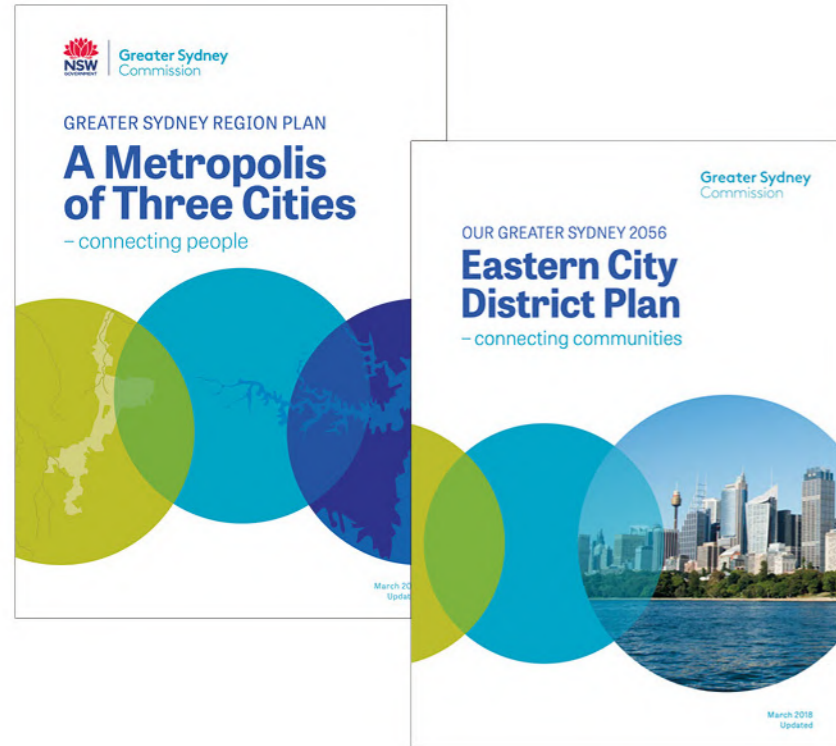


# 3. Planning Framework



## 3.1 A Metropolis of Three Cities; Eastern City District Plan & Green Grid

The Sydney Green Grid is an integral part of the Greater Sydney Regional and District Plans. Green space is a key liveability factor in urban areas that is made up of a network of green space that connects town centres, public transport hubs and major residential areas. The Green Grid is the State Government’s green infrastructure policy that promotes sustainable development while maximising quality of life and well-being. Specifically the Green Grid promotes the linkages between open space within the wider public realm through enhancing creek corridors, transport routes, suburban streets, footpaths and cycleways.

The Sydney Green Grid document identifies 4 major zones in the Bayside Local Government Area.

Riverine Park is within the group identified as CD.1.12 Rockdale Wetlands with the dominant grid layer identified as “ecological”. This group of projects have a very high conservation value extending from the Cooks to the Georges River along Muddy Creek, through Eve Street Wetlands, Spring Creek Wetlands, Landing Light Wetland, Patmore Swamp, Scarborough Park Ponds and through to Sans Souci. Opportunities include wetland restoration, education, interpretation and an improved pedestrian and cyclist environment.

It is also described as a very important recreational corridor with a significant amount of active sports grounds and facilities, cycle and walking trails.

The Green Grid framework aims to protect and enhance this important hydrological and ecological asset and create a connected open space corridor for walking, cycling and urban greening along the M6 corridor from the airport to the Sans Souci and beyond the LGA to Sutherland.

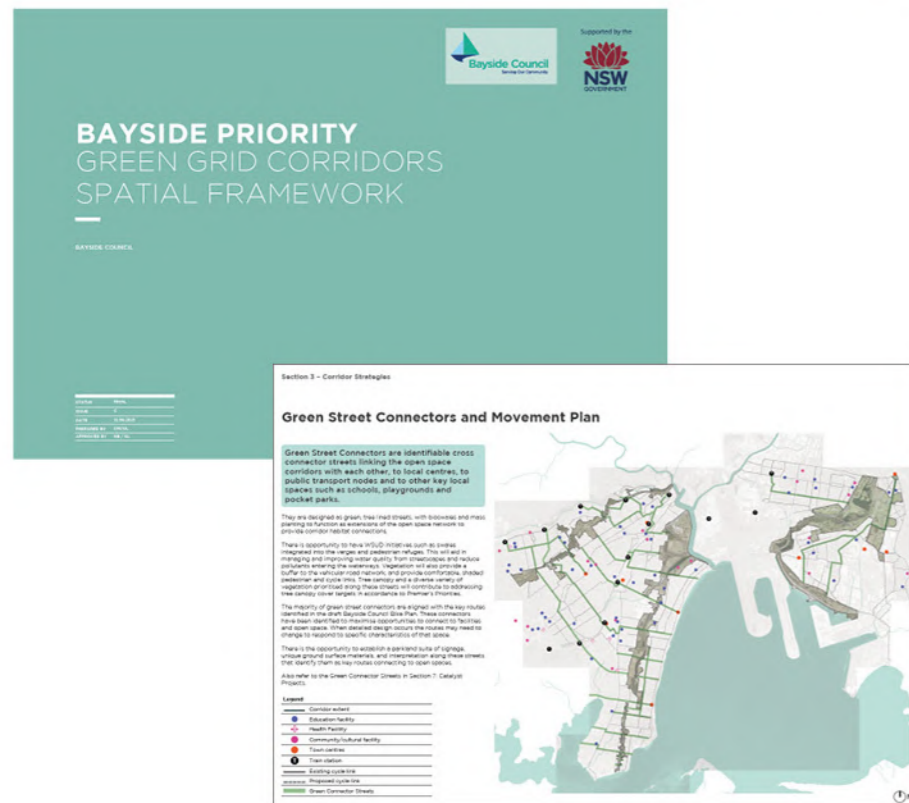


Figure 40 - A Metropolis of Three Cities; Eastern City District Plan & Green Grid

### 3.2 State Environmental Planning Policy (Precincts—Eastern Harbour City) 2021

Riverine Park is within State Environmental Planning Policy (Precincts—Eastern Harbour City) 2021, previously called Sydney Regional Environmental Plan No. 33 (Cooks Cove) (the SREP 33) and is zoned as 'Open Space' & 'Special Use' under that instrument.

Objectives and principles have been set out for Cooks Cove precinct in the SEPP.

Including :

- (a) to establish planning principles for the development of land that promote the ecologically sustainable use of the Cooks Cove site, and
- (b) to rezone land at Cooks Cove to encourage trade and technology uses, and to attract global-reach businesses which strengthen Sydney's international competitiveness, and
- (c) to capitalise on the physical proximity of the Cooks Cove site to Sydney International Airport and Port Botany to create trade-focussed development, and
- (d) to facilitate master planning strategies that will promote the orderly development of public open space and trade and technology land uses, and
- (e) to identify appropriate development form and capacity for the Cooks Cove site, and
- (f) to provide open space for a range of recreational uses, and
- (g) to provide for good public access through the Cooks Cove site and along the Cooks River foreshores, and
- (h) to enhance the Botany Bay to Homebush Bay regional cycleway and pedestrian/cycle network, and
- (i) to protect environmentally significant wetlands and the habitat of the endangered Green and Golden Bell Frog, and
- (j) to establish vegetated riparian areas along the Cooks River and Muddy Creek foreshores, and
- (k) to provide vegetated riparian buffers around the Marsh Street, Eve Street, Spring Creek and Landing Lights wetlands.

The objectives for the Open Space Zone include:

- (a) to provide for active sporting and recreational land uses and club facilities, and
- (b) to provide public access along the Cooks River and Muddy Creek foreshores, and
- (c) to protect significant wetland areas within the Cooks Cove site and along the Cooks River foreshores, and
- (d) to provide for facilities that are ancillary to the recreational use of public open space, and
- (e) to provide vegetated riparian areas to enhance biological connectivity along the Cooks River and Muddy Creek foreshores,
- (f) to protect and enhance the habitat of the Green and Golden Bell Frog established within Cooks Cove.

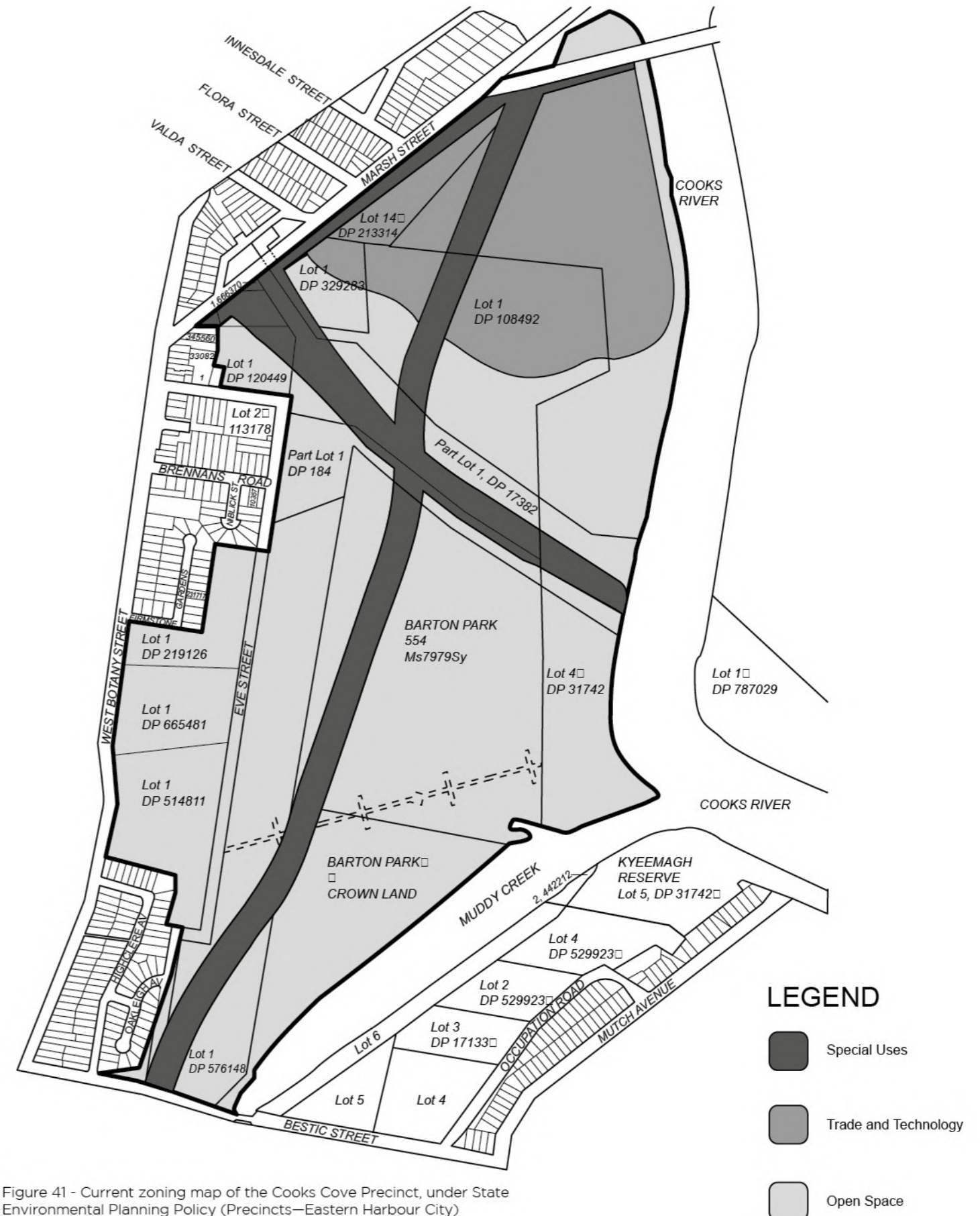


Figure 41 - Current zoning map of the Cooks Cove Precinct, under State Environmental Planning Policy (Precincts—Eastern Harbour City)

### 3.3 Coastal Management Act 2016 No 20

#### State Environmental Planning Policy (Resilience and Hazards) 2021

The NSW Government established a new integrated coastal management framework in 2018 designed to better equip coastal communities to respond to existing and future coastal management challenges and opportunities.

The framework now comprises the following:

- Coastal Management Act 2016;
- State Environmental Planning Policy (Resilience and Hazards) 2021 – Chapter 2;
- NSW Coastal Management Manual;
- Coastal Management Programs;
- NSW Coastal Council; and
- Coastal and Estuary Grants Program.

Under the Coastal Management Act (CM Act) the Coastal Zone includes the open coast, estuaries, coastal rivers and the marine estate and is comprised of four Coastal Management Areas:

1. Coastal Wetlands and Littoral Rainforest Area .
2. Coastal Vulnerability Area.
3. Coastal Environment Area.
4. Coastal Use Area.
- 5.

Local councils have a central role in managing the coast and are required to manage maintenance, works and planning strategic directions in accordance with relevant state legislation, policies and plans, including the CM Act 2016 and Chapter 2 of the Resilience and Hazards SEPP.

A certified Coastal Management Program (CMP) and the Coastal Management Manual applies to all public authorities that exercise functions in connection with the coastal zone (e.g. Sydney Water, NSW Ports).

#### Coastal Management Program

Councils are the organisations responsible for preparing Coastal Management Programs (CMPs) for management of the coastal zone in their LGA.

The purpose of a CMP is to set the long-term strategy for the coordinated management of land within the coastal zone with a focus on achieving the objectives of the Coastal Management Act 2016. A CMP identifies coastal management issues in the scope area, the actions required to address these issues, how and when those actions will be implemented, and identifies the costs of the actions and viable funding mechanisms for delivery. These can include cost-sharing arrangements and grants.

The Coastal Management Manual 2018 outlines mandatory and non-mandatory requirements for a CMP. A CMP is prepared and implemented in five (5) stages as shown in Figure 2.

Once adopted by Council and certified by the Minister, Council can implement the actions in a CMP through its strategic management systems and land-use planning instruments.

The Department of Planning, Housing and Infrastructure (DPHI) help councils preparing a CMP with data and technical advice, provides oversight of the State’s coastal management program, and administers the Coastal and Estuary Grants Program that provides funding for councils to prepare and implement their CMPs.

