all stationary energy uses with renewable electricity generated on- or off-site.

The Precinct utility solution is a fundamental infrastructure investment decision as it enables the Precinct's net zero transition.

Future Mobility

Moore Point will prepare for the future of mobility by taking a customer focused view of the transport ecosystem. The Precinct will start by creating a walkable and livable precinct through good urban design that promotes active and low carbon transport options. As personal transport technologies and choice expands, infrastructure will be put in place to service customer demands and needs.

By offering excellent shared mobility services (e.g. electric vehicles, bikes, cargo bikes, scooters, etc.), the need for private vehicle ownership is reduced, acting to minimise car parking and road infrastructure capacity requirements. This will realise savings in excavation and construction costs, and operational and embodied carbon. Car parking and basement access is also simplified.

Adaptive building design approaches will be prioritised to enable car parking conversion for alternative uses, including shared mobility services, in the future.

Water

Water strategies to maximise water resources and improved water management will be adopted to align with Council's LSPS - *Connected Liverpool 2040*, Planning Priority 15: Water-Sensitive City.

Rainwater harvesting and reuse systems will be implemented at an appropriate building scale and will be designed to serve a proportion of all non-potable water demands (i.e. dual plumbing serving landscape irrigation, toilet flushing, laundry facilities, washdown facilities, etc.).

A stormwater harvesting and reuse system will be implemented for private open space and will serve the landscape not serviced directly by buildings.

A water sensitive urban design (WSUD) and pollution control strategy will be applied for dedicated (or public) open space to facilitate stormwater discharge reductions and water quality outcomes.

Efficient fixtures and fittings will be provided through out the precinct.

The project will be exploring opportunities for black water recycling treatment.

Recycling

Waste collection systems can play a big role in shaping and maintaining smart and sustainable cities.

Provision of multiple waste streams for all assets assists in minimisation of waste going to landfill and promotion of circularity.

The following waste streams can be provided:

- Co-mingled recycling
- Container deposit scheme
- Organic Waste
- E-waste collection (nominated dates or locations)
- Batteries collection (nominated locations)
- General waste

The project is striving to minimise on site waste and promote circularity during construction. The precinct's target is for 90% of construction and demolition waste to be recycled and/or reused.

Organic waste will be distributed locally within community gardens for composting.

1 Introduction

1.1 Purpose

This Sustainability Statement has been prepared by Mott MacDonald on behalf of Leamac Property Group and Coronation Property Co, referred to as the JLG, for Council in support of a Planning Proposal for land known as Moore Point, Liverpool (the site). This Sustainability Statement supersedes the Sustainability Statement submitted in April 2020.

This Sustainability Statement identifies and responds to relevant state and local government policy and statutory planning instruments in support of the Planning Proposal (see Section 2). The Sustainability Statement demonstrates Moore Point's critical part in realising the *Liverpool Place Strategy*, and alignment with the vision set out in the Council's long-term *Community Strategic Plan (CSP) - Our Home, Liverpool 2027*, and *Local Strategic Planning Statement (LSPS) - Connected Liverpool 2040*.

Moore Point forms part of the Georges River North precinct, identified as a place within the context of the Liverpool Collaboration Area, as outlined in the *Liverpool Place Strategy* (see Figure 1-1).

1.2 Vision

The Planning Proposal seeks to realise the vision for Moore Point.

Liverpool has the ambition to be the next Great River City of the world.

A City where the Georges River is its beating heart unifying both sides of the River into a pulsating waterfront experience.

The Moore Point vision will shape the City's eastern bank into an internationally renowned destination loved by locals and visitors alike. Reimagined Riverfront Parklands, River Pools, Creative Heritage Quarter and Marketplace inspire our people and residents to be the most productive, most happy and most healthy people on the planet.



Figure 1-1 Liverpool Collaboration Area

1.3 About

Moore Point represents one of the largest privately-led urban regeneration projects in Australia. It will be a catalyst for Council and the NSW Government to realise its objectives for the Liverpool Collaboration Area and the Western Parkland City. When delivered, it will consolidate Liverpool's role as Sydney's third CBD, and provide a high-quality living and working environment for future generations.

Moore Point reflects a delivery of homes, jobs and infrastructure up to 2056, in a highly accessible location, with high urban amenity alongside the Georges River. As a result of its transformational influence on Liverpool and surrounds over a long period, it cannot be regarded as a standard rezoning. It warrants a bespoke approach within the bounds of the legislation to allow the site to proceed in an orderly manner.

1.4 Proposal

The Planning Proposal establishes the spatial parameters for realising the vision for Moore Point (see Figure 1-2). Subsequent development applications will enable the delivery of the following public benefits for Liverpool and Western Sydney:

- Adaptive re-use of existing heritage items
- Significant areas of the foreshore and site dedicated to public open space
- Rehabilitation, access and activation of the Georges River foreshore
- Retention of existing coastal wetland areas
- Contribution to a vast network of foreshore and through-site pedestrian and cycle paths
- Capacity for educational and cultural facilities
- Contributions to bridge crossings to Liverpool CBD, train station and Liverpool Innovation Precinct, delivered in conjunction with public authorities
- Transport, intersection and collector road improvements within the site and adjoining streets



★ The alignment of the northern pedestrian bridge over the Georges River is subject to further discussions with affected landowners.

Figure 1-2 Structure plan

1.5 Site

This proposal relates to the land owned and under control by Coronation Property Co and Leamac Property Group, as identified in Table 1-1.

Figure 1-3 illustrates land owned and under control of Coronation Property Co and Leamac Property Group. Other landholdings that are located outside of the control of Coronation Property Co and Leamac Property are also indicated.

The site is located immediately east of Liverpool CBD, on the opposite side of the Georges River and north of Newbridge Road. The combined JLG area is 31.4 hectares, with most lots developed with single storey industrial warehouses of various ages and associated site facilities.

