

The logo for URBIS, consisting of the word "URBIS" in a bold, black, sans-serif font, enclosed within a black square border. The background of the entire page is a detailed architectural site plan of a coastal development, showing building footprints in orange and red, parking lots, roads, and green spaces. A red square on the plan indicates the location of the URBIS logo.

URBIS

MOONEY MOONEY & PEAT ISLAND PLANNING PROPOSAL URBAN DESIGN REPORT

Prepared FOR

PROPERTY & DEVELOPMENT NSW

22 SEPT 2021

FINAL REV K

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01

INTRODUCTION

PROJECT BACKGROUND

This Planning Proposal has been prepared on behalf of Property & Development NSW that seeks amendments to the Gosford Local Environmental Plan 2014 (GLEP 2014) for surplus Government owned land at Peat Island and Mooney Mooney (the Site).

The aim of the Planning Proposal is to facilitate the future redevelopment of the site, for a mix of residential, community, tourism and employment generating land uses.

PROJECT HISTORY

This Planning Proposal was first submitted to Central Coast Council in November 2016. Gateway Determination was issued by the Department of Planning, Industry and Environment (DPIE) on 10 August 2017 (PP_2017_CCPAS_006_00 (17/06254)). The Gateway Determination stated that while the supporting studies were sufficient, a number of conditions are required to be addressed prior to progressing the Planning Proposal further. Since August 2017, **Property & Development NSW** has undertaken a significant amount of consultation with public authorities and Central Coast Council (Council), including the submission of a revised Planning Proposal to Council in December 2018 for review and comments.

Post the 2018 submission, Property & Development NSW has engaged technical consultants to undertake further environmental investigations to respond to Council's and public authorities feedback.

The indicative Concept Plan has been revised in accordance with the additional technical investigations post 2018 submission. The revised indicative Concept Plan comprehensively evaluated the additional environmental and physical constraints, and responded to site's context, future amenity and connectivity.

PURPOSE OF THIS REPORT

This Urban Design Report has been prepared for Property & Development NSW, in support of the Planning Proposal for Peat Island and Mooney Mooney.

It provides an overview of the revised concept plan in response to Gateway determination conditions and the design development process undertaken to prepare the concept plan including:

- Preparation of site opportunities and constraints as informed by technical investigations;
- Preparation of consolidated site opportunities and constraints plan to identify the developable area;
- Preparation of a concept plan in response to the developable area and technical inputs;
- A series of layered strategies for the concept plan describing the key outcomes; and
- Preparation of Local Environmental Plan (LEP) mapping for the site including zoning map, building height map and lot size map.

Technical Report Summary

The following technical investigations were undertaken to accompany the planning proposal and have informed the Concept Plan:

- Aboriginal Cultural Heritage Assessment;
- Heritage Significance Assessment;
- Riparian and Aquatic Constraints Assessment;
- Flora and Fauna Assessment;
- Biodiversity Certification Assessment;
- Strategic Bushfire Study;
- Traffic and Transport Assessment;
- Infrastructure and Utilities;
- Water Cycle Management Review;
- Acoustic Assessment; and
- Visual Impact Assessment.

PROPOSED PLANNING CONTROL AMENDMENTS

The Planning Proposal is seeking to amend the following provisions of the GLEP 2014:

- **Amend Clause 2.1 Land Use Zones of the GLEP 2014 to include SP3 Tourist zone listed under Special Purpose Zones.** The proposed SP3 Tourist Zone objectives and proposed permissible uses are consistent with the draft SP3 Tourist zone within the draft Consolidated Central Coast Consolidated Local Environmental Plan (CCLEP). Therefore, this Planning Proposal will be consistent with draft CCLEP, subject to gazettal.
 - **Amend the GLEP 2014 Land Zoning Map** applicable to the site, and rezone SP2 Infrastructure and RE1 Public Recreation zones to E2 Environmental Conservation, R1 General Residential, R2 Low Density Residential, RE1 Public Recreation, RE2 Private Recreation, and SP3 Tourist zones.
 - **Amend the GLEP 2014 Height of Buildings Map** to reflect the maximum height of the buildings proposed (8.5m, 12m and 15m) across selected areas of the site as indicated on the proposed Height of Buildings Map.
 - **Amend the GLEP 2014 Lot Size Map** to allow minimum lots size of 150sqm, 220sqm, 300sqm and 450sqm across selected areas of the site as indicated on the proposed Minimum Lot Size Map.
 - **Amend the GLEP 2014 Additional Permitted Uses Map** and amend the GLEP 2014 Schedule 1 Additional permitted uses to include the use of certain land at Mooney Mooney, including:
 - **RE2 Private Recreation zoned land**, being portion of Lot 11, DP 1157280 and Lot 12, DP 1158746 as identified on the Additional Permitted Uses Map.
 - » To include 'car parks' as additional permitted use on this part of the site.
 - **R1 General Residential zoned land**, being the southern portion of Lot 14, DP1158746 as identified on the Additional Permitted Uses Map.
 - » Development for the purposes of emergency services facility is permitted with development consent. The proposed emergency services facility is permissible with consent within the proposed R1 General Residential zone under the draft CCLEP. Therefore, this Planning Proposal will be consistent with draft CCLEP, subject to gazettal).
- **RE1 Public Recreational zoned land**, being the southern portion of lot 4 DP239249 as identified on the Additional Permitted Uses Map.
 - » Development for the purposes of emergency services facility is permitted with development consent. The proposed emergency services facility is permissible with consent within the proposed RE1 zone under the draft CCLEP. Therefore, this Planning Proposal will be consistent with draft CCLEP, subject to gazettal.
 - **R1 General Residential zoned land**, being the south eastern portion of lot 12, DP1158746 located along Peats Ferry Road, lot 12, DP863305 and the southernmost portion of lot 14DP1158746, as identified on the Additional Permitted Uses Map:
 - » Development for the purpose of 'food and drink premises' and 'shops' are permitted with development consent.
 - » The indicative Concept Plan comprises local shops/restaurants and cafes in the form of shop top housing within the Southern Foreshore precinct and the Chapel precinct, which has an area of approximately 200sqm. The proposed shops and food and drinks premises are of a scale that is better suited for this local area. Shops, Restaurants and cafes are prohibited under the R1 zone of the Gosford LEP and the draft CCLEP. Given the proposal no longer includes a service station and a neighbourhood centre, it is proposed to include food and drink premises and local shops to provide sufficient and much needed local retail services for exiting and incoming residents.
 - **RE1 Public Recreation zoned land**, being Lot 11 DP863305 as identified on the Additional Permitted Uses Map.
 - » Development for the purpose of electricity generating works is permitted with development consent.

In addition, consistent with the recommendation of the CMP, this Planning Proposal includes the proposed LEP amendment to include Peat Island as an Item of Environmental Heritage (Item - General) under Part 1 - Heritage Items, Schedule 5 of the Gosford LEP.

THE CONCEPT PLAN

The revised indicative Concept Plan - Revision K - is provided opposite at *Figure 1*. The following is a summary of the key changes made to the concept plan in terms of land parcels and / or uses removed.

- Lot 9 DP 863305 is excluded from the Planning Proposal, given it is under the care, control and management of Central Coast Council and will be retained as RE1 Public Recreation Zone. The indicative Concept Plan identifies a proposed Rural Fire Services (RFS) at this location. This RFS facility does not form part of this Planning Proposal, and is subject to further stakeholder consultation and a separate planning proposal.
- The indicative Concept Plan also identifies a proposed location for a Marine Rescue NSW facility. This facility is subject to further stakeholder consultation and a separate proposal.
- A land-based marina is shown on the Indicative Concept Plan located on the foreshore of the Hawkesbury River adjacent to Peat Island. It does not form part of the planning proposal and would be subject to a separate future planning proposal if it is to proceed. This would include a detailed environmental assessment of the impacts.
- This part of the site is currently zoned partly RE1 Public Recreation and partly SP2 Infrastructure (for the purpose of hospital) under GLEP 2014, and is proposed to be rezoned to RE2 Private Recreational Zone. A car park is proposed to be an Additional Permitted Use under Schedule 1 of GLEP 2014 on a portion of the site as part of the Planning Proposal.