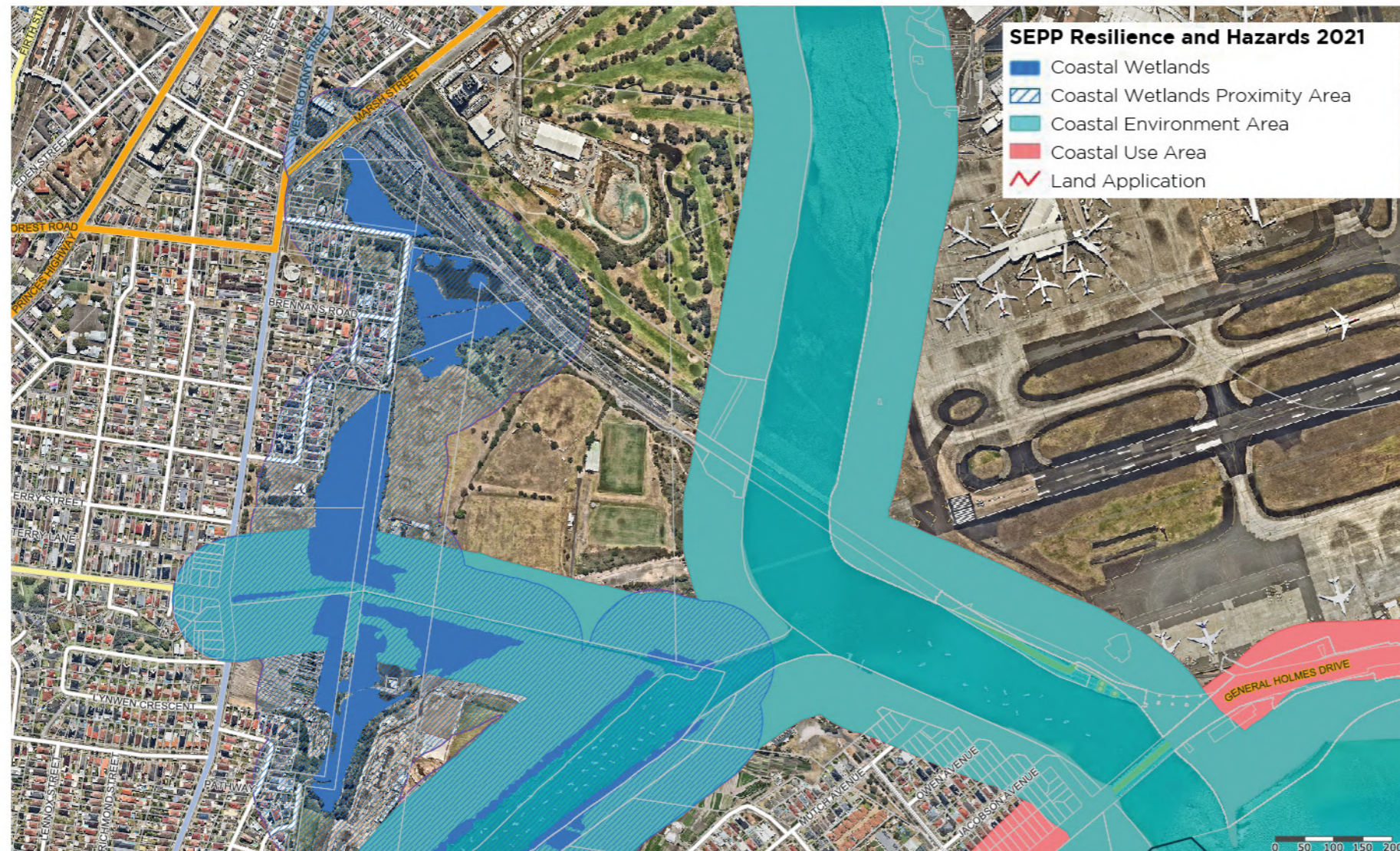
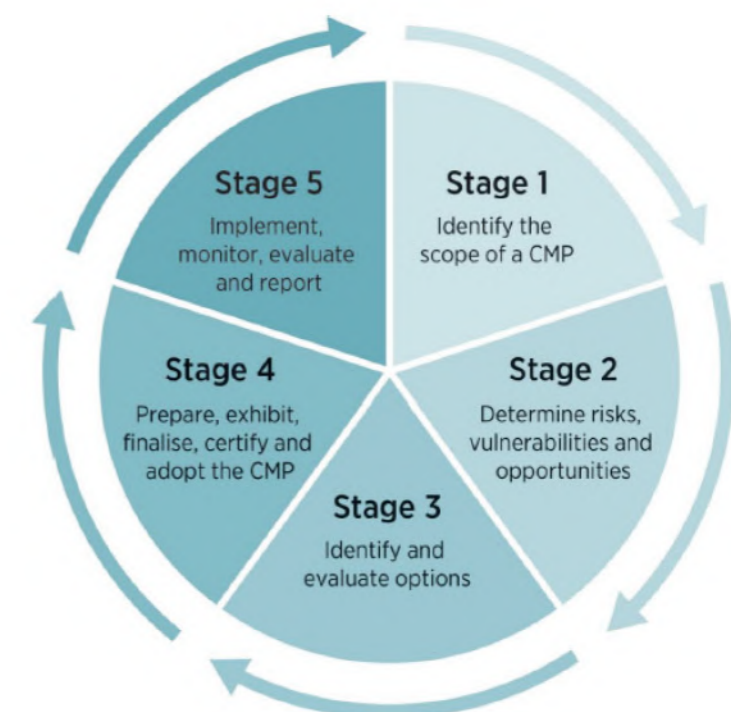


Figure 42 - State Environmental Planning Policy (Resilience and Hazards) 2021



## Cooks River Catchment Coastal Management Program

The Coastal Management Program (CMP) applicable to this site is the Cooks River Catchment Coastal Management Program. This is a catchment based CMP as catchment activities are considered to have a direct impact on parameters in the coastal zone, such as water quality and hydrology. The involvement of Bayside Council in this program has been supported by Council via the regional organisation, the Cooks River Alliance.

The Cooks River Catchment CMP covers the Cooks River and its catchment as well as the northern coastal area and catchment of Botany Bay within the Bayside LGA including Port Botany, Foreshore Beach and the Botany Freshwater Wetlands (Mapped as a Coastal Wetland Management Area – see Figure 3). It is managed by the Cooks River Alliance (CRA)

Stage 1 of the CMP process outlined in Figure 2 has been

completed with production of the Cooks River Catchment CMP Scoping Study – Stage 1 Scoping Study in January 2020. A scoping study:

- establishes the purpose, vision and objectives;
- determines the key coastal management issues and the spatial extent of the management areas;
- reviews current coastal management arrangements;
- determines where action is required via a first pass risk assessment;
- identifies knowledge gaps and information needs;
- includes a preliminary business case; and
- develops a forward program for subsequent stages of the CMP.

This CMP is now completing Stage 2 – Determine risks, vulnerabilities and opportunities, and is preparing to commence Stages 3 and 4.

Council is required to adopt a CMP before it can be submitted to the Minister for certification. Once it has been submitted Council can apply for implementation grants for the actions identified in a CMP. If a grant application is successful, then it will be activated once the Minister makes the decision to certify the applicable CMP associated with the grant.

It is important to note that Council will be ineligible to apply for grants under the NSW Coastal and Estuary Grants Program from 2024 if a CMP hasn't been adopted and submitted to the Minister.



Figure 43 - Cooks River Catchment CMP study area (geographic scope).

### 3.4 Biodiversity Conservation Act 2016

Under the Biodiversity Conservation Act 2016 'Coastal Wetlands' are a category of land included in the Biodiversity Values Map.

For any work involves the clearing of native vegetation in the Biodiversity Values map, a biodiversity development assessment report (BDAR) must be prepared.

#### Rockdale Biodiversity Strategy 2014

This strategy provides high level goals and targets to guide the development of open spaces with an emphasis on restoration and protection and enhancement of natural areas, improvement of waterway quality and creation of linkages along corridors of open space. The strategy identifies the following priorities for the Wetlands Biodiversity Corridor:

- Develop and implement habitat enhancement plans to increase the availability of foraging and roosting areas for migratory and non-migratory shorebirds, as well as small bush birds. This includes planting native vegetation known to support these species and creating or maintaining open water areas that serve as foraging sites.
- Conduct detailed habitat assessments to identify and map current habitats of the Green and Golden Bell Frog (GGBF) within the Marsh/Eve Street Wetlands. Develop protection strategies that may include habitat restoration, creation of breeding sites, and implementation of management actions to minimise disturbances.
- Collaborate with Sydney Airport authorities to develop and implement a bird management plan that minimises the risk of bird-aircraft strikes while supporting biodiversity. This could involve habitat manipulation to discourage bird presence within flight paths and monitoring bird movements.
- Undertake restoration and enhancement projects to support threatened estuarine and freshwater vegetation assemblages and coastal saltmarsh. This includes removing invasive species, reintroducing native plants, and managing water quality and hydrology to support the health of these ecosystems.
- Improve the ecological connectivity between the Landing Lights Wetlands and the broader Wetlands Biodiversity Corridor. This may involve enhancing existing ecological links, creating new habitat corridors, and integrating landscape features that facilitate wildlife movement.
- Design and establish buffer zones around the wetlands to protect them from adjacent land uses such as market gardens and the impact of the M5. This could include physical barriers, vegetated buffers, and signage to manage access and minimise disturbances.

- Develop and execute a comprehensive weed management strategy focused on the removal of invasive species like *Juncus acutus* and managing undesirable mangrove competition. This involves regular monitoring, physical removal, and potentially the use of environmentally sensitive herbicides where appropriate.

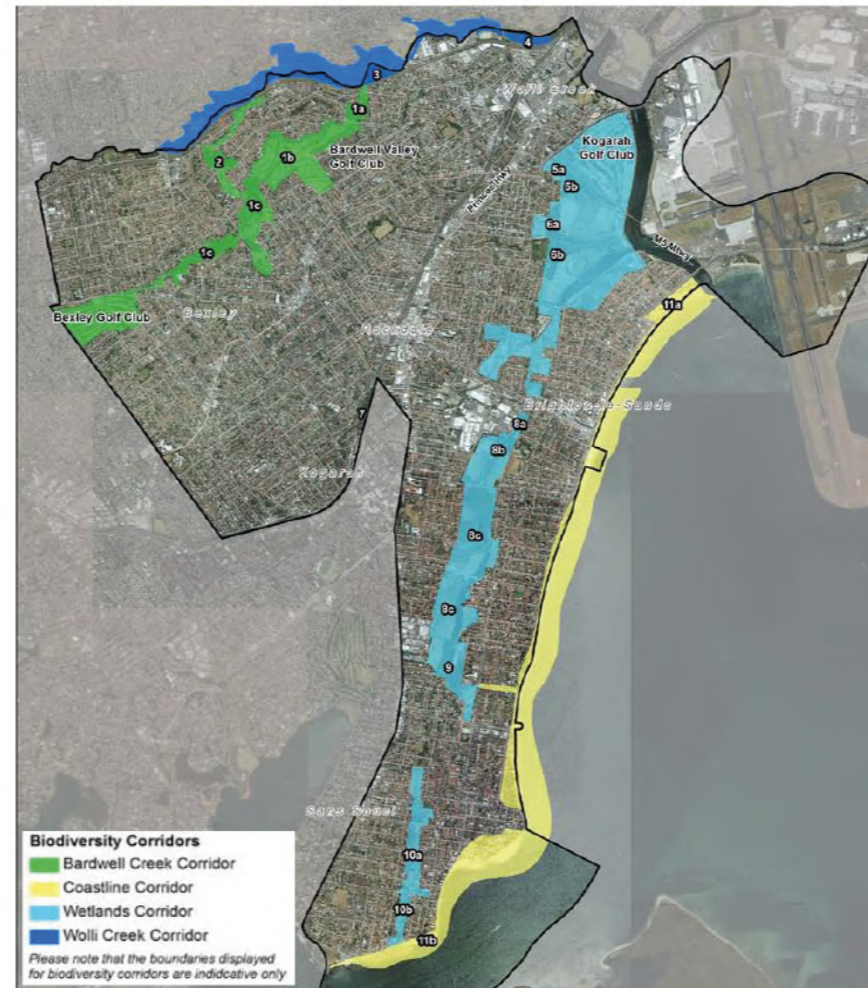


Figure 44 - Biodiversity Strategy, Biodiversity Corridors

### 3.5 Fisheries Management Act 1994

The NSW DPI administers the Fisheries Management Act 1994 which protects mangroves, seagrasses and seaweeds on public water land and foreshores.

Under Part 7 of the Fisheries Management Act 1994, a permit is required for:

- Harming mangroves (i.e. damaging, destroying or removal)
- Dredging and reclamation work
- Temporarily or permanently obstructing fish passage
- Using explosives and other dangerous substances

Mangroves are protected in New South Wales (NSW) under the Fisheries Management Act 1994 due to their importance as habitat for fish and fish breeding environments. Mangroves also protect foreshore land by absorbing the energy of tidal currents and storm-driven wind and wave action, creating a natural breakwater that helps stop erosion.

The presence of mangroves is also indicative of Key Fish Habitat, and is noted as highly sensitive by Fisheries NSW. A buffer zone and conditions to development within the vicinity of Muddy Creek and the Spring Creek will apply.



Figure 45 - Fish Habitat Map

### 3.6 Bayside West Precinct Plan 2018 & Arncliffe and Banksia Green Plan

The population of the Arncliffe and Banksia Planned Precinct is expected to significantly increase by 2036. This Plan sets out strategic land use and infrastructure planning to guide the future transformation of the Bayside West Precincts. The Plan will inform future changes to the planning controls to enable the rezoning of the Arncliffe and Banksia Precincts, through future amendments to the Bayside Local Environmental Plan 2021.

The Bayside West Precinct identifies the importance of open space that is accessible, functional and adaptable to different stages of life for local residents and is reliant on provision to be provided by the large parks in Cooks Cove including Barton Park and to improve connections for pedestrians and cyclists.

In its current state, there is limited availability to acquire new land specifically for open space use. For this reason, redevelopment and expansion of existing open space assets, such as Riverine Park, Barton Park and elsewhere along Cooks River is essential.

This growth, combined with the introduction of new residential and mix used development, provides the opportunity to address the demands for open space and recreational activities.

The Green Plan provides a framework for the provision of the new open space, open space infrastructure, together with an integrated tree canopy network and green links will ensure these opportunities are met.

