

NORTH

DISTRICT

SYDNEY GREEN GRID
SPATIAL FRAMEWORK AND PROJECT OPPORTUNITIES

PREFACE

Open space is one of Sydney's greatest assets. Our national parks, harbour, beaches, coastal walks, waterfront promenades, rivers, playgrounds and reserves are integral to the character and life of the city.

In this report the hydrological, recreational and ecological fragments of the city are mapped and then pulled together into a proposition for a cohesive green infrastructure network for greater Sydney.

This report builds on investigations undertaken by the Office of the Government Architect for the Department of Planning and Environment in the development of District Plans. It interrogates the vision and objectives of the Sydney Green Grid and uses a combination of GIS data mapping and consultation to develop an overview of the green infrastructure needs and character of each district.

Each district is analysed for its spatial qualities, open space, waterways, its context and key natural features. This data informs a series of strategic opportunities for building the Sydney Green Grid within each district. Green Grid project opportunities have been identified and preliminary prioritisation has been informed by a comprehensive consultation process with stakeholders, including landowners and state and local government agencies.

This report is one step in an ongoing process. It provides preliminary prioritisation of Green Grid opportunities in terms of their strategic potential as catalysts for the establishment of a new interconnected high performance green infrastructure network which will support healthy urban growth. Future reports should be undertaken to assess the future delivery and implementation strategies of Green Grid projects.

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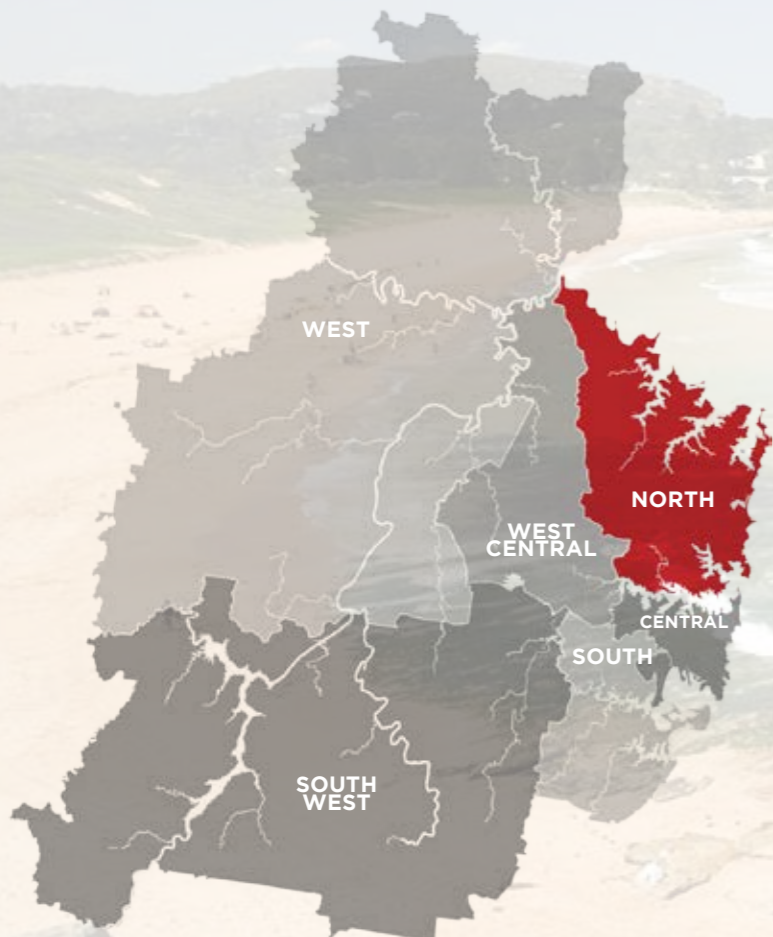
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PREPARED FOR
DEPARTMENT OF
PLANNING AND ENVIRONMENT

IN ASSOCIATION WITH
THE OFFICE OF
THE GOVERNMENT ARCHITECT

NORTH

SPATIAL FRAMEWORK



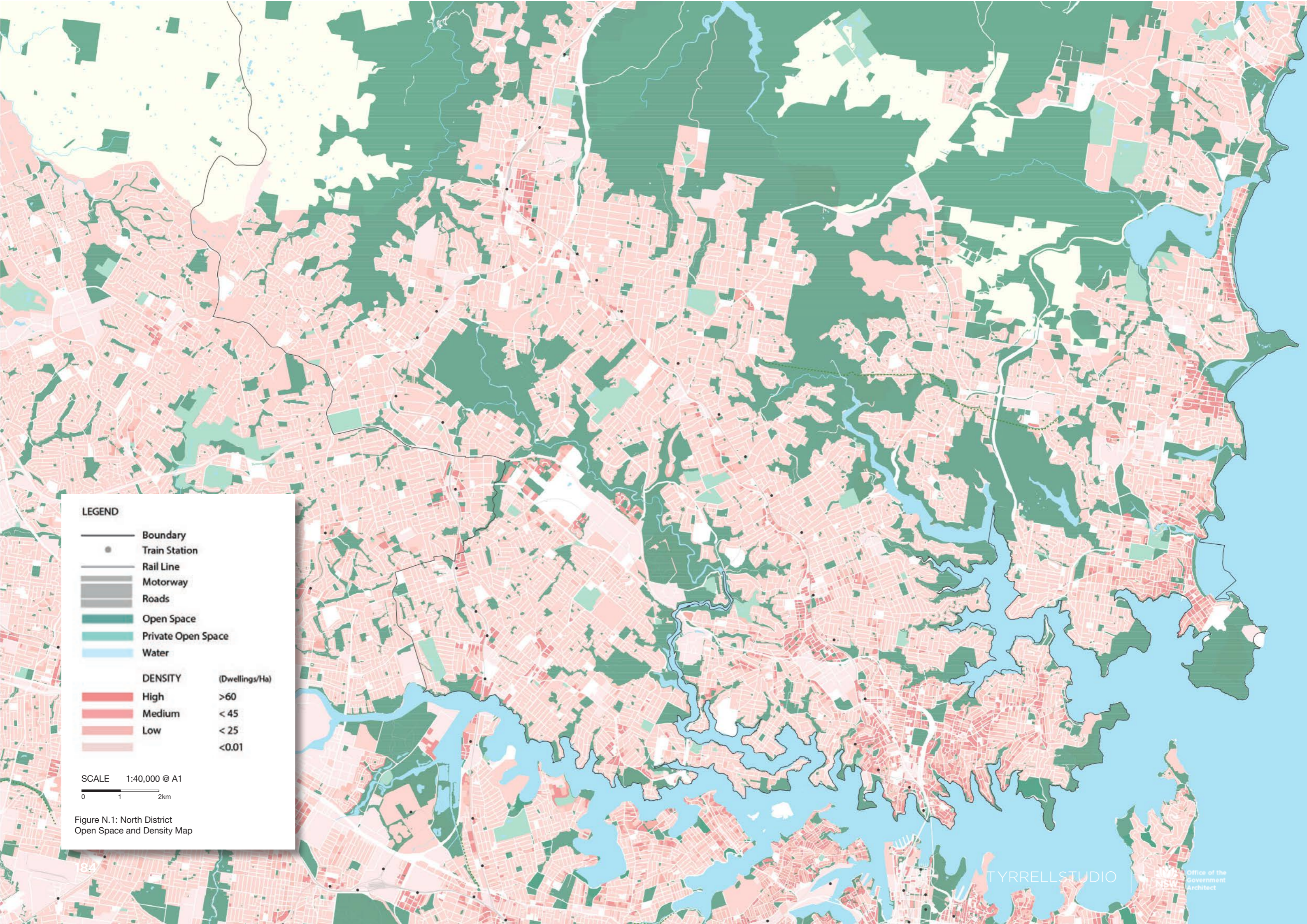
196,350

ADDITIONAL
PEOPLE
BY2036

2 MAJOR RIVER
CATCHMENTS

52% OF THE DISTRICT IS
OPEN SPACE

49,930 HECTARES
OPEN SPACE



LEGEND

-  Boundary
-  Train Station
-  Rail Line
-  Motorway
-  Roads
-  Open Space
-  Private Open Space
-  Water

- DENSITY (Dwellings/Ha)**
-  High >60
-  Medium < 45
-  Low < 25
-  <0.01

SCALE 1:40,000 @ A1

0 1 2km

Figure N.1: North District
Open Space and Density Map

NORTH DISTRICT

1.1 LANDSCAPE CHARACTER

THE HISTORY OF DEVELOPMENT AND THE CHARACTER OF SYDNEY HAS BEEN INFLUENCED BY TOPOGRAPHY AND MANY OF THE UNDERLYING LANDSCAPE FEATURES. THE SYDNEY GREEN GRID BUILDS UPON THIS GEOMORPHOLOGY OF THE CITY TO CREATE LOCALLY RESPONSIVE OPEN SPACE STRATEGIES AND SOLUTIONS. THESE LANDSCAPE FEATURES HAVE BEEN USED TO ESTABLISH A FRAMEWORK FOR FUTURE PROJECT AND DEVELOPMENT OPPORTUNITIES.



Bradleys Head Harbour Walk



Dobroyd Scenic Drive



Manly Beach

The North district is characterised by an extensive terrain of Hawkesbury sandstone plateaus deeply incised with heavily vegetated river valleys. Forming the basis for a number of catchments these flow north, south and east towards The Hawkesbury River, Sydney Harbour and the Coast.

The Hawkesbury River, Ku-ring-gai and the Berowra Valley

The Hawkesbury River forms the most northern edge of the district and is primarily defined by Ku-ring-gai Chase and Marramarra. These National Parks create some of Sydney's most scenic and tranquil regional destinations. Berowra and Cowan Creeks supply the Hawkesbury and begin in the developed urban fringes of Sydney's North suburbs at Hornsby, Cherrybrook, Wahroonga, St Ives and Terrey Hills.

From on the sandstone plateaus these waterways quickly descend into the deep river valleys and pass through extensive natural landscapes. Much of these areas have remained protected from early agricultural expansion and urbanisation because of the poor sandy soils and topography. As a key centre, Hornsby occupies a unique position poised between the Berowra Valley and Cowan Valley, surrounded by a wealth of natural landscapes and great regional walks.

The Harbour, Lane Cove and Middle Harbour

To the south, Lane Cove River and Middle Creek flow towards Sydney Harbour. These waterways and their steep topography have retained many areas of natural vegetation and heritage value. The catchments that these two systems

form include a much more urbanised landscape. Development along the Harbour foreshores is well established, with views of picturesque harbour highly sought after. While mostly privately owned there are a number of regionally significant sites along the foreshore at Woolwich Bay, Waverton Peninsula, and Middle head. Many of the sites have been protected through former defence and industry uses and form part of the Sydney Harbour Federation Trust sites.

The steeper terrain further up these catchments has protected more extensive corridors of remnant vegetation and foreshore land. As an example the Lane Cove River corridor forms the basis for Sydney's most significant walking routes, the Great North Walk. These corridors provide a significant recreation opportunity and natural resource for Sydney. Given the

proximity to existing development and in particular key sites of urban activation such as Macquarie Park, these river corridors provide a unique nature experience within close proximity to the city.

The Coast and the Northern Beaches

Along the coastline of the North Shore the landscape is defined by a dramatic series of headlands, beaches, bays, estuaries, lagoons and the Barranjoey Peninsula. Popular beaches include Manly, Curl Curl, Dee Why, Palm Beach and Narrabeen.

Starting in the Hawkesbury Sandstone plateaus to the west in areas such as Manly Dam, Frenchs Forest and Terrey Hills, a series of smaller waterways fall towards the coast.

These waterways establish a number

of lagoons and estuaries with their own distinct character. Narrabeen Lakes is the largest of the Northern Beaches Lagoons and is fed from the catchment of Deep Creek in the Garigal National Park. Recent work has been undertaken to develop this as an iconic tourist destination and an important recreation opportunity for local residents.

The proximity of these lagoons to urban development and key centres such as Brookvale, Dee Why and Manly makes them highly sensitive and also a great opportunity for establishing unique recreation opportunities within the urban environment. Future work within these areas should continue to promote the valuable role these landscapes play in creating healthy environments and contributing to the character of the district.

The Great Coastal Walk traverses the dramatic seaside cliffs, headlands and protected beaches along the coastline. This landscape similar to Sydney's eastern beaches is a major regional destination for all Sydneysiders.

PLANNING FOR OPEN SPACE SHOULD BE COORDINATED WITH THE DELIVERY OF MAJOR PROJECTS AND INFRASTRUCTURE. IT SHOULD ALSO RESPOND TO THE EXISTING URBAN CHARACTER OF THE REGION, KEY CENTRES AND POPULATION DENSITY.

1.2 STRATEGIC CONTEXT

This District is located to the north of Sydney Harbour with a settlement pattern determined by topography. The generally leafy suburbs arranged along ridgetops, the coast and surrounding steep bushland valleys creates a distinctive character for existing development in the region. With a relatively long history of European settlement compared to other Sydney suburbs the north has an extensive range of heritage assets along with well established communities. The district also has a large number of Aboriginal heritage assets protected from development and located within the large natural areas. The cultural heritage combined with high levels of natural amenity have contributed to the desirability of the district as a place to live. As growth within the region occurs, the preservation of the existing character and natural amenity is of paramount importance.

The districts extensive range of bushland reserves, national parks, walks, trails, lagoons and beaches serve as important destinations for not only local residents but also Sydney's wider population and international visitors. The impacts of new infrastructure and population increase should be integrated with these existing assets and the districts landscape quality.

North Sydney

The key economic centre for the North District is focused around North Sydney. Urban development is densest along Sydney Harbour and the coast line as well as in broad corridors along the major ridge lines and plateaus. North Sydney forms a gateway to much of the district occupying a key point of convergence for much of the North Shores major infrastructure corridors.

Transport

Historically, the primary driver for development within the region was the establishment of the North Shore and Northern rail line. This generated many of the garden suburbs that exist within the region. Today development is more expansive and follows major roads such as the Pacific Highway, Military/ Spit/ Pittwater Road, Lane Cove, Epping and Victoria Road. Natural barriers created by the valleys of Middle Harbour and Lane Cove River reinforce the exclusive nature of many areas of development with limited transport

connections and restricted access.

Three transport infrastructure projects have the potential to influence the access and future growth within the region, the Sydney Metro Northwest, the potential Parramatta Light Rail and North Connex. Future transport interchanges should function as civic space and key points of departure for a larger open space network. Improving pedestrian/cycle access across existing infrastructure barriers as well as providing new links in association with projects such as the Sydney Metro Northwest will facilitate the creation of a better connected open space network.