LEGEND	
	Site Boundary
	Pedestrian Connection
	Shared Cycling and Pedestrian Paths
	Dedicated Cycle Lane
	Approximate edge of mangroves
	Inner Vegetated Riparian Zone (VRZ) of 20m
	Transport for NSW land
	Existing Buildings Retained
	Environmental Conservation area
	Indicative Location of Ecological Corridor
	Indicative location of Bushfire APZ
	Publicly Accessible Land (Vegetation Protection Areas)
	Indicative private open space / communal open space

Table 1 Concept Plan Comparison Table 2016 (Rev F) to 2021 (Rev K)

CONSIDERATION	ORIGINAL PLANNING PROPOSAL (2016 VERSION)	REVISED PLANNING PROPOSAL 2021
Residential Yield	Approximately 268 dwellings	Approximately 267 new dwellings
Retail	2,008sqm	170sqm (local shops, restaurants and cafes)
Community Facilities (including the Chapel)	3,000sqm	3,882sqm
Land Proposed to be Dedicated for Conservation	11.3 ha	10.4ha
Publicly Accessible Open Space	10 ha	9.65 ha
Tourism Zoned Land	3.72 ha	5.05 ha
Marina development	Land and water based marina is proposed	Marina (both land and water based) removed from the Planning Proposal
Retention and adaptive reuse of the non-listed heritage buildings	4 buildings are retained and proposed to be reused	9 non-listed historical buildings on Peat Island and 4 non-listed historical buildings on the mainland for adaptive re-use. Proposed LEP amendment to include Peat Island as an Item of Environmental Heritage (Item - General) under Part 1 - Heritage Items, Schedule 5 of the Gosford LEP.
Emergency services	Emergency services are located in different locations.	Location has been identified for potential Marine and Rescue and RFS facilities subject to further stakeholder consultation and a separate proposal.



Figure 1 Concept Plan - Rev K 2021





SUMMARY OF PROPOSED CHANGES

The following table provides a summary of the key additional technical investigations undertaken for the Concept Plan since it was exhibited for Gateway Determination in 2016 and the key changes that resulted from these. The previous Concept Plan (Rev F) is depicted opposite.

TECHNICAL REPORTS	SUMMARY OF KEY CHANGES TO CONCEPT PLAN
1 Revised Site Survey prepared by Chase Burke & Harvey	<ul style="list-style-type: none"> ▪ Informed technical investigations.
2 Aboriginal Cultural Heritage Assessment (prepared by Extent Heritage)	<ul style="list-style-type: none"> ▪ Realignment of the north-south road and development lots along the western foreshore. ▪ Removal of lots and provision of a parkland in the north east corner. ▪ Reconfiguration of residential lots at the north-east to provide demarcation between private lots and the AHIMS Sites.
3 Heritage Significance Assessment (prepared by Urbis Heritage)	<ul style="list-style-type: none"> ▪ Reconfigure lots to protect the heritage curtilage of the Chapel ▪ Retention of additional heritage items including: <ul style="list-style-type: none"> – reservoir tower, pool house, cottages and the Rotunda building on Peat Island; – dairy store opposite Peat Island on the mainland.
4 Water Cycle Management Review (prepared by Mott MacDonald) <ul style="list-style-type: none"> ▪ including review of Riparian Corridors 	<ul style="list-style-type: none"> ▪ Area on the western coastline is proposed to be raised above the flood planning level to ensure apartment building currently within 100yr ARI is flood free.
5 Biodiversity, Riparian and Aquatic Constraints Assessment & Biodiversity Certification Assessment (prepared by Ecological Australia)	<ul style="list-style-type: none"> ▪ Realignment of road structure and reconfiguration of the construction / development footprints to avoid encroachment into the inner VRZ, and the outer VRZ where possible. ▪ Reconfiguration of residential lots to maintain clear demarcation between private lots and retained vegetation area. ▪ Locate biocertification area that protects sensitive riparian areas and good condition native vegetation.
6 Strategic Bushfire Study (prepared by Peterson Bushfire)	<ul style="list-style-type: none"> ▪ Reconfiguration of lots to maintain sufficient land area for the construction of residential buildings.
7 Utilities Infrastructure Report (prepared by Mott MacDonald) <ul style="list-style-type: none"> ▪ including Letter of support for review of substation site for bushfire compliance (prepared by Peterson Bushfire) 	<ul style="list-style-type: none"> ▪ Preferred location for future substation at the southern end of Mooney Mooney. Ausgrid to inform further technical requirements at a later stage for detailed design.
8 Traffic and Parking Assessment (prepared by Mott MacDonald)	<ul style="list-style-type: none"> ▪ Road structure and width reconfigured to avoid encroachment of Aboriginal Heritage Sites and Riparian Corridor, whilst meeting the minimum requirement as per Central Coast Council DCP. ▪ Foreshore pathway realigned to avoid encroachment of Aboriginal Heritage Sites and Riparian Corridor. Foreshore pathway to be designated as shared route for pedestrian and cyclist. ▪ Allowance made for cycle parking spaces for residents in future apartment buildings to promote active transport. Upgrade existing pedestrian crossing. ▪ Identification of recommended pedestrian and cycle crossings.
9 Acoustic Assessment	<ul style="list-style-type: none"> ▪ No change to Concept Plan. This informs the development of the location-specific DCP for Mooney Mooney and Peat Island.
10 Visual Impact Assessment prepared by Urbis Design	<ul style="list-style-type: none"> ▪ No change to Concept Plan.