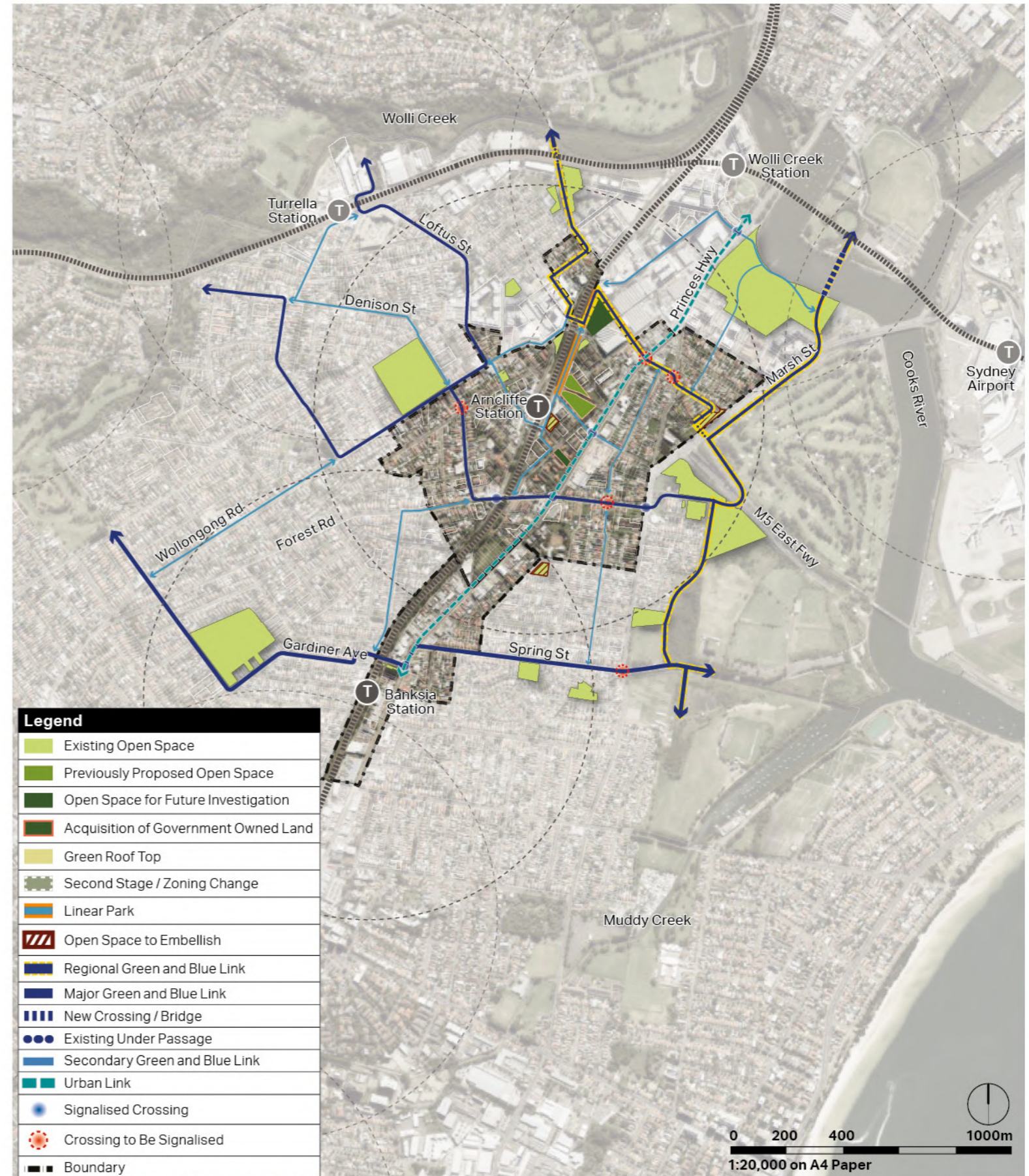
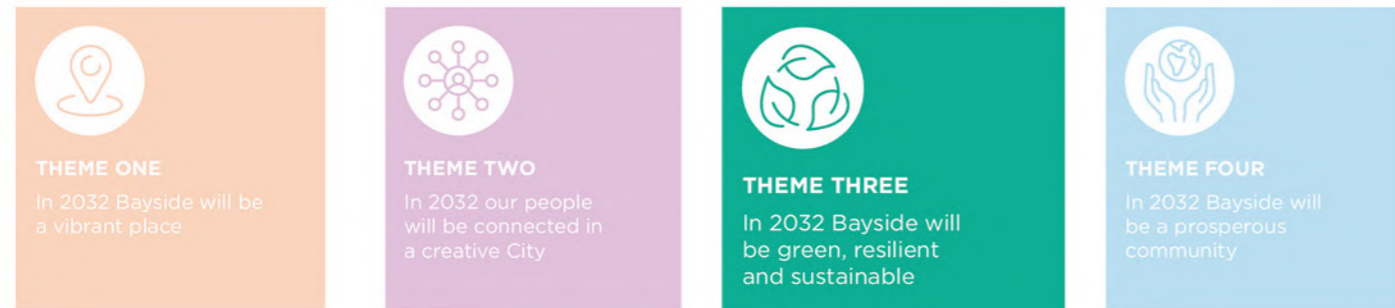


Figure 46 - Arncliffe and Banksia Green Plan

### 3.7 Bayside 2032 - Community Strategic Plan 2018 - 2032.



In 2032 Bayside will be green, resilient, and sustainable		
<h2>Theme Three</h2> <p>Our natural assets and biodiversity are protected and enhanced through collaborative partnerships, to benefit a healthy environment now and in the future. The community is resilient, and confident in its ability to work together to thrive, adapt and recover from risks and climate events. Energy, resources, and waste are managed sustainably.</p>		
COMMUNITY OUTCOMES	STRATEGIES (Council's role)	WHO CAN HELP
<b>3.1 Bayside is resilient to economic, social, and environmental impacts</b>	<b>3.1.1</b> Build community capacity and resilience to prepare for, cope with, adapt to and recover from economic, social, and environmental impacts (Deliver, Partner, Advocate) <b>3.1.2</b> Engage with community to provide an appropriate response to threats and adverse events (Deliver, Partner) <b>3.1.3</b> Promote education about climate change so that the community understands the potential impacts (Deliver, Partner, Advocate) <b>3.1.4</b> Support and promote local climate and resilience leadership and initiatives (Partner, Advocate)	<ul style="list-style-type: none"> <li>▶ Commonwealth government agencies</li> <li>▶ Community</li> <li>▶ Council</li> <li>▶ State government agencies</li> </ul>
<b>3.2 Bayside's use of renewable energy is increasing</b>	<b>3.2.1</b> Promote and facilitate emerging transport technologies for greener transportation and to meet the community's changing needs (Partner, Advocate) <b>3.2.2</b> Promote the use of renewable energy through community education (Deliver, Partner, Advocate) <b>3.2.3</b> Prioritise renewable energy use by Council where possible to reduce greenhouse gas emissions, and report publicly on benefits (Deliver, Advocate)	<ul style="list-style-type: none"> <li>▶ Community</li> <li>▶ Council</li> <li>▶ State government agencies</li> </ul>
<b>3.3 Bayside's waterways and green corridors are regenerated and preserved</b>	<b>3.3.1</b> Capture and reuse rainwater at Council facilities where feasible (Deliver) <b>3.3.2</b> Enhance and extend green grid corridors (Deliver, Partner, Advocate) <b>3.3.3</b> Increase Bayside's tree canopy (Deliver) <b>3.3.4</b> Involve community in the preservation of natural areas (Deliver, Partner) <b>3.3.5</b> Respect, manage and protect the natural environment and biodiversity (Deliver, Partner)	<ul style="list-style-type: none"> <li>▶ Community</li> <li>▶ Council</li> <li>▶ NSW Environmental Protection Authority (EPA)</li> <li>▶ Volunteers</li> </ul>
<b>3.4 Bayside's waste is well managed</b>	<b>3.4.1</b> Address illegal dumping proactively (Deliver, Partner, Advocate) <b>3.4.2</b> Educate the community on sustainable waste management and recycling practices (Deliver, Partner) <b>3.4.3</b> Promote a circular economy by encouraging and/or implementing avoidance, reuse, rehome, repair, recycling, recovery solutions before landfilling (Deliver, Partner, Advocate)	<ul style="list-style-type: none"> <li>▶ Community</li> <li>▶ Council</li> <li>▶ Sydney Regional Illegal Dumping (RID)</li> </ul>

Figure 47 - Bayside Community Strategic Plan 2018-2032

### 3.8 Active Transport Strategy

The NSW Government wants cycling to be a preferred mode of transport for short trips and a viable safe and efficient option for longer trips. Safe and connected cycling networks across Greater Sydney will enable more people to ride their bikes as part of everyday travel. The Strategic Cycleway Corridors has been developed to provide the foundation for safe and convenient cycleways that better connect centres, precincts and places, while supporting councils' local bike networks.

The strategy highlights the importance of celebrating connections along our water fronts and connecting the coast to Wollie Creek, the Airport and towards the CBD via Cooks River.

Bayside Council is developing the Bayside Bike Plan, which aims to expand upon the Strategic Cycleway Corridors to provide safe cycle infrastructure for our community. Riverine Park and other opportunities along Cooks River and Muddy Creek present safe solutions for active transport free from vehicles and allowing interaction with open space, sports fields and the water's edge connecting into the active transport corridor under construction as part of M6 Stage 1 to



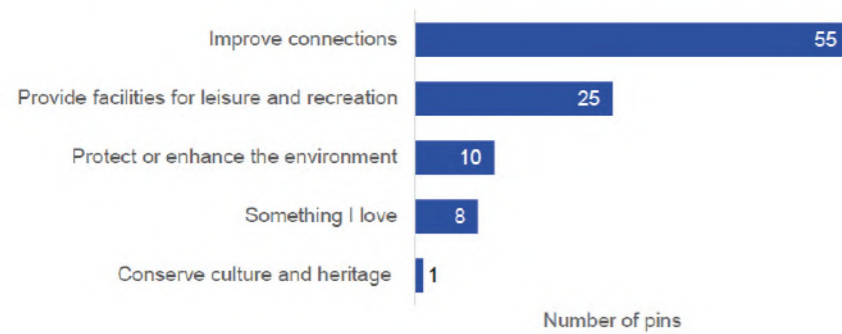
Figure 48 - Strategic Cycleway Corridors Map (Source from TfNSW)

# 4. Previous Community Engagement & What We Heard

## 4.1 Engagement for Bayside priority green grid corridors spatial framework 2020

Riverine park is a key component of Rockdale Wetland Corridor, which is one of the three Bayside Green Grids. A survey through the interactive mapping exercise was organised in 2021. The outcome for the Rockdale Wetlands Corridor indicate a heavy demand for connectivity improvements. (See figure below)

Pin categories used by respondents on Rockdale Wetlands Corridor Interactive Map



Discussions with Local First Nations Representatives were undertaken in May 2021 in developing the Bayside Priority Green Grid Spatial Framework.

Below is summary of the key discussions that apply to Rockdale Wetlands Corridor:

- Promoting initiatives to improve water quality to make local food supply such as Mullet, rock oyster reefs and blue-summer crab edible and accessible to community
- Wayfinding and Acknowledgement to Country
- Graphic and potentially a digital songline that shares the story of the Mullet or other significant species and the importance of sensing and caring for Country.
- The creek bed with native species, grinding stones, sand pit patterns, sandstone creek bed and the kids being able to orientate themselves.
- Support any initiatives to expand Caring and regenerating Country and seeing more local residents plant endemic species in their gardens and Council in their public spaces.

## 4.2 Engagement for Barton Park Masterplan 2020

Key feedback received during the Barton Park engagement activities that specific relevant to Riverine Park were:

- Desire for holistic planning for the Rockdale Wetlands Corridor.
- High value is expressed for the wetlands and biodiversity of this area.
- Desire for Riverine Park and wetlands to be masterplanned.



## 4.3 Engagement for Arncliffe and Banksia to Riverine Park Pedestrian and Cycle Links 2023

In 2023, the Council consulted with the community regarding the proposed Arncliffe and Banksia to Riverine Park Pedestrian and Cycle Links. The project was well received, with an overwhelming 92% of participants expressing their support. Over 70% participants showed a keen interest in the proposed share path and the signalised crossing at the intersection of West Botany Street and Spring Street.

The feedback received from the community has been considered, with particular attention given to the West Botany Street and Spring Street intersection. A holistic review of this intersection has been conducted within its broader context, taking into account various factors such as traffic flow, pedestrian safety, land ownership and seamless connection to the Riverine Park.

The proposed design aims to enhance connectivity and safety within the area, and contributes positively to the overall quality of life in the region. More details of the design will be outlined in Chapter 7 of the report.





# 5. Site Analysis and Design Opportunities

## 5.1 Functional Zoning

### Existing conditions

The existing functional zones are segmented. Passive recreation space is limited to the Eve Street Reserve and the open space adjacent to West Botany Street. The active recreation zones situated in the central area of the park are isolated and enclosed. The environmental areas are under-maintained and are experiencing issues such as overgrown vegetation and weeds, poor water quality, and odorous smells. A considerable portion of the park has also become neglected. Overall, the existing park doesn't offer sufficient passive recreation space and lacks connection between different zones, resulting in underutilization and poor passive surveillance.

### Opportunities

Consolidating the environmental land seeks to improve visibility, accessibility, and functionality to the park and to ensure management practices are appropriate and limit further incursions into valuable environmental buffers. Blurring the boundary between passive recreation and active recreation creates a large central zone suited to the use by a variety of patrons. Spring Creek, Landing Light Wetland, and Spring Creek Wetland as the key environmental zones can be improved to establish high-quality wildlife habitat and promote low-impact human interaction where appropriate.

The active recreation zone is to be retained as sports are popular and welcomed by the community. Appropriate management of the Active Recreation Zone is essential to the park's success. Although the implementation of appropriate barriers to manage vehicles and people in the vicinity of the golf driving range will still be required, the extent of the physical barriers and fences should be reduced for better accessibility and connectivity, also encouraging general community use outside of sports events. This would enhance the aesthetic appeal and ambiance of the space.

In addition to active recreation and sports, the importance of creating unstructured passive recreation spaces for walkers, families, dog walkers, runners, and cyclists cannot be underestimated. By providing passive recreation opportunities, it will activate the park and vastly improve passive surveillance.



Figure 49 - Existing functional plan

Figure 50 - Functional plan opportunity

## 5.2 Transport, Circulation & Access

### District Active Transport Network

State Environmental Planning Policy (Precincts—Eastern Harbour City) 2021 set the vision and principle for providing cycle and pedestrian link in the Cooks Cove site so that it contributes to the regional and district active transport network. The principles include:

- Create a publicly accessible foreshore, linked to public areas within the Cooks Cove site
- Enhance the Botany Bay to Homebush Bay regional cycleway and pedestrian/cycle network
- Create links to nearby the public transport services, the Bay-to-Bay cycleway, the Cooks Cove site and the foreshore.
- Provide a high-quality pedestrian environment within the street system.



Figure 51 - Existing pedestrian/cycle link

- Ensure accessibility is provided to places within the Cooks Cove site for all abilities
- The diagrams below demonstrate the existing and proposed public access paths through the site and along the foreshore. Improvements include links to the broader network to connect to local transport nodes such as Arncliffe Station and Wollli Creek Station, the Rockdale Wetland Corridor and the Barton Park Cycleway and further south along the M6 active transport corridor.

