

July 2023



# Patyegarang Project

## Urban Design Framework







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## Significant Sites



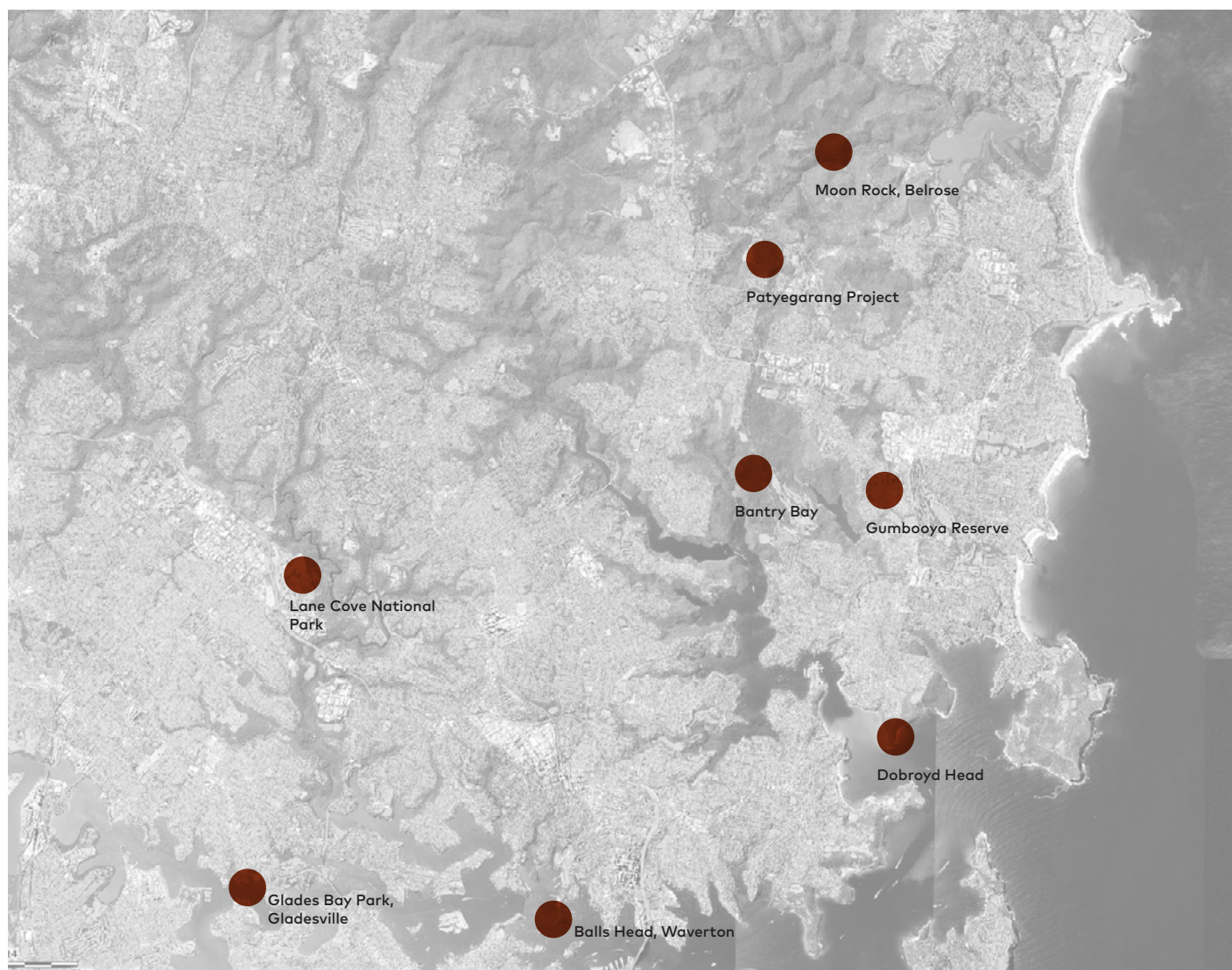




# Connecting with Country

## Significant Sites

The Patyegarang Project is situated on the lands of the Gadigal people. The Country is characterized by dense sandstone gully woodlands and sandstone ridgetop. Snake Creek and several tributaries support a diversity of wildlife. Birds, bandicoots, possums, wallabies, skinks, dragons, lizards, and snakes can all be found here. It is Country also rich in cultural heritage, with five nearby registered Aboriginal sites including a rock shelter with painted art and four engraving sites with images of a kangaroo, human, elliptical shield motifs, and footprints. These engravings are part of a larger tapestry of cultural sites throughout the Northern Beaches area and beyond. This is clearly a place to respect and to celebrate.



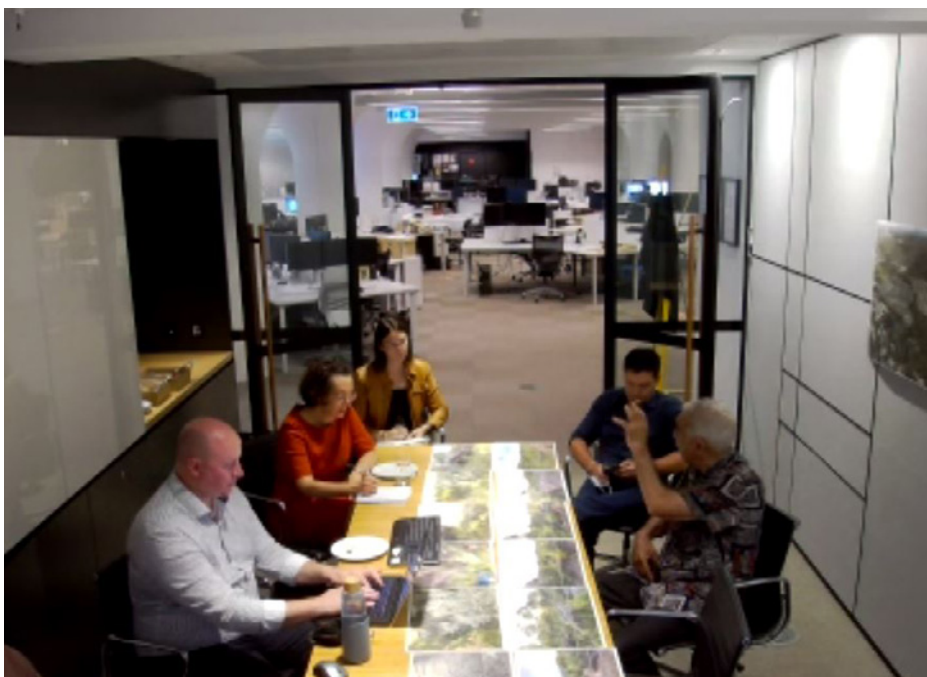
North Sydney Rock Art Sites



## Engagement

Consultation was led by Uncle Allen Madden, a Gadigal elder and advisor to the Metropolitan Local Aboriginal Land Council. Following a number of site visits by the team, the engagement session was a digital "walking of country" and a small group discussion where he spoke greatly about country. Some relevant notes from that discussion are captured below and have been used to inform the Urban Design Framework and concept plan for the Patyegarang Project.