Urban Renewal

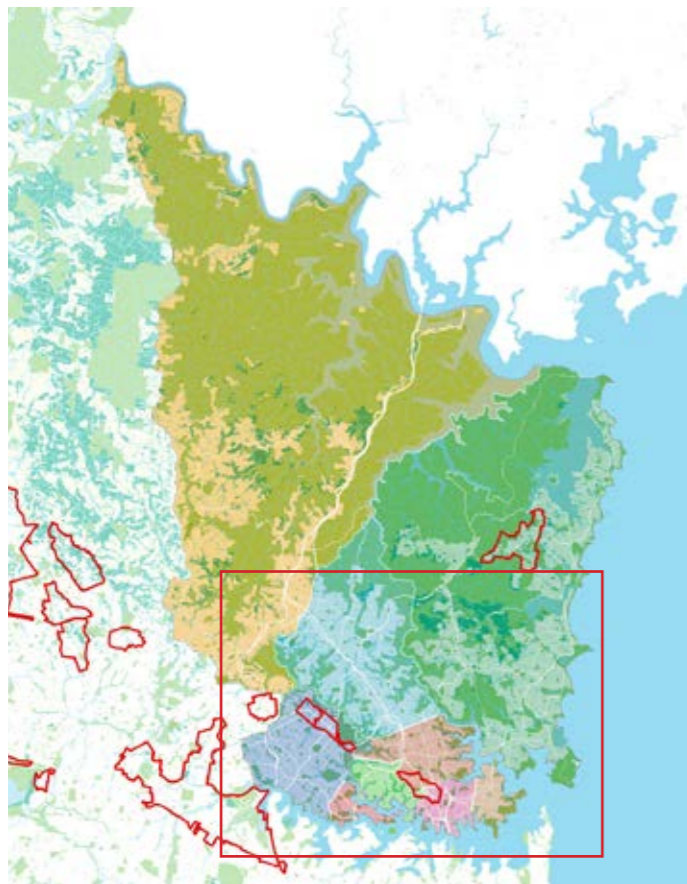
Future growth within the region is focused primarily around existing and future transport infrastructure projects along with existing key centres, in particular the part of the district that contributes to Sydney's 'Global Economic Corridor', between Sydney Airport and Macquarie Park. The corridor will be developed as Sydney's most important cluster of professional and service industry jobs, with an expected additional 213,000 jobs by 2031.

Macquarie Park faces significant change, being identified as areas for mixed use and higher density housing. This area has the potential to be better connected with the Lane Cove River as a key open space corridor.

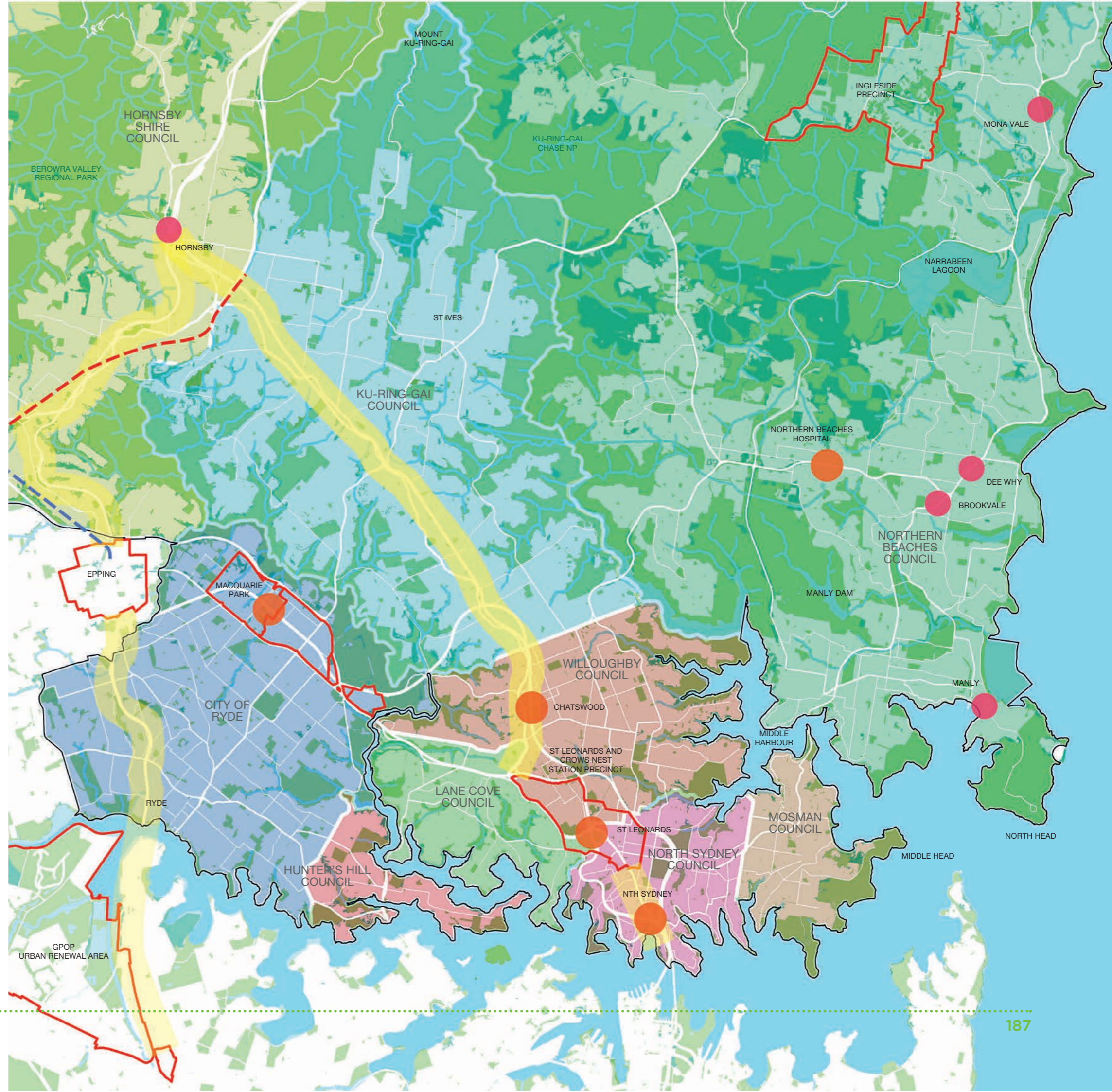
Dee Why and Brookvale are already undergoing significant transformation and local councils have been undertaking work to try and ensure open space and public domain is integrated effectively with these communities. There is significant opportunity for greater regional connections from these centres to the northern beaches lagoon landscapes as well as to improve walking and cycling connections between the Warringah Mall, Brookvale and Dee Why..

The proposed Frenchs Forest Health precinct will have a major impact on the future character of the suburb. Opportunities exist to ensure that this centre can help mitigate some of the barriers created by large scale road infrastructure. Better connections for cyclists and pedestrians between open spaces such as Manly Dam, Garigal National Park and Middle Creek Reserve would benefit residents and workers and create a well connected regional network.

North Sydney



North District Location Plan



LEGEND

- Motorway
- Roads
- Train Station
- Rail Line
- Strategic Centre
- District Centre
- Key Regional Open Space
- District Open Space
- Local Open Space
- Private Open Space
- Priority Precincts and Priority Growth Areas
- Urban Renewal Corridors
- Sydney Metro Northwest
- Northconnex

SCALE 1:40,000 @ A1



Figure N.2: North District LGA Plan

NORTH DISTRICT

1.3 PROJECT OPPORTUNITY CLUSTERS

THE STRATEGIC FRAMEWORK PROVIDES AN OVERVIEW OF REGIONAL OPEN SPACE OPPORTUNITIES AS A SERIES OF PROJECT OPPORTUNITY CLUSTERS. THESE CLUSTERS ARE FORMED AROUND THE DISTRICTS STRATEGIC CONTEXT AND KEY LANDSCAPE FEATURES. IT IS ENVISAGED THAT THESE CLUSTERS FORM A STARTING POINT FOR ENSURING THE MORE GENERALISED DISTRICT STRATEGIES AND ANY FUTURE PROJECT DELIVERY RESPONDS TO THE LOCAL STRATEGIC CONTEXT AND LANDSCAPE CONDITIONS.

ND.1.1 BARRANJOEY HEADLAND TO MANLY BEACH

The Eastern Coastline of the Northern District is a dramatic landscape of craggy headlands and protected beaches. The Great Coastal Walk traverses this landscape and provides a unique regional recreation opportunity for residents and tourists alike. This asset should continue to be supported and any chance for increasing the quality of the existing walk or expanding areas of foreshore access should be undertaken. Improving pedestrian and cycle access from surrounding suburbs and sustainable transport connections from areas further west should be explored.

ND.1.2 NORTHERN BEACHES COASTAL LAGOONS

Narrabeen, Dee Why, Curl Curl and Manly coastal lagoons are all valuable environmental resources and natural landscape features which contribute to the unique identity of the area. Home to a wide variety of plants and wildlife, these environments, with careful management, can also support the recreational needs of the surrounding communities and wider region.

Narrabeen Lagoon is the largest of the four lagoons and a great recreation asset and wildlife sanctuary. Recent works being undertaken to improve access around the lagoon are a good example of the recreation and environmental role the lagoons can play in the larger urban context.

ND.1.3 MANLY DAM

Also known as Manly Warringah Memorial Park the Manly Dam is a great regional destination with a range of walking, cycling and water sport recreation opportunities. With the development of the Frenchs Forest Hospital Precinct to the north, opportunities for improving connections between the Dam and the precinct should be investigated. Improved crossing points should also be investigated across Wakehurst Parkway to Forestville Park and Garigal National Park.

ND.1.4 MIDDLE HARBOUR

With numerous small waterways and a rugged terrain, Middle Harbour supports an extensive range of bushland, parks and reserves. This natural feature between Sydney and the Northern Beaches is one of Sydney Harbours most beautiful waterways. Recent access work within

the Dobroyd Headland National Park is a great example of increasing the access opportunities and the visitor potential of these areas. Many of the remnant bushland parks within Middle Harbour and along Middle Creek could have improved access that would increase the recreational opportunities and the usage of these areas by surrounding communities (such as Flat Rock Gully reserve). With such extensive areas of bushland situated in an urban environment landscape management is critical. Continued support for the many local bush care groups is important for conserving the environmental value of these landscapes.

ND.1.5 PARRAMATTA RIVER AND SYDNEY HARBOUR

Sydney's harbour and waterways are one of the cities greatest assets. While much work has been done improving access to the waterfront, opportunities still exist to improve access to this regional resource for everyone. With an extensive range of islands and foreshore areas there are many pockets of native bushland, picturesque swimming spots and historic sites. The Sydney Harbour Federation Trust manages some of the most historically significant and picturesque locations around Sydney Harbour and has initiated exemplar projects such as linking Taronga Zoo to Balmoral Beach.

ND.1.6 NORTH SYDNEY

North Sydney currently is one of the densest suburbs and largest commercial centres in the district but has a limited supply of isolated open space. Large infrastructure corridors dissect the suburb and poor public domain quality contributes to low amenity for pedestrians and cyclists. As a key centre for the district and an area so close to the harbour, there is an opportunity to greatly improve public domain and CBD's connections to surrounding open space assets.

ND.1.7 LANE COVE RIVER

The Lane Cove River cuts through the sandstone ridge of Sydney's North Shore. Along with many of its supporting tributaries the river creates a series of steep rocky valleys ending in small estuarine swamps and river flats. With a diverse range of remnant bushland of high ecological value, significant Aboriginal heritage sites and a resource for a variety of recreational pursuits the Lane Cove River will play an important role in supporting growth in the district. Better connections between Epping town centre and Lane Cove River should be investigated.

ND.1.8 THE GREAT NORTH WALK

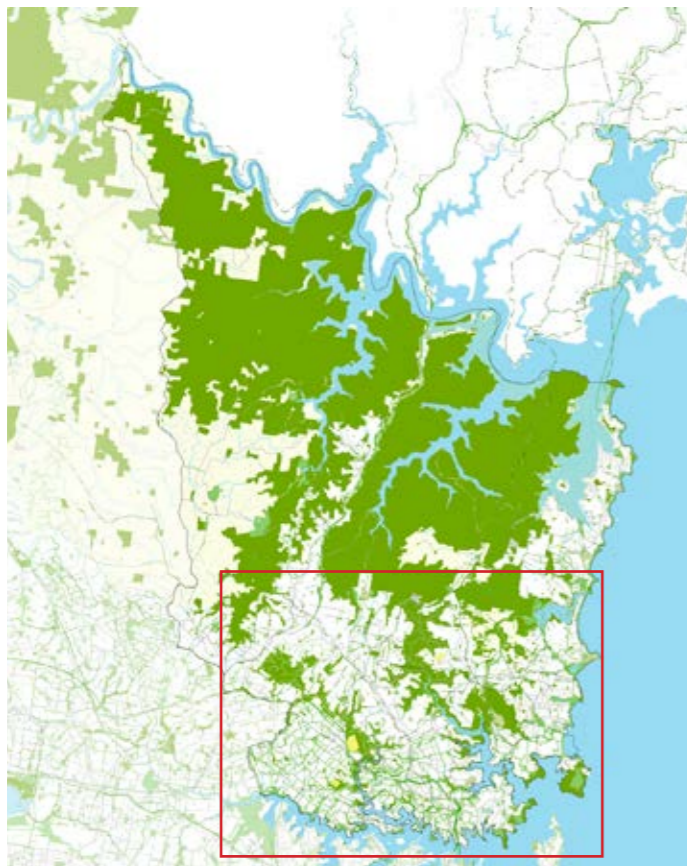
The Great North Walk is a Bicentenary project and extends 250km from Newcastle to Lane Cove. It crosses many different landscapes and passes many areas of Aboriginal and European significance. Due its length it is often undertaken in different stages and provides a great recreation resource for local communities as well as wider Sydney. Access upgrades are managed by the NPWS and should continue to be supported. In particular access across the Hornsby Rifle Range land within the Berowra Valley needs further resolution. Improved local access from nearby train stations and town centres along the walk should also be investigated.