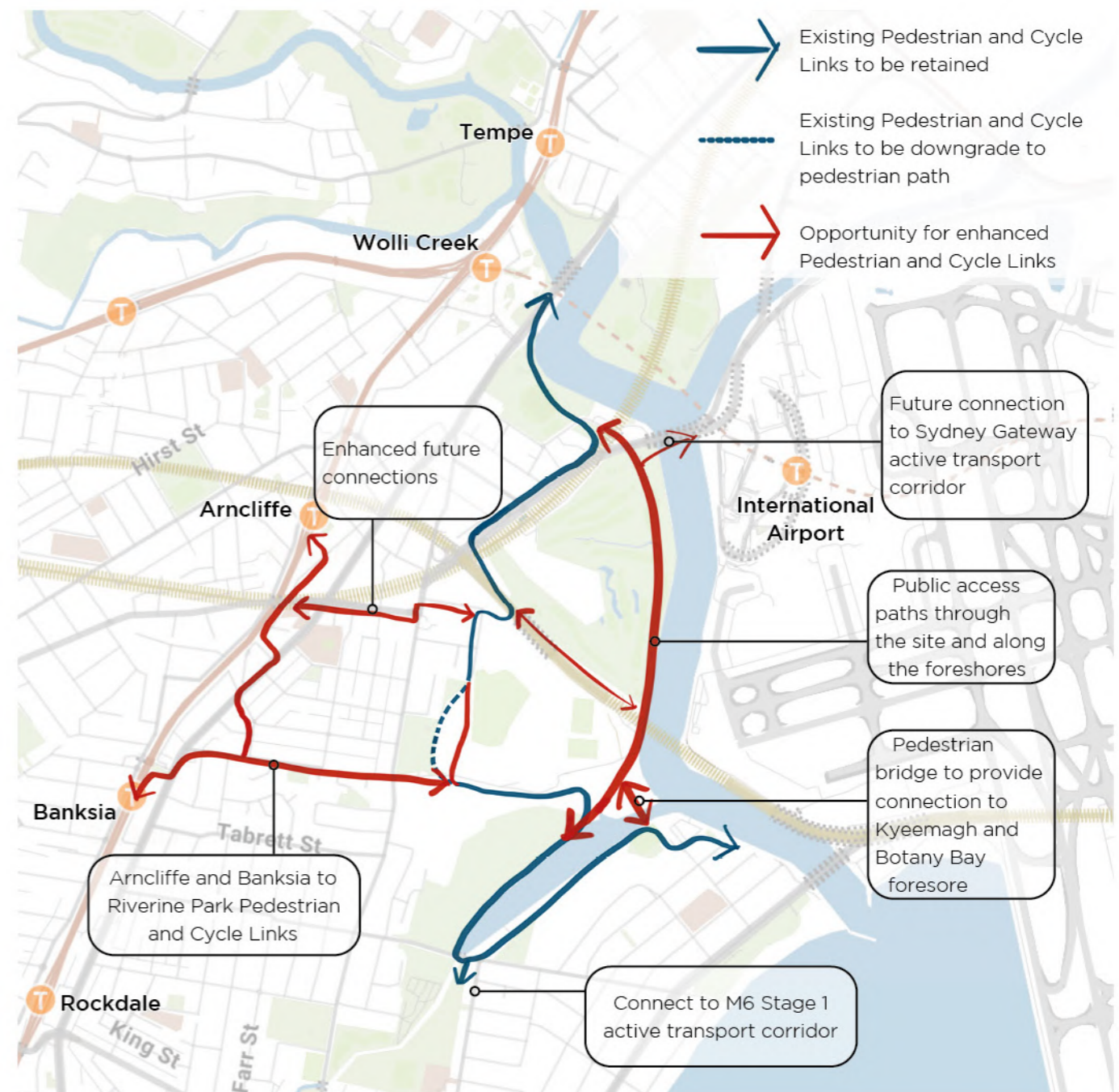


Figure 52 - Pedestrian/cycle link opportunities diagram

## Existing Riverine Park Circulation Network

Overall, the existing Riverine Park suffers from limited and poor-quality access and lack of internal circulation, particularly in terms of pedestrian access options. The main access from West Botany Street is inconspicuous, and the absence of dedicated pedestrian pathways has created a conflict-prone and unsafe mixed environment among vehicles, cyclists, and pedestrians.

Furthermore, a section of the active transport link, which runs along the northern side of the main vehicle entrance, has resulted in a series of unsafe crossing points along the journey, necessitating improved visibility and management of conflicts.

The existing park lacks of internal circulation. Particularly evident in the northern section of Riverine Park and the waterfront areas along Spring Creek and Cooks River, which is almost inaccessible. Consequently, this has resulted poor passive surveillance, and the recreation function has been compromised.

## Opportunities

1. Enhance the accessibility of the park by improving the existing West Botany Street entry and establishing new access points. For example, install a signalised crossing at West Botany Street / Spring Street intersection; new pedestrian access point at Eve Street; provide on street car parking and pedestrian path at Filmstone Garden for playground and other park users; provide a footpath connection to the existing bus stop to encourage public transportation users; constructing a bridge over Muddy Creek to connect Kyeemagh; and establishing a shared path along the Cooks River foreshore. These interventions will enhance Riverine Park's accessibility and contribute to the completion of the regional active transport network.
2. Create a hierarchy for movement to mitigate the conflicts between vehicles, cyclists and pedestrians. This structured approach aims to provide a clearer movement framework and to improve passive supervision and activation to increase

park safety. Additionally, prioritizing pedestrian-friendly infrastructure will contribute to the creation of a more walkable park environment.

3. Realign the access driveway to integrate with the car park to provide better passive surveillance and create an opportunity for separate shared path and pedestrian path to reduce conflicts between vehicles and active transport routes.
4. Develop a shared path circuit, prioritising direct routes to through Riverine Park while ensuring clear sightlines.
5. Provide a network of minor and secondary pedestrian links to interconnect the broader shared path circuit.
6. Provide accessible parking bays, turning circle, and Emergency Vehicle access to serve the amenity building
7. Provide walking tracks adjacent to waterbodies allowing for slower movement and dwelling, separate from the faster movement shared path network.

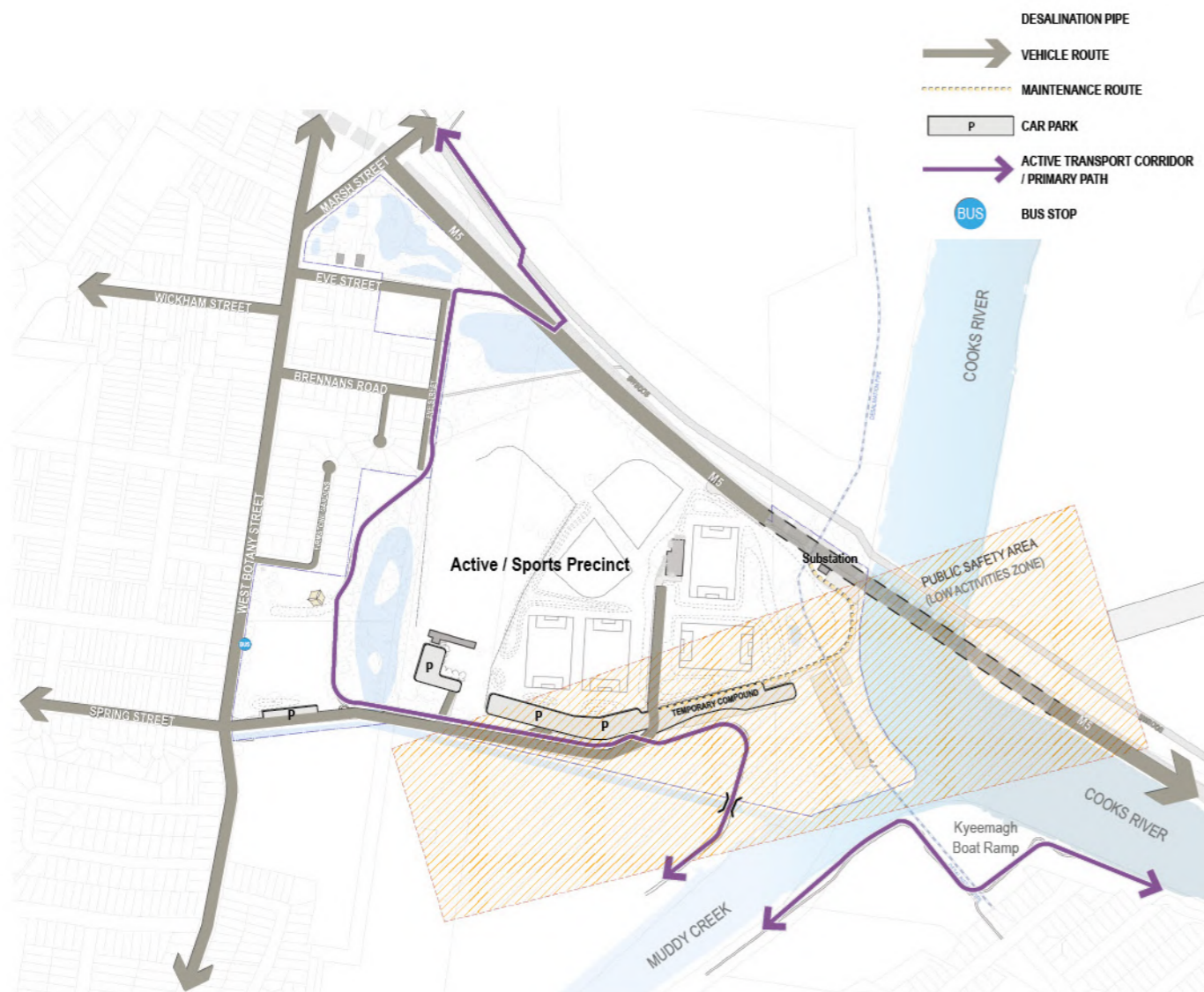


Figure 53 - Existing Riverine Park circulation diagram

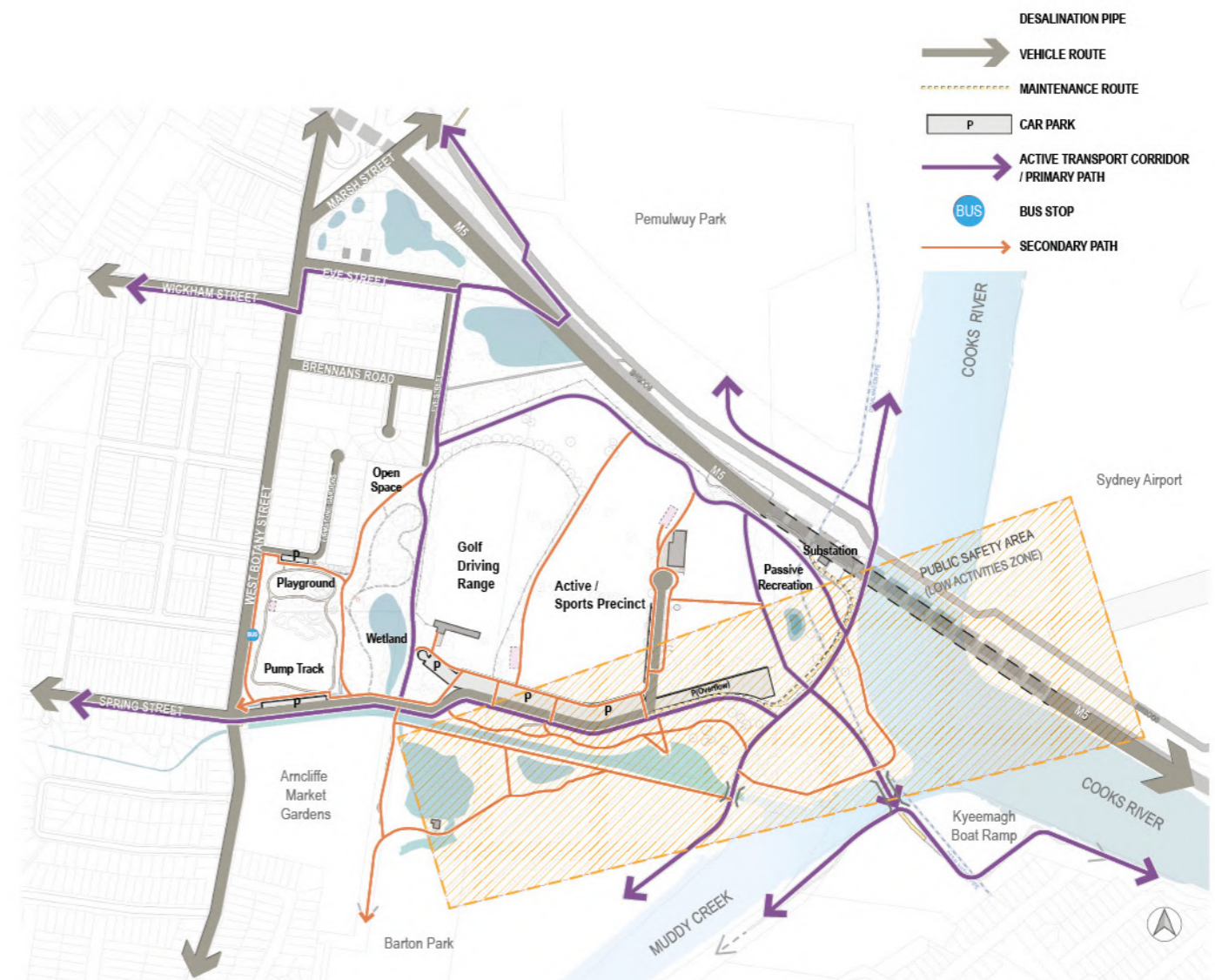


Figure 54 - Riverine Park circulation opportunity diagram

## Park's Entries and Access Route

This section will zoom in the park entry to analysis the existing access condition and the improvement opportunities.

The main access to the park is via West Botany Street. However, the existing access and circulation network present several issues:

- The main entry access from West Botany St is not very legible and lacks safe pedestrian and cyclist access.
- The existing bus stop at West Botany St is isolated and lacks a footpath connection to the rest of the park.
- The existing car park is isolated from vehicular and pedestrian movement, lacking passive surveillance.
- Conflicts exist at several locations between the shared path and vehicle access to the car park.
- Poor sightliness along the existing shared path pose safety risks.

- The existing carparks and facilities are disconnected and there is an opportunity to increase usability for park users especially at peak times.

Opportunities identified:

1. Create a hierarchy for movement to limit conflicts between vehicles, cyclists and pedestrians. To create a clearer movement framework and to improve passive supervision and activation to increase park safety.
2. Realign the access driveway to integrate with the car park to provide better passive surveillance and create an opportunity for separate shared path and pedestrian path to reduce conflicts between vehicles and active transport routes.
3. Realign the shared path to create a safer route with minimal conflicts with vehicle circulation and park users and better sight lines.

4. Some sections of the existing shared path to be downgraded to a pedestrian-only path where slower movement is desirable.
5. Provide a footpath connection to the existing bus stop at West Botany Street to encourage public transportation users.
6. Provide car parking at Spring Creek entry and Filmstone Garden for playground and park open space users.
7. Provide accessible parking bays, a turning circle, and Emergency Vehicle access to ensure safe and convenient operation for all park users..
8. Install a signalised crossing at the intersection of West Botany St and Spring St for a safer crossing and network connections.