- The land is a high feature, signals to others what is important about the place, who they are and where they are.
- The old fellas worked on the engravings with the young kids, teaching them about culture, this was their school.
- Engravings are stories about what to eat around here, what's at the next site.
- Some of the banded carvings tell who the mob is.
- The height of the site gave a vantage point and access to tracks for travellers to the east and views to the ocean.
- Sandstone is easy to engrave, but needs skill to do so; the rock can easily break.
- The engravings on the site were done approximately 3,000 years ago.
- Technique was to peck out and then 'connect the dots' with a grinding stone.
- Part of a songline and lore across Across Australia. The same lore but with a different language.
- Some of the ancient tracks are now roads (e.g., Parramatta road).
- Coastal people would have passed through this place on their way to Broken Bay and the Hawkesbury.
- Carvings signalled the location for water (Snake Creek).
- The site is connected to carvings around the northern regions of Sydney.
- Moon Rock and other sites are also part of the story. It's all about education.
- For those that might live in the area now and in the future, it's great to have them 'in our backyard'.
- Protect the engravings; walk around them.
- Respect for people and place is most important.
- Perhaps create a yarning circle for 8-12 people; a place to tell the story; for conversations to trigger an understanding of where you are.
- Perhaps a small portable structure, away from the carvings, near a yarning circle, with trails leading to the engravings.
- Don't force the experience; respect for culture; instinct to protect and care.
- People have always lived here (on the site) for thousands of years as it's a great place to live.





# Context









# Context

## Regional and Strategic Context

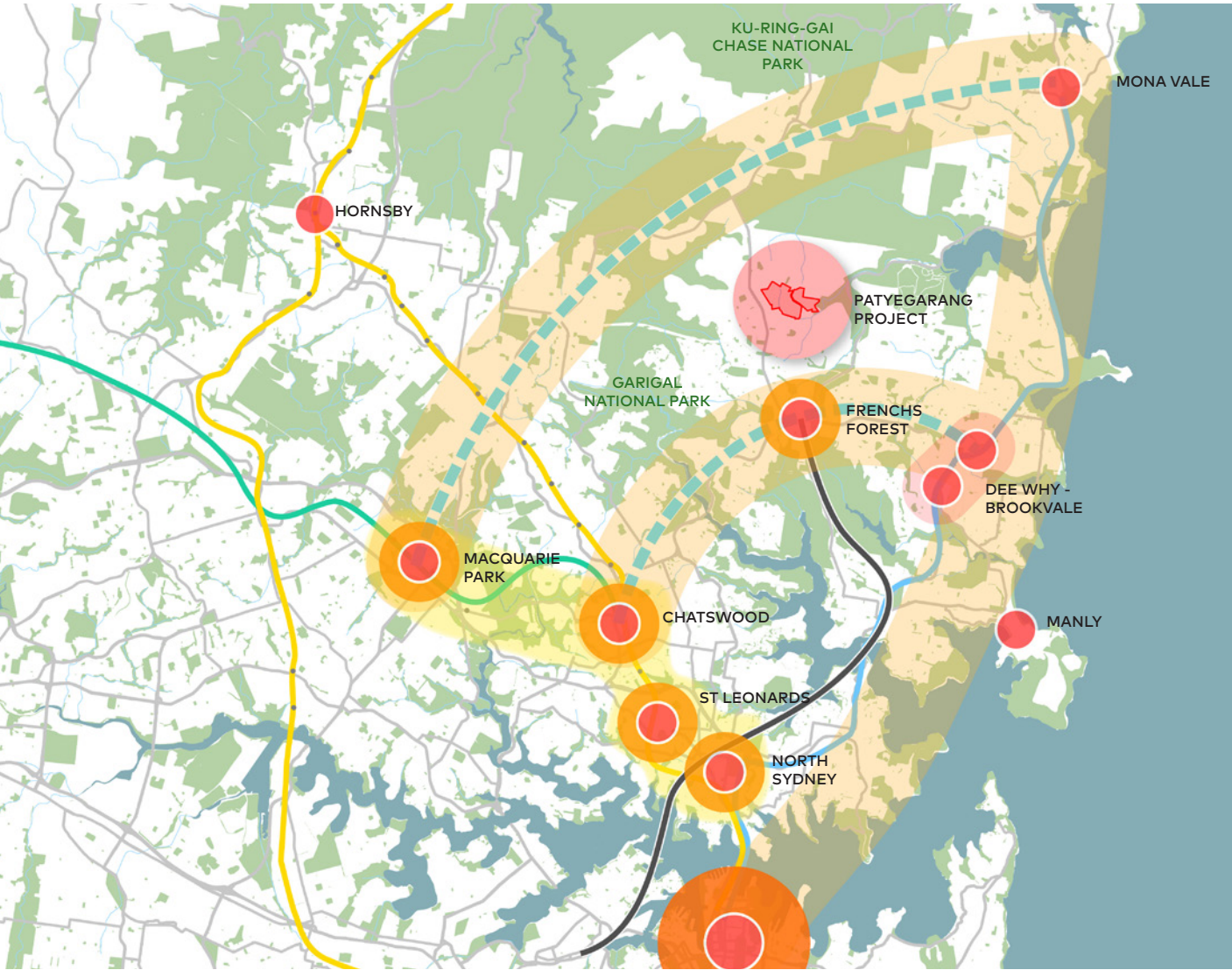
Strategically, the study area is encompassed by the Greater Sydney Commission's North District Plan (2018) and Northern Beaches Council's Local Strategic Planning Statement (2020).

In both documents the surrounding Strategic Centres of Frenchs Forest, Dee Why and Chatswood are identified for future employment and residential growth, alongside the economic corridor spanning the Macquarie Park to North Sydney corridor.

This is to be supplemented by a planned road and rail link between Frenchs Forest and North Sydney, and potential centre-serving transport corridors along Mona Vale and Warringah Roads. The location of the study area between these corridors presents a strong opportunity for regional connectivity.

Current regional public transport options are the high-frequency buses that operate on Forest Way, just west of the site and connect to Chatswood and the Sydney CBD. The nearest train and metro station to the site is at Chatswood.

The forested area to the north of the site forms part of the Garigal National Park, contributing to a prominent network of protected green space linking the harbour to Ku-ring-gai Chase National Park.



Regional and Strategic Context

- Study Area
- GSC Strategic Centre
- GSC Metropolitan Centre
- GSC Health & Education Precinct
- Economic Zone
- LSPS Transport Corridor
- Future Motorway Link
- Existing Metro
- Existing Train Lines
- Potential Centre Serving Corridor
- B-Line High Frequency Bus
- Open Space
- Major Roads