Table 1-1 Land subject to this Concept DA

Address	Legal Description
Coronation Property Co	
361 Newbridge Road, Moorebank	Lot 101 DP 827141
6 Bridges Road, Moorebank	Lot 10 DP 875626
8 Bridges Road, Moorebank	Lot 111 DP 1133744
16 Bridges Road, Moorebank	Lot 1 DP 329572
11 Bridges Road, Moorebank	Lot 201 DP1009044
5 Bridges Road, Moorebank	Lot 100 DP 775780
Leamac Property Group	
3 Bridges Road, Moorebank	Lot 200 DP 1009044

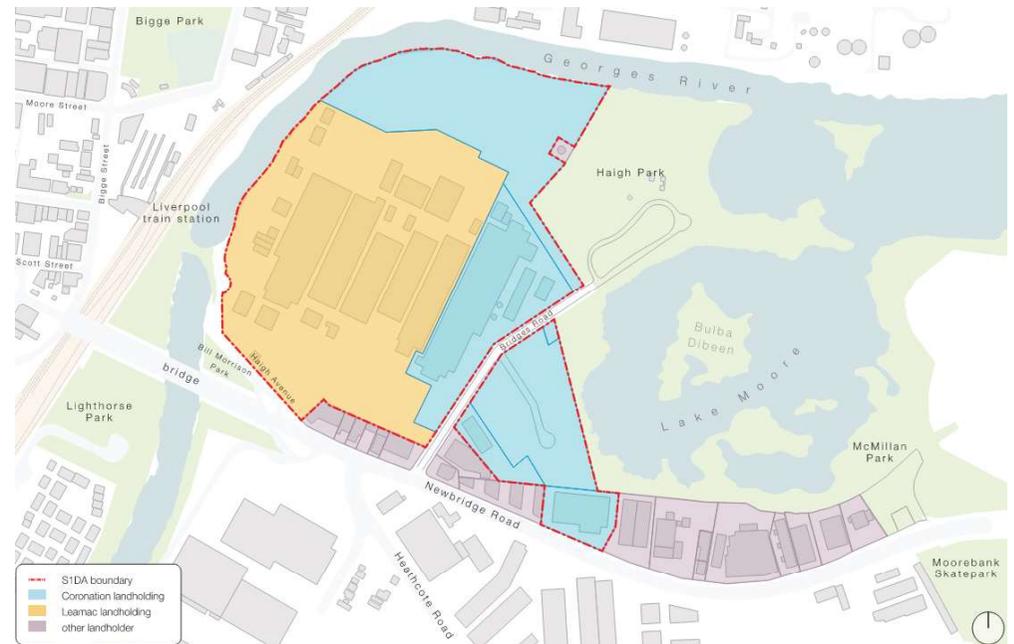


Figure 1-3 Landholder ownership plan

1.6 Collective Impact

Extensive collaboration has been undertaken in defining the sustainability solutions for the Precinct.

As part of its early exploratory research, the JLG consulted with Kinesis to identify the potential focus areas for any future sustainability initiatives at Moore Point that:

- Drives best practice sustainability outcomes to deliver state and local policy aspirations, including net zero emissions and circular economy principles
- Explores precinct-level utility infrastructure solutions that provisions scalable future ready outcomes for the Precinct
- Leverages the inherent performance benefits of large-scale precinct development with a coherent ownership structure

Four (4) solutions were identified that leverage the Precinct's unique characteristics:

1. Smart parking
2. Urban heat resilience
3. Net zero
4. Zero organic waste

Solution 1 | Smart parking

The staging and delivery of future mobility initiatives (see Section 7.3) supports the *Liverpool Place Strategy* priorities and actions. Precinct and decoupled parking solutions are defined to address the impact of parking on local amenity, housing affordability and development feasibility.

Solution 2 | Urban Heat Resilience

The Precinct must demonstrate an urban heat resilience response by creating high usability and functionality of public and communal open spaces. A site analysis is conducted to describe and define climate conditions that impact the urban design response (see Section 5). Increased tree canopy coverage and green street walls will act to reduce the urban heat island effect.

Solution 3 | Net Zero

The staging and delivery of net zero initiatives reflects the significant investment under way into decarbonisation of the electricity supply system and acknowledges a shift away from fossil fuel use for on-site stationary energy applications.

The intent is that by the completion of the Precinct build out, the Precinct will be operating fossil fuel-free (see Section 7.1).

Solution 4 | Zero Organic Waste

Innovative waste collection systems can play a big role in making recycling smart, sustainable and cost-efficient, and enabling a shift to a circular economy (see Section 7.5)

This Sustainability Statement builds on the initial Sustainability Statement by Integral (2020) lodged as part of the Planning Proposal, and further consultation with industry, to articulate a precinct-level response to the range of project drivers.

2 Drivers



Moore Point has a critical part to play in realising the *Liverpool Place Strategy*. Its designation as a high amenity mixed use precinct that complements the Liverpool CBD, and its intersection with the innovation/research/health/education/advanced manufacturing hub to the north of Georges River, places it at the heart of the *Liverpool Place Strategy* vision.

Moore Point connects the vibrant mixed use CBD with passive and active recreation opportunities offered by Georges River and Lake Moore. This acts to create a connected, walkable, pedestrian-centred, mixed use precinct with high-quality open space.

Moore Point must play its part to:

- Bring together the diverse stakeholders involved in Liverpool to set out a vision, priorities and actions that will improve quality of life
- Plan and build infrastructure that offers the quality environment that people deserve
- Put Georges River at the heart - set actions that make it easier to access the river, connect green links, add to street canopy and better manage water
- Develop economic assets and create jobs in health, education and diverse businesses close to where people live
- Embrace collaboration and prioritise investment

Table 2-1 Summary of relevant Liverpool Place Strategy priorities and actions

Theme	Priority	Action
Sustainability	8: Develop a network of high quality open space linked to the Greater Sydney Green Grid and invest in improvements to the Georges River and its foreshores	23: Prepare a floodplain risk management plan
		24: Complete a floodplain constraints categorisation and flood evacuation study
		25: Improve the quality, environmental amenity and useability of the riverbank; increase walking trails and open space; implement sustainable urban water management principles
		26: Develop a linear parkland and continuous network of public open spaces aligned with Green Grid priorities along the Georges River
	28: Implement Green Grid principles	
Sustainability	9: Create a resilient place	29: Increase green open space and tree canopy coverage in line with NSW Government targets to reduce heat island effect
		30: Prioritise low carbon initiatives, including adaptive building design; prioritise public transport investment; evaluate precinct-level car parking strategies; design energy efficient and energy generating precincts
		31: Develop a precinct-wide integrated water management strategy; integrate Sydney Water's water recycling facility
		32: Encourage precinct-level renewable energy systems
		33: Implement innovative initiatives to address the urban heat island effect
Governance	10: Establish precinct-level governance to deliver the vision	34: Establish enduring partnerships
Connectivity	1: Improve accessibility and walkability	2: Improve connectivity of pedestrian, cycle and public transport across the Georges River, and a better interface with the river and open space