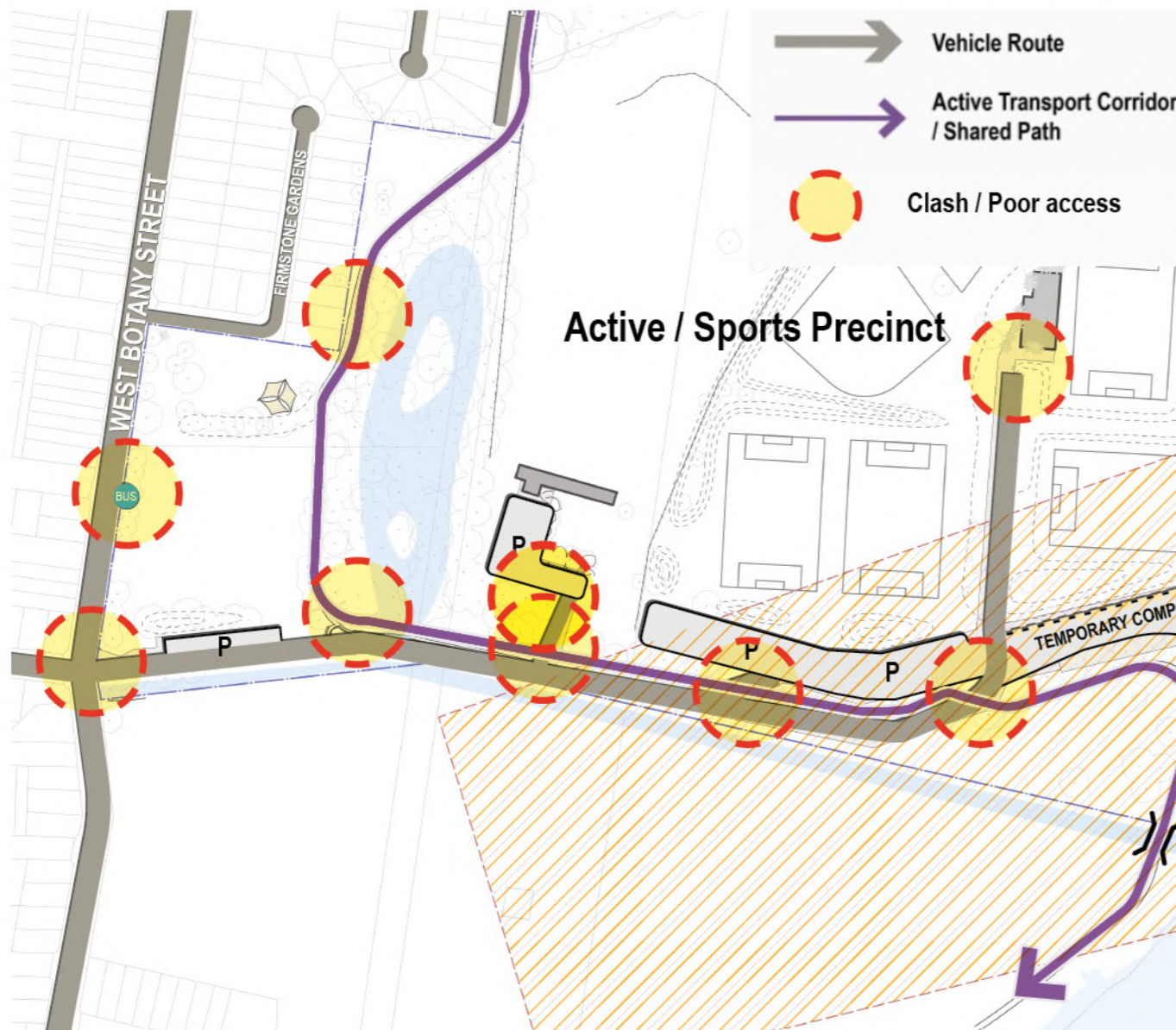


Figure 55 - Existing Riverine Park access diagram

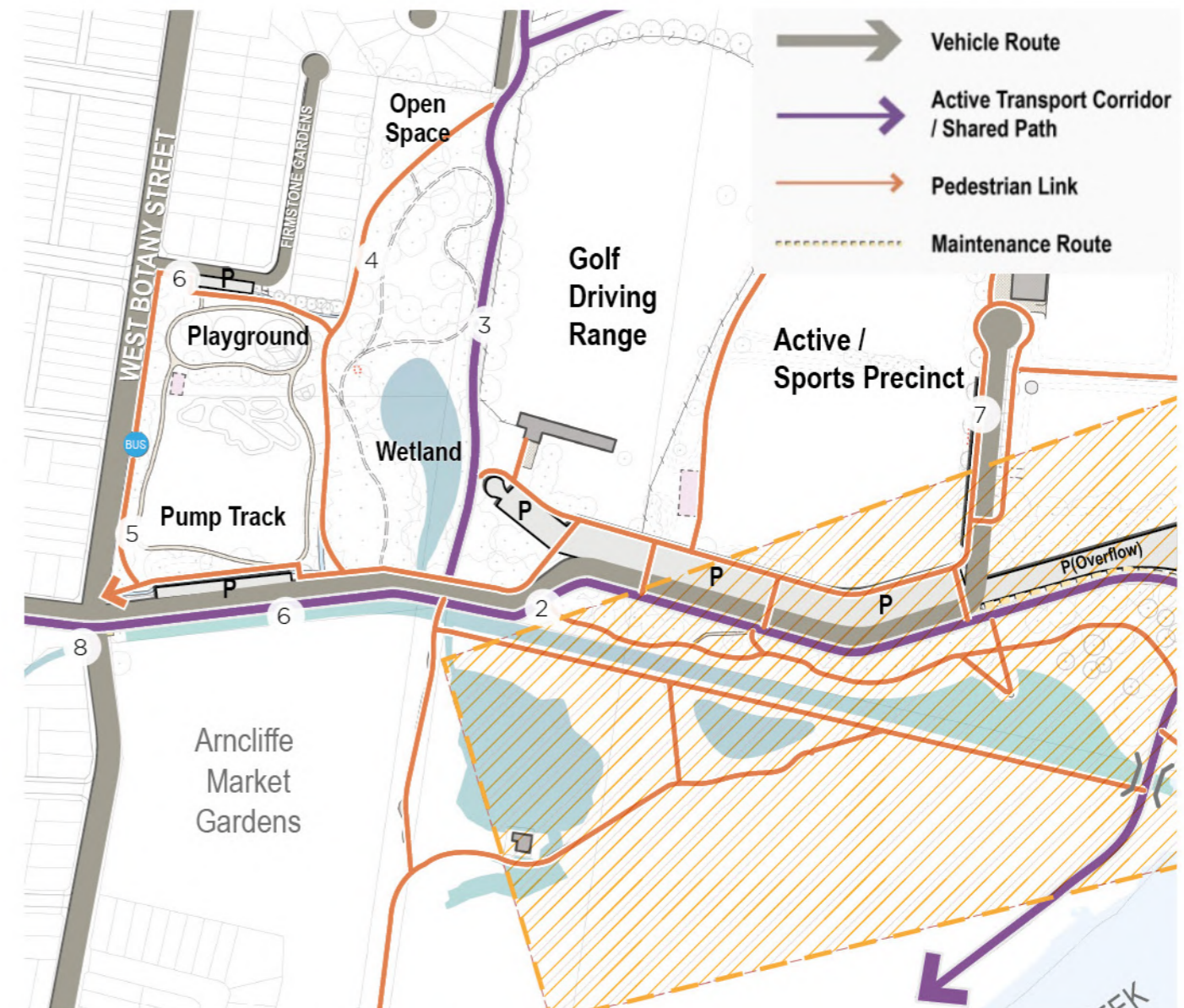


Figure 56 - Riverine Park access opportunity diagram

### 5.3 Biodiversity, Ecology and Tree Canopy

#### Existing Condition

Riverine Park, with its blend of established trees, wetlands, and mangrove species, plays a crucial role in supporting biodiversity and endemic species. However, large swathes of the park have suffered from inadequate long term maintenance, leading to an overgrowth of weeds that hinder water movement and suppress endemic species. Despite a tree canopy that covers about 30-35% of the site, the quality of this vegetation is highly variable. A significant portion comprises wood heathland and, worryingly, includes a mixture of weeds and invasive species that are not native to the area, further challenging the park's ecological balance.

#### Opportunities

There is an opportunity to enhance Riverine Park's ecological value by planting additional canopy and habitat in currently poorly maintained areas. However, this initiative must consider the constraints of the proximity of the airport. Additionally, there is a chance to improve existing marine and riverine habitat areas, including mangroves and seasonal wetlands, further contributing to the park's biodiversity and ecological health. Riverine Park provides an important opportunity to increase the canopy cover in Bayside with species that are endemic to the areas and that will increase park amenity and reduce urban heat.



Figure 57 - Existing biodiversity, ecology, and tree canopy



Figure 58 - Opportunity for biodiversity, ecology, and tree canopy

## 5.4 Waterways

### Existing Condition

Situated on the edge of Botany Bay, Riverine Park's prime attraction is its proximity to water, offering views of Cooks River, various estuary tributaries, and multiple wetlands. However, these natural features are currently underappreciated due to restricted access caused by a lack of accessible footpaths, overgrown vegetation, and fencing, limiting the potential enjoyment and engagement of visitors with these water-connected landscapes.

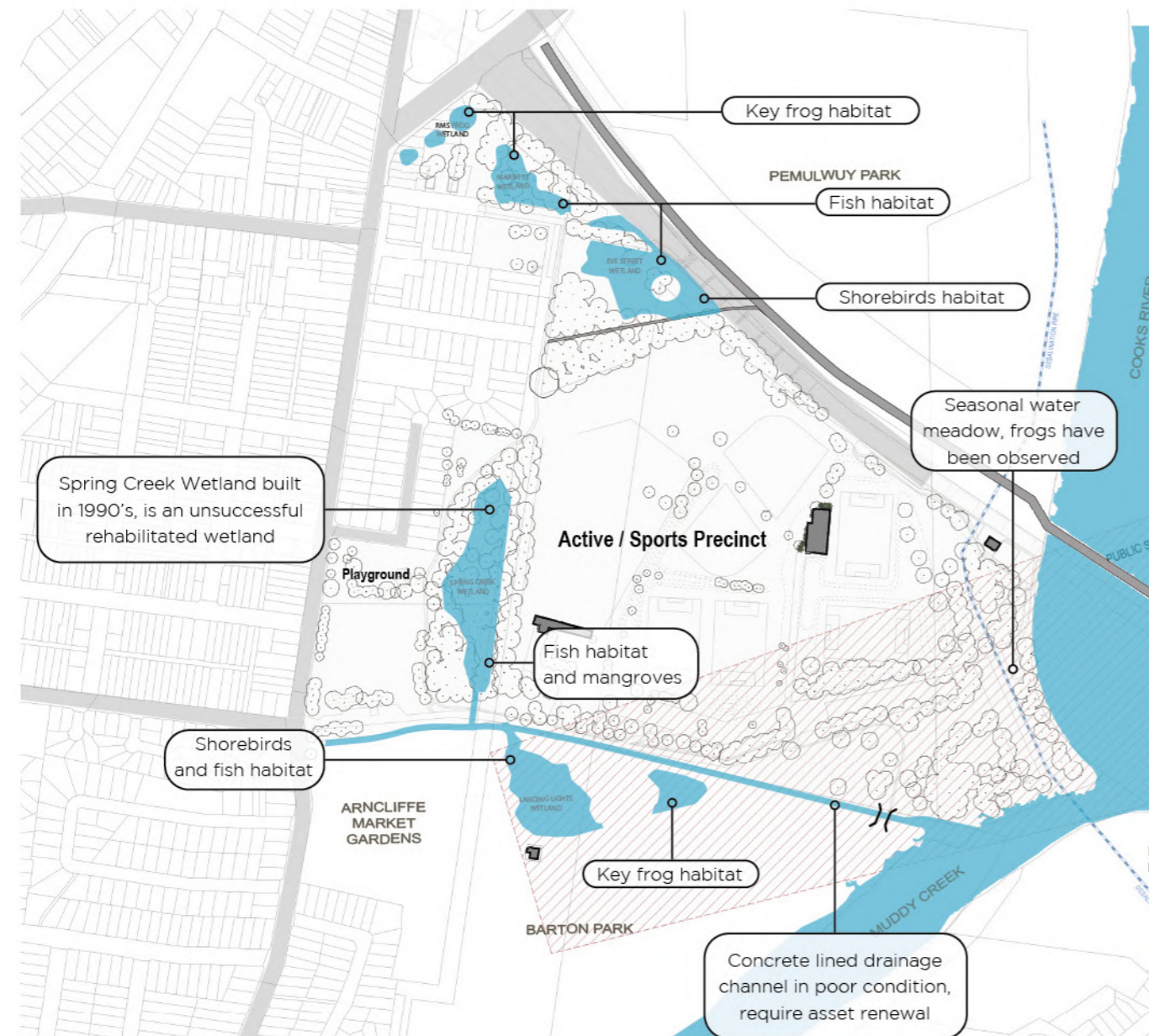


Figure 59 - Existing waterways

### Opportunities

Maximising the potential of Riverine Park's proximity to water is crucial. This involves improving water quality and aquatic habitats, creating opportunities for people to connect with the water, including direct access to the water's edge, offering scenic views, and incorporating interpretative or educational elements.

Beyond enhancing visitor interaction with the waterways, these initiatives also present a vital chance to improve the health of the waterways, tackle stagnant water issues, and enhance sustainable passive irrigation and drainage systems.

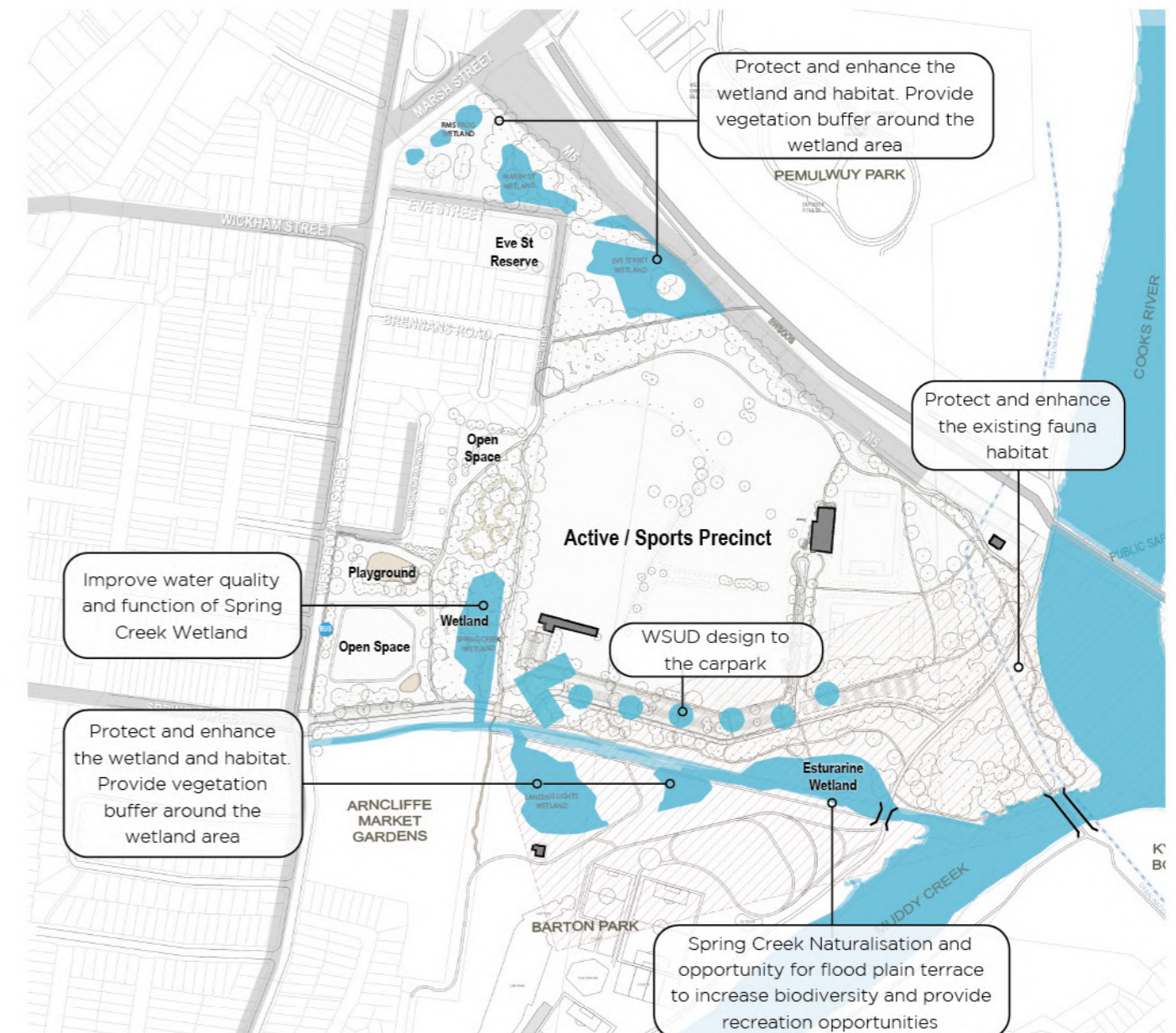


Figure 60 - Opportunity for waterways

## 5.5 Spring Creek Naturalisation and Wetlands Improvements

The Spring Creek drainage channel was built some time prior to the 1940s. The drain's function is to efficiently convey stormwater. Recent inspections of the asset have identified numerous failures in the concrete lining. The failures are predominantly on the drain banks, and at several locations, particularly on the southern bank of the drain, mangroves are growing through the banks. The mangroves are providing bank stability where the concrete banks no longer do but are impacting the capacity of the channel to pass flood flows. The channel base also shows signs of age but is still providing flood conveyance and is at less risk of continued failure given the relatively flat longitudinal gradient of the channel.