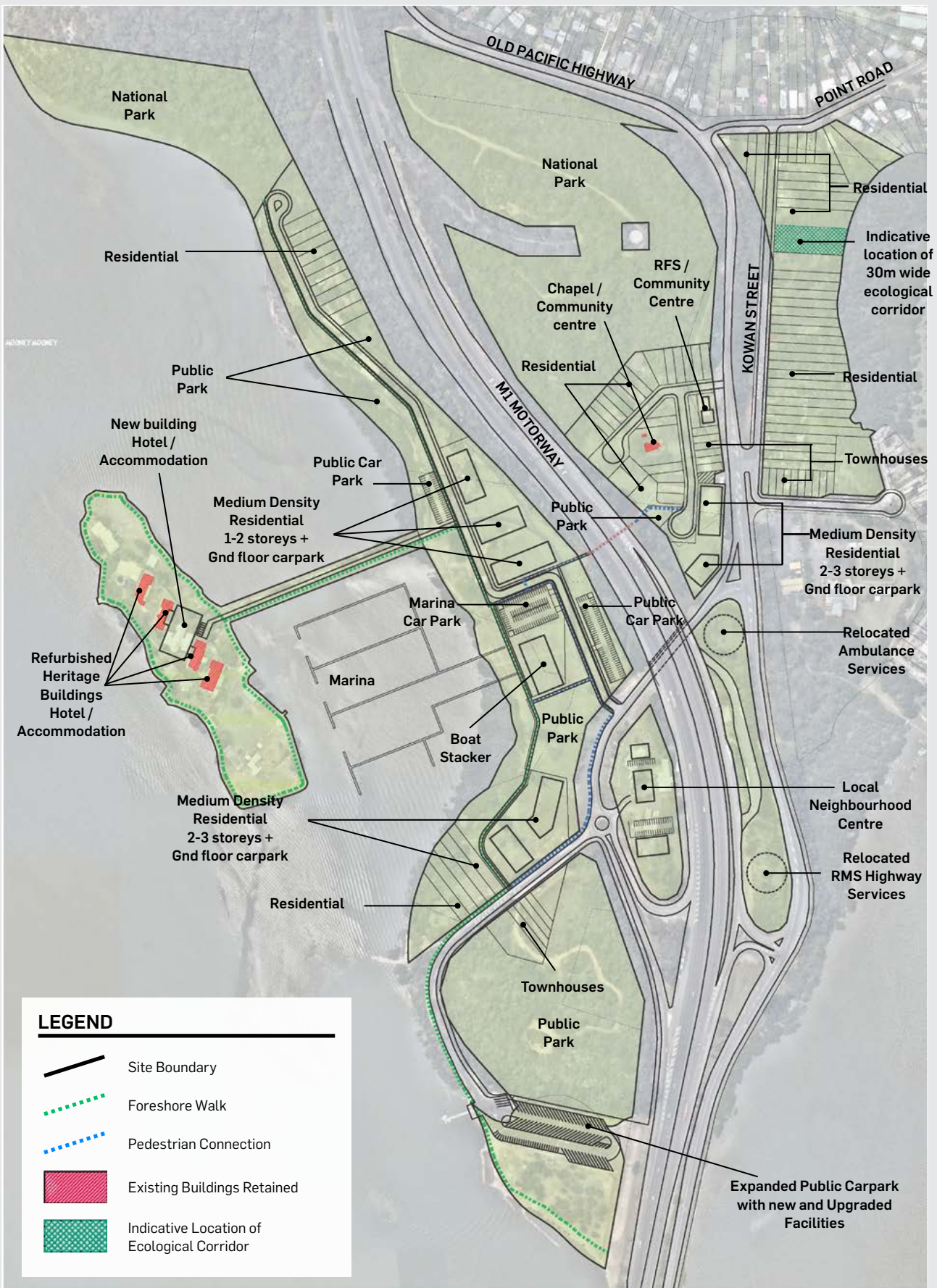


Figure 2 Concept Plan - Rev F 2016



02 EXISTING SITE CONDITIONS



Figure 3 Site Location Plan

SURROUNDING CONTEXT

The subject site is located at Mooney Mooney on the Hawkesbury River. The surrounding area has exceptional scenic quality. Key features of which are the Hawkesbury River and surrounding national parklands, which include the Muogamarra Nature Reserve to the south separated from the site by the Hawkesbury River, Popran National Park immediately to the north, and Brisbane Water National Park to the north-west on the opposite side of Mooney Mooney Bay.

The M1 Motorway is a dominant feature of the surrounding area and it divides the site. The existing residential neighbourhood of Mooney Mooney is located to the east of the M1 Motorway. The existing housing stock in Mooney Mooney comprises detached housing. There is no local convenience retail provision within Mooney Mooney, with the exception of the Mooney Mooney Club, which is located on Kowan Road adjacent to the riverfront oyster farming industry.

To the north of the site is bushland forming part of the Popran National Park, which extends up the western side of M1 Motorway. Beyond Mooney Mooney to the north, is the residential suburb of Cheero Point, which is located on the eastern side of the M1 Motorway.

To the south of the site is the Hawkesbury River, which forms a significant scenic element of the surrounding area. Further beyond the immediate surrounds are other residential communities along the Hawkesbury River including Brooklyn, Cogra Bay, Milson Island and Dangar Island.

SITE DESCRIPTION

The majority of the Peat Island site was originally developed for institutional purposes (psychiatric facility) with some other ancillary uses on Mooney Mooney. The former Mooney Mooney Public School is located on the eastern side of the subject site. As a consequence, the current land use zoning reflects the former SP2 Infrastructure (for the purpose of Hospital) institutional land uses.