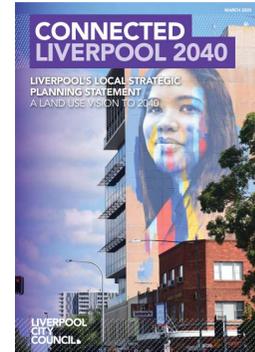
Council's long-term CSP 2022-2032 - defines the vision and priorities of the community, and is designed to improve life in Liverpool and the wellbeing of its residents.

The plan sets a vision to transform Liverpool into a vibrant global city of lifestyle and opportunity, underpinning the quadruple bottom line of the CSP - Social, Environmental, Economic and Civic Leadership.

Priorities have been identified through community consultation and include:

- Celebrate diversity, promote inclusion and recognise heritage
- Create a dynamic, inclusive environment that supports healthy living

- Encourage sustainability, energy efficiency and the use of renewable energy
- Protect and enhance biodiversity and waterway ecology
- Create high-quality urban environments
- Attract businesses for economic growth and employment opportunities
- Develop transport networks to create an accessible city
- Seek innovative methods to manage resources



Council's LSPS - *Connected Liverpool 2040* - represents a shared vision that informs the future land use planning for Liverpool. The LSPS is a strategic roadmap for the future and expands on the four directions set out in the CSP.

The LSPS sets out a range of planning priorities:

- Establish active and public transport connectivity that reflects Liverpool's strategic significance
- Deliver high-quality open space and infrastructure aligned with growth
- Develop safe, healthy and inclusive places
- Deliver a green, sustainable, resilient and water-sensitive city



NSW Government has set objectives to achieve net zero emissions by 2050 and reduce emissions by 50% below 2005 levels by 2030. The Net Zero Plan sets out priorities to:

- Drive the uptake of proven emissions reduction technologies to reduce the cost of living
- Empower consumers and businesses to make sustainable choices
- Invest in the next wave of emissions reduction innovation to ensure economic prosperity is linked to decarbonisation

3 Governance

Regenerating places, growing employment opportunities, creating communities and decarbonising precincts requires a diverse set of project stakeholders throughout the project life cycle.

It needs policy makers and strategic planners, infrastructure agencies and utility providers.

It also needs land developers and local government, urban designers, master plan and landscape architects, engineers, etc.

It certainly needs the Precinct community.

The project stakeholders involved along this value chain are critical to delivering a successful precinct. Together, a shared vision can be articulated and a strategy defined (see Figure 3-1).

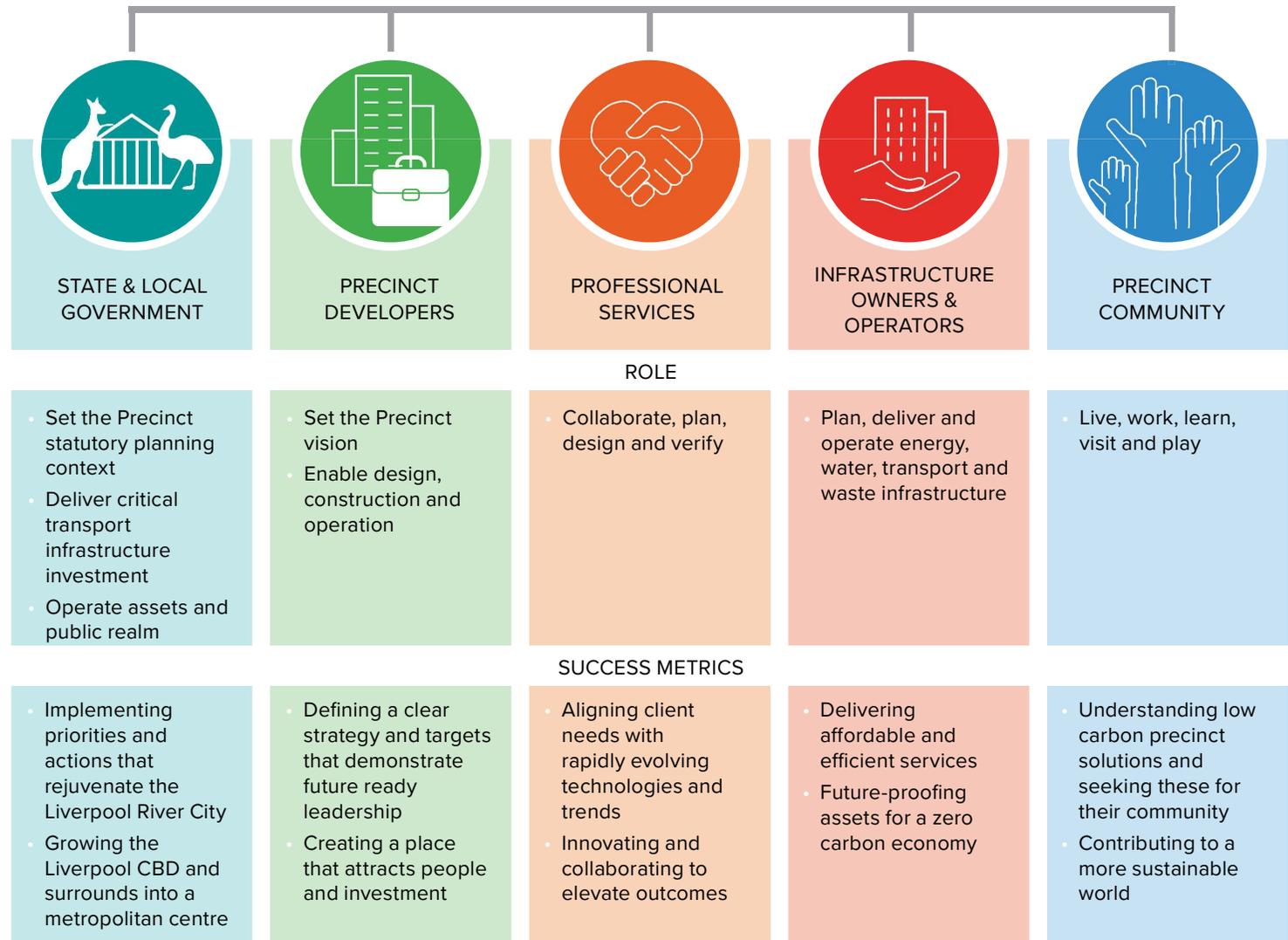


Figure 3-1 Project stakeholders, their roles and success metrics

Moore Point represents a unique opportunity to develop a livable, productive and sustainable extension to the Liverpool CBD.