There are two wetlands adjacent to this portion of the Spring Street Drain - the Landing Lights Wetland to the south and the Spring Street Wetland to the north. These wetlands are hydraulically connected to the drain with tidal and storm flows passing between the drain and each wetland.

A set of objectives have been developed for its naturalisation. The project objectives are based around provision of a loved and revitalised Spring Creek waterway that is an enchanting destination, along with the interconnected wetland network, offering:

- A restored, naturalistic form adding valuable blue-green infrastructure to the area.
- A thriving ecosystem that supports precious aquatic and riparian communities.
- Enhanced liveability that service the growing local population and visitors of the newly improved Barton Park and Riverine Park precincts.
- A cost-effective asset both in construction cost and for its operable life.
- Safe management of large flood events within the waterway corridor to mitigate upstream flooding and ensure resilience in the face of rising sea levels.
- Improved water quality to enhance the overall environmental and human well-being of the project area.

### Preliminary Investigation

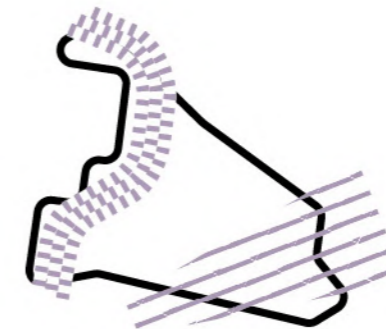
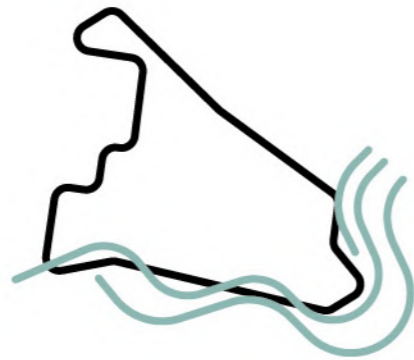
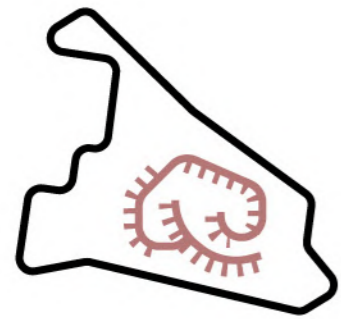
Several options have been investigated and developed based on the following rationale:

- It is proposed that the northern bank of the concrete drain is removed entirely. The northern bank provides the most suitable opportunities for naturalisation. This would allow the low flow channel to be realigned to the left if desired.
- It is proposed that the majority of southern bank of the channel is left as is. This is because there are several constraints to the southern bank, such as the market gardens, Landing Lights Wetland and Barton Park. In addition, the mangroves that have established in the bank will be retained as they are providing bank stabilisation.
- Significant cost savings will be gained if the base of the concrete drain is retained. The reason for this is that the base of the drain is the most challenging location to work in and it is integrated with the southern bank and the protruding mangroves. Further, the base of the drain plays a major part in the channel's flood conveyance function. Minor repairs to the base could be required to enable this. The base could also be replaced or realigned, so to achieve a fully 'naturalised' channel, or relined with a new lining material such as rock rip rap.
- Landscape treatments will need to incorporate habitat that is compatible with aviation safety framework requirements. As such the options present habitat types that focus on aquatic rather than ephemeral wetland habitats to limit the attraction of birds and risk of causing bird strikes
- Works are designed on the assumption that negative impacts to flooding are not acceptable and flood mitigation is improved.



Figure 61 - Study area of Spring Creek Naturalisation

# 6. Principles



RESPECT SITE  
CONTEXT

COASTAL AND  
ENVIRONMENTAL  
PROTECTION

CONNECTIVITY  
WITHIN AND BEYOND

PROMOTE ACTIVE  
LIFESTYLES &  
RECREATION

SAFETY FOR ALL

SUSTAINABLE  
INFRASTRUCTURE

Design Strategies

Acknowledge the traditional custodians - Gadigal/Bidjigal people of the Eora Nation.

Recognise the contribution to the early development of industrial Sydney.

Design responds to the modified environment including land management measures to limit impacts from past contamination.

Interpret the site history by creating a heritage, environmental and/or art trail

Promote public awareness, education and understanding of coastal processes and park management actions.

Engage with local First Nations people to prepare wayfinding plan for precinct.

Protect and enhance natural coastal processes and coastal environmental values including:

- natural character
- scenic value
- biological diversity
- ecosystem integrity
- resilience

Support the social and cultural values of the coastal zone.

Mitigate current and future risks from coastal hazards.

Expand the ecological communities to enhance their viability and protection.

Manage use and limit dog access in vulnerable ecological areas.

Connect to broader active transport network.

A hierarchy of movement for cohesiveness and legibility to mitigate and manage user conflicts.

An inclusive path system to provide opportunities for a range of users in terms of ages and abilities.

Reinforce safe access to the site by providing a sense of arrival and destination.

Provide opportunities for diverse recreational participation to cater for growing community demand.

Provide recreation for a range of ages and abilities.

Create places of interest and delight that encourage use of outdoor spaces.

Promote health and fitness within the local area by creating circuits and destinations.

Work with sporting partners to provide opportunities for the local communities to create a multi-sports hub for the district.

Create special places for relaxation, viewing, contemplation, unstructured recreation and socialising.

Create enhanced livability for the growing local population and visitors by ensuring that the park is available to everyone.

Adopt Crime Prevention Through Environmental Design (CPTED) principles to ensure that users feel safe when in the park.

Improve public amenity and lighting of movement networks to meet compliance and best practice standards.

Encourage high levels of use to promote the sense of safety for users.

Improve site surveillance by creating good sight lines and avoid hidden areas.

Design areas for shelter in hot or inclement weather

Maintain public access, amenity, use and safety near waterways.

Safe management of large flood events within the waterway corridor to mitigate upstream flooding and ensure resilience in the face of rising sea levels.

Create restored, naturalistic environments to add value to blue-green infrastructure to the area.

Recognise and respect operational requirements due to proximity to airport and M5.

Develop cost-effective assets both in construction cost and for its operable life.



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# 7. Masterplan

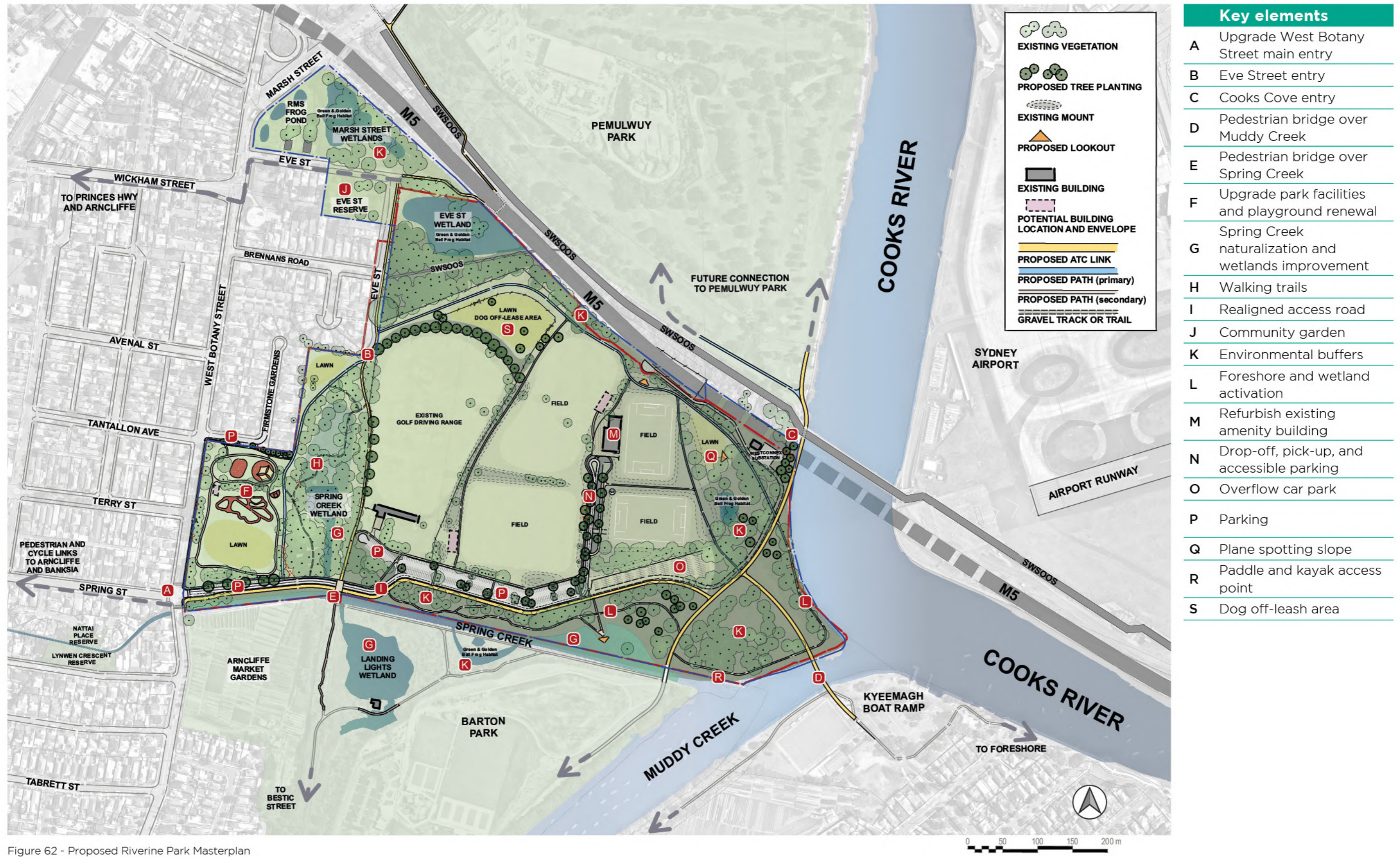


Figure 62 - Proposed Riverine Park Masterplan

## Key elements summary

<b>A</b>	Improve Riverine Park's main entry at West Botany Street. Separate pedestrian circulation and vehicle circulation to create a safer environment, also make a smooth connection to the Spring Street pedestrian and cycle link. Provide traffic signal at the intersection.
<b>B</b>	Enhance legibility and sightlines at Eve Street entry by realigning the path and pruning the overgrown vegetation.
<b>C</b>	Formalize the trail under the concrete SWSOOS along Cooks River foreshore to create an active transport link that connects to Cooks Cove (future Pemulwuy Park) and Wolli Creek.
<b>D</b>	Pedestrian bridge over Muddy Creek to connect to Kyeemagh and Botany Bay foreshore.
<b>E</b>	Replace or upgrade the unsafe pedestrian bridge over Spring Creek.
<b>F</b>	Upgrade park facilities, including renewing the existing playground, and expanding the activity zone to include additional facilities like pump track, outdoor fitness area and a 3-point basketball court, walking / learn to ride circuit
<b>G</b>	Spring Creek naturalization and improvement work to Landing Light Wetland and dysfunctional Spring Creek Wetland
<b>H</b>	Opportunities for walking trails through the former wetland, and remove the dilapidated viewing platform in the middle of the wetland
<b>I</b>	Divert the access road to the car park.
<b>J</b>	Provision for a future community garden at Eve Street Reserve.
<b>K</b>	Environmental buffers includes revegetation and restoration to support habitat restoration and biodiversity, including protect and enhance Green and Golden Bell Frog habitat
<b>L</b>	Improve access and amenity to the wetland and foreshore, incorporating low-impact recreational facilities such as boardwalks, viewing platforms, and interpretive signage to enhance visitor experiences while minimizing ecological disturbance.
<b>M</b>	Sporting Partners to Refurbish existing amenity buildings.
<b>N</b>	Provide drop-off, pick-up, and accessible parking along the access road, the configuration also considered the cul-de-sac turning head, accessible access and emergency vehicle access. Existing dilapidated building to be demolished.
<b>O</b>	The existing compound area is within airport PSA, not suitable for intensified use, will be turned into an overflow car park
<b>P</b>	Reconfigured and consolidated existing parking along the access road, incorporating WSUD principles and integrating additional tree planting. A small off-street timed parking area is proposed next to Firmstone Gardens for convenient access, providing an alternative park entry point.
<b>Q</b>	Utilising the existing topography to create a lookout for plane spotting
<b>R</b>	A paddle and kayak access point is indicated in the plan and will be welcome enhancements to the Cooks River Paddle Trail. Given its location under the PSA additional facilities such as seating, lighting and picnicking will not be possible. This site is not intended to be a full launching facility as it is too far from the car park. (The final location is subject to further investigation and detail design)
<b>S</b>	The designated dog off-leash area is to be fully fenced to eliminate conflicts with other park users and wildlife habitats.

In addition to the key items outlined above, the masterplan has configured the pathway circulation to respond to the planned regional active transport links, as well as providing a more legible, fluent, and safer internal pathway network that connects each landscape precinct.

In addition to the existing sport precinct in the centre area of the park, the masterplan also proposes a series of open lawns for unstructured recreation. They are linked by paths and offer a sequential landscape experience.