ND.1.9 HORNSBY AND THE BEROWRA VALLEY

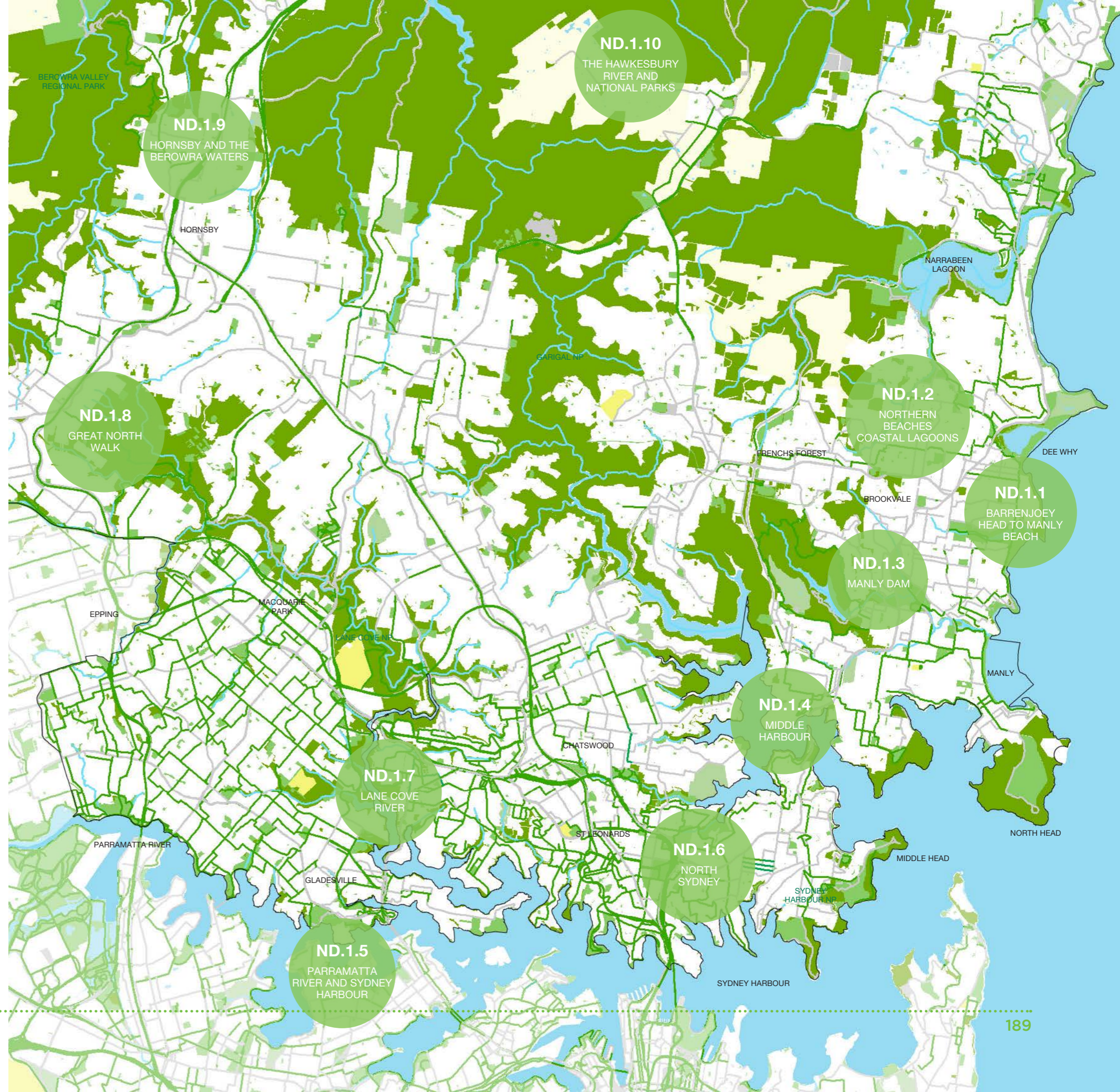
The Berowra Valley is a key bushland link for the Great North Walk. Sitting between Hornsby, Thornleigh, Cherrybrook and Pennant Hills it is a valuable resource for areas of future growth as well as wider Sydney. The natural amenity of this area contributes significantly to the identity of Hornsby as a bushland shire and provides a valuable opportunity for improving access to regional open space from key centres. Access from Hornsby Town Centre to surround bushland assets should be improved.

ND.1.10 THE HAWKESBURY RIVER AND SYDNEY'S GREAT NORTHERN NATIONAL PARKS

The large areas of National Parks and reserves to the North of the District contain an extensive range of landscape types. These large areas of bushland form extensive catchments that protect and enhance many of the Northern districts waterways. One of the largest Ku-ring-gai Chase, is also Australia's second oldest national park. Continuing to improve facilities and access within these extensive reserves is needed to ensure that the regional recreation opportunities within the district meet the needs of the surrounding communities and greater Sydney. Future and existing development needs to also be carefully planned and managed to protect the ecological value and quality of this resource.



North District Location Plan



SCALE 1:40,000 @ A1
 0 1 2km

Figure N.3: North District Project Clusters Plan



Bradleys Head, Mosman

1.4 INCREASE ACCESS TO OPEN SPACE

CONNECT PEOPLE WITH KEY REGIONAL OPEN SPACE AND PROMOTE THE DISTRICTS OPEN SPACE ASSETS THROUGH BETTER CONNECTIONS WITH MAJOR CENTRES, NEW TRANSPORT INFRASTRUCTURE AND AREAS OF URBAN RENEWAL.

The North District has a collection of bushland park reserves, river and creek corridors and natural resources within its catchments that provide significant recreational opportunities across the region. The Lane Cove River, Sydney Harbour and the Hawkesbury Nepean River and their associated creeks and tributaries provide a coherent spatial strategy that defines the North District. Centres such as Hornsby and Chatswood can boast a high level of livability due to their proximity to major river and open space corridors. Destinations such as Manly, Pittwater and Warringah can continue to provide regional recreation opportunities to the rest of Sydney with their access to the coast and its array of beaches.



Berowra Valley, Hornsby



Ku-ring-gai Chase NP



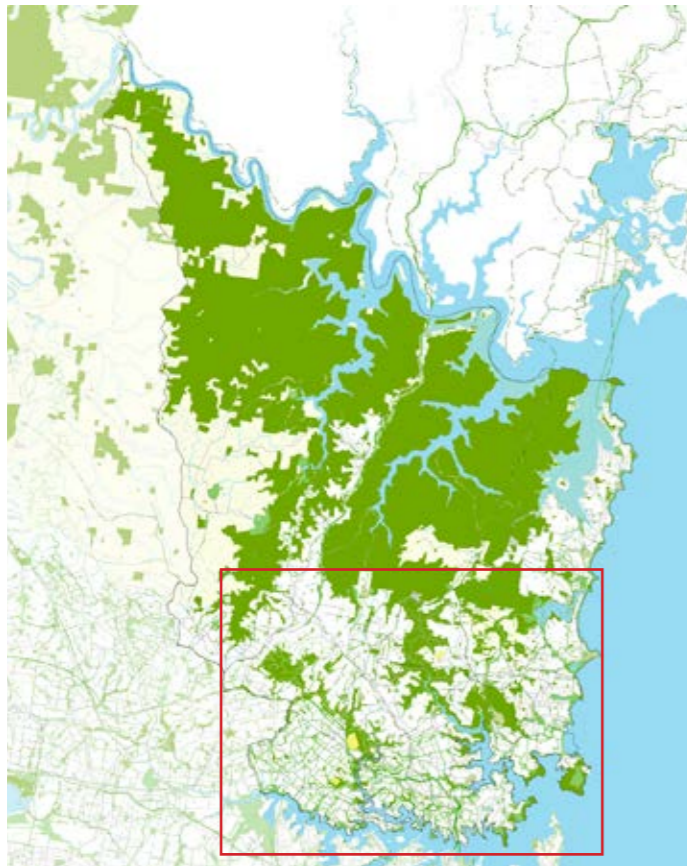
Shelly Beach, Manly

A series of key strategic opportunities have been identified and include:

- Ensure each LGA has a current open space strategy
- Develop a water-based recreational open space strategy;
- Investigate opportunities for increasing the number of regional scaled playgrounds within the district
- Continue support for upgrading and improving access to the Great Coastal Walk and Great North Walk

A series of key project opportunities have been identified and include:

1. Link Hornsby to Berowra Valley through Hornsby Quarry - investigate Hornsby Quarry site and Old Mans Valley as regional open space destinations.



North District Location Plan

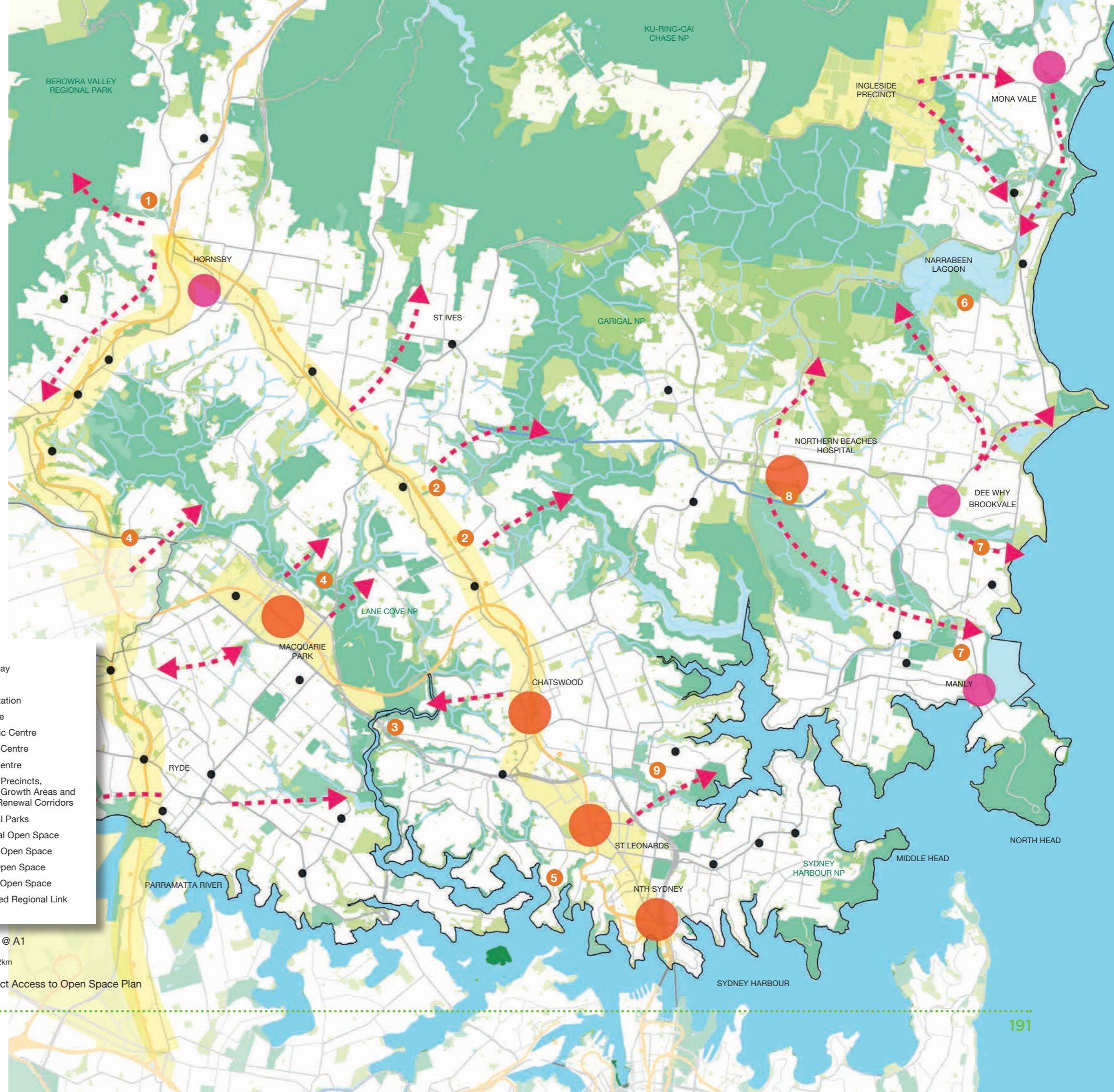
2. Enhance variety of open space uses around Pymble, Gordon and St Ives and improve links into the trail network along Middle Harbour.
3. Enhance key open spaces along the Lane Cove River foreshores to create a range of unique recreational experiences.
4. Link Lane Cove NP to the nearby centres including: Macquarie Park, Macquarie University, Chatswood and Epping.
5. Investigate Waverton Peninsula regional open space opportunities and complete missing links in continuous foreshore access along Sydney
6. Extend the Narrabeen Lagoon Trail along many creeklines including Mullet, South, Dee Why and Middle Creeks. Provide access from surrounding suburbs.
7. Upgrade access and remediate Manly and Curl Curl Lagoons
8. Improve Access to Manly Dam from Frenchs Forest Hospital Precinct Harbour
9. Improve access from St Leonards to Flat Rock Gully and Tunks Park to Middle Harbour.

LEGEND

- Motorway
- Roads
- Train Station
- Rail Line
- Strategic Centre
- District Centre
- Local Centre
- Priority Precincts, Priority Growth Areas and Urban Renewal Corridors
- National Parks
- Regional Open Space
- District Open Space
- Local Open Space
- Private Open Space
- Proposed Regional Link

SCALE 1:40,000 @ A1
0 1 2km

Figure N.4: North District Access to Open Space Plan



CREATE A LIVEABLE GREEN NETWORK OF HIGH QUALITY ACTIVE TRANSPORT LINKS CONNECTING KEY DESTINATIONS, CULTURAL FACILITIES, RECREATION OPPORTUNITIES AND HERITAGE ITEMS.



Narrabeen Lagoon

1.5 PROMOTE HEALTHY AND ACTIVE LIVING



Manly Corso



Manly Corso Bike Path

Walking and cycling are becoming increasingly important recreation and transport choices within the city. Greater opportunities for physical activity contribute significantly to improved health within the community, reducing health costs and increasing quality of life. Walking and cycling have some of the highest participation levels out of all recreation types. Opportunities for increasing Sydney network of active transport links should provide links between the places people live and work and the places that people want to visit.

Changes in many of the neighbourhoods in the district associated with transit oriented developments will give rise to the opportunity to improve footpath networks, introduce street trees and promote pedestrianisation to increase the enjoyment for people travelling across the city on foot and by bike.

1.6 CREATE NEW HIGH QUALITY PUBLIC REALM

ESTABLISH A VIBRANT, PEDESTRIAN FRIENDLY PUBLIC REALM AT KEY CENTRES, TRANSPORT INTERCHANGES AND URBAN RENEWAL AREAS, WITH PLACES FOR GATHERING AND GOOD CONNECTIONS TO OPEN SPACE.



Macquarie University Courtyard



North Sydney Olympic Pool



Hornsby Skate Park

A series of key project opportunities have been identified and include:

1. Provide new civic space in association with development in Hornsby West
2. Connect Hornsby Town Centre and Mall with the Berowra Valley. Improve signage, quality of walking trails and links from Hornsby Park.
3. Connect railway stations along Northern Rail line and key town centres with the Great North Walk.
4. Create high quality civic spaces associated with new exemplar sustainable developments at Ryde
5. Improve connection from Brookvale to Curl Curl Lagoon

A series of key strategic opportunities have been identified and include:

Improve connections across barriers/ major roads and around industrial areas to facilitate access to major regional parks and creek corridors.

Continue support for Sydney Harbour Federation Trust projects and the development of significant regional harbour foreshore projects. Investigate further opportunities at Platypus Neutral Bay.

Build an open space network with high quality public realm at the centre. Squares, plazas and active streets offer important recreation and open space opportunities particularly within high density areas. The public realm offers a starting point for the development of a well used and connected open space network. Key civic spaces or destinations should be integrated with public transport opportunities and existing development.

NORTH DISTRICT

THE HYDROLOGICAL GRID

Identify and minimise disturbance to riparian areas and protect and improve the natural character, ecological integrity, visual amenity and public access to foreshores and rivers.