Whilst there is broad support for the Precinct, the complex nature of this type of development, the extensive range of project stakeholders, and interface requirements across local and state government departments and agencies, and authorities, pose a risk to delivering a shared vision for the Precinct.

The working groups and related project stakeholders presented in Figure 3-2 have been established to progress and collaboratively define a shared vision for the Precinct.

Coronation Property Co and Leamac Property Group, as the JLG and a cross-working group stakeholder, has an inherent understanding of the expectations and requirements of the project stakeholders. This Sustainability Statement leverages this understanding to progress robust and feasible precinct-level responses to drive in-principle buy-in of key concepts.

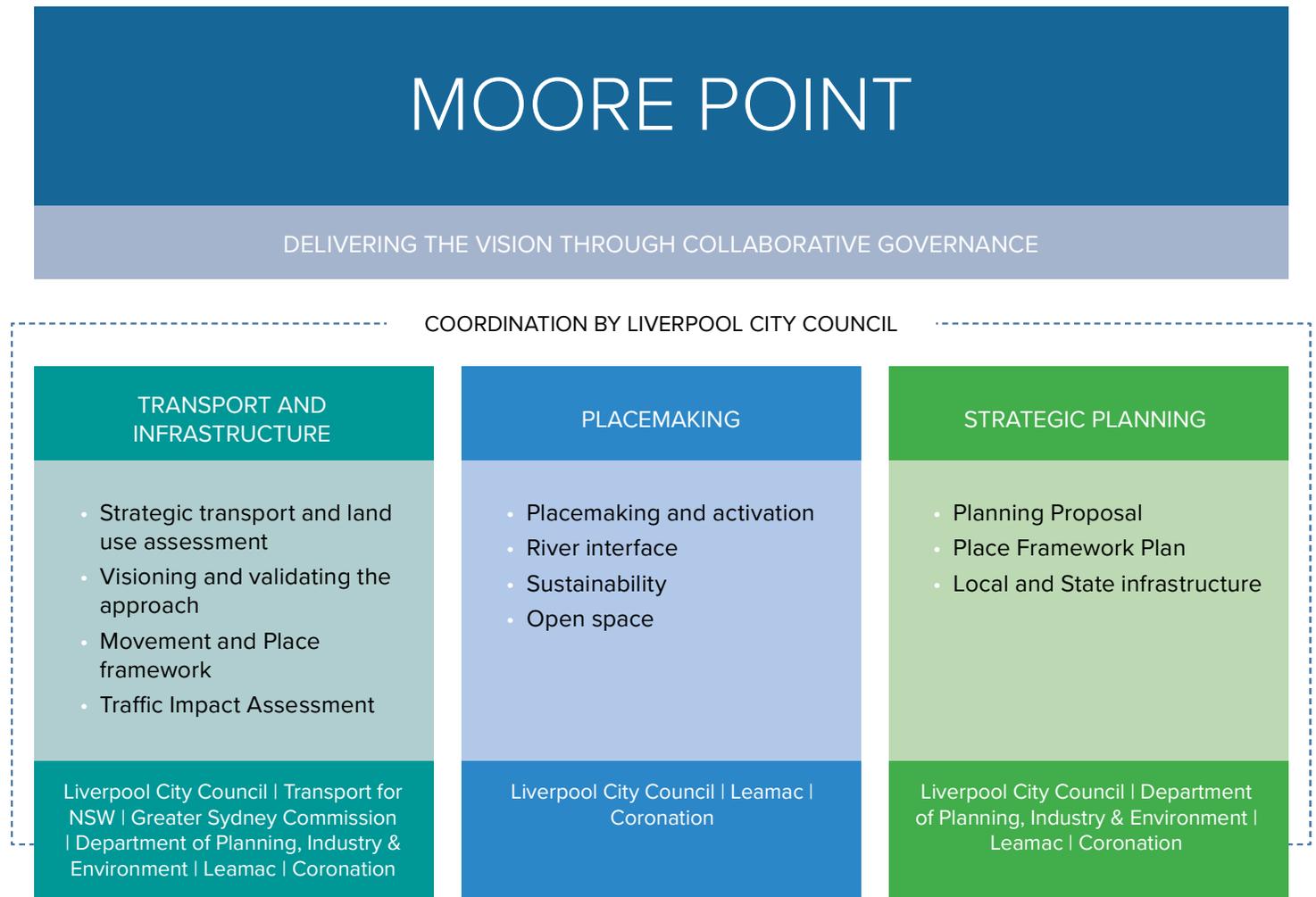


Figure 3-2 Moore Point governance structure - working groups and related project stakeholders, reflects organisations and names in place at the time of working groups establishment

4 Strategy

4.1 Climate Positive

Moore Point will position itself as a catalyst for decarbonisation transformation, and the priorities and actions of the *Liverpool Place Strategy*, seeking to adopt and implement the following climate positive principles:

1. Build with lower upfront emissions
2. Deliver efficient buildings that reduce the stress on the transitioning grid
3. Create a walkable and livable precinct through good urban design that promotes active and low carbon transport options
4. Transition all stationary energy uses to fossil fuel-free operation as rapidly as possible
5. Deploy on-site generation technologies to supply a proportion of stationary energy uses
6. Integrate storage solutions and develop a demand response strategy to facilitate grid resilience
7. Take advantage of a decarbonising electricity supply system
8. Implement nature-based solutions on-site to offset emissions

This Sustainability Statement outlines a range of initiatives and strategies for implementation, which form a comprehensive precinct response to the drivers identified in Section 2.