## 7.1 Sections



Figure 63 - Section location plan



### Section A

Figure 64 - Section A & functional zone (north south)  
note: imagery for precedent purposes only



### Section B

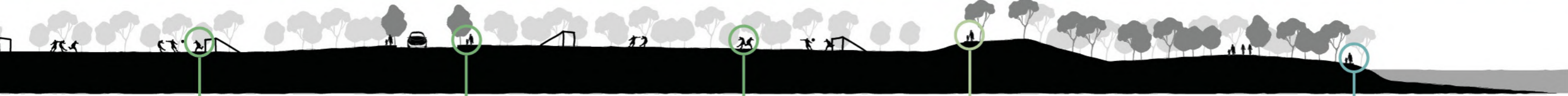
Figure 65 - Section B & functional zone (east west)  
note: imagery for precedent purposes only



SPORTS FIELDS      SPRING CREEK      BARTON PARK



SPORTS FIELDS      FROG HABITAT      COOKS RIVER



## 7.2 Functional Zoning Overview

### Environmental Zones

Riverine Park is located within a rich ecological context. To the northern boundary there is a series of wetlands that are enclosed as part of Sydney Water and TfNSW infrastructure. To the south lies the Landing Lights Wetland and associated wetlands and to the Muddy Creek Foreshore:

- Renew the Spring Street drain and naturalise 700m section from West Botany Street to the confluence of Muddy Creek
- Modify Spring Street wetland to improve ecological conditions, reduce odours and prevent stagnation. Concentrate water into southern extent of wetland to produce flushing
- Improve water quality in the hydraulically connected water courses
- Enhance and create a series of wetlands to enhance marine diversity and frog habitat at Oakleigh Wetland (west of Barton Park), Frog Wetland and Estuary Wetland to enhance the aquatic and riparian habitat
- Design adjoining park infrastructure to direct overland flow into wetland areas to increase water infiltration and water quality moving through the system.
- Improve the quality of vegetated areas. Remove extensive areas of weeds including woody and noxious species. The works to include reconstruction and regeneration of vegetation including the protection of large canopy trees.
- Remediate the heavily disturbed land with planting, especially canopy trees using endemic species
- Enhance freshwater ponds to create detention for freshwater species such as the Green and Golden Bell Frog
- Promotion of Rockdale Wetlands Corridor as a series of restored blue-green assets, including wetlands, open spaces, and nature reserve precinct

### Active Recreation

Riverine Park has been an under-utilised park with limited amenity for legitimate park users. Connectivity is poor and the low quality of the experience does not encourage users to explore this vast open space.

- Implement a clear hierarchy of movement to remove conflicts between vehicles and vulnerable users such as cyclists and pedestrians
- Improve safety for increased usage by cyclists and pedestrians in a shared environment
- Create better east/west connections and plan for connections to future open space to the north
- Improve links to the broader network to connect to local transport nodes including Arncliffe station, Banksia Station, and Wollie Creek Station
- Enhance north-south cycleway, which is part of the popular Bay-to Bay cycle network and beyond to the Rockdale Wetlands Corridor.
- Reconfigure existing walkways to provide relaxed

- walking areas alongside the waterways
- Provide areas of parking located to service a range of recreation options including clear drop off, circulation and disabled parking spaces in the most suitable locations
- Collaborate with sporting partners to support grass roots sporting activities to encourage local participation
- Retention of existing sporting fields to create a high-quality multi-sports hub with improved lighting and drainage
- Upgrade sporting facilities to meet the demands of increasing population in the catchments
- New sporting facilities to be supported with amenities to the high standard provided in other parks to provide facilities for organised sport as well as casual users.
- Take advantage of the modified landform to provide mounds for spectator viewing and integrate shade trees.
- Investigate reconfiguration of the central active recreation area for a greater variety of sporting activities.

### Passive Recreation

Vegetation management is essential to improve the quality and amenity of the parkland. This transformation will activate the eastern shoreline for airplane spotting and enhance accessibility and visibility of special areas such as the northern Fig Tree Lawn to create versatile spaces for picnicking, passive sports, and appreciation of nearby sports fields. The expansion of the western Firmstone Gardens Playground will introduce youth-oriented activities such as hoops, outdoor fitness, and a pump track, taking full advantage of the area's mix of flat and undulating terrain.

The integration of Eve Street Reserve with Riverine Park to the north identifies a suitable location for a community garden, enhancing the area's appeal and utility especially for residents living in higher densities nearby.

- Creation of formal routes and wayfinding signage using standards developed for use in Bayside Council
- Enhanced playground for children and families with nearby facilities for older children such as learn to ride circuit and broader riding circuit within parental view
- Improved angles parking and fencing near playground adjacent Firmstone Gardens
- Facilities for older children including urban pump track and 3-point basketball hoops and exercise hubs
- Provision of facilities to serve casual users such as picnic tables, seating, and water supply
- Provision of lighting throughout the park to create safe access and usage to support night-time use.
- Creation of a short and long walking and cycling circuits that include improved access to the foreshore and enhanced waterways
- Parkland settings for viewing planes in safe locations
- Improve pedestrian access and promote complementary activities such as the development of an educational route, art trail and/or heritage interpretation route
- Provide spaces that encourage passive recreation focuses on bird watching and enjoyment of locations adjacent water bodies
- Introduction of rocks/boulders in swale areas to encourage exploration and water play
- Improve access and pedestrian access in the Landing Lights Wetland including boardwalks



Figure 66 - Proposed functional zoning plan

### Park Infrastructure

Riverine Park is within a substantial infrastructure setting that supports the broader district. This infrastructure creates limitations for the future development of the park. The growth of this park will also need to be supported with suitable infrastructure to cater for increasing usage.

- A realigned access road improves access and visibility to sports fields, ensuring safe operation without conflicting with other park users.
- Overall increase of parking with improved circulation and overflow parking to support the corridor on busy days
- Locate any additional buildings close to existing facilities to allow connection to nearby infrastructure and to limit the extension of existing roads for servicing. These locations options will be discussed with future sporting partners and are shown as potential building envelopes.
- Improve traffic management particularly when exiting by providing adequate lanes and a signalised intersection to clear crowds on large game days
- Improved parking configuration to serve the whole park including improved circulation, tree planting, improved lines and signage and the reduction of oversized parking areas to limit anti-social behaviour in carparks.
- Provision for servicing of adjoining infrastructure with safety in mind for all park users.

### 7.3 Amenity Building Strategy



- Existing amenities buildings
- Potential building location and envelope

The provision of amenities must focus on convenience and accessibility to both passive and active users within the park area. Where new structures are necessary, the design of buildings must be oriented to reduce impacts to sightlines, be well lit, and situated in locations which will be well activated. All buildings must meet DDA and relevant accessibility standards.

#### Existing Built Form

**BE1** - The central amenities block - Recently licensed to Arncliffe Aurora and will undergo renovations, allowing it to support both the sporting needs as well as the needs of the general community

**BE2** - Golf driving range facilities - currently privately run and managed. There is an additional storage shed within the north section of the fenced golf driving range.

**BE3** - A small building that requires demolition due to its poor structural condition poorly sited into a former landfill mound which must be reinstated.

#### Future Built Form

BF1 and BF2 indicates potential locations and suitable building envelopes to support sports activities. The addition of new buildings will be carefully considered to protect sight lines, ensure feasible connections to services, and servicing from existing road network.

The introduction of new buildings is limited to avoid intrusions on public open space and crime prevention through environmental design (CPTED) to deter vandalism, ongoing maintenance and liability for council.

New buildings cannot be attached to existing structures and must be designed to meet current legislation guidelines and contemporary standards.

Ideally the upgrade of existing building facilities will cater to multiple user groups - such as summer and winter sports organisations, as well as provide public access to toilets and shelter.

BF3 indicates potential location for a small amenity block of toilets and basins for the park users.

Figure 67 - Proposed amenity building strategy

## 7.4 Fencing and Barrier Approach

The masterplan seeks to maximise public access, passive surveillance, and expansive sightlines. Physical fences often detract from the quality of open space potentially alienating legitimate users. Fences and barriers contribute to the management of hazards and conflicts and assist the protection of property when properly designed.

Fencing and barriers wherever required, should maintain visual continuity, limit clutter and contribute positively to a high aesthetic quality that is legible and unobtrusive. The material selection must be robust and durable.

The diagram below illustrates the extensive use of high security fencing that has largely fallen into disrepair creating hazards in their current state. This heavy security approach is no longer appropriate for public open space that is intended to be highly utilised and inviting to the public. The past approach was necessary due to the isolated and neglected nature of the park until now.



Figure 68 - Proposed fencing plan

### Active Precinct

Fencing and barriers in the multi-sport hub is required to protect the fields by managing the movement of vehicles as well as ensuring that balls are controlled to protect park users to reduce the risk of accidents. The multi-sport hub will remain open to users beyond the sporting partners and welcoming the general public.

The topography of the site offers a series of mounds which create some natural barriers that reduce the nature of ball hazards and will reduce the requirement for continuous fencing.

High fencing within the park is only acceptable surrounding the golf driving range and goal mouths to protect adjacent users.

Golf driving range fence to be moved 3-5m and replaced with higher fence with ball deflector.

In selecting material fencing may include modular components, removable sections, flexibility in design to allow for low-cost modifications. The public domain should remain transparent and pedestrian focused. Barriers such as bollards are useful where the public domain takes precedence where gating and movement control is required. Ensuring seamless public domain is essential to ensure appropriate access including universal access to the site.

### Adjacent to M5 motorway

Operational areas and areas adjacent to critical infrastructure require security fencing to remain for public safety reasons. Existing fences along M5 motorway is chain link fence, and in poor condition. These areas may require anti-throw protection mesh-screens and will be referred to TFNSW to determine the standard required to protect their asset.

### Adjacent to wetland

There are several wetlands within the park or in its vicinity. These wetlands are important habitat to many wildlife including Green and Golden Bell Frogs. Exclusion fencing and sediment controls are appropriate in these areas. Any new barriers need to be designed to be wildlife-friendly solutions that allow for habitat connectivity, wildlife passage, and biodiversity conservation, as well as avoid disrupting natural drainage patterns, nesting sites, or wildlife corridors. Special barriers will be required during construction to manage risks to wildlife.

### Open Spaces

Physical fencing will be minimised in the public open space to ensure clear sightlines and uncluttered views. Lower boundary fences will be considered in some locations to reduce hazards in the vicinity of playgrounds and adjacent roads and to control vehicles. In some areas there will be a need for fencing/barriers to manage user conflicts such as where pedestrian and cycle movements may converge.

### Adjacent Foreshore Waterside

During the detail design stage, risk assessments will be undertaken as part of the design process to determine the extent of fencing and barriers along the edge of water bodies and adjacent steep slopes. Balustrade fencing could be creatively designed to enhance the park's visual appeal, create interesting vistas, and provide opportunities for interpretation or art installations.

### Gates

Council manages parks with controlled gates to manage vehicle access after sunset. This will be considered in the context of legitimate user needs.



## 7.5 The Cooks River Paddle Trail Access

Paddle and kayak launching facilities will be welcome enhancements to the Cooks River Paddle Trail that connects 25km network of waterways along the Cooks River, Wollie Creek and Botany Bay for leisurely water pursuits. Bayside Council has received feedback from the community that there is a strong desire for additional paddling and kayaking facilities and has proactively tried to obtain funding for additional facilities via grants from State Government agencies that to date have not been successful.

Safe access to the water for paddlers is currently not available in the Muddy Creek Basin or Riverine Park precinct and will be positive for environmental and human health by allowing people to access the water without having to come into contact with the creek bed.

Any facility must be located east of the pedestrian bridge that connects Barton Park to Riverine Park. This is due to the low water levels within the Spring St drain being insufficient for launching water craft particularly during low tides. At high tides the water levels may be adequate however the low level of clearance available under the pedestrian bridge may only be suitable for kayaks as paddle boarders will not have adequate clearance.

Any additional access points are more suitable for hitching and waiting rather than launching as the distance from the nearest available carpark is 250m. Features may include ledges, with hand rails and securing points to help people lower themselves into their crafts safely. Given its location under the PSA additional facilities such as seating, lighting and picnicking will not be possible. Floating pontoons are less likely to be feasible and deter anglers as due to its location under the Airport Public Safety Zone such activities must be discouraged.



## 7.6 Planting Strategy

### General

Prioritise native plant species and promote biodiversity and habitat. Implement sustainable water management practices such as WSUD stormwater management to redirect overland flow into adjacent waterbodies via rain gardens to improve water quality by increasing water supply especially in drought periods. Support tree growth in hardscape areas with adequate soil volumes. Select species which suit current conditions and are resilient to future climate conditions.

Ensure sightlines are maintained through existing and proposed planting areas. Ensure planting is positioned with mature form in mind to reduce obstruction of cycleways, footpaths and driveways. Proactively manage existing vegetation for improved passive surveillance, tree health and sight lines for active transport corridor.



### Active Recreation

Planting selection should promote quality canopy cover to protect spectators. Consider limiting the use of species which drop leaves, limbs or fruit close to sports fields. Ensure clear sightlines are maintained and vegetation does not conflict with active sports, cycleways and footpaths.



Botanical Name	Common Name
<b>TREES</b>	
<i>Angophora costata</i>	Sydney Red Gum
<i>Cupaniopsis anacardioides</i>	Tuckeroo
<i>Corymbia gummifera</i>	Red Bloodwood
<i>Elaeocarpus reticulatus</i>	Blueberry Ash
<i>Eucalyptus robusta</i>	Swamp Mahogany
<i>Eucalyptus saligna</i>	Sydney Blue Gum
<i>Melaleuca linariifolia</i> cv.	Snow in Summer
<i>Melaleuca quinquenervia</i>	Broad Leaved Paperbark
note - restrict tree species height to meet Airport PSA requirements	

Botanical Name	Common Name
<b>SHRUBS</b>	
<i>Banksia spinulosa</i> 'Birthday Candles'	Birthday candles
<i>Callistemon</i> 'Better John'	Better John
<i>Callistemon</i> 'White Anzac'	White Anzac
<i>Westringia fruticosa</i> 'Zena'	Zena

Botanical Name	Common Name
<b>GROUND COVERS / GRASSES</b>	
<i>Crinum pedunculatum</i>	Swamp lilly
<i>Dianella caerulea</i>	Flax lilly
<i>Grevillea juniperina</i> 'Gold Cluster'	Juniper grevillea
<i>Grevillea lanigera</i> 'Mt Tamboritha'	Mt Tamboritha
<i>Grevillea rosmarinifolia</i>	Rosemary grevillea
<i>Hibbertia scandens</i>	Snake Vine
<i>Lomandra</i> 'Lime Tuff'	Lime Tuff
<i>Lomandra longifolia</i>	Spiny-headed Mat-rush
<i>Lomandra</i> 'Verday'	Verday
<i>Myoporum parvifolium</i>	Creeping Boobialla
<i>Poa labillardierei</i>	Tussock grass



## Passive Recreation

Planting selection to enhance public amenity, maximising existing mature tree canopy and expanding upon it with endemic species. Groundcovers, shrubs and sedge species should be used to separate spaces and uses while maintaining clear sightlines.