Examples of major watercourses in the district include Hawkesbury River, Berowra Creek, Cowan Creek, Lane Cove River and Parramatta River.

Improvements to water quality and facilities around the Northern Beaches lagoon network will support aquatic ecosystems and provide greater recreational amenity along the district's coastline. Along the Parramatta River and Port Jackson Bay, improved access to the northern foreshore will help to complete the missing links in the aspiration to provide continuous access to the harbour.

There are five aquatic reserves including Barrenjoey, Narrabeen, Long Reef, Cabbage Tree Bay and North Sydney Harbour Aquatic Reserves.

Mangroves, seagrass meadows and saltmarsh communities occur within the district.

LEGEND

-  District Boundary
-  Concrete Canals
-  Rivers and Creeks
-  Water Bodies

SCALE 1:100,000 @ A1

0 1 2 3 4 5km

Figure N.5: North District Hydrological Grid Plan





LEGEND

- District Boundary
- Concrete Canals
- Rivers and Creeks
- Water Bodies

SCALE 1:40,000 @ A1
 0 1 2km

Figure N.6: North District Hydrological Grid Detail Plan

NORTH DISTRICT

THE ECOLOGICAL GRID

The Northern District has two distinct areas: the urban area in the south and the natural areas in the north. The natural areas include large parks and reserves in the Hawkesbury Nepean catchment such as Garigal National Park, Kuring-gai Chase National Park, Berowra Valley National Park, Sydney Harbour National Park, Muogamarra National Park, Marramarra National Park and Manly Dam. Many of these natural areas are iconic, major tourist destinations that make an important contribution to the district's economy. They also make the area a desirable place to live, attracting new residents and skilled migrants.

A number of threatened ecological communities occur within the district including Blue Gum High Forest, Sydney Turpentine Ironbark Forest, Duffys Forest Ecological Community, Pittwater Spotted Gum Forest, Coastal Upland Swamp, Swamp Oak Floodplain Forest, River-flat Eucalypt Forest, Coastal Saltmarsh, Eastern Suburbs Banksia Scrub and Littoral Rainforest.

Grey-headed Flying-fox camps occur at Gordon, Balgowlah, Warriewood and Avalon.

Endangered Populations of Little Penguin and Long-nosed Bandicoot occur within the Manly area of the district.

Many areas of high biodiversity are protected in national parks and nature reserves, as well as on privately owned land managed for conservation purposes. The protection of biodiversity in the landscape provides a range of environmental, social and economic benefits. Detailed information on areas of high environmental is available from the Office of Environment and Heritage and councils. Where necessary, data and mapping of areas of high environmental value will be ground-truthed to improve accuracy.

The Office of Environment and Heritage has also developed a Biodiversity Investment Opportunities Map (BIO Map) for part of Greater Sydney. The BIO Map identifies priority areas for investment in bushland protection and restoration, comprising core areas of bushland and corridors, that are important at a state and regional level for biodiversity.

Connect biodiverse areas and apply planning and zoning provisions to protect corridors. Corridors aim to provide ecological connectivity, to facilitate the movement and dispersal of native flora and fauna across the landscape. Connecting biodiverse areas is particularly important in the face of climate change. Investigate opportunities to enhance native biodiversity in Green Grid corridors to help expand the urban forest to achieve canopy cover targets.












Protection and offsetting of impacts will be supported by innovative approaches such as Biodiversity Certification and Biodiversity Banking (BioBanking), both of which were supported by the Independent Biodiversity Legislation Review Panel, whose recommendations were endorsed by the NSW Government in early 2015.

The use of Biodiversity Certification in strategic locations is supported as it identifies areas of high conservation value at a landscape scale and these areas can be avoided and protected while identifying areas suitable for development.

The use of BioBanking is supported as it provides in-perpetuity funding and security to protect and enhance the biodiversity values of the protected area.

Engage local communities about the

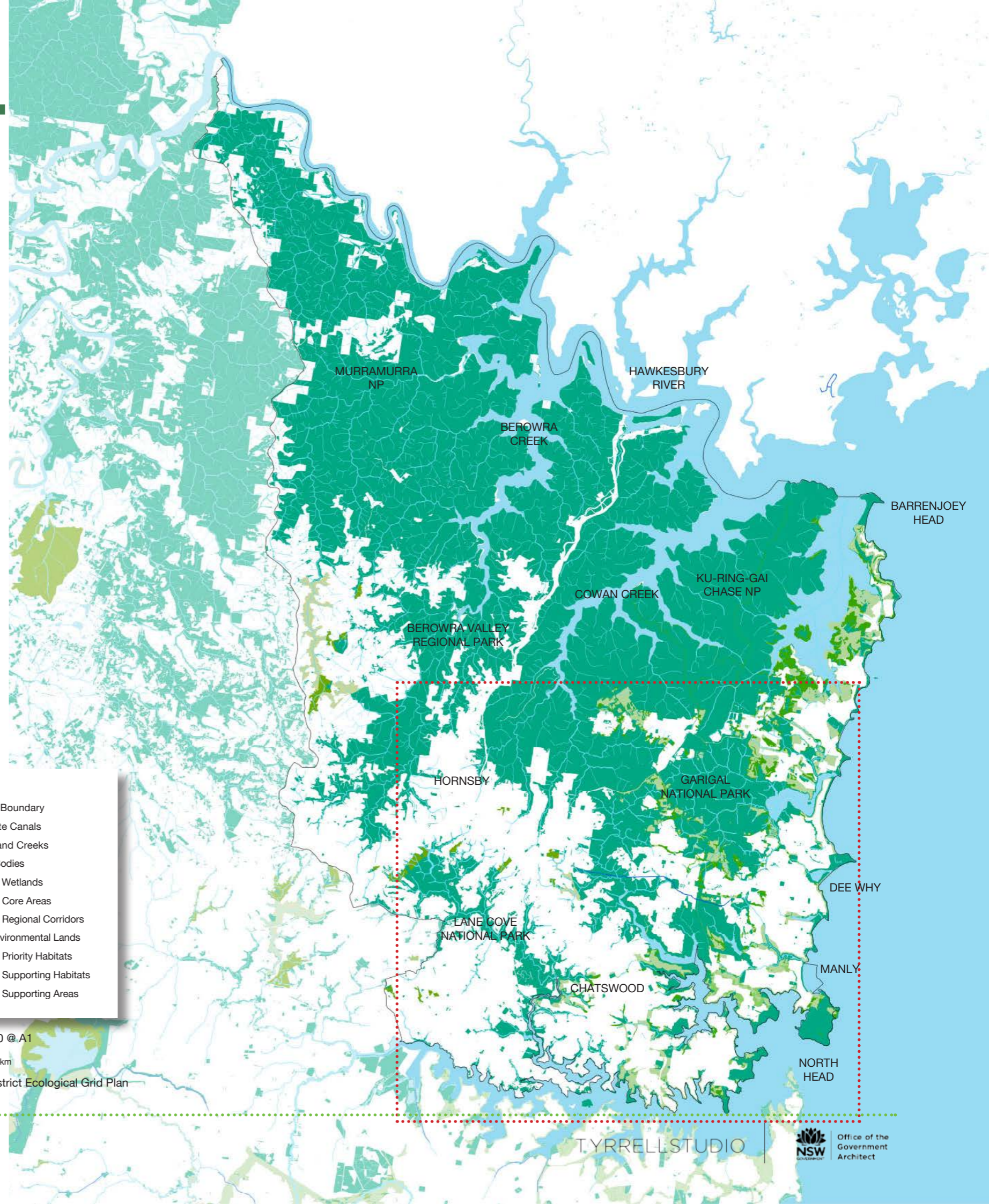
LEGEND

-  District Boundary
-  Concrete Canals
-  Rivers and Creeks
-  Water Bodies
-  Ramsar Wetlands
-  BioMap Core Areas
-  BioMap Regional Corridors
-  High Environmental Lands
-  SSROC Priority Habitats
-  SSROC Supporting Habitats
-  SSROC Supporting Areas

SCALE 1:100,000 @ A1

0 1 2 3 4 5km

Figure N.7: North District Ecological Grid Plan














biological assets of their 'local patch of bush' to encourage active involvement in the protection and enhancement of bushland and other biodiversity. This will require engagement of local communities about the multiple benefits of their local bush and riparian areas and waterways and action to improve the ecological literacy to deepen the community perception of green infrastructure.

Volunteer and community groups are an important sector in the rehabilitation of native vegetation in urban areas. In recognition of the effort and funding dedicated to these areas, a level of protection should be provided through the planning process by applying appropriate provisions and mechanisms.

NOTE: Ecological Grid values and text provided in consultation with the Office of Environment and Heritage [OEH].

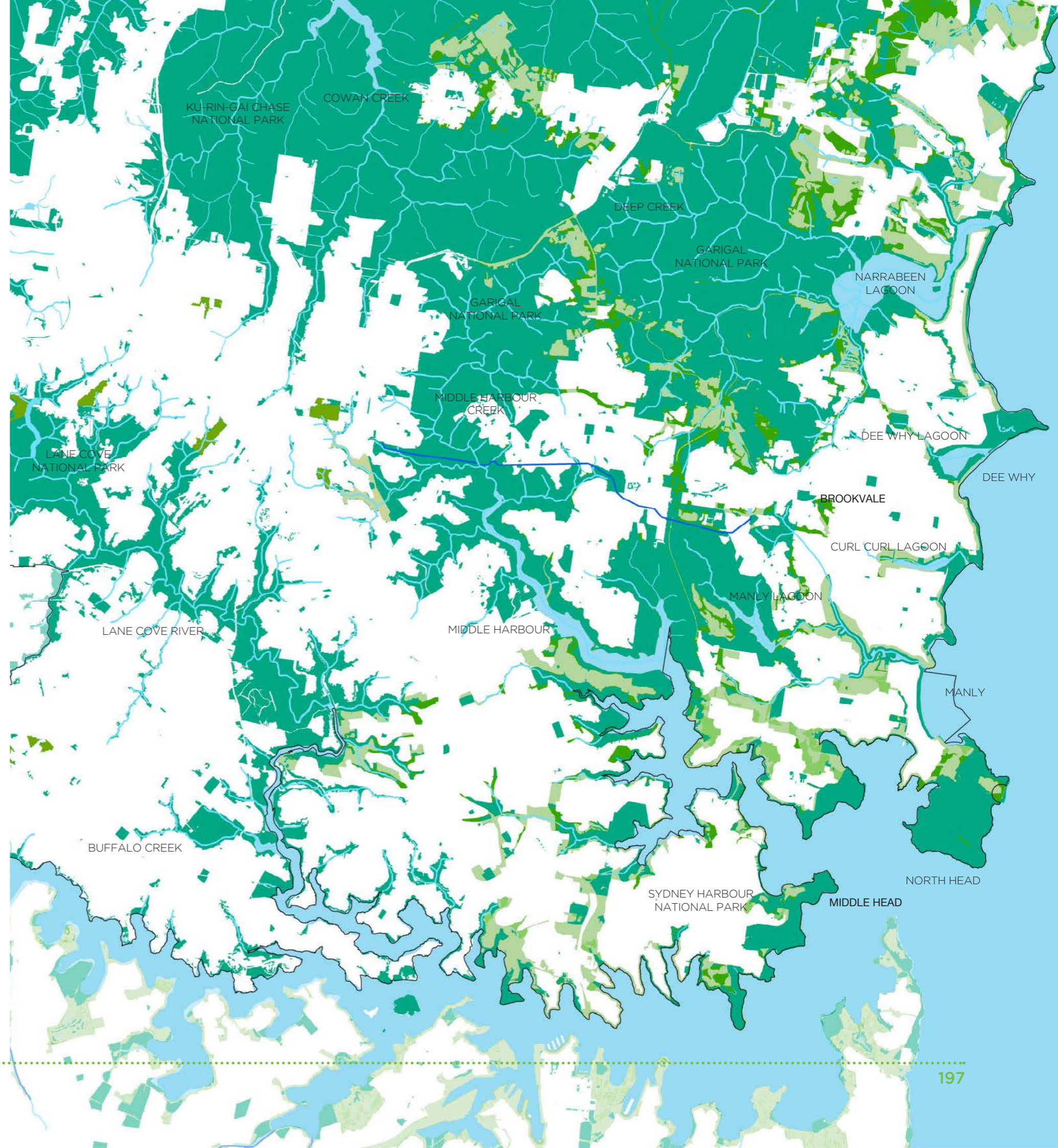
LEGEND

-  District Boundary
-  Concrete Canals
-  Rivers and Creeks
-  Water Bodies
-  Ramsar Wetlands
-  BioMap Core Areas
-  BioMap Regional Corridors
-  High Environmental Lands
-  SSROC Priority Habitats
-  SSROC Supporting Habitats
-  SSROC Supporting Areas

SCALE 1:40,000 @ A1



Figure N.8: North District Ecological Grid Detail Plan



NORTH DISTRICT

THE RECREATIONAL GRID

RECREATION

Key features and findings regarding recreational open space planning for both passive and active sports are currently being analysed and will be described in collaboration with other consultancies.

HERITAGE






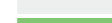







Significant heritage sites include The Great North Walk, Sydney Harbour, Lane Cove River, Barrenjoey Headland and Old Mans Valley.

The protection of important heritage places and landscapes from the early planning stages is important as these places contribute to the district's identity and provide a sense of place, history and visual character. They also contribute to the economy through the attraction of visitors. Heritage is a non-renewable resource and the significance of heritage to the community should be appreciated, valued, protected and conserved for the benefit of current and future generations.

Aboriginal cultural heritage is legally protected in NSW. Protecting Aboriginal heritage means far more than looking after sites in parks or artefacts in museums. Aboriginal people need to be consulted on the conservation of the natural environment and the development of areas.

Acknowledge heritage resources as a 'value addition' in urban development. This will include identifying significant heritage values and incorporating them into developments, including the adaptive reuse of heritage resources.