1. Climate analysis (Section 5) - deliver high quality public and community open space outcomes
2. Net zero (Section 7.1) - operate fossil fuel-free and connect to a decarbonised electricity supply system
3. Precinct utilities (Section 7.2) - electrify all stationary energy uses to enable the Precinct's net zero transition
4. Future mobility (Section 7.3) - implement transport planning and services to reflect the needs of precinct occupants and users today and tomorrow
5. Water (Section 7.4) - maximise water resources and improve water management
6. Waste (Section 7.5) - make recycling smart, sustainable and cost-efficient, and enable a circular economy

4.2 Rating Strategy

The JLG is assessing a range of sustainability rating tools that respond effectively to the scale, staging and complex landownership structure of Moore Point.

Table 4-1 summarises the key application considerations for the Precinct.

The climate positive precinct response presented in this Sustainability Statement is conceptual and subject to business case evaluation and precinct staging. They are intended to outline a possible future ready response to the priorities and actions set out in the *Liverpool Place Strategy*.

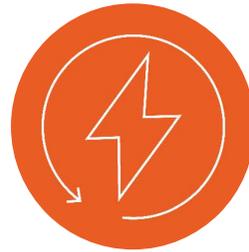
Table 4-1 Summary of key sustainability rating tool application considerations

Tool	Application
Green Star Communities, Green Building Council of Australia (GBCA) (Section 6)	The Green Star Communities tool is expected to be released in the middle of 2024. The climate positive principles proposed generally align with the <i>Climate Positive Roadmap for Precincts</i> . The tool requires projects to maintain a valid rating through to final build out. Initial certification of the Precinct is achievable under the project's governance structure. However, recertification would require complex interface management between the Precinct developers to maintain a valid rating until full Precinct built out.
Green Star Buildings, GBCA	Green Star Buildings tool is now applicable at a superlot and/or sub-precinct level. It is better aligned to the staging and landownership structure of the Precinct. The tool brings a wider sustainability lens on place, people, nature and responsible procurement. However, the Precinct developers would seek to evaluate the tool's ability to enhance urban design outcomes and confirm any impact to housing affordability prior to committing to certification.
International rating tools	International rating tools and protocols are also being considered, including the EcoDistricts Protocol. Its strong governance lens empowers communities to co-create a roadmap for development and measure performance over time.



BUILT WITH LOWER UPFRONT EMISSIONS

- Build using materials with lower upfront carbon
- Reduce emissions during construction



HIGHLY EFFICIENT

- Deliver energy efficient buildings and infrastructure
- Drive grid resilience
- Deploy on-site active generation systems



WALKABLE & LIVABLE

- Reduce transport emissions through good urban design
- Promote active transport and low carbon options

REDUCE



FOSSIL FUEL-FREE

- Transition all stationary energy uses to fossil fuel-free operation as rapidly as possible



POWERED BY RENEWABLES

- Take advantage of a decarbonising electricity supply system to supply all stationary energy uses with renewable energy

ELIMINATE



OFFSET WITH NATURE

- Implement nature-based solutions on-site to offset emissions

NEUTRALISE

5 Climate Analysis

5.1 Site

Resiliency is fundamental to decision making. Development must take account of science-based climate modelling to ensure investment in social and community infrastructure is secure and assets can serve the community long into the future.

To affect sound decision making, RCP (Representative Concentration Pathway) 8.5 (high emissions scenario) climate modelling, in line with the NARcliM (NSW and ACT Regional Climate Modelling) Project, has been considered to account for future climate scenarios. A 2090 timeline horizon (far future) has been selected based on the ultimate Precinct build out program of 2056 and building design life of 40 years.

The following changes in the climate of Metropolitan Sydney area are expected.

Rainfall

Rainfall is projected to increase in summer and autumn.

Bushfire

Severe fire weather days are projected to increase in summer and spring.

Temperature

Figures 5-1 and 5-2 illustrate the projected increase in ambient dry bulb temperature.

Maximum temperatures are projected to increase by 1.9 °C and minimum temperatures are projected to increase by 2.0 °C. The number of cold nights will decrease.

The number of hot days (above 35 °C) is projected to increase up to an additional 10 - 20 days per year. These increases in hot days are projected to occur mainly in spring and summer, extending into autumn.

Cloud Cover

Figure 5-3 visualises cloud cover over a year. Light blue represents clear sky; dark grey represents overcast sky.

Consistent clear sky conditions are observed during afternoons throughout the year. Tree canopy street positioning and species selection should seek to shelter the public open spaces from afternoon sun to create a thermally and visually comfortable outdoor environment.