Botanical Name	Common Name
<b>TREES</b>	
<i>Acmena smithii</i>	Lilly Pilly
<i>Allocasuarina distyla</i>	Scrub She-Oak
<i>Angophora costata</i>	Smooth-barked Apple
<i>Angophora floribunda</i>	Rough-barked Apple
<i>Banksia integrifolia</i>	Coast Banksia
<i>Banksia serrata</i>	Old Man Banksia
<i>Casuarina cunninghamiana</i>	River She-Oak
<i>Casuarina glauca</i>	Swamp Oak
<i>Corymbia gummifera</i>	Red Bloodwood
<i>Corymbia maculata</i>	Spotted Gum
<i>Elaeocarpus reticulatus</i>	Blueberry Ash
<i>Eucalyptus robusta</i>	Swamp Mahogany
<i>Eucalyptus saligna</i>	Sydney Blue Gum
<i>Glochidion ferdinandi</i>	Cheese Tree
<i>Hymenosporum flavum</i>	Native Frangipani
<i>Lophostemon confertus</i>	Queensland Brushbox
<i>Melaleuca linariifolia</i>	Paperbark
<i>Melaleuca styphelioides</i>	Prickly-leaved Paperbark
<i>Melaleuca quinquenervia</i>	Broad-leaved Paperbark
note - restrict tree species height to meet Airport PSA requirements	

Botanical Name	Common Name
<b>GROUND COVERS / GRASSES</b>	
<i>Astroloma pinifolium</i>	Pine Heath
<i>Baeckea imbricata</i>	Spindly Baeckea
<i>Billardiera scandens</i>	Apple Berry
<i>Dianella caerulea</i>	Blue Flax Lily
<i>Dianella revoluta</i>	Blueberry Lily
<i>Dichondra repens</i>	Kidney-Weed
<i>Entolasia marginata</i>	Bordered Panic
<i>Ficinia nodosa</i>	Knotted Club-rush
<i>Gahnia clarkei</i>	Tall Saw-sedge
<i>Hardenbergia violacea</i>	False Sarsaparilla
<i>Hibbertia fasciculata</i>	Golden Guinea Vine
<i>Hibbertia scandens</i>	Snake Vine
<i>Hypolepis muelleri</i>	Harsh Ground Fern
<i>Imperata cylindrica</i>	Blood Grass
<i>Kennedia rubicunda</i>	Dusky Coral Pea
<i>Leucopogon ericoides</i>	Pink Beard Heath
<i>Lomandra longifolia</i>	Spiny-Headed Mat Rush
<i>Poa labillardierei</i> 'Eskdale'	Tussock Grass
<i>Scaevola</i> 'Purple Fanfare'	Purple Fanfare
<i>Themeda australis</i>	Kangaroo Grass
<i>Viola hederacea</i>	Native Violet

Botanical Name	Common Name
<b>SHRUBS</b>	
<i>Acacia longifolia</i>	Sydney Golden Wattle
<i>Acacia longifolia</i> var <i>sophorae</i>	Sydney Golden Wattle
<i>Acacia redolens</i>	Prostrate Acacia
<i>Acacia suaveolens</i>	Sweet Wattle
<i>Acacia terminalis</i>	Sunshine Wattle
<i>Acacia ulicifolia</i>	Prickly Moses
<i>Adenanthos sericeus</i>	Woolly Bush
<i>Banksia aemula</i>	Wallum Banksia
<i>Banksia ericifolia</i>	Heath-leaved Banksia
<i>Banksia integrifolia</i>	Coastal Banksia
<i>Banksia oblongifolia</i>	Fern-leaf Banksia
<i>Banksia spinulosa</i>	Hairpin Banksia
<i>Callistemon citrinus</i>	Crimson Bottlebrush
<i>Correa alba</i>	White Correa
<i>Correa decumbens</i>	Spreading Correa
<i>Correa</i> 'Dusky Bells'	Dusky Bells
<i>Dodonaea triquetra</i>	Common Hop Bush
<i>Grevillea linearifolia</i>	Linear Leaf Grevillea
<i>Grevillea sericea</i>	Spider-flower Grevillea
<i>Hakea laurina</i>	Pin-cushion Hakea
<i>Hakea teretifolia</i>	Dagger Hakea
<i>Lambertia formosa</i>	Mountain Devil
<i>Leptospermum laevigatum</i>	Coastal Tea-tree
<i>Leptospermum polygalifolium</i>	Tantoon
<i>Leptospermum trinervium</i>	Flaky-barked Tea Tree
<i>Melaleuca nodosa</i>	Grey Honey Myrtle
<i>Melaleuca squamea</i>	Swamp Honey Myrtle
<i>Melaleuca thymifolia</i>	Honey Myrtle
<i>Persoonia nutans</i>	Nodding Geebung
<i>Pittosporum undulatum</i>	Sweet Pittosporum
<i>Rhagodia spinescens</i>	Creeping Salt Bush
<i>Viminaria juncea</i> 'Golden Spray'	Golden Spray
<i>Westringia fruticosa</i>	Coastal Rosemary



## Environmental

Planting selection to promote the creation of habitat, stormwater filtration and supporting remnant vegetation communities. Careful positioning of plants to maintain passive surveillance and line of site is essential.



Botanical Name	Common Name
<b>TREES</b>	
<i>Acmena smithii</i> *	Lilly Pilly
<i>Allocasuarina littoralis</i>	Black She-oak
<i>Angophora costata</i> *	Sydney Red Gum
<i>Banksia integrifolia</i>	Coastal Banksia
<i>Banksia serrata</i> *	Old Man Banksia
<i>Casuarina glauca</i>	Swamp she-oak
<i>Corymbia gummifera</i>	Red Bloodwood
<i>Elaeocarpus reticulatus</i> *	Blueberry Ash
<i>Eucalyptus saligna</i> *	Sydney Blue Gum
<i>Lophostemon confertus</i> *	Queensland Brushbox
<i>Melaleuca quinquenervia</i>	Broad-leaved Paperbark
<i>Melaleuca quinquenervia</i>	Broad-leaved Paperbark
<i>Melaleuca ericifolia</i>	Swamp Paperbark
<i>Melaleuca linariifolia</i>	Snow-in-Summer

note - restrict tree species height to meet Airport PSA requirements

\* indicates suitability for Green and Gold Bell Frog habitat

Botanical Name	Common Name
<b>SHRUBS</b>	
<i>Acacia elongata</i>	Swamp Wattle
<i>Banksia aemula</i> *	Wallum Banksia
<i>Banksia ericifolia</i> *	Heath-leaved Banksia
<i>Banksia integrifolia</i>	Coastal Banksia
<i>Banksia oblongifolia</i> *	Fern-leaf Banksia
<i>Bauera rubioides</i>	River Rose
<i>Callistemon citrinus</i> *	Crimson Bottlebrush
<i>Correa alba</i> *	White Correa
<i>Dillwynia sericea</i> *	Showy Parrot Pea
<i>Dodonaea triquetra</i> *	Common Hop Bush
<i>Eriostemon australasius</i> *	Pink Wax Flower
<i>Grevillea linearifolia</i> *	Linear Leaf Grevillea
<i>Kunzea ambigua</i>	Tick Bush
<i>Kunzea capitata</i> *	Pink Kunzea
<i>Leptospermum laevigatum</i> *	Coastal Tea Tree
<i>Leptospermum polygalifolium</i> *	Tantoon
<i>Leptospermum trinervium</i> *	Paperbark Tea Tree
<i>Leucopogon ericoides</i>	Pink Beard-heath
<i>Melaleuca squamea</i>	Swamp Honey-myrtle
<i>Persoonia nutans</i> *	Nodding Geebung
<i>Ricinocarpos pinifolius</i> *	Wedding Bush
<i>Westringia fruticosa</i> *	Coastal Rosemary

\* indicates suitability for Green and Gold Bell Frog habitat

Botanical Name	Common Name
<b>GROUND COVERS / GRASSES</b>	
<i>Caustis pentandra</i>	Thick Twist-rush
<i>Dianella revoluta</i>	Blueberry Lily
<i>Echinopogon caespitosus</i>	Hedgehog Grass
<i>Epacris microphylla</i>	Coral Heath
<i>Hibbertia fasciculata</i>	Bundled Guinea Flower
<i>Hardenbergia violacea</i> *	False sarsaparilla
<i>Hibbertia scandens</i> *	Snake Vine
<i>Imperata cylindrica</i> *	Blood Grass
<i>Leptospermum laterale</i>	Variable Sword-sedge
<i>Lomandra longifolia</i> *	Spiny-headed Mat-rush
<i>Microlaena stipoides</i> *	Weeping Grass
<i>Poa labillardierei 'Eskdale'</i> *	Tussock Grass
<i>Themeda australis</i> *	Kangaroo Grass

\* indicates suitability for Green and Gold Bell Frog habitat

Botanical Name	Common Name
<b>LOWER BANKS / FREQUENTLY INUNDATED</b>	
<i>Baumea articulata</i>	Jointed Twig-rush
<i>Baumea juncea</i>	Bare Twig rush
<i>Bolboschoenus fluviatilis</i>	River Bulrush
<i>Eleocharis acuta</i>	Common Spikerush
<i>Juncus kraussii</i>	Salt Marsh Rush
<i>Potamogeton tricarlinatus</i>	Floating Pondweed
<i>Schoenoplectus mucronatus</i>	Bog Bulrush
<i>Schoenoplectus validus</i>	Softstem Bulrush
<i>Triglochin procerum</i>	Water Ribbons

Botanical Name	Common Name
<b>UPPER BANKS / INFREQUENTLY INUNDATED</b>	
<i>Carex appressa</i>	Tall Sedge
<i>Ficinia nodosa</i>	Knobby Club Rush
<i>Lepidosperma laterale</i>	Variable Sword-sedge
<i>Imperata cylindrica</i>	Blady Grass
<i>Spinifex sericeus</i>	Coastal Spinifex

## 8. Staging and Funding Strategy

Work Description	QS Valuation	Potential Funding Source
<b>Short-Term (0-3 years)</b>		
Demolition (not including any buildings) - including removal of redundant fencing	\$1,498,585	SRV / Contributions / VPA or Grant
Soil and Water Management	\$319,044	SRV / Contributions / VPA or Grant
Earthworks	\$2,774,090	SRV / Contributions / VPA or Grant
Drainage	\$213,300	SRV / Contributions / Stormwater Levy / VPA or Grant
Works under SWSOOS to connect to Pemulwuy Park	\$588,750	Contributions / VPA or Grant
Open Lawn - improvements to existing grass areas other than sports fields	\$134,141	SRV / Contributions / VPA or Grant
Passive Park Facilities incl. playground, 3 point basketball & outdoor fitness	\$2,250,000	SRV / Contributions / VPA or Grant
Share Path Circuit including lighting & sections of elevated boardwalks where required	\$6,405,297	SRV / Contributions / VPA or Grant
Improving Access and Amenity	\$250,000	SRV / Contributions / VPA / Grant or Sporting Partners
External Electrical Services	\$62,500	SRV / Contributions / VPA or Grant
Environmental Buffer - areas beyond Spring Creek Naturalisation	\$4,750,000	Grant / VPA
Protection of Frog Habitat - provisional sum as part of construction activities	\$315,000	Grant / VPA
Additional Sporting Amenity Buildings - subject to further investigation	Excl	By others - Sporting Partners
Active Recreation Area - improvements to existing fields, additional lights, seating etc	Excl	By others - Sporting Partners
Car Park & Road Works - realignment and upgrade including WSUD	\$4,008,407	SRV / Contributions / VPA or Grant
Overflow parking	\$190,008	SRV / Contributions / VPA / Grant or Sporting Partners
Plane Spotting Slope	\$331,440	SRV / Contributions / VPA or Grant
Revegetation, Landscaping and Furniture	\$548,583	SRV / Contributions / VPA or Grant
Demolition of abandoned building	TBC	SRV
	<b>\$24,639,145</b>	
<b>Medium-Term (3-6 years)</b>		
Spring Creek Naturalisation & Wetlands - quantified separately based on option under development	\$14,966,990	SRV / Contributions / Stormwater Levy / VPA or Grant
Pedestrian Bridge over Spring Creek	\$1,030,625	SRV
Community Gardens - supporting facilities such as fencing, paths, seating and park shelter except planting beds	\$407,760	Contributions / VPA or Grant
New public amenities buildings	\$1,500,000	Contributions / VPA or Grant
	<b>\$17,905,375</b>	
<b>Long-Term (6-10years)</b>		
Bridge over Muddy Creek (connect to Kyeemagh)	\$3,763,000	SRV / Contributions / VPA or Grant
Restoration of sea wall along Cooks River embankment	TBC	TBC
Signalised crossing at West Botany Street and Spring Street intersection & associated civil works	TBC	Contributions / VPA or Grant
	<b>\$3,763,000</b>	
	<b>\$46,307,520</b>	
Design and Professional Fees (8.5%)	\$4,374,788	SRV / Contributions / VPA or Grant
Contingency (10%)	\$5,068,231	SRV / Contributions / VPA or Grant
Project Management (3%)	\$1,389,226	SRV / Contributions / VPA or Grant
Ecologist during construction (18 months)	\$216,000	SRV / Contributions / VPA or Grant

There are a range of funding sources that could be considered to deliver this significant project.

The list below provides an indication of how the project could be funded.

An Infrastructure Levy is currently collected for the area covering Riverine Park. This funding is available to fund replacement of existing infrastructure.

Council collects contributions from developments that generate additional demand and growth of infrastructure such as recreational facilities. These funds are collected under Section 7.11 and S7.12 of Environmental Planning & Assessment Act, 1979 (EP&A Act).

Council collects a Community Safety Levy specifically for enhancing community safety.

Council charges a Stormwater Levy to undertake significant improvements to the stormwater system to provide a cleaner and safer environment for the benefit of owners, residents and visitors.

Council will pro-actively seek grants from other government agencies to help achieve the vision for Riverine Park. This can include:

- Metropolitan Green Space Grants
- Environmental Grants for interface with wetland areas eg. Lookouts, interpretation, bush regeneration etc
- Sport and Recreation Grants
- Water quality Grants
- Coastal Grants
- Active Transport Grants
- Vegetation Management Grants
- Art and Education Grants

Council is partnering with sporting organisations that will assist in funding certain components identified in this plan.

# 9. Next steps

The draft Riverine Park Masterplan was exhibited for 4 weeks between 13 May 2024 and 10 June 2024.

Council received considerable feedback with strong support for the masterplan. The results of the Have Your Say process and feedback received were reported to Council on 24 July 2024. ([https://infoweb.bayside.nsw.gov.au/Open/2024/07/CO\\_24072024\\_MIN\\_4476.PDF](https://infoweb.bayside.nsw.gov.au/Open/2024/07/CO_24072024_MIN_4476.PDF) ) Community feedback informed the final masterplan with revisions that include a fenced dog off-leash park and paddle and kayak access/hitching location.

Priorities as determined by Council will proceed to detail design stage and further community engagement in due course.

Council will submit grant applications for suitable programs. Council is waiting to hear the results of the Urban Rivers and Catchment Program to find out if an application for \$10 million was successful for the wetland and naturalisation project. An announcement is pending.

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