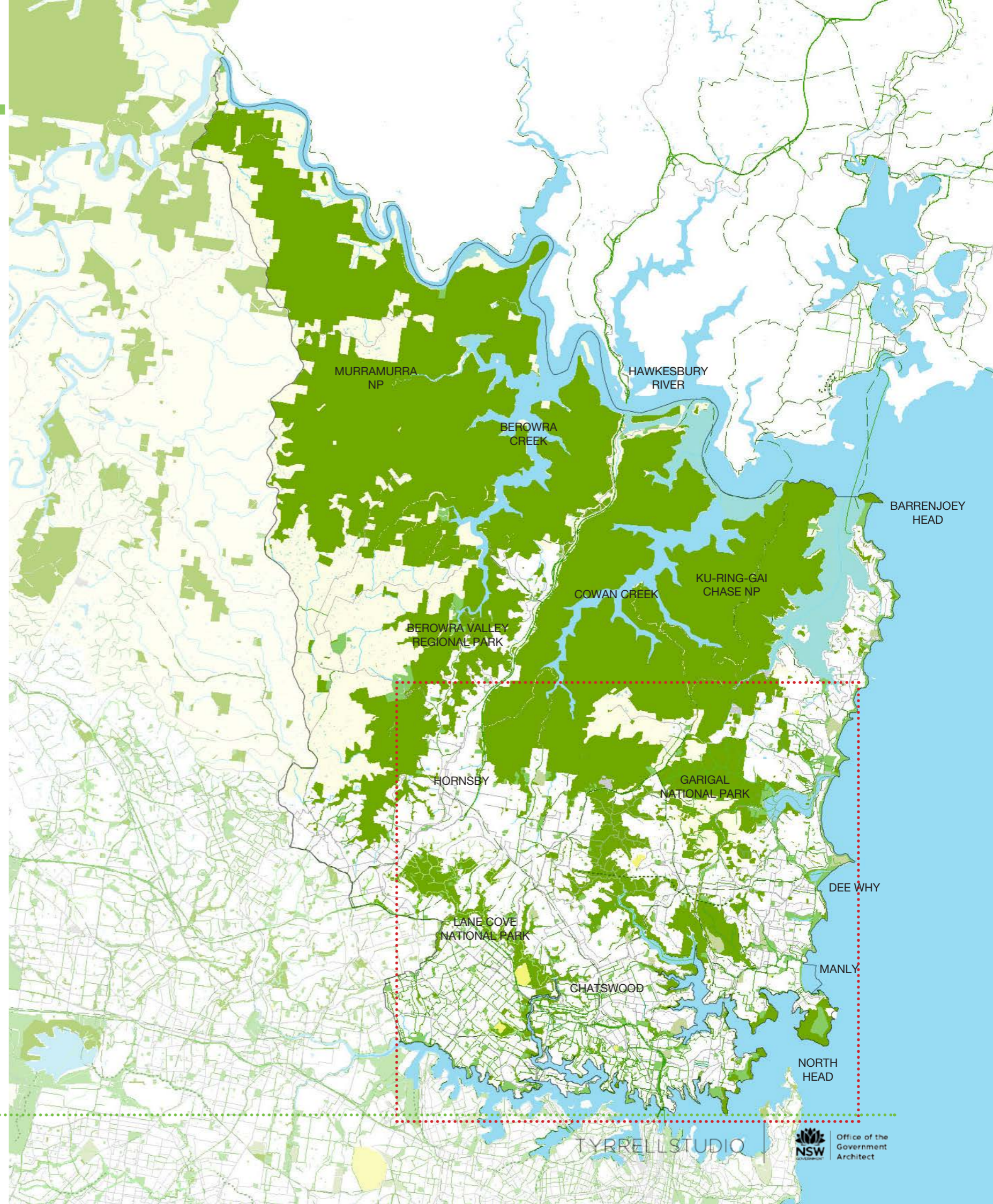
LEGEND

-  District Boundary
-  Concrete Canals
-  Rivers and Creeks
-  Water Bodies
-  Bushland
-  Civic
-  Parklands
-  Cemetery
-  Golf Course
-  Horse Racing
-  Sports
-  Cycleways Existing
-  Cycleways Proposed

SCALE 1:100,000 @ A1
















Figure N.9: North District Recreational Grid Plan





LEGEND

-  District Boundary
-  Concrete Canals
-  Rivers and Creeks
-  Water Bodies
-  Bushland
-  Civic
-  Parklands
-  Cemetery
-  Golf Course
-  Horse Racing
-  Sports
-  Cycleways Existing
-  Cycleways Proposed

SCALE 1:40,000 @ A1

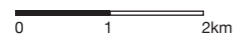
















Figure N.10: North District Recreational Grid Detail Plan

NORTH DISTRICT

GREEN GRID EXISTING VALUES

The Existing Values plan represents a combination of the current values from the Hydrological, Ecological and Recreational Grids.

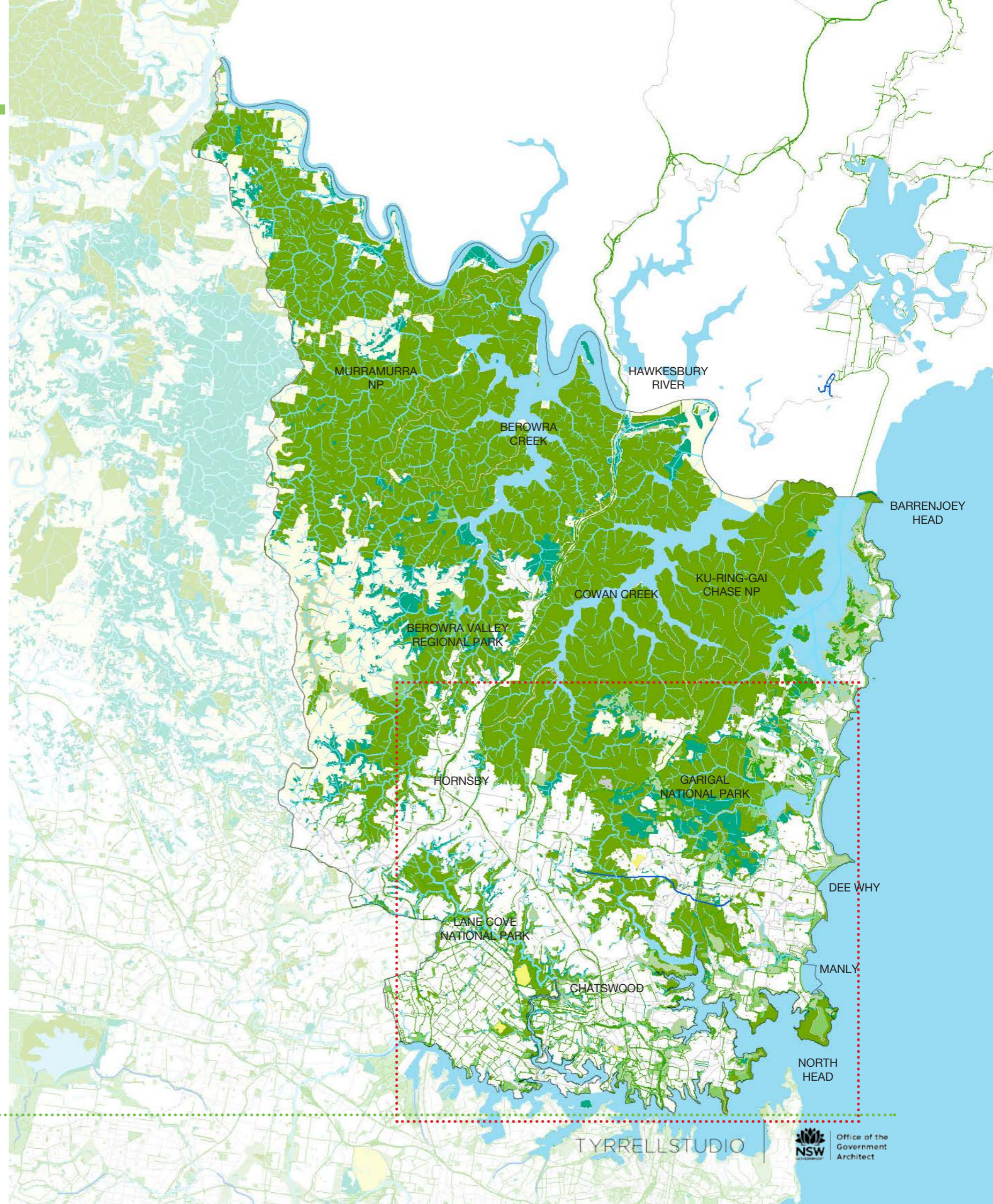
LEGEND

-  District Boundary
-  Concrete Canals
-  Rivers and Creeks
-  Water Bodies
-  Ramsar Wetlands
-  Public Open Space
-  BioMap Core Areas
-  BioMap Regional Corridors
-  High Environmental Lands
-  SSROC Priority Habitats
-  SSROC Supporting Habitats
-  SSROC Supporting Areas
-  Cycleways Existing
-  Cycleways Proposed















SCALE 1:100,000 @ A1

0 1 2 3 4 5km

Figure N.11: North Green Grid Existing Values Plan



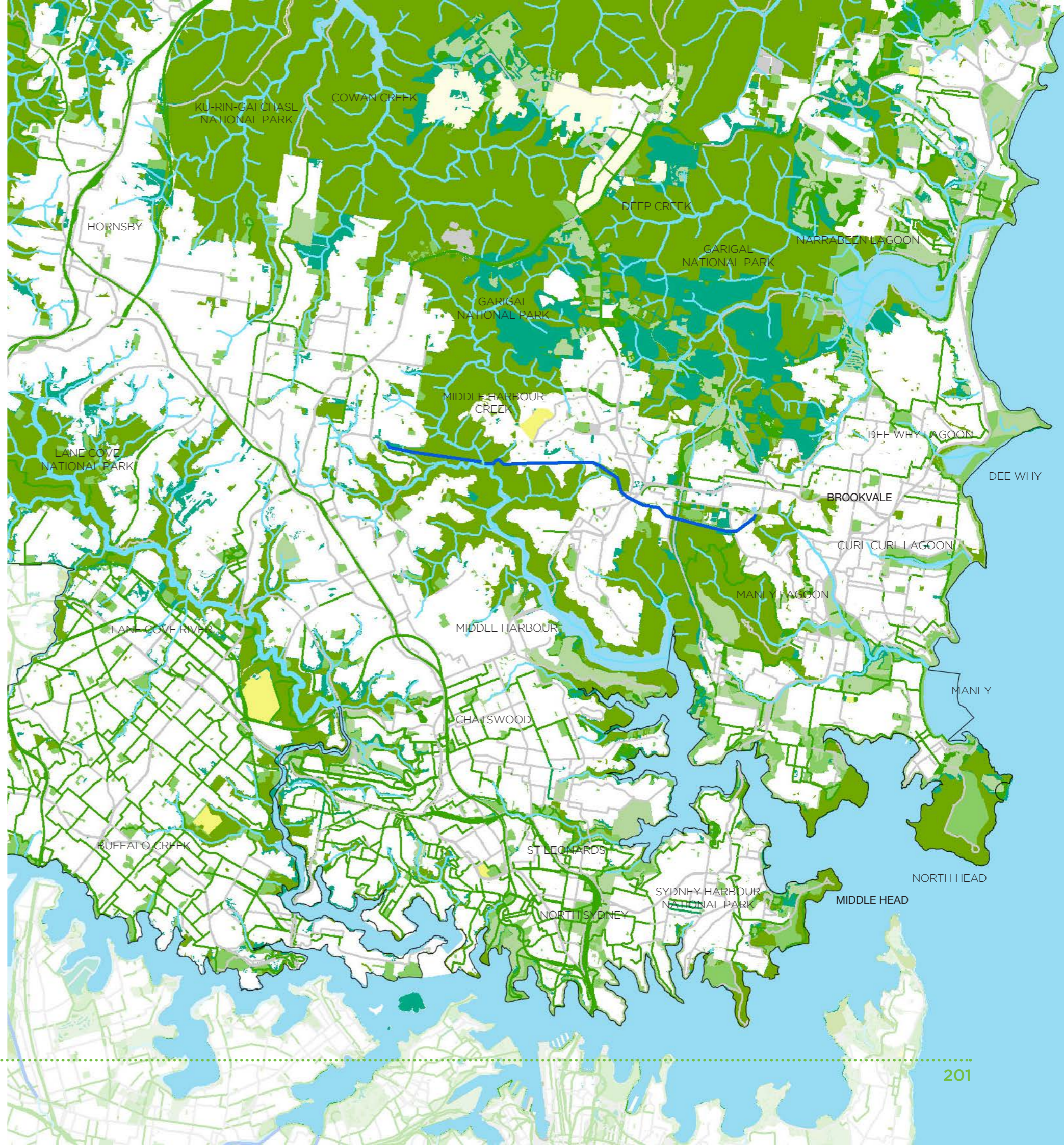
LEGEND

-  District Boundary
-  Concrete Canals
-  Rivers and Creeks
-  Water Bodies
-  Ramsar Wetlands
-  Public Open Space
-  BioMap Core Areas
-  BioMap Regional Corridors
-  High Environmental Lands
-  SSROC Priority Habitats
-  SSROC Supporting Habitats
-  SSROC Supporting Areas
-  Cycleways Existing
-  Cycleways Proposed

SCALE 1:40,000 @ A1



Figure N.12: North Green Grid Existing Values Detail Plan



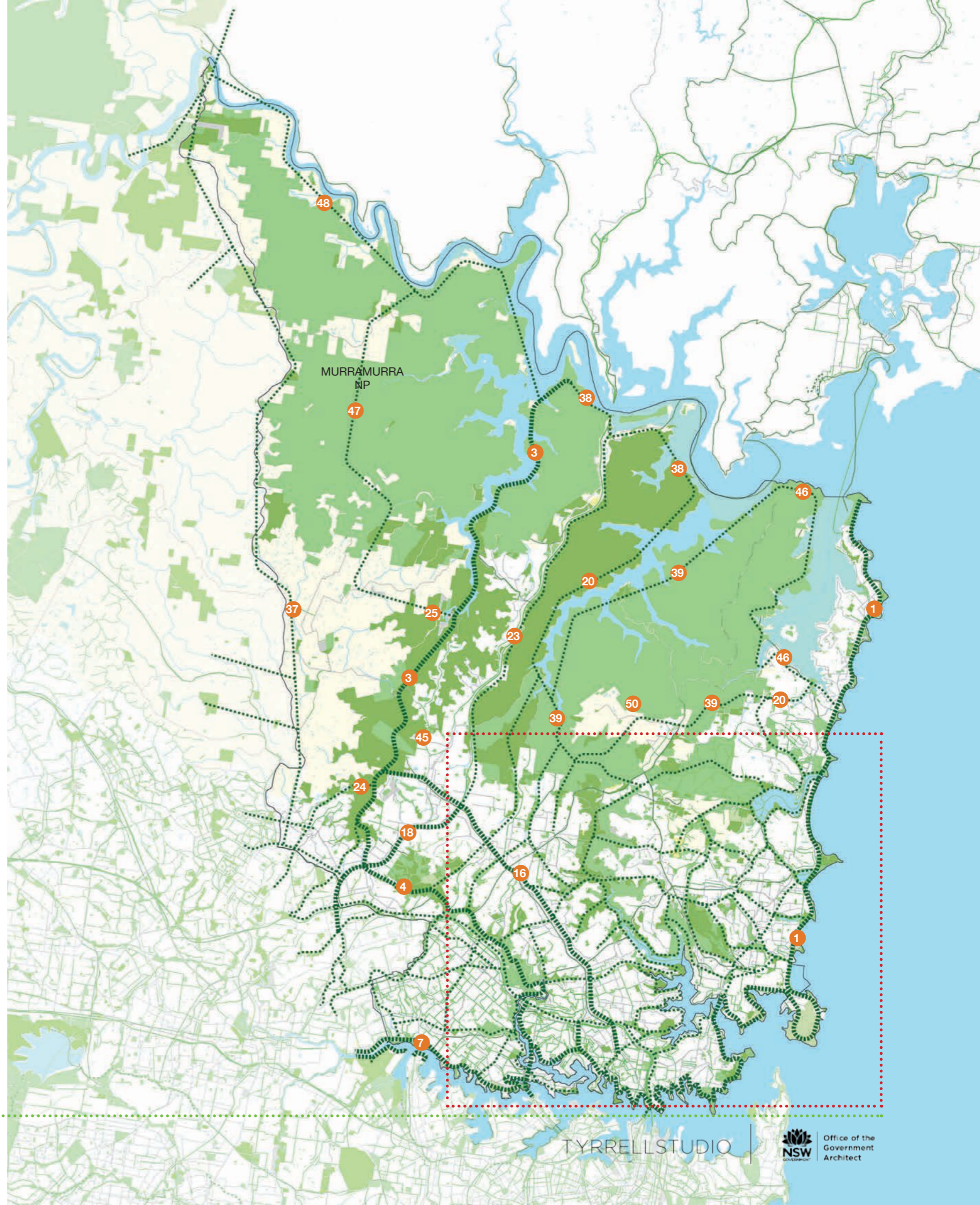
NORTH DISTRICT

GREEN GRID PROJECT OPPORTUNITIES

The list of projects is a compilation of projects derived from the original Green Grid Reports together with the outcome from Greater Sydney Commission's District Plan Workshops and NSW Department of Planning and Environment Open Space Workshops.