## Local Context

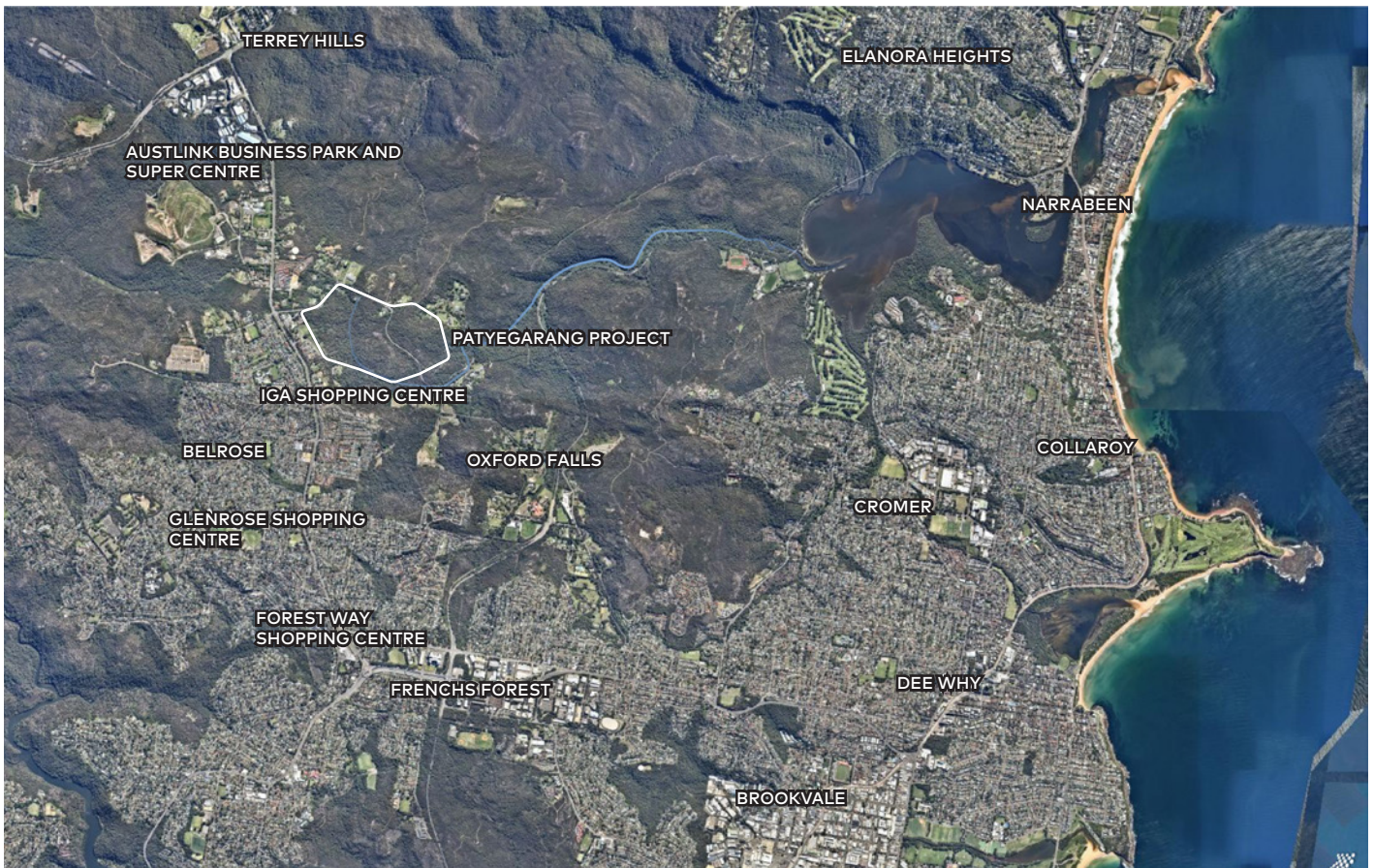
The study area is centrally located within Northern Beaches Council Local Government Area and is well connected to surrounding centres via the road network.

The site adjoins the existing suburbs of Belrose to the west and Oxford Falls to the east.

Proximity to Frenchs Forest provides access to the large employment hub associated with the Northern Beaches Hospital and adjacent employment lands. To the east, Dee Why and Brookvale form the LGA's largest employment centre and a major hub for regional public transport services.

Austlink Business Park is located north west of the site and includes a number of commercial enterprises and the Belrose Super Centre bulky goods retailing hub.

Existing local retail options include Ralston Avenue Shopping Centre, Glenrose Shopping Centre and Forestway Shopping Centre.



Local Context

# The Site







# The Site

## Study Area

The study area is defined by Morgan Road, which provides primary access and divides the site into eastern and western precincts.

The western boundary is a mix of residential properties and an aged-care facility. The southern boundary is formed by a transmission easement and Snake Creek. The eastern boundary is defined by semi-rural residential properties and the Optus and Telstra satellite facilities and Morgan Road generally forms the northern boundary.

The study area is reflective of Sydney's natural landscape, containing significant examples of indigenous art amongst a large amount of remnant bushland. Intermittent rocky outcrops offer excellent views over the southeast flowing Snake River, which cuts a steep valley through the western portion of the site.