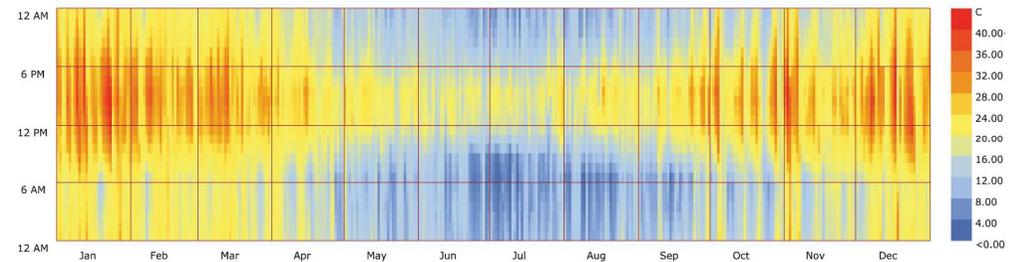


Figure 5-1 Annual hourly ambient dry bulb temperature - current

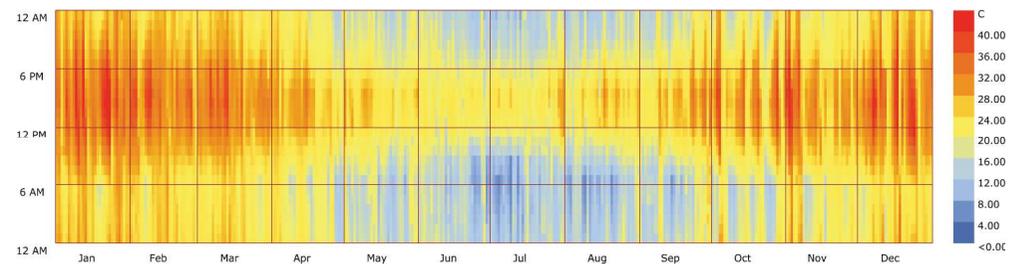


Figure 5-2 Annual hourly ambient dry bulb temperature - 2090

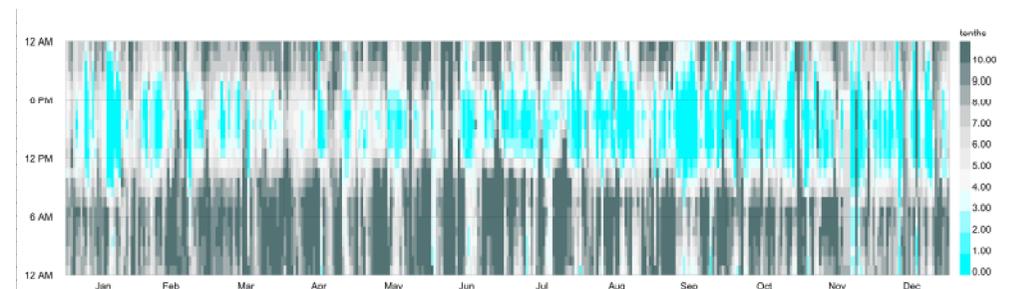


Figure 5-3 Annual hourly cloud cover

6 Principles

Green Star Communities

Moore Point will be striving to deliver sustainability principles established in the Green Star Communities v2 certification.

Green Star Communities is a sustainability framework developed by Green Building Council of Australia. V2 is released on 2024 and supersedes original version of the certification, to align with the modern trends and opportunities on a precinct scale.

The themes included in the framework are:

- Responsible
- Healthy
- Resilient
- Positive
- Places
- People
- Nature
- Leadership

The principles guide the development of the precinct to be healthy, resilient and positive, while creating thriving places for people.



Responsible

Ensures the precinct is planned, designed, and constructed to a high standard, with appropriate collaboration and targets.



Healthy

Promotes actions and solutions that improve the physical and mental health of occupants.



Resilient

Advances solutions and programs that improve the community's capacity to mitigate and respond to shocks and stresses.



Positive

Makes a positive contribution by focusing on key environmental issues of carbon and impacts of materials.



Places

Supports the creation of accessible, connected, safe, and enjoyable places that incorporate indigenous design elements.



People

Ensures a broad range of groups are included in the design and delivery of the precinct, and it is welcoming and supporting of all members of the community.



Nature

Minimises impacts on existing nature and enhances opportunities to deliver new natural corridors, canopy and green spaces for positive biodiversity and wildlife outcomes.



Leadership

Recognises projects that set a strategic direction, build a vision for industry or enhance the industry's capacity to innovate.

Figure 6-1

Green Star Communities v2 themes

7 Implementation

7.1 Net Zero

Moore Point is programmed for full build out by 2056. This development horizon dictates progressive sustainability objectives that reflect the challenges posed by climate change and the world's transition to a net zero economy.

NSW Government has set objectives to achieve net zero emissions by 2050 and reduce emissions by 50% below 2005 levels by 2030. This is supported by the modernisation and decarbonisation of the electricity supply system by 2030.

The built environment's net zero emissions transformation will be accelerated under the NSW Government's Net Zero Buildings initiative that will leverage NABERS (embodied and operational carbon emissions), green finance mechanisms and BASIX enhancements.

These emerging mechanisms and planning policies have given rise to some uncertainty in their impact on housing affordability and development costs.

The project team recognises the significant investment under way into decarbonisation of the electricity supply system and the part Moore Point must play in planning a transition to a net

zero economy.

This transition planning acknowledges a shift away from fossil fuel use for on-site stationary energy applications. Where fossil fuel using equipment is installed, a Zero Carbon Action Plan will be developed that details the interventions and future ready requirements needed to electrify these system when it reaches its end of life.

The intent is that by the completion of the Precinct build out, the Precinct will be operating fossil fuel-free and connected to a decarbonised electricity supply system.

The precinct will utilise smart BMS, efficient LED lighting through out, sensors and control systems.

On a building level, the project will support Net Zero targets through selection of efficient vertical transportation and regenerative lift drive modules with up to 30% energy saving.

Waterplay will utilise efficient electric heat pumps and pool covers.

7.2 Precinct Utilities

The transition to a net zero economy is rapidly gaining ground. Key policies and statutory planning requirements are already in place or emerging. A key principle being considered is the elimination of fossil fuel use and the electrification of all stationary energy uses, and the supply of all stationary energy uses with renewable electricity generated on- or off-site.

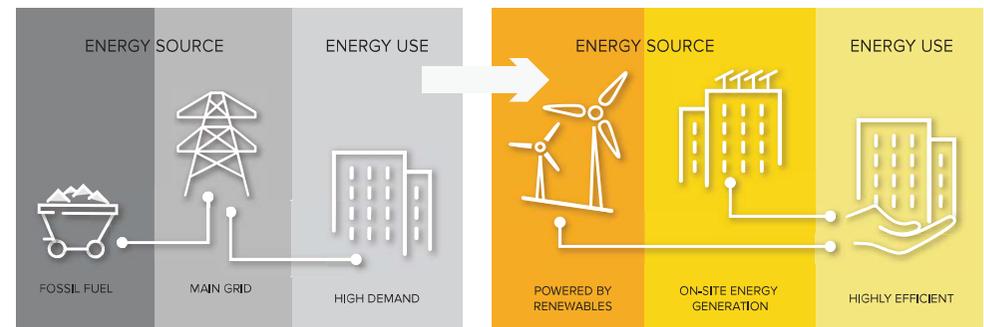
An embedded network is being investigated to support this key principle. It facilitates an effective and commercial response to precinct-level electrification.

An embedded network also facilitates the optimisation of the HV incoming electrical feeder configuration, i.e. better matches feeder capacity to electrical load.

Benefits of an embedded network include the ready integration of embedded generation and energy storage technologies, including electric vehicle bi-directional capabilities (also called V2G - vehicle-to-grid).