This project list represents the projects identified by various interest groups and governments as potential priority projects. The projects are currently being assessed against the GIS data and work methodology as described previously.

The "Dominant Grid Layer" in the Project List refers to the infrastructure layer of the city that is most concerned with this project, and as a result may have funding allocated to it. This layer only represents the project as it currently exists and is not necessarily correlate to its future vision.



SCALE 1:100,000 @ A1

0 1 2 3 4 5km

Figure N.13: North Green Grid Project Opportunities

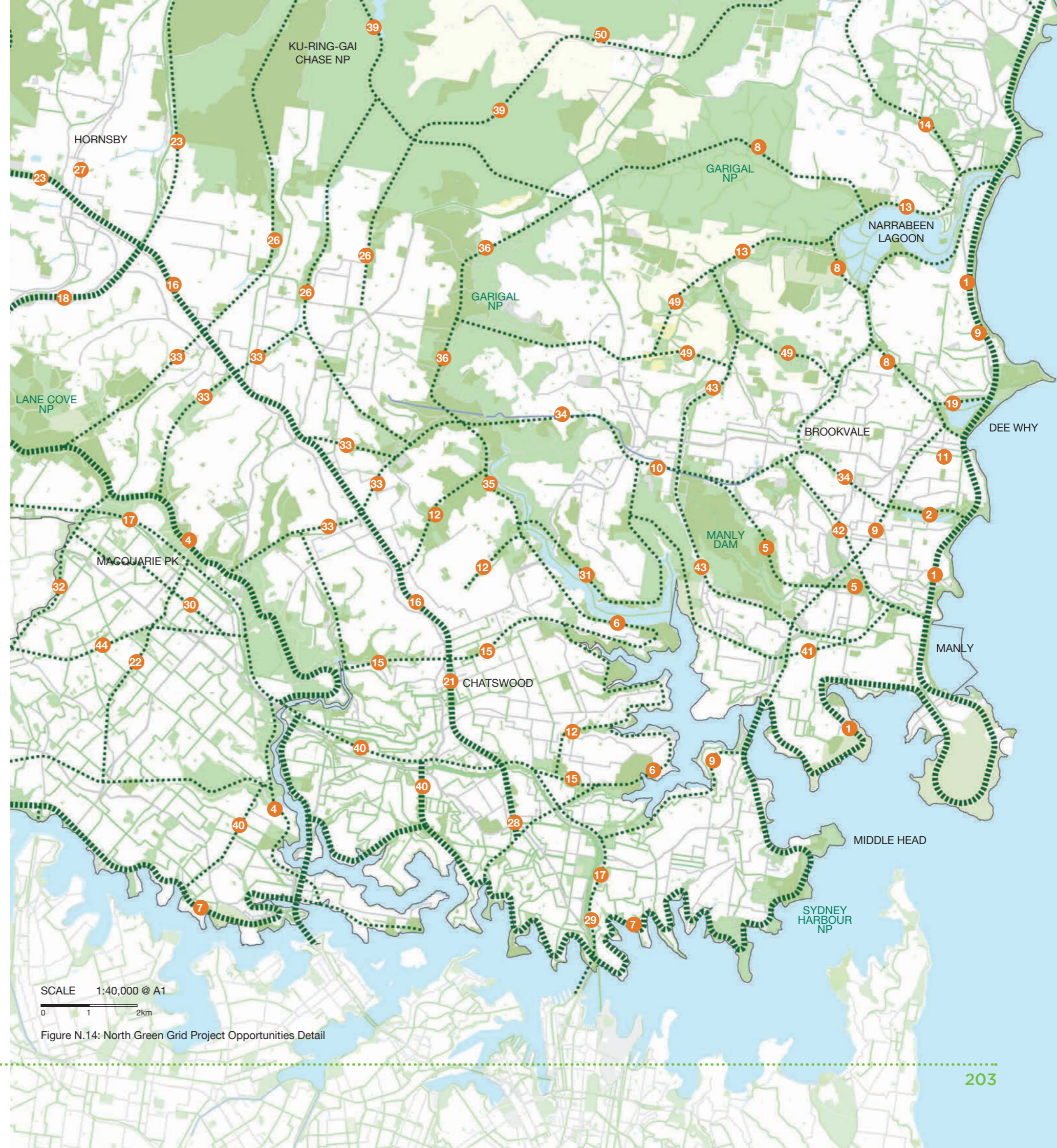
NORTH DISTRICT: THE GREEN GRID PROJECT OPPORTUNITIES

PROJECT OPPORTUNITY

1. Sydney's Great Coastal Walk: Barrenjoey Head to Manly
2. NBCL: Curl Curl Lagoon, Open Space and Greendale Ck
3. The Great North Walk: Berowra to Brooklyn
4. Lane Cove River and Lane Cove National Park
5. Manly Dam and Creek Open Space Corridor
6. Middle Harbour Beaches and Harbour Foreshore
7. Parramatta River and Sydney Harbour Foreshore
8. Garigal National Park and Coastal Lagoons
9. Pittwater Road Active Transport Corridor
10. Frenchs Forest and Hospital Precinct Green Links
11. Dee Why Town Centre Green Links to Beaches
12. Middle Harbour Village Shops to Bushland Green Links
13. Narrabeen Lagoon and South Creek
14. NBCL: Warriewood Wetlands and Narrabeen Creek
15. St Leonards and Chatswood to Bushland Green Links
16. Pacific Highway Urban Transformation
17. M2 Active Transport Corridor
18. Pennant Hills Road Green Link
19. NBCL: Dee Why Lagoon and South Creek
20. Ingleside Green Links
21. Chatswood CBD Green Links
22. Shrimptons Creek Green Link: Eastwood to Macquarie Pk
23. Northern Rail Line Linear Open Spaces
24. Berowra Valley Regional Park Open Spaces
25. Berowra and Hornsby Villages to Bushland Green Links
26. Lovers Jump, Cowan and Ku Ring Gai Creek Corridors
27. Hornsby CBD Open Spaces and Green Links
28. St. Leonards Open Space and Green Streets
29. North Sydney CBD Open Spaces and Green Streets
30. Waterloo Road Green Link, Macquarie Park
31. Bantry Bay and Middle Harbour Trails
32. Terrys Creek Bushland Link
33. Pacific Highway Centres Open Spaces and Green Links
34. Warringah Road Active Transport Corridors
35. Upper Middle Harbour Foreshores
36. Middle Harbour Creeks and Bushland
37. Colah Creek and Bushland, Galston
38. Bobbin Head and Cowan Creek Foreshores
39. Ku-ring-gai National Park Trails
40. Lane Cove and Artarmon Green Street Links
41. Balgowlah to Manly Green Street Link
42. Manly Creek Golf Course Edges
43. Wakehurst Parkway Active Transport Corridor
44. Road Reserve Corridor: Macquarie Park to Eastwood
45. Hornsby Quarry
46. Ku-ring-gai and Pittwater Foreshores
47. Murrumurra National Park and Muogamurra Trails
48. Hawkesbury River Foreshore Trails
49. Oxford Falls and Middle Creek Trails
50. Terrey Hills Perimeter Trail Network

DOMINANT GRID LAYER

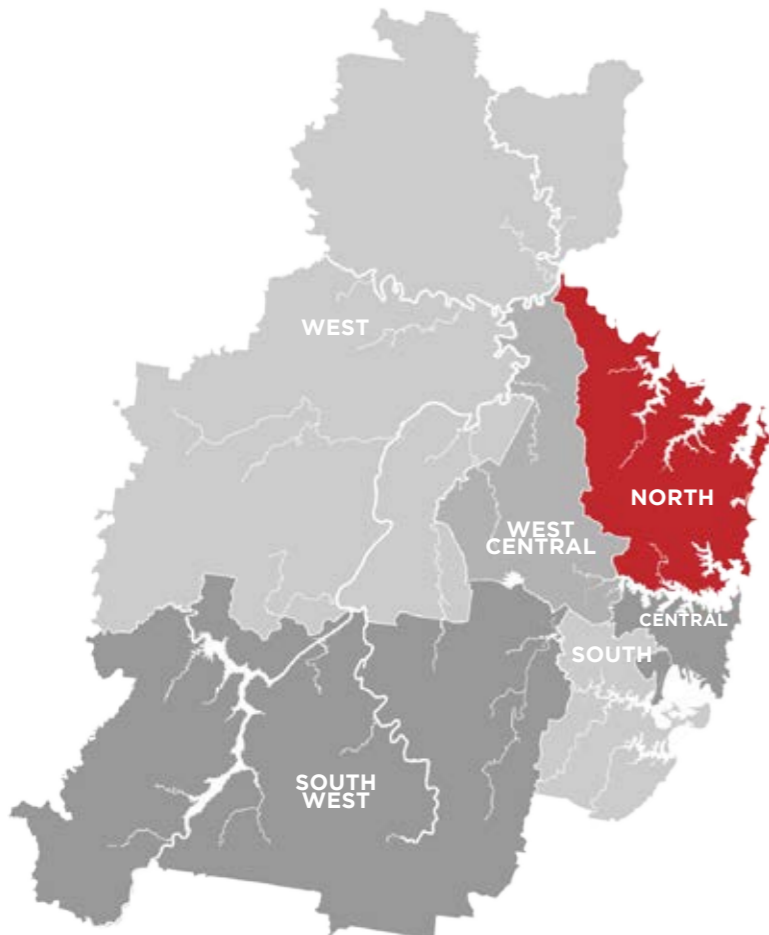
- RECREATIONAL
- HYDROLOGICAL
- RECREATIONAL
- ECOLOGICAL
- HYDROLOGICAL
- RECREATIONAL
- RECREATIONAL
- ECOLOGICAL
- TRANSPORT
- RECREATIONAL
- RECREATIONAL
- RECREATIONAL
- HYDROLOGICAL
- HYDROLOGICAL
- RECREATIONAL
- DEVELOPMENT
- TRANSPORT
- TRANSPORT
- HYDROLOGICAL
- RECREATIONAL
- RECREATIONAL
- HYDROLOGICAL
- RECREATIONAL
- ECOLOGICAL
- RECREATIONAL
- RECREATIONAL
- RECREATIONAL
- RECREATIONAL
- ECOLOGICAL
- ECOLOGICAL
- DEVELOPMENT
- RECREATIONAL
- ECOLOGICAL
- HYDROLOGICAL
- HYDROLOGICAL
- ECOLOGICAL
- ECOLOGICAL
- RECREATIONAL
- RECREATIONAL
- RECREATIONAL
- ECOLOGICAL
- HYDROLOGICAL
- HYDROLOGICAL
- ECOLOGICAL





NORTH

PROJECT OPPORTUNITIES



PROJECT PRIORITISATION METHODOLOGY

The Green Grid projects have been analysed against ten priority criteria. Each project has been given a total score which represents its level of priority in the Green Grid network. The ten criteria are:

- Existing ecological, hydrological and recreational value
- Regional potential to connect to other Green Grid projects
- Super District Scale potential to connect across Local Government Area and District Boundaries
- Projects proximity to development
- Projects with lands currently controlled by the Office of Strategic Lands (OSL)
- Projects identified by Local Council's as priorities during the Greater Sydney Commission's Technical Working Group process.
- Projects in regions with open space deficiency as identified in the Government Architect's Office Open Space Audit.
- Projects that overlap or provide important connections to NSW Department of Planning Priority Precincts.

Each project is given a total score based on the sum of the above values. Of the projects that score 10 or higher (of a possible 12), Priority projects were selected based on relevance to future development requirements and other Greater Sydney Commission and NSW Planning priorities. For each district two or three projects are selected and are highlighted dark green in the project prioritisation matrix. High scoring projects that are not deemed as Priority Projects combined with projects that score 8 or higher are defined as other important projects and are highlighted light green in the project prioritisation matrix. From the "other important projects" list a shortlist were selected for inclusion into the District Plans based on their immediate relevance to other Greater Sydney Commission and NSW Planning priorities.

In the North District, there are a number of coastal lagoon and wetland projects that were identified as separate projects through the workshop and consultation period of this project. Due to the importance of the Northern Beaches Coastal Lagoons as a collection of important related Green Grid Projects together they have been identified as a Priority Project, referred to as the "Northern Beaches Coastal Lagoons" (NBCL) Green Grid project. The projects included in this collection are highlighted with the mid-green in the Project Prioritisation Matrix on the following page.