# The Site

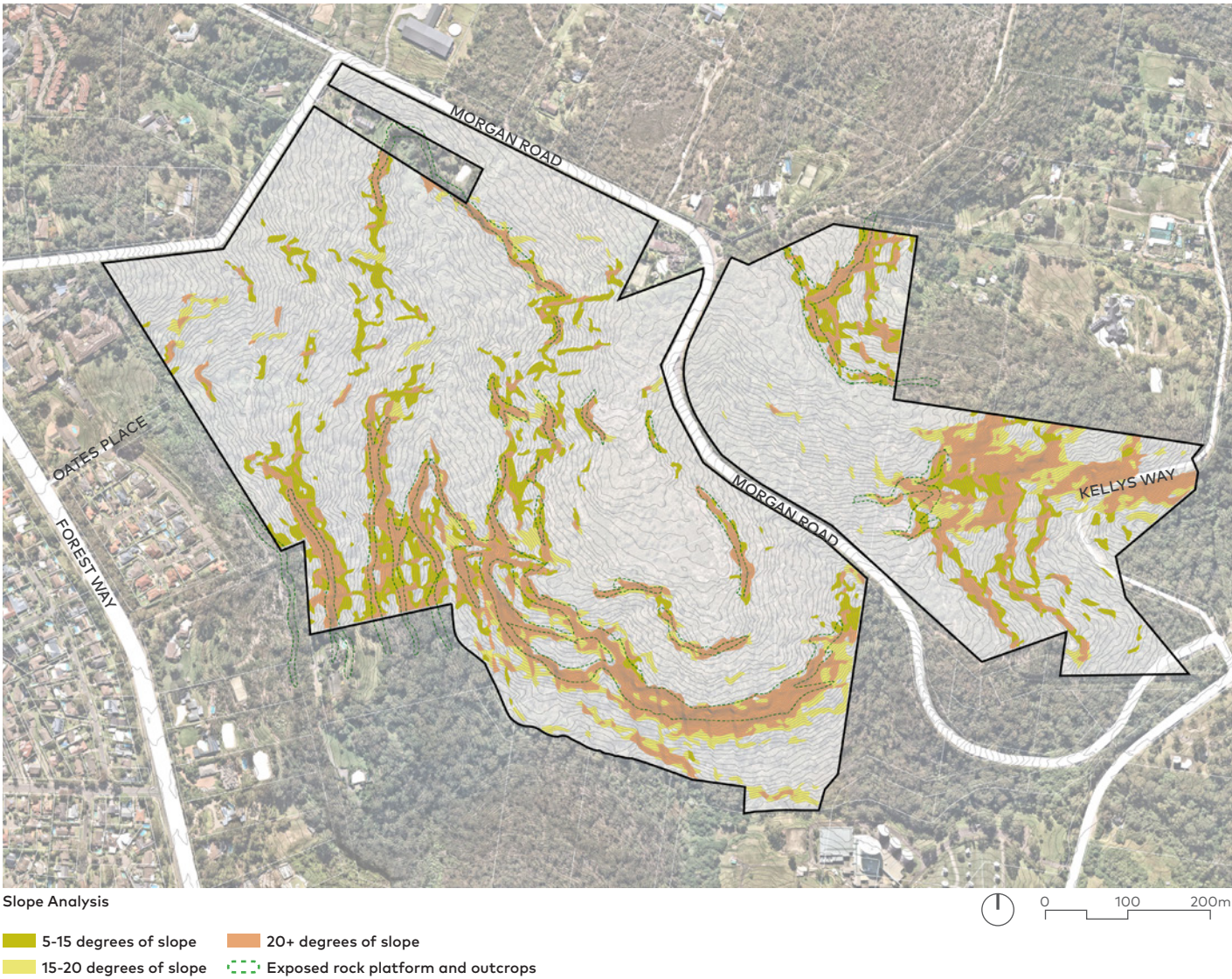
## Topography

The site sits on undulating land defined by the ridgelines and the Snake Creek valley. The ridgelines are at varying heights with the highest located at approximately 140m RL. Snake Creek forms the lowest point of the site at approximately 90m RL.

The 50m fall from the ridgelines to the creek and drainage corridors results in steep slopes in excess of 20 degrees in some parts of the site.

Severe slopes of greater than 20 degrees frame the river as it passes through the southern portion of site. Morgan Road follows a south-eastern aspect as it descends toward Oxford Falls.

It is recommended that for the discrete locations where the risk level has been classified as unacceptable or tolerable upon treatment, that implementation of treatment options to reduce this risk level to Low risk should be considered as part of any application.





# Rock Platforms and Outcrops

Exposed rock outcrops are generally aligned with steep transitions in topography and are in the form of 5-10m sandstone cliffs, outcrops and mesas.

These outcrops should be considered in the master plan as areas to be retained as they are aligned with the overall topographical characteristics of the northern beaches and would prove environmentally and financially costly to remove or regrade.



Rock Platforms

Exposed rock platform and outcrops





# The Site

## Hydrological

The site includes a number of creeks with riparian classifications, a key consideration on the site. These hydrological elements may restrict some uses of the land but additionally present an opportunity to become amenity assets and support important biodiversity and environmental values of the land.

Snake Creek and a number of its tributaries are classified riparian corridors and the required buffers from the top of bank have been mapped in the diagram below. In addition, there are a number of natural drainage lines that feed in to the creek that have been mapped for consideration of overland flow, water sensitive urban design and the location of potential parks within the master plan.

Upland swamp areas within the site have been determined important in regulating water flows within Snake Creek, as well as filtering residential run off and maintaining water quality for these habitats. A high quality fish habitat downstream of the site has been identified in Oxford Falls and the site eventually drains to Narrabeen Lagoon requiring water quality targets and mitigation measures for any discharge from the site.



### Hydrology

- Classified Creekline
- - - Unclassified flow paths to be retained
- Creek extents (10-20m buffer)





# Heritage and Aboriginal Culture

The wider Northern Beaches region is the traditional home of the Gadigal people. The land in and around the site has a significant indigenous heritage value.

The site contains numerous Aboriginal Heritage Information Management System (AHIMS) listed spiritually significant sites and a range of high to moderately significant areas.

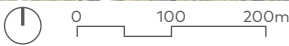
A cluster of rock carvings is found on the elevated rock platform within the western precinct and has

A cluster of rock carvings are located on an elevated sandstone platform which can be accessed via an informal trail adjacent to 'Lizard Rock' and includes a large male figure, two footprints and a kangaroo. There is a required curtilage around these carvings that the urban design framework and master plan must adhere to.



Indigenous Heritage Map

- Indigenous Culture Buffer
- Indigenous Culture Site





# The Site

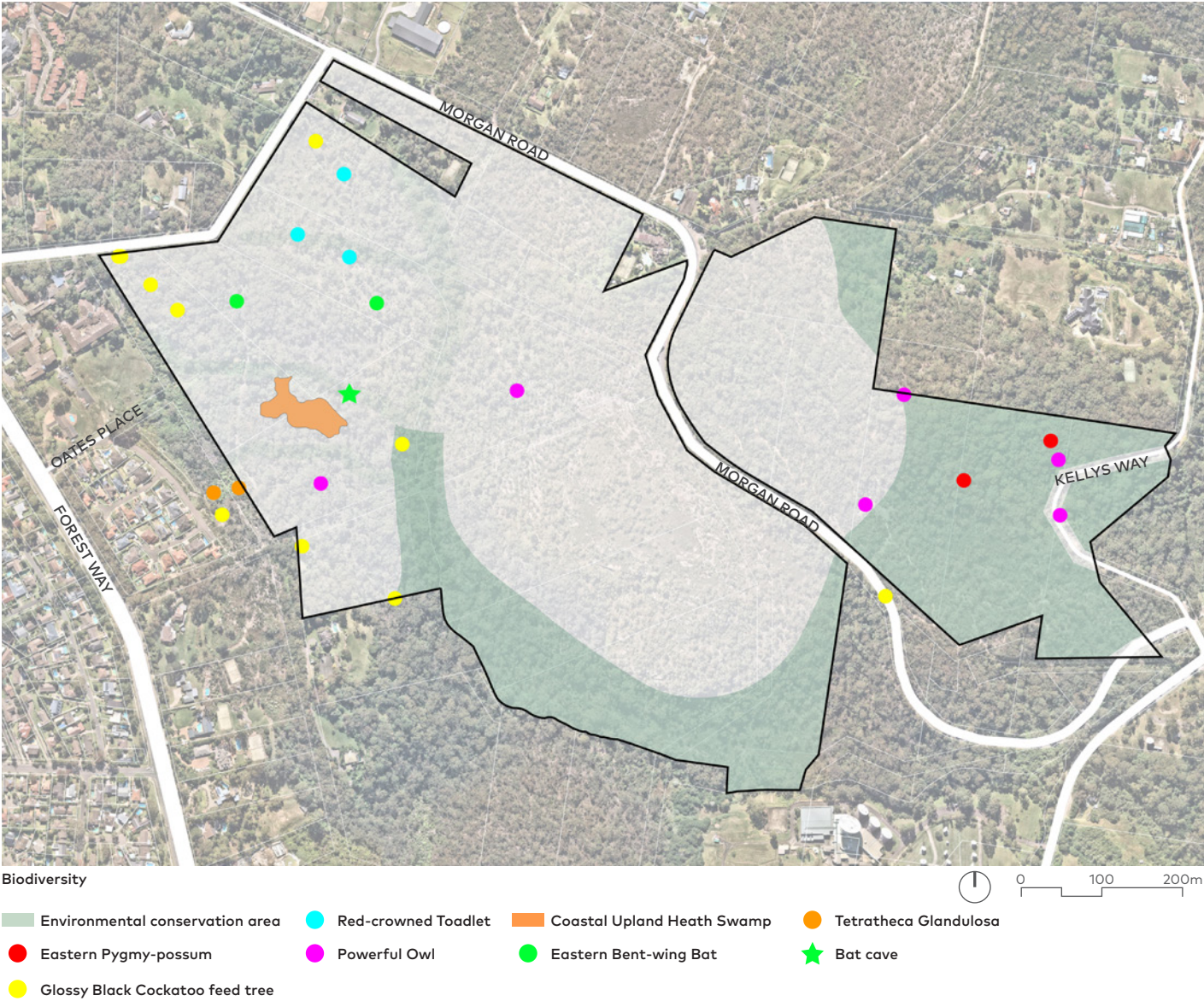
## Biodiversity

The study area is rich in biodiversity due to its prime bush habitat, a refuge for wildlife within the Sydney Basin. The riparian corridor of the Snake River provides an excellent environment for the Red-Crowned Toadlet, a vulnerable species only found in the sandstone escarpments of Sydney.