The Precinct utility solution is a fundamental infrastructure investment decision as it enables the Precinct's net zero transition.

Supported by strong investment interest, it offers Moore Point a seamless, low capital mechanism to drive high efficiency and net zero outcomes that do not impact housing affordability. It will empower consumers and businesses to make sustainable choices, and reduce the cost of living.



7.3 Future Mobility

A staged transition to transport planning and services delivery is necessary to reflect the needs of precinct occupants and users today and tomorrow. It must also factor in access to public transport and the quality of active mobility options. The site is well connected to public transport network, including bus routes and train stations within 500m walking distance (Liverpool train and bus station, New Bridge road, Liverpool street / Liverpool Hospital, Moore street/TAFE bus stops).

Moore Point will prepare for the future of mobility by taking a customer focused view of the transport ecosystem. The Precinct will start by creating a walkable and liveable precinct through good urban design that promotes active and low carbon transport options. As personal transport technologies and

choice expands, infrastructure will be put in place to service customer demands and needs.

By offering excellent shared mobility services (e.g. electric vehicles, bikes, cargo bikes, scooters, etc.), the need for private vehicle ownership is reduced, acting to minimise car parking and road infrastructure capacity requirements. This will realise savings in excavation and construction costs, and operational and embodied carbon. Car parking and basement access is also simplified.

Concentrating daily community and transport functions within centralised mobility hubs (see Figure 7-1) promotes the use of shared mobility services, delivers improved community health outcomes, drives economic activity and strengthens social security.

Electric vehicles also present a demand response and management opportunity that reinforces grid resilience. Through smart bi-directional charging and discharging of the electric vehicle batteries, energy storage benefits can be realised without the capital outlay.

These benefits include reduced cost of living outcomes for precinct occupants and users.

Adaptive building design approaches will be prioritised to enable car parking conversion for alternative uses, including shared mobility services, in the future.

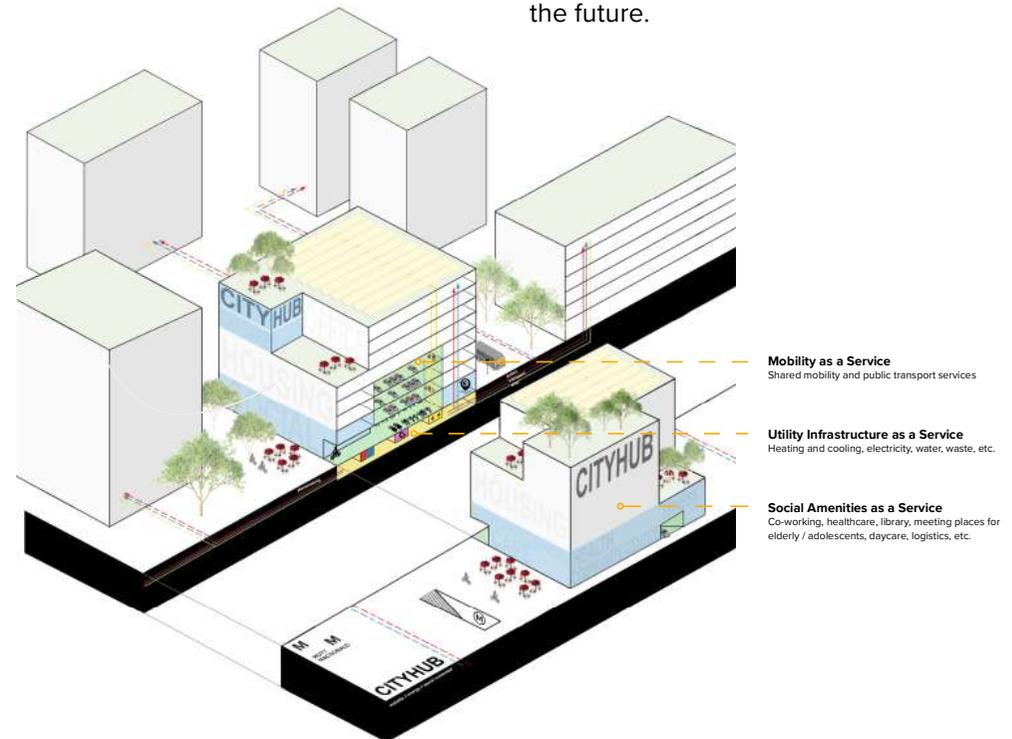
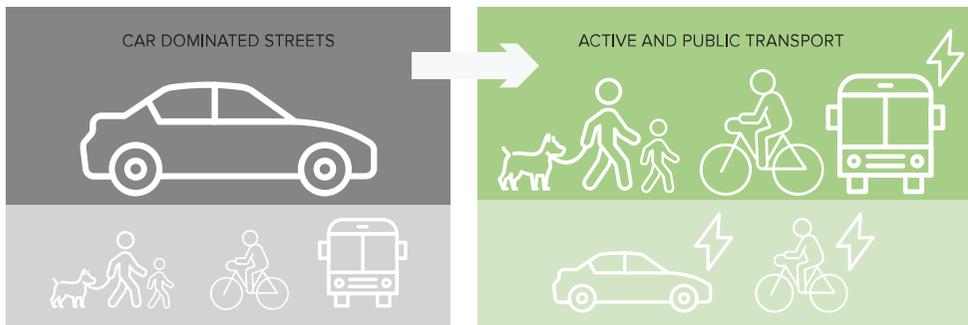


Figure 7-1 Mobility hub concept

7.4 Water

Water strategies to maximise water resources and improved water management will be adopted to align with Council's LSPS - *Connected Liverpool 2040*, Planning Priority 15: Water-Sensitive City.

Buildings

Rainwater harvesting and reuse systems will be implemented at an appropriate building scale and will be designed to serve a proportion of all non-potable water demands (i.e. dual plumbing serving landscape irrigation, toilet flushing, laundry facilities, washdown facilities, etc.).

The selected fixtures and fittings, including taps, toilets and urinals, shower heads, dishwasher and washing machine would be in line with the best Australian practice and achieve appropriate WELS rating.

Open Space

A stormwater harvesting and reuse system will be implemented for private open space and will serve the landscape not serviced directly by buildings.