The Northern Beaches Coastal Lagoon (NBCL) project collection includes the following three projects from the prioritisation matrix:

- Curl Curl Lagoon and Greendale Creek Open Space
- Warriewood Wetlands and Narrabeen Creek
- Dee Why Lagoon and South Creek

NORTH DISTRICT

PRELIMINARY PROJECT PRIORITISATION MATRIX

| PRIORITY PROJECT CRITERIA | | POTENTIAL PROJECT VALUES | | | | | OVERLAP & PROXIMITY VALUES | | | | GREEN GRID PROJECT TYPE | |
|---|-------------------------------------|---------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------------------|-----------------------------------|----------------------------|------------------------|--------------------------------|-------------------------|------------------------------------|
| PROJECT NAME | COUNT VALUE [CATEGORY WEIGHTING] | ECOLOGICAL VALUE [0-1] | HYDROLOGICAL VALUE [0-1] | RECREATIONAL VALUE [0-1] | CONNECTIVITY VALUE [0-2] | SUPER DISTRICT SCALE VALUE [0-2] | PROXIMITY TO DEVELOPMENT [0-1] | OSL LANDS OVERLAP [0-1] | GSC TWG FOCUS [0-1] | OPEN SPACE DEFICIENCY [0-1] | | PRIORITY PRECINCT OVERLAP [0-1] |
| NORTH DISTRICT | | | | | | | | | | | | |
| 1. The Coastal Walk: Barrenjoey Head to Manly | 10 | 1 | 1 | 1 | 2 | 2 | 1 | | 1 | 1 | | Waterway Corridor |
| 2. NBCL: Curl Curl Lagoon and Greendale Creek Open Space | 8 | 1 | 1 | 1 | 2 | | 1 | | 1 | 1 | | Waterway Corridor |
| 3. The Great North Walk: Pennant Hills to Brooklyn | 8 | 1 | 1 | 1 | 2 | 2 | | 1 | | | | Ecological Lands |
| 4. Lane Cove River and Lane Cove National Park | 11 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | | 1 | Ecological Lands |
| 5. Manly Dam and Creek Open Space Corridor | 6 | 1 | 1 | 1 | 2 | | 1 | | | | | Waterway Corridor |
| 6. Middle Harbour Beaches and Harbour Foreshore | 5 | 1 | 1 | 1 | 2 | | 1 | 1 | | | | Waterway Corridor |
| 7. Parramatta River and Sydney Harbour Foreshore | 10 | 1 | 1 | 1 | 2 | 2 | | | 1 | 1 | | Waterway Corridor |
| 8. Garigal National Park: Oxford Falls and Middle Creek | 8 | 1 | 1 | 1 | 2 | 1 | | | 1 | 1 | | Waterway Corridor |
| 9. Pittwater Road Active Transport Corridor | 8 | | | 1 | 2 | 2 | 1 | | 1 | 1 | | Transport Corridors |
| 10. Frenchs Forest and Hospital Precinct Green Links | 7 | | | 1 | 2 | 1 | | | 1 | 1 | 1 | Urban Centre Street Links |
| 11. Dee Why Town Centre Green Links to Beaches | 5 | | | 1 | 2 | 1 | | | | 1 | | Urban Centre Street Links |
| 12. Middle Harbour Village Shops to Bushland Green Links | 4 | | | 1 | 2 | 1 | | | | | | Urban Centre Street Links |
| 13. Narrabeen Lagoon and South Creek | 7 | 1 | 1 | 1 | 2 | 1 | | | | 1 | | Waterway Corridor |
| 14. NBCL: Warriewood Wetlands and Narrabeen Creek | 8 | 1 | 1 | 1 | 2 | 1 | | | 1 | 1 | | Waterway Corridor |
| 15. St Leonards and Chatswood to Bushland Green Links | 6 | | | 1 | 2 | 1 | | | 1 | | 1 | Urban Centre Street Links |
| 16. Pacific Highway Urban Transformation | 5 | | | 1 | 2 | 1 | | | | 1 | | Transport Corridors |
| 17. M2 Active Transport Corridor | 5 | | | 1 | 2 | 1 | | | | 1 | | Transport Corridors |
| 18. Pennant Hills Road Green Link | 6 | | | 1 | 2 | 2 | 1 | | | | | Transport Corridors |
| 19. NBCL: Dee Why Lagoon and South Creek | 8 | 1 | 1 | 1 | 2 | 1 | | | 1 | 1 | | Waterway Corridor |
| 20. Inglewood Green Links | 8 | 1 | 1 | 1 | 2 | 1 | | 1 | 1 | 1 | 1 | Urban Centre Street Links |
| 21. Chatswood CBD Green Links | 5 | | | 1 | 2 | 1 | | | | 1 | | Urban Centre Street Links |
| 22. Eastwood to Macquarie Park: Shrimptons Creek Green Link | 10 | 1 | 1 | 1 | 2 | 1 | | 1 | 1 | 1 | 1 | Waterway Corridor |
| 23. Northern Rail Line Linear Open Spaces | 7 | | | 1 | 2 | 2 | 1 | | | 1 | | Transport Corridors |
| 24. Berowra Valley Parklands Edges Green Links | 5 | 1 | | 1 | 2 | 1 | | | | | | Ecological Lands |
| 25. Berowra and Hornsby Villages to Bushland Green Links | 5 | 1 | | 1 | 2 | 1 | | | | | | Urban Centre Street Links |
| 26. Lovers Jump, Cowan and Ku Ring Gai Creek Corridors | 4 | 1 | 1 | 1 | 2 | | | 1 | | | | Waterway Corridor |
| 27. Hornsby CBD Open Spaces and Green Links | 6 | | | 1 | 2 | 1 | | | 1 | 1 | | Urban Centre Street Links |
| 28. St. Leonards Open Space and Green Streets | 6 | | | 1 | 2 | 1 | | | | 1 | 1 | Urban Centre Street Links |
| 29. North Sydney CBD Open Spaces and Green Streets | 5 | | | 1 | 2 | 1 | | | | 1 | 1 | Urban Centre Street Links |
| 30. Waterloo Road Green Link, Macquarie Park | 5 | | | 1 | 2 | 1 | | | | 1 | | Urban Centre Street Links |
| 31. Bantry Bay and Middle Harbour Trails | 3 | 1 | 1 | 1 | | | | | | | | Ecological Lands |
| 32. Terrys Creek Bushland Link | 6 | 1 | 1 | 1 | 2 | 1 | | | | | | Ecological Lands |
| 33. Pacific Highway Centres Open Spaces and Green Links | 5 | | | 1 | 2 | 1 | | | | 1 | | Urban Centre Street Links |
| 34. Warringah Road Active Transport Corridors | 5 | | | | 2 | 1 | | | 1 | 1 | | Transport Corridors |
| 35. Upper Middle Harbour Foreshores | 6 | 1 | 1 | 1 | 2 | 1 | | | | | | Waterway Corridor |
| 36. Middle Harbour Creeks and Bushland | 4 | 1 | 1 | 1 | | 1 | | | | | | Waterway Corridor |
| 37. Colah Creek and Bushland, Galston | 5 | 1 | 1 | 1 | 2 | | | | | | | Waterway Corridor |
| 38. Bobbin Head and Cowan Creek Foreshores | 5 | 1 | 1 | 1 | 2 | | | | | | | Waterway Corridor |
| 39. Ku-ring-gai National Park Trails | 5 | 1 | 1 | 1 | 2 | | | | | | | Ecological Lands |
| 40. Lane Cove and Artarmon Green Street Links | 4 | | | 1 | 2 | | 1 | | | | | Urban Centre Street Links |
| 41. Balgowlah to Manly Green Street Link | 4 | | | 1 | 2 | | 1 | | | | | Urban Centre Street Links |
| 42. Manly Creek Golf Course Edges | 6 | 1 | 1 | 1 | 2 | | 1 | | | | | Parkland Corridors |
| 43. Wakehurst Parkway Active Transport Corridor | 7 | | | 1 | 2 | 2 | 1 | 1 | | | | Transport Corridors |
| 44. Eastwood to Macquarie Park Open Space Corridor | 8 | | | 1 | 2 | | 1 | 1 | 1 | | 1 | Transport Corridors |
| 45. Hornsby Quarry | 4 | 1 | 1 | 1 | | | | | | 1 | | Former Infrastructure |
| 46. Ku-ring-gai and Pittwater Foreshores | 3 | | 1 | 1 | | | | | 1 | | | Ecological Lands |
| 47. Murrumbidgee National Park and Muogamurra Trails | 3 | 1 | 1 | 1 | | | | | | | | Ecological Lands |
| 48. Hawkesbury River Foreshore Trails | 5 | 1 | 1 | 1 | | 2 | | | | | | Waterway Corridor |
| 49. Garigal National Park: Deep Creek Trails | 5 | 1 | 1 | 1 | 2 | | | | | | | Waterway Corridor |
| 50. Terrey Hills Perimeter Trail Network | 4 | 1 | 1 | 1 | | | | | | 1 | | Ecological Lands |



NORTH DISTRICT

PRIORITY PROJECTS FOR FURTHER SCOPING

A selection of important Green Grid project opportunities have been selected for further scoping. The selected projects represent a mix of Priority and other important Green Grid projects. The selected projects also represent a mix of project types including projects with hydrological, ecological, recreational, transport and utility infrastructure values. The projects selected for further scoping may not represent the highest priority projects but aim to further understand the potential issues around different project types.



1. LANE COVE RIVER AND LANE COVE NATIONAL PARK

The Lane Cove River cuts through the sandstone ridge of Sydney's North Shore. Along with many of its tributaries the river creates a series of steep rocky valleys ending in small estuarine swamps and river flats. With a diverse range of remnant bushland of high ecological value, significant Aboriginal heritage sites and a resource for recreational pursuits, the Lane Cove River will play an important role in supporting growth in the district.

- Enhance key open spaces along the Lane Cove River foreshores to create a range of unique recreational experiences.
- Link Lane Cove NP to the nearby centres including: Macquarie Park, Macquarie University, Chatswood and Epping.

2. NORTHERN BEACHES COASTAL LAGOONS

A combination of three related Green Grid projects; Curl Curl Lagoon and Greendale Creek; Dee Why Lagoon and South Creek; and Warriewood Wetlands and Narrabeen Creek.

Narrabeen, Dee Why, Curl Curl and Manly coastal lagoons are all valuable environmental resources and natural landscape features which contribute to the unique identity of the area. Home to a wide variety of plants and wildlife, these environments, with careful management, can also support the recreational needs of the surrounding communities and wider region.

Narrabeen Lagoon is the largest of the four lagoons and a great recreation asset and wildlife sanctuary. Recent works being undertaken to improve access around the lagoon are a good example of the recreation and environmental role the lagoons can play in the larger urban context.

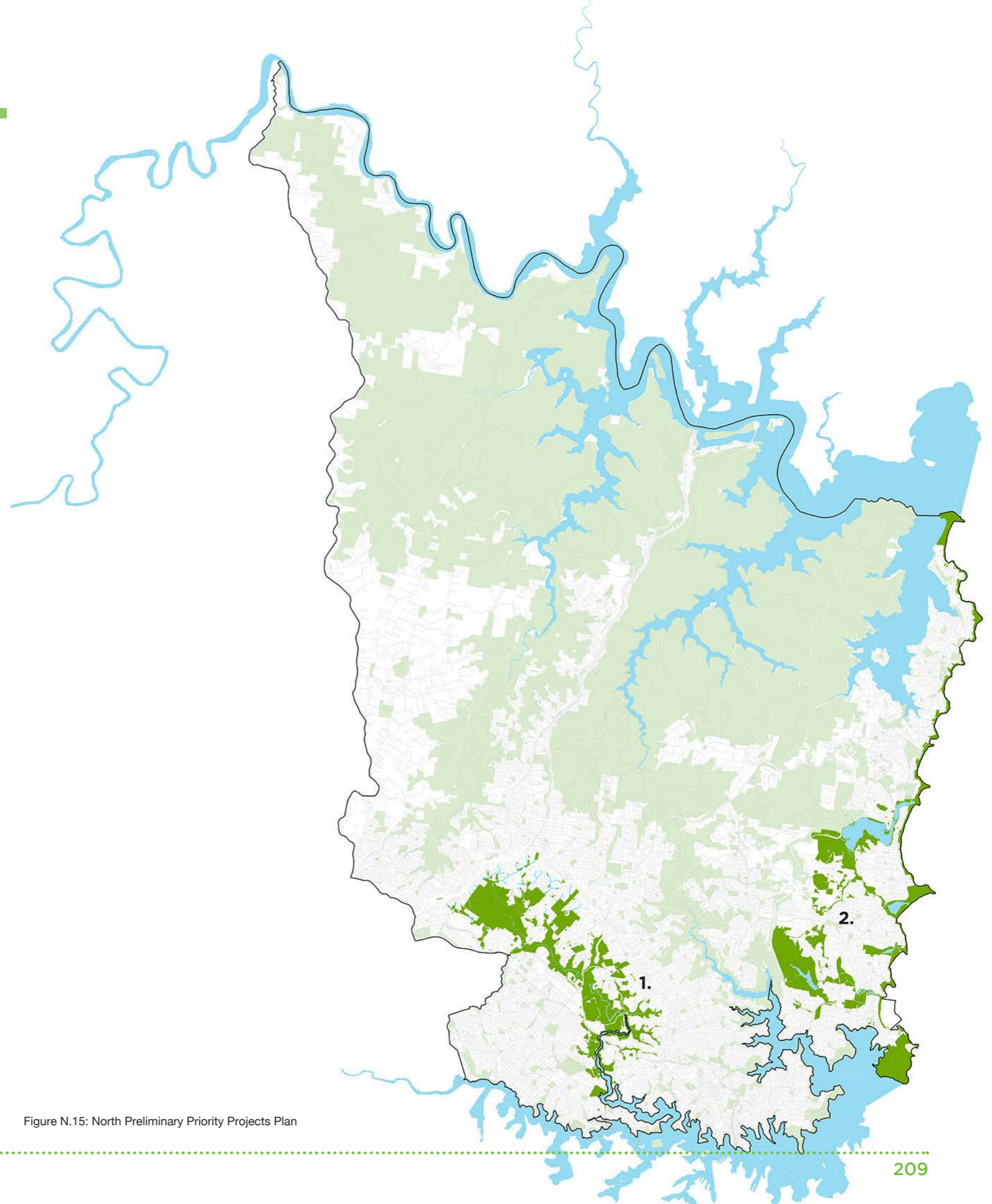


Figure N.15: North Preliminary Priority Projects Plan

LANE COVE RIVER

NORTH: PRIORITY PROJECT



The Lane Cove River cuts through the sandstone ridge of Sydney's North Shore. Along with many of its tributaries the river creates a series of steep rocky valleys ending in small estuarine swamps and river flats. With a diverse range of remnant bushland of high ecological value, significant Aboriginal heritage sites and a resource for recreational pursuits, the Lane Cove River will play an important role in supporting growth in the district.

- Enhance key open spaces along the Lane Cove River foreshores to create a range of unique recreational experiences.
- Link Lane Cove NP to the nearby centres including: Macquarie Park, Macquarie University, Chatswood and Epping.

POTENTIAL FOCUS AREAS

- A.** Pennant Hills Station and Pennant Hills Park
- B.** Thornleigh Rail Station
- C.** Lane Cove River and Devlins Creek convergence
- D.** Lane Cove River, Terrys Creek and M2 Motorway
- E.** Kangaroo Point and Turramurra High School
- F.** Macquarie Uni Sports Fields and M2 Motorway
- G.** Macquarie Park and Lane Cove Road
- H.** Blue Gum Creek and Swaines Creek and Chatswood Golf Club
- J.** Kittys Creek and Strangers Creek Mangroves

LEGEND

- Existing Roads
- Existing Rail Lines
- Local Streets
- Waterways
- Green Grid Projects
- Existing Open Space
- High Environmental Lands
- Key Opportunity Sites
- Potential Open Space

Figure N.16: Lane Cove River Potential Focus Areas



IMPORTANT CROSS CONNECTIONS

The important cross connections for this project include existing and potential connections into surrounding neighbourhoods and to adjacent Green Grid project opportunities.