The Eastern Bentwing Bat is another vulnerable species found on site, specifically adapted to the cave found on an eastern riparian branch.

*Tetratheca glandulosa* is a small vulnerable shrub found primarily on the sandstone ridgetops of the Sydney Basin and is a threatened plant species identified within the site.

The Glossy Black Cockatoo and Powerful Owl are found along much of the east coast and use the site to roost.





# Significant Vegetation

The site is covered by well-established existing dense bushland with significant canopy cover occupying approximately half the site.

Sensitive environmental areas follow the creek line and the eastern area of the site, whose habitat supports diverse wildlife including the Glossy Black Cockatoo and the Powerful Owl. No nesting trees for these species have been identified within the site area.

Future considerations include land management for bushfires and preservation of threatened plant species.



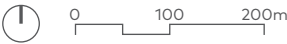
Vegetation

- Existing Vegetation

Retained Vegetation

Conservation Areas

Significant Canopy Trees





# The Site

## Bushfire Asset Protection Zones

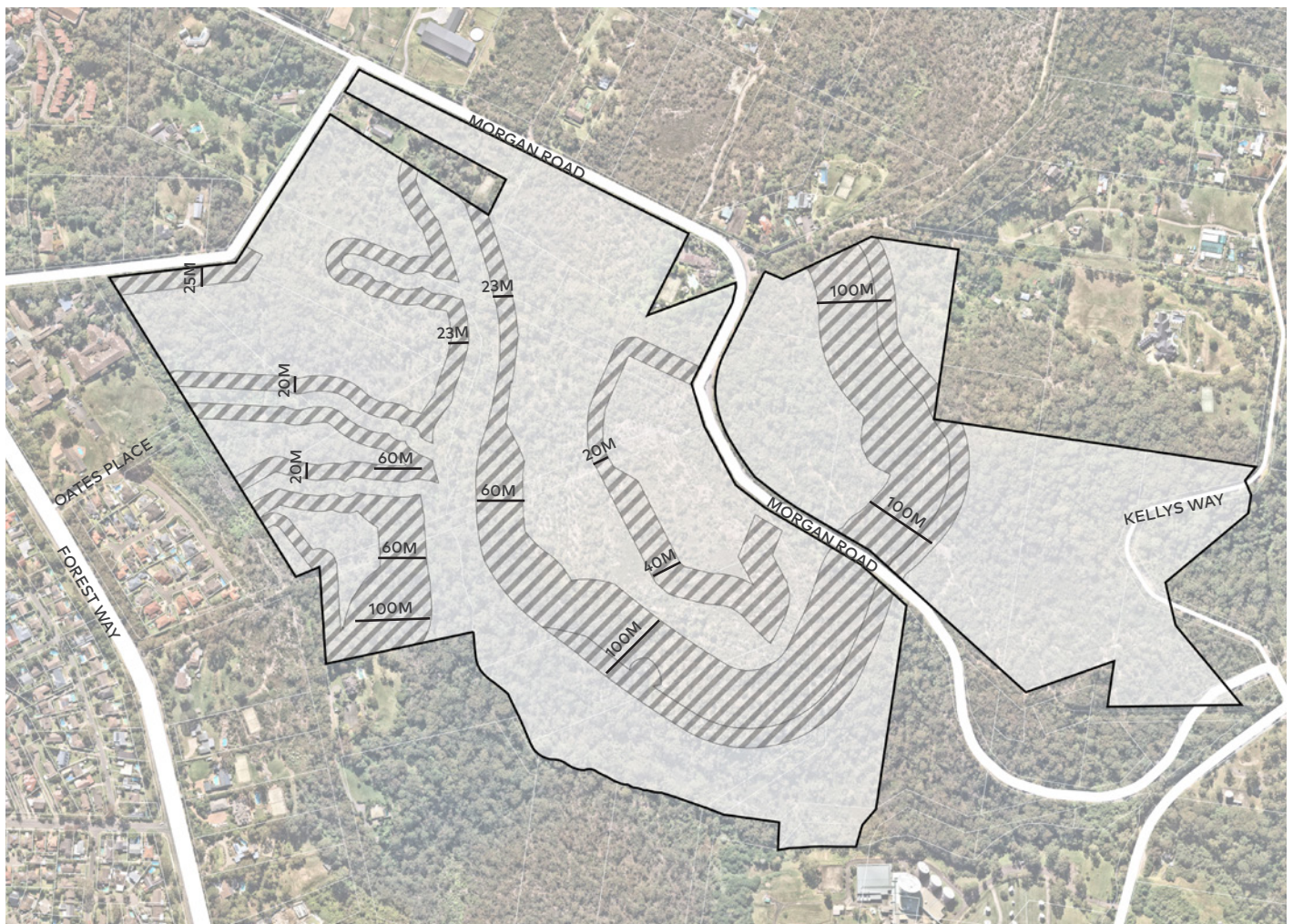
The diagram below demonstrates the required Asset Protection Zones (APZs) for the site.

The APZs have been determined by considering;

- environmental conservation areas
- ecologically sensitive land to be retained
- riparian corridors
- additional vegetated areas to be retained
- slopes

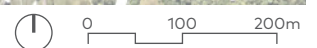
- general direction of fire
- proposed future uses on the site

The APZs range from 100m at their widest to 20m at their narrowest and include outer and inner APZ zones which determine the amount of vegetation cover that can be located within these inner and outer zones.