A water sensitive urban design (WSUD) and pollution control strategy will be applied for dedicated (or public) open space to facilitate stormwater discharge reductions and water quality outcomes.

The project will minimise stormwater runoff and promote bio retention through WSUD for road and foot paths.

The project is investigating wastewater recycling plant to promote circularity and reduce potable water demand.

7.5 Waste

Waste collection systems can play a big role in shaping and maintaining smart and sustainable cities.

Provision of multiple waste streams for all assets assists in minimisation of waste going to landfill and promotion of circularity.

The following waste streams can be provided:

- Co-mingled recycling
- Container deposit scheme
- Organic Waste
- E-waste collection (nominated dates or locations)
- Batteries collection (nominated locations)
- General waste

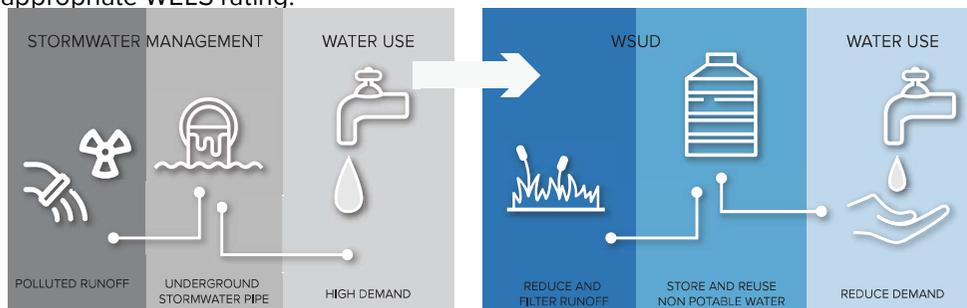
The project is striving to minimise on site waste and promote circularity during construction. The precinct's target is for 90% of construction and demolition waste to be recycled and/or reused.

Organic waste will be distributed locally within community gardens for composting.

7.6 Summary

Figure 7-2 summaries opportunities and priorities for the Precinct. This statement builds on the previous statement and consultation around the opportunities to integrate sustainability initiatives at Moore Point. A range of initiatives and strategies are outlined for further consideration and represent a comprehensive precinct response to the drivers identified in Section 2.

1. Climate analysis
2. Net zero
3. Precinct utilities
4. Future mobility
5. Water
6. Waste



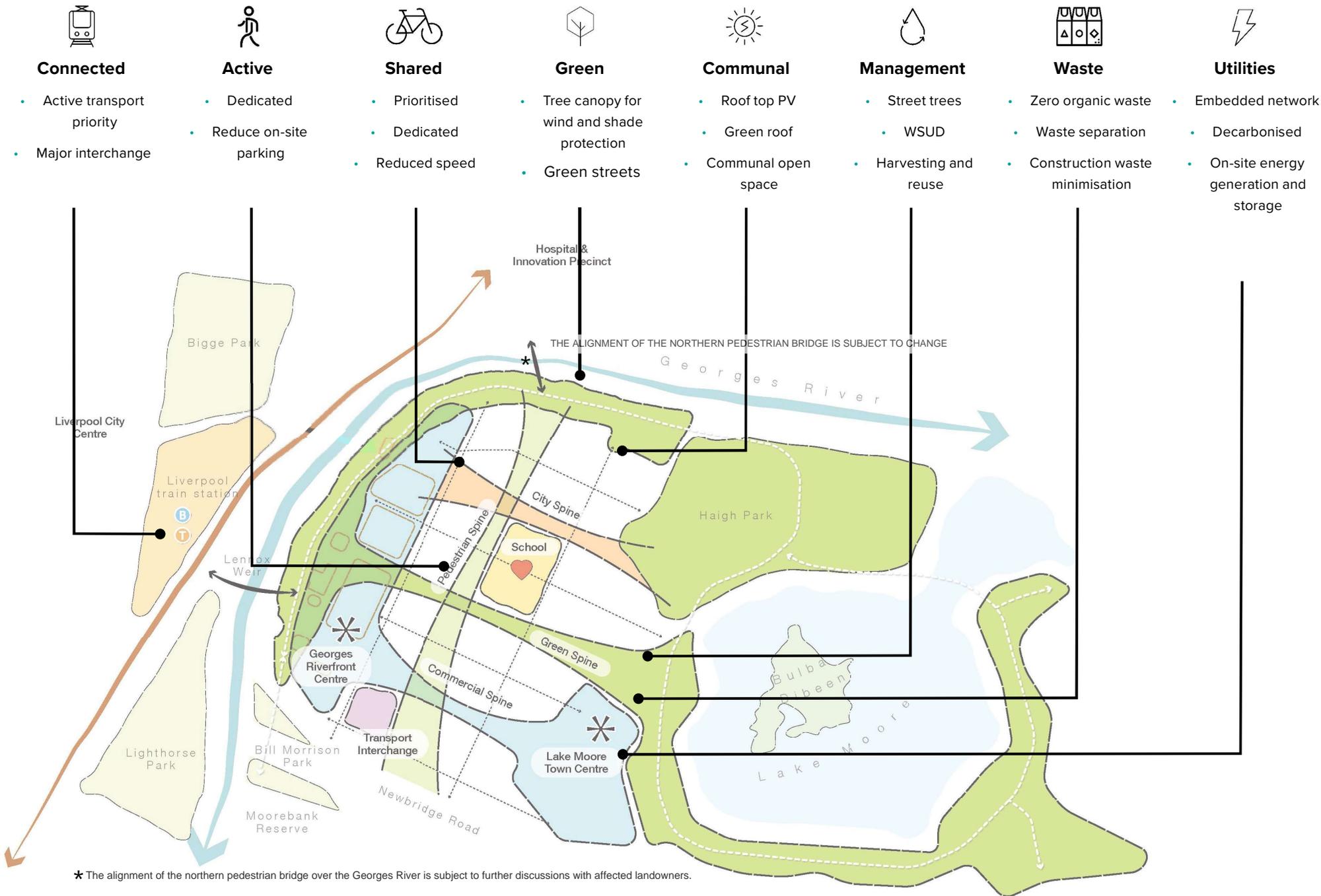


Figure 7-2 Sustainability initiatives and strategies for further consideration

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