The connections include existing roads, infrastructure corridors, creek lines, open space corridors and potential future street structures where projects intersect with priority precincts. This diagram is intended to highlight the priority connections that should be investigated in any future project scoping.

LEGEND









-  Existing Roads
-  Existing Rail Lines
-  Local Streets
-  Waterways
-  Green Grid Projects
-  Existing Open Space
-  High Environmental Lands
-  Important Cross Connections



Figure N.17: Lane Cove River Potential Important Cross Connections

NORTHERN BEACHES COASTAL LAGOONS

NORTH: PRIORITY PROJECT

DEE WHY LAGOON AND SOUTH CREEK COMPONENT



A combination of three related Green Grid projects; Curl Curl Lagoon and Greendale Creek; Dee Why Lagoon and South Creek; and Warriewood Wetlands and Narrabeen Creek.

Narrabeen, Dee Why, Curl Curl and Manly coastal lagoons are all valuable environmental resources and natural landscape features which contribute to the unique identity of the area. Home to a wide variety of plants and wildlife, these environments, with careful management, can also support the recreational needs of the surrounding communities and wider region.

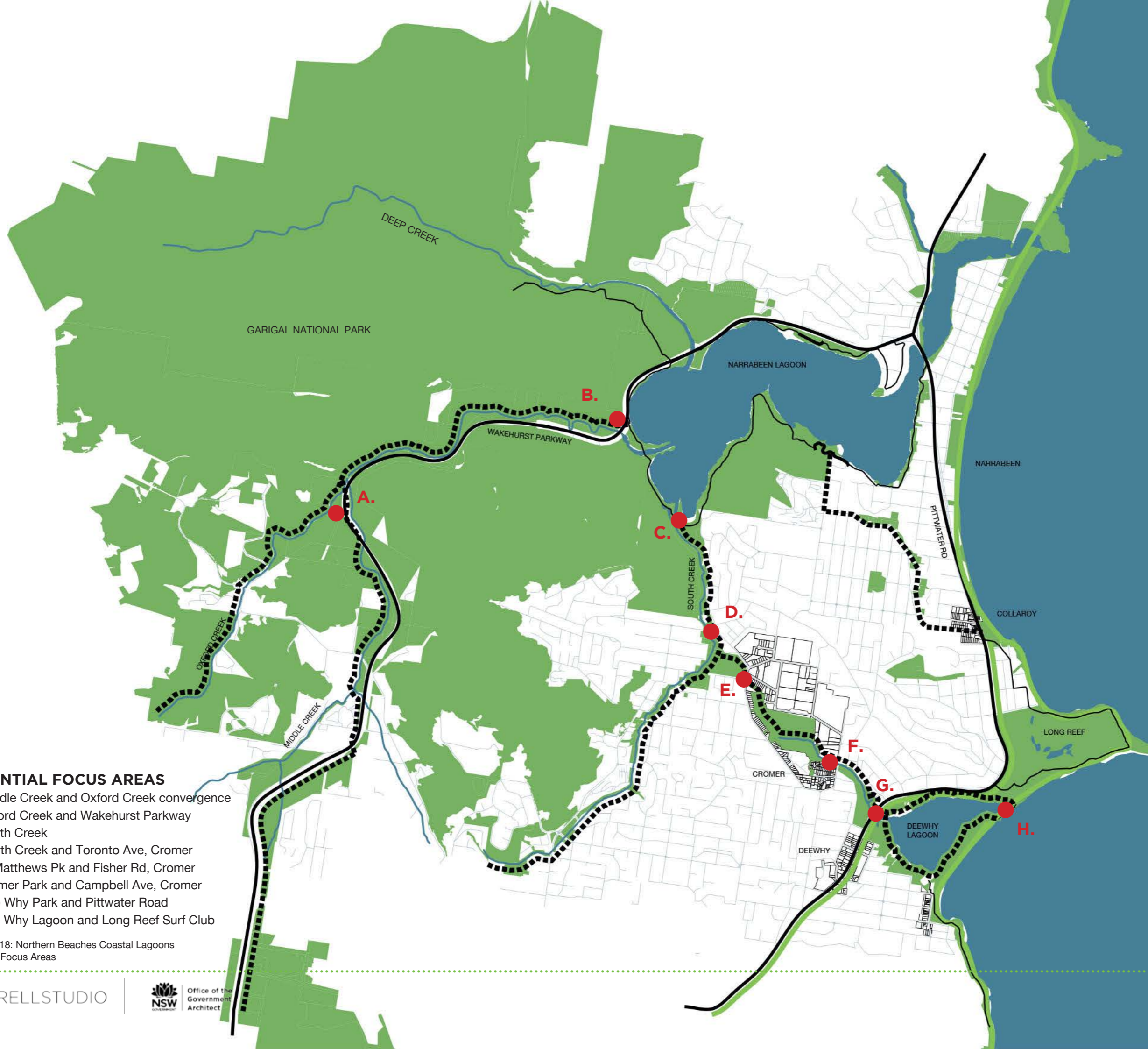
Narrabeen Lagoon is the largest of the four lagoons and a great recreation asset and wildlife sanctuary. Recent works being undertaken to improve access around the lagoon are a good example of the recreation and environmental role the lagoons can play in the larger urban context.

Lagoons across the North District provide open space, trails and cycleways. Local governments have provided significant upgrades to many of these areas in recent years. This green grid project seeks to extend this work along the creek lines and link major lagoon open space, such as Narrabeen Lagoon and Dee Why Lagoon, to create a network of accessible open spaces and trails.

There are a number of other Coastal Lagoon, Lake and Dam related projects that are adjacent to some of the Northern Beaches Coastal Lagoon projects and would compliment a broader network of coastal Green Grid projects. The related projects include: Narrabeen Lagoon and South Creek; and Garigal National Park and Middle Creek.

LEGEND

- Existing Roads
- Existing Rail Lines
- Local Streets
- Waterways
- Green Grid Projects
- Existing Open Space
- High Environmental Lands
- Key Opportunity Sites
- Potential Open Space



POTENTIAL FOCUS AREAS

- A.** Middle Creek and Oxford Creek convergence
- B.** Oxford Creek and Wakehurst Parkway
- C.** South Creek
- D.** South Creek and Toronto Ave, Cromer
- E.** St Matthews Pk and Fisher Rd, Cromer
- F.** Cromer Park and Campbell Ave, Cromer
- G.** Dee Why Park and Pittwater Road
- H.** Dee Why Lagoon and Long Reef Surf Club

Figure N.18: Northern Beaches Coastal Lagoons Potential Focus Areas



Manly Beach

NORTH DISTRICT

OTHER IMPORTANT GREEN GRID OPPORTUNITIES



Coastal Walk: Barrenjoey Head to Manly

The Eastern Coastline of the Northern District is a dramatic landscape of craggy headlands and protected beaches.

The Great Coastal Walk traverses this landscape and provides a unique regional recreation opportunity for residents and tourists alike. This asset should continue to be supported and any chance for increasing the quality of the existing walk or expanding areas of foreshore access should be undertaken. Improving pedestrian and cycle access from surrounding suburbs and sustainable transport connections from areas further west should be explored.

-Undertake review of current foreshore access and develop staging strategy for completion of any missing links or sections of lower quality.



The Great North Walk: Sydney to Brooklyn

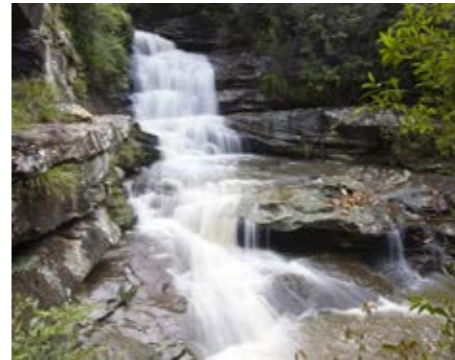
The Great North Walk is a Bicentenary project and extends 250km from Newcastle to Lane Cove. It crosses many different landscapes and passes many areas of Aboriginal and European significance. Due to its length it is often undertaken in different stages and provides a great recreation resource for local communities as well as wider Sydney. Access upgrades are managed by the NPWS and should continue to be supported. In particular access across the Hornsby Rifle Range land within the Berowra Valley needs further resolution. Improved local access from nearby train stations and town centres along the walk should also be investigated. Access from Hornsby Town Centre to surround bushland assets should be improved: Link Hornsby Town Centre with Berowra Valley through Hornsby Quarry.



Parramatta River and Sydney Harbour Foreshore

Sydney harbour and its tributaries are some of the cities greatest assets. While much work has been done improving access to the waterfront, opportunities still exist to improve access to this regional resource for everyone. With an extensive range of islands and foreshore areas there are many pockets of native bushland, picturesque swimming spots and historic sites. The Sydney Harbour Federation Trust manages some of the most historically significant and picturesque locations around Sydney Harbour and has initiated exemplar projects such as linking Taronga Zoo to Balmoral Beach.

- Parramatta to the Quay: complete the missing links along the northern Parramatta River Foreshore.
- Continue support for Sydney Harbour Federation Trust projects and the development of significant regional harbour foreshore projects: Investigate further opportunities at Platypus Neutral Bay.



Garigal National Park: Oxford Falls & Deep Creek

Improved links to new high density Frenchs Forest Hospital precinct. Protection of national park from encroaching development. Improved cycle and bushwalking links through to Narrabeen Lagoon.



Eastwood to Macquarie Pk Open Space Corridors

Build upon existing green links between these two suburbs including Shrimptons Creek, Terrys Creek and Booth Rd- North Road-Welby Street Green Link



Pittwater Road Active Transport Corridor

Major road street tree establishment and new development setback to allow incremental corridor widening to achieve better pedestrian and active transport environments.

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DP&I (1990) Metropolitan Greenspace Program <http://www.planning.nsw.gov.au/en-us/planningyourregion/fundingprograms/metropolitangreenspaceprogram.aspx>

DP&I Regional Recreation Tracks and Trails Framework (Metropolitan Greenspace Program)

P&I, Environmental Protection Agency (EPA), Sydney Coastal Councils Group, Western Sydney Regional Organisation of Councils (WSROC) Towards a Resilient Sydney

NSW Office of Environment & Heritage (OEH), Green Corridors Program <http://www.environment.nsw.gov.au/conservationprograms/greencorridors.htm>

OEH, Linking Landscapes Through Local Action project (Green Corridors Program) <http://www.environment.nsw.gov.au/conservationprograms/linkinglandscapes.htm>

OEH, The Growth Centres Biodiversity Offset Program (Green Corridors Program) <http://www.environment.nsw.gov.au/biocertification/GrowthCentres.htm>

OEH, National Parks Establishment Plan (Green Corridors Program) <http://www.environment.nsw.gov.au/protectedareas/npestabplan.htm>

IMAGE PAGE

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Balmoral Beach
Source: https://1.bp.blogspot.com/-CTHu0o4nzXo/Uhlg7ef_v4I/AAAAAAAAPEE/CvAVTXdDJBs/s1600/Balmoral+Rocky+Point+Island.JPG
Photo: J Bar

N2 183
Northern Beaches
Source: <http://www.manlyaustralia.com.au/imagesDB/gallery/Northern-Beaches-114.jpg>
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N3 185
Bradleys Head
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Dobroyd Scenic Drive
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Manly Beach
Source: <http://fairlightgardens.com.au/wp-content/uploads/2015/06/Manly-Beach.jpg>
Photo: Fairlight Gardens

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The North, North Sydney Aerial
Source: <https://www.flickr.com/photos/mezuni/23426655553/>
Photo: Flickr User "Jason Baker"

N7 190
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Berowra Valley
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Ku-Ring-Gai Chase NP
Source: <http://www.visitnsw.com/things-to-do/tours/sydney-outback>
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Source: https://upload.wikimedia.org/wikipedia/commons/8/81/Shelly_Beach_Manly.JPG
Photo: J Bar

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Narrabeen Lagoon
Source: <http://www.warringah.nsw.gov.au/sites/default/files/images/general-information/narrabeen-lagoon-multi-use-trail-project/narrabeenlagoontrack0005.jpg>
Photo: Northern Beaches Council

N12 192
Manly Corso Water Play
Source: Taylor Cullity Lethlean
Photo: Unknown

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Manly Corso Bike Path
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Photo: Manly Bike Tours

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Macquarie Uni Courtyard
Source: <http://www.landzine.com/index.php/2013/04/macquarie-university-central-courtyard-by-hassell/>
Photo: Brett Boardman

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North Sydney Pool
Source: <http://www.hellosydneykids.com.au/wp-content/uploads/2012/10/Pool-Luna-Park.jpg>
Photo: Seana Smith, Hello Sydney Kids

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GIS DATASETS

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- Urban Renewal Priority Precincts and Priority Growth Areas (2017)
- Land Release Priority Precincts and Priority Growth Areas (2017)
- District Boundaries (2016)
- Sydney Open Space (2016)
- Metropolitan Rural Area (2016)
- Regional Recreation Trails Framework (2012)
- District Plan Centres (2016)

NSW Land and Property Information

- Greater Sydney Local Government Areas (2016)
- Railway Corridors (2016)
- Metropolitan Motorways (2016)
- Roads (2016)

NSW Office of Environment and Heritage

- Ramsar Wetlands of NSW (2012)
- Cumberland Subregion BIO Map Core Areas (2015)

- Cumberland Subregion BIO Map Biodiversity Corridors of Regional Significance (2015)
- Biobanking Sites (2016)
- NSW National Parks and Wildlife Service (NPWS) Estate (2016)
- Lands of High Environmental Value (HEV) (2016)
- NSW Estuaries (2010)
- Strahler Stream Order (2016)

NSW Transport

- NSW Bicycle Geodatabase (2014)

Geosciences Australia

- Metropolitan Hydro Areas (2011)
- Metropolitan Seas (2011)
- Sydney Water Supply Canals (2006)

Southern Sydney Regional Organisation of Councils

- Connected Corridors for Biodiversity (2016)

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Hornsby Skate Park
Source: <http://www.skateboard.com.au/images/chifleysyd1.jpg>
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Berowra Valley
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Lane Cove National Park
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Narrabeen Lagoon
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Berowra Valley Regional Park
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Lane Cove Bike Path
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Lane Cove National Park
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Northern Beaches Lagoon
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Photo: Phillip Gray

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Narrabeen Lagoon
Source: <http://www.warringah.nsw.gov.au/sites/default/files/images/general-information/narrabeen-lagoon-multi-use-trail-project/narrabeenlagoontrack0005.jpg>
Photo: Northern Beaches Council

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Manly Beach
Source: <http://fairlightgardens.com.au/wp-content/uploads/2015/06/Manly-Beach.jpg>
Photo: Fairlight Gardens

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Coastal Walk
Source: <http://www.weekendnotes.com/im/004/09/long-reef-headland-walk-long-reef-coastal-walk-wal1.JPG>
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Oxford Falls, Garigal National Park
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Shrimptons Creek
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Pittwater Road
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