Bushfire Asset Protection Zones

/// Indicative bush fire Asset Protection Zone





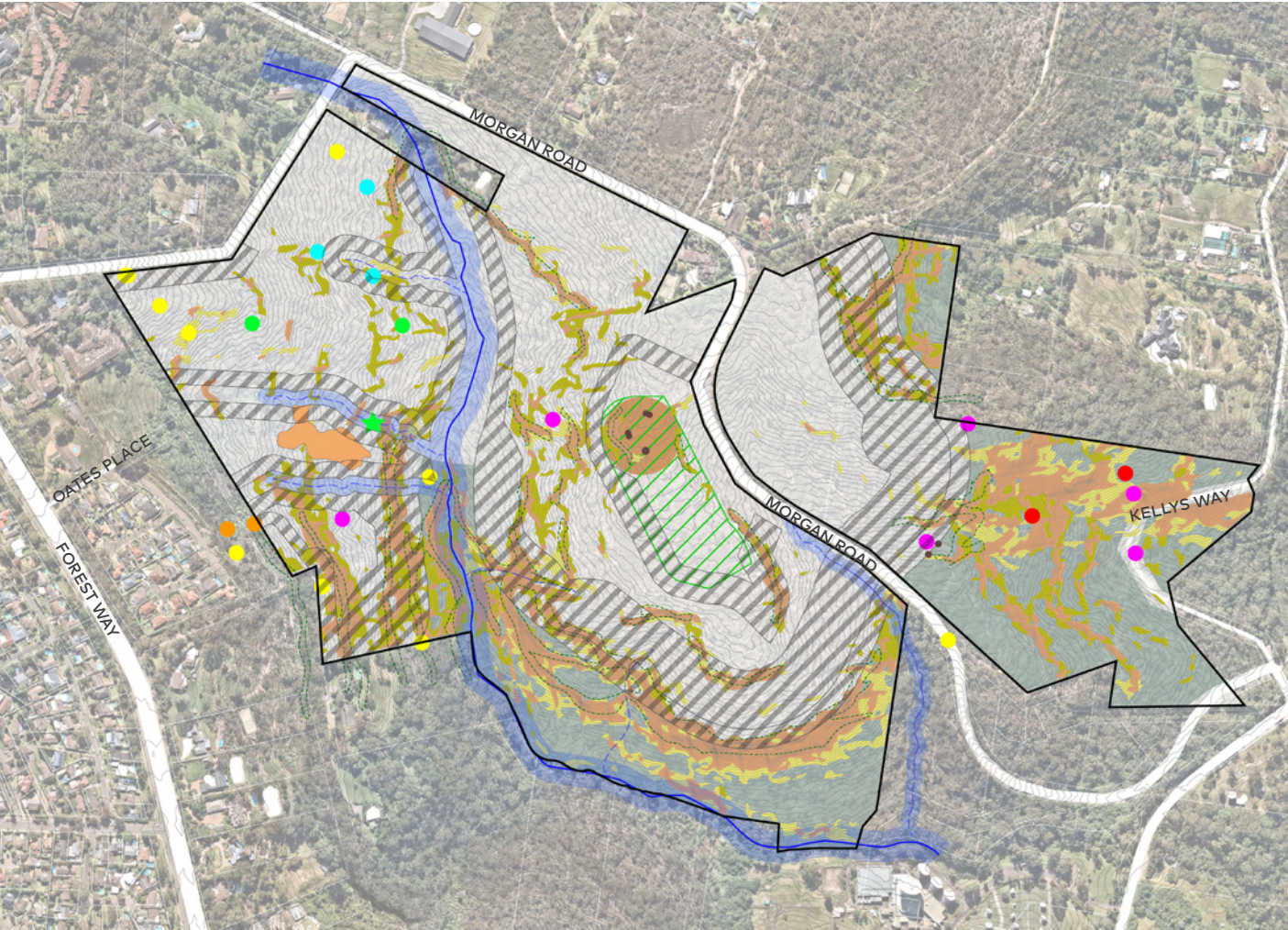
# Combined constraints and Opportunities

The combined constraints mapping of the site indicates both natural and archaeological constraints that need to be taken into consideration for this site.

The constraints are predominately clustered around the edges of the site, and the Snake Creek valley, leaving a large portion of unconstrained land toward the northern, western and eastern edges of the site.

These constraints largely consist of natural elements, with high to medium biodiversity value areas as well as creeks and riparian corridors occupying the land. Therefore whilst these may restrict development potential on those area, they equally offer an opportunity to become key amenity assets for the site.

The site is additionally constrained by scattered AHIMS listed sites and confirmed highly significant Aboriginal Heritage, which will be covered by a curtilage.



Combined constraints

- Contour (1m)

— Riparian corridor

— Creek extents (10-20m buffer)

— Environmental conservation area

— Environmentally sensitive land

— Indicative bush fire Asset Protection Zone
- Archaeological sites: Indigenous significance

— Archaeological site: 50m buffer zone

— 15-200 Topographical slope

— 200 Topographical slope

— Exposed rock platform and outcrops

★ Bat cave
- Eastern Pygmy-possum

● Glossy Black Cockatoo feed tree

● Red-crowned Toadlet

● Powerful Owl

● Eastern Bent-wing Bat

● Tetratheca Glandulosa



# Concept Plan

## Design Principles

- Infusing the Northern Beaches vernacular in the plan, houses nestled within the landscape, retained trees in the public and private domain, leafy outlooks from all aspects
- Ensure development respects and responds to the natural environment and its unique characteristics
- Protecting and celebrating significant cultural elements
- Ensure that the ridgelines and the valleys are retained as green elements
- Retention and enhancement of key flora and fauna areas within larger green spaces and networks
- Utilising topographical changes as design cues to inform water sensitive urban design locations, street alignments and to reduce the need for cut and fill within lots
- Providing for a range of lot sizes that enable rocky outcrops, existing trees and landscapes to be retained
- Ensuring diversity of housing choice and affordability
- Contain the building heights below the tree canopy to protect scenic amenity and maintain local character
- Provide for local services adjoining the area of high amenity and cultural celebration
- Collocating public open spaces within broader, contiguous green networks
- Improving onsite and downstream water quality through integrated WSUD in the public and private domain and the expansion of drainage networks as linear parklands in exceedance of those areas classified as riparian corridors
- Protect the natural bushland interface by containing APZs within developable areas
- Respond to bushfire threat on/adjoining the site by inclusion of local and regional secondary bushfire egress paths
- Prioritise pedestrian and cycle connectivity to key recreation destinations within the plan





CREEK RESTORATION



ACTIVE TRANSPORT AND WATER DETENTION



ABORIGINAL CULTURAL CENTRE



NEIGHBOURHOOD CENTRE



NEIGHBOURHOOD CENTRE



MULTIPURPOSE OPEN SPACES



COMMUNITY GARDENS AND RESTORATIVE PROGRAMMES



# Concept Plan

## Illustrative Concept Plan

The Patyegarang Concept Plan provides a vision for the transformation and sensitive development of the site. More than 50% of the site is to be preserved and restored as conservation areas or public open space.

The Concept Plan has been prepared to inform future phases of design and development of the site to promote high quality public, private amenity and good design.

Access to the site will be Morgan Road at the western, northern and eastern boundaries of the site and a new bridge across Snake Creek will provide active transport connections on a daily basis and vehicular egress during a bushfire or emergency.

Neighbourhood amenities will be provided adjoining the aboriginal cultural centre and conservation area and comprise of small shops and cafes.

A network of dedicated active transport links traverse the site through the proposed residential communities and dedicated open space and conservation areas and provide connections to regional trails beyond the site.

This Concept Plan is guided by the strategic goals of Government Architect of NSW's *Connecting with Country* draft Framework. These goals include:

- Reducing the impacts of natural events such as fire, drought, and flooding, exacerbated by unsustainable land- and water-use practices.
- Valuing and respecting Aboriginal cultural knowledge.
- Ensuring that Aboriginal people have access to their homelands so they can continue their responsibility to care for Country and protect sensitive sites.

At the Patyegarang Project site the aspirations of the proposed Structure Plan align with the goals of *Connecting with Country* and can be achieved by leading with a *Connecting with Country* approach. This will ensure a design response that not only creates housing opportunities in a natural setting, but that also supports and enhances the local ecology and is respectful of the continuing connections that Aboriginal people have to this Country.



Illustrative Concept Plan



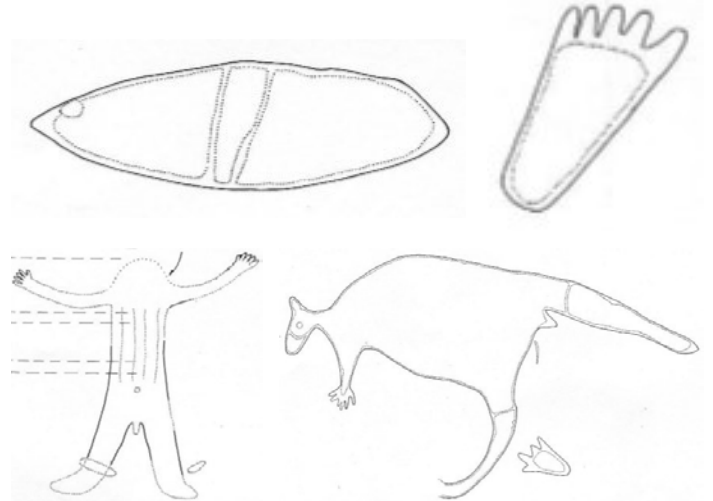


## Connecting with Country Opportunities

Through ongoing conversations with Custodians, several themes have begun to emerge around the important rock engravings on the sandstone ridge and how these engravings can be preserved and interpreted as part of the cultural experience of the place. These themes and principles complement those that are described later in the document and can help to guide the design response more generally:

- *Stories* – A place to yarn and tell stories of Country.
- *Aspect* – A high place of safety and refuge.
- *Education* – An opportunity for community to learn about Aboriginal culture.
- *Protection* – A chance to protect, interpret and share Aboriginal culture with future generations.

Engravings from site



## Connection to Country Opportunities











# Concept Plan

## Shelter & Cultural Centres

The development includes a new cultural offering, open to the public, that tells the stories of Aboriginal occupation of the area through contemporary interpretive material. Here, opportunities for Aboriginal people to reclaim a cultural presence within the landscape will foster a new public realm in support of the residential character within a unique bush setting.

Quiet places for rest and interaction with nature

Protection from the elements (sun, rain, wind)

opportunities for exchange and knowledge



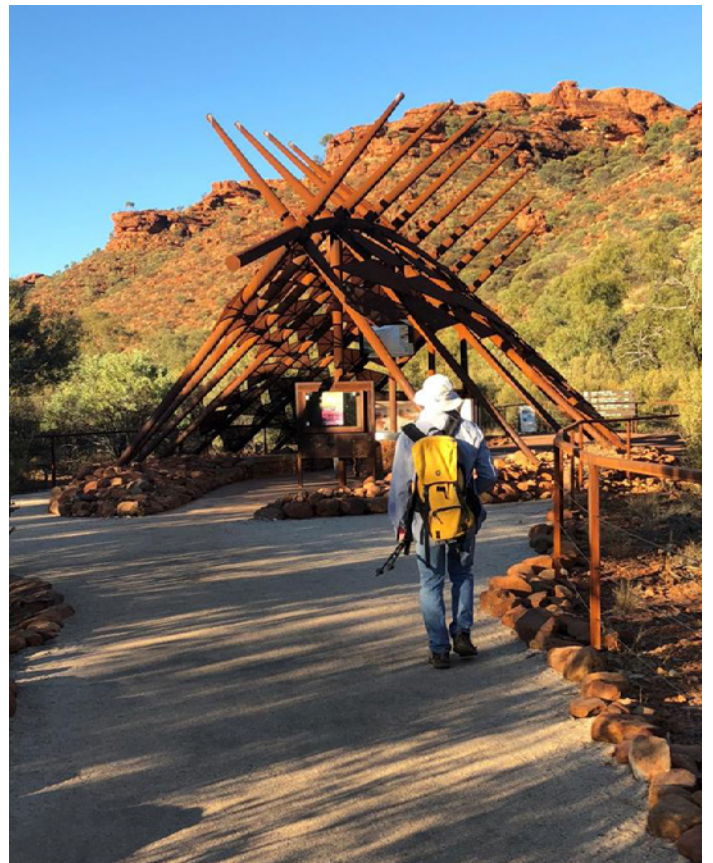
Guallecós Observation Deck, Chile



Bentleigh Secondary College, Victoria



Wukalina Shelter, Tasmania



Watarrka National Park Visitor Information Shelter, Northern Territory



## Tracks and Movement

The Patyegarang Project development by the Metropolitan Local Aboriginal Land Council is aimed at transforming a land asset into economic, social and cultural opportunities for Aboriginal people. Self-determination and Caring for Country are the foundations of a masterplan that includes restoration of natural habitat, watercourses and ecological corridors as well as conservation and preservation of significant Aboriginal rock art.

Located on a sandstone plateau and folding along the woodland gullies, the proposed residential development is situated between Garigal National Park to the east and Ku-Ring-Gai Chase to the north. The project includes renewed access to the area through

formalised walking tracks that honour and protect the existing registered Aboriginal archaeological sites and that connect this place to its surrounding parks.

Connection

Steps/ramps

Accessibility

Floating/grounded



Sendero Paiva Walkways, Portugal



Gallery of Lizard Log, Sydney





# Concept Plan

## Landscape and Play

Nature play

Free play

Interaction with the environment

Active places



Bilya Kard Boodja Lookout, Perth



Education Centre Courtyard, Germany



Hillside Eco Park, China



# Interpretive Signage and Wayfinding

Sensitive site awareness

Indigenous ways of knowing

Local language sign for place, flora and fauna

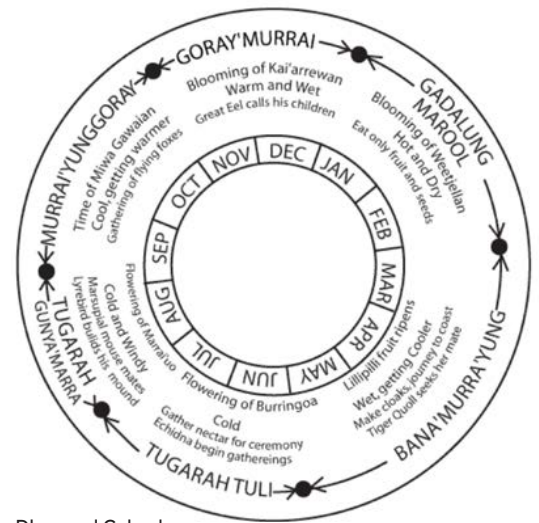
Text based

Chronological

Pictorial

Light based

Technological



Dharawal Calendar



Water Aid Outdoor Exhibition, Sweden



Dual Naming Sign



Uluru Kata Tjuta National Park



Rock Art on Mobile Phones



Prince Arthur's Landing, Canada



# Concept Plan

## Open Space Structure

The site analysis has identified some of the opportunities of the site in terms of the physical, topographical and hydrological systems. By preserving the existing waterways, creeks, riparian corridors, and conservation areas, they have become assets for the concept plan.

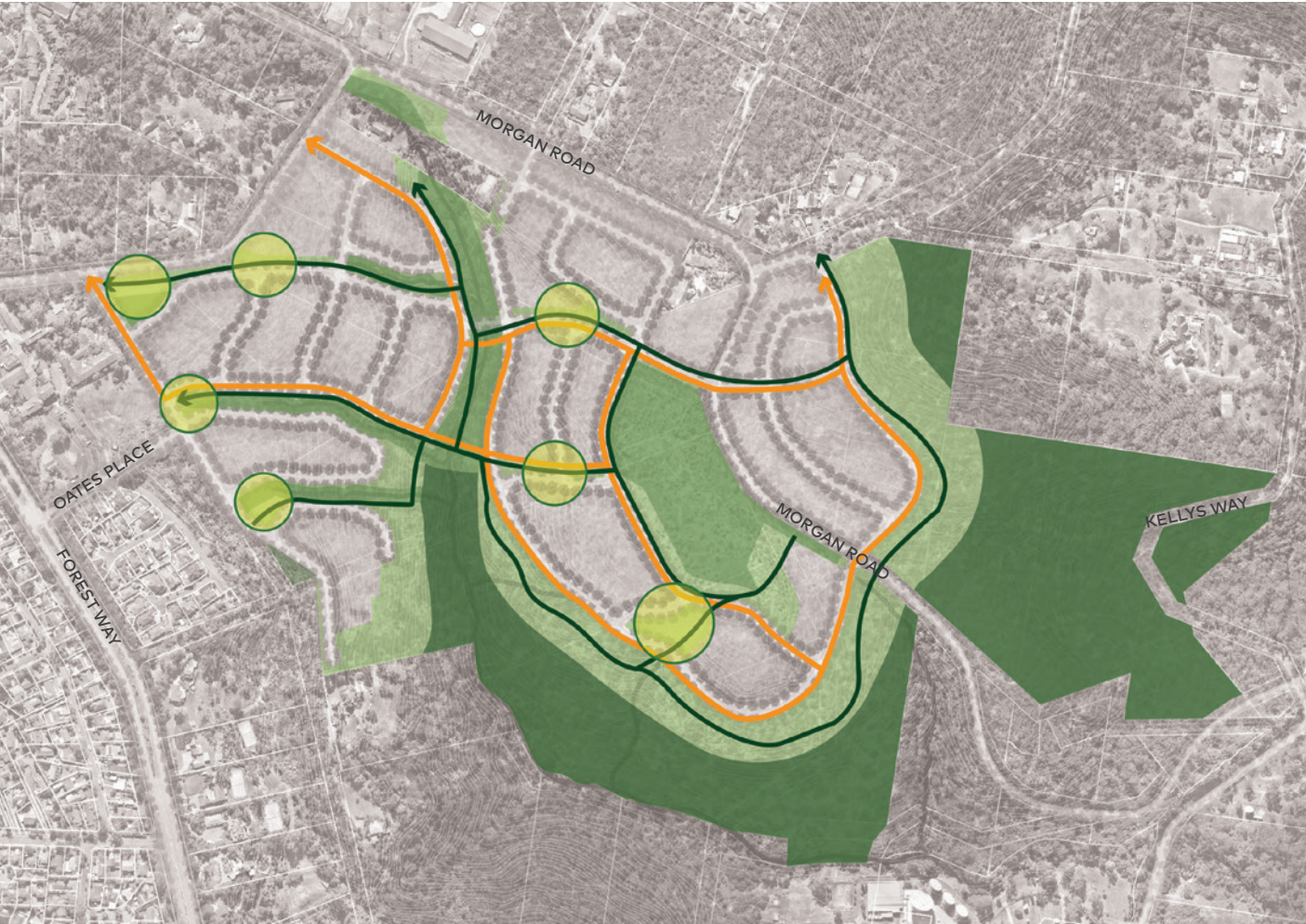
The creek and flow paths are utilised as both an aesthetic and functional element, serving as both the green links, drainage and detention systems, active and passive open spaces and as movement corridors for the pedestrians and cyclists from the high value conservation areas down to the creek.

A significant amount of conservation area has been incorporated into the site, with great care taken to preserve the surrounding flora and fauna. The future stage will retain significant trees within the APZ and site where possible and enhancing of the natural environment and plantings within the road reserve and boundary buffers and verges.

Snake Creek will be the focal point for the open space network and comprise a series of conversation areas, water features and green fingers that extend back in to the future community.

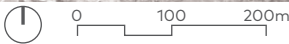
Additional open space is provided outside of the heritage curtilage around the aboriginal archaeological elements to provide for a more generous open space at the top of the ridge.

New public open spaces provide for a variety of uses including picnic and BBQ areas, children's playgrounds and tree reserves. Opportunities and benefit from further designed to protect scenic resources such as widening retained vegetation buffer zones adjacent to the Morgan Road streetscape, altering road alignments to preserve visually significant stands of vegetation and widening the buffer zone along the west side of Snake Creek to include individual mature canopy trees which may fall within large residential lots.



Open space structure

- |                            |                   |                  |
|----------------------------|-------------------|------------------|
| Retained Vegetation        | Conservation area | Walking trails   |
| Open space/Protection Zone | Public open space | Active transport |





# Access and Movement

The access and movement plan for the site considers a range of access requirements, APZ maintenance and bushfire mitigation and emergency egress from the site. All streets will include footpaths on at least one side and potentially provide the opportunity for the introduction of shared user paths (bicycles and pedestrians).

Local traffic movements are provided from Morgan Road at six locations that are adequately spaced to allow for stop/give way movements in to the thoroughfare. The design also indicated opportunity for a slip road from Forest Way onto Morgan Road.

Peripheral streets address the riparian corridors, public open spaces and APZs to allow for fire truck access and maintenance of the APZs by service vehicles.

Local roads provide direct access to each of the proposed superlots and along public open spaces and riparian corridors to provide on-street parking for accessing these amenities.

A bridge is provided within the site to link the eastern and western precincts together and provide for additional egress routes in the case of a bushfire or other emergency. Egress via Oates Place to Forest Way is similarly only required during an emergency and will not be available for daily traffic movements.

Culs-de-sac have been limited where possible, however, due to the significant topography some superlots are required to be access via a cul-de-sac.

Opportunity for public domain improvements along Morgan Road, as there are no existing pedestrian pathways along the site's perimeter. The design of pathways to comply with the relevant access standards, including maximum gradients, and allow, adequate access for all ages and abilities. Walking catchments, as well as connections to public transport.



Access and movement

- Existing
- Local road
- Proposed slip road
- Perimeter/fire access
- Bridge connection



# Concept Plan

## Dwelling Typologies

### Larger Lot



### Typical Lot



Nandi Avenue, Frenchs Forest



### Smaller Lot





## Sustainability and Resilience

To create a sustainable, resilient and affordable community, four key areas of intervention should be pursued within the Urban Design Framework:

- Water sensitive urban design and landscape conservation
- High performance buildings
- Urban resilience and infrastructure delivery

### Sustainability and Resilience Requirements

- Public domain and buildings shall be designed to reduce localised heat created by the urban heat island affect by:
  - Maximising canopy cover on all streets
  - Targeting canopy cover of at least 70% over all pedestrian spaces (waterfront areas, footpaths, trafficable pedestrian areas)
  - Maximising the use of vegetation on buildings, including above ground parking facilities. Vegetation, green roofs, green walls and materials with a high solar reflectance index are encouraged on at least 50% of the surfaces of all buildings. Western and northern building façades should be particular areas of focus.
- Flow rates from the site should not be more than pre-development site discharge
- Develop design strategies and management measures to mitigate the impacts of climate change on key infrastructure and assets.