Peat Island, formerly known as Rabbit Island, has historically been Crown Land since European Settlement. The island was dedicated for use as an asylum for inebriates (alcoholics), specifically for females in 1901. Construction of the buildings associated with the asylum commenced in 1902 and involved the clearing and levelling of the island. Since that time the site has variously been used as a psychiatric

facility, home for boys and disability institution until its permanent closure in 2010. A detailed history of the site is provided in the Heritage Impact Statement.

The Mooney Mooney Public School opened in 1939. A decline in enrolments and an increase in the availability of alternative schools within the locality resulted in the closure of the school in 2007.

The former institutional uses on the site are redundant and the subject site is surplus to the needs of NSW State Government and is proposed to be sold. The current zoning and limited range of permissible uses are inappropriate for any future commercially viable alternate use of the site. There is therefore a genuine need to review the zoning of the site, as well as examine the site constraints and opportunities to assist in the determination of the highest and best land use for the site.

The Mooney Mooney and Peat Island site immediate surrounds are:

- The Hawkesbury River surrounding the site on the southern, eastern and western boundaries;
- The Popran National Park to the north of the site on the western side of the M1 Pacific Motorway (M1);
- Peat Island on the western side within the Hawkesbury River;
- The existing residential community of Mooney Mooney to the north of the site on the eastern side of the M1;
- A cluster of oyster farming businesses and Mooney Mooney Club to the east of the site;
- Bisected by the M1 which has three travelling lanes in each direction at Mooney Mooney; and
- The Old Pacific Highway also passes through the eastern side of Mooney Mooney connecting it to the township of Brooklyn on the southern banks of the Hawkesbury and Cheero Point in the north on the eastern side of the M1.
- The closest railway station is the Hawkesbury River Station situated at Brooklyn, approximately 5km to the south east. The 592 bus service connects the Hawkesbury River Station to Mooney Mooney and to Hornsby in the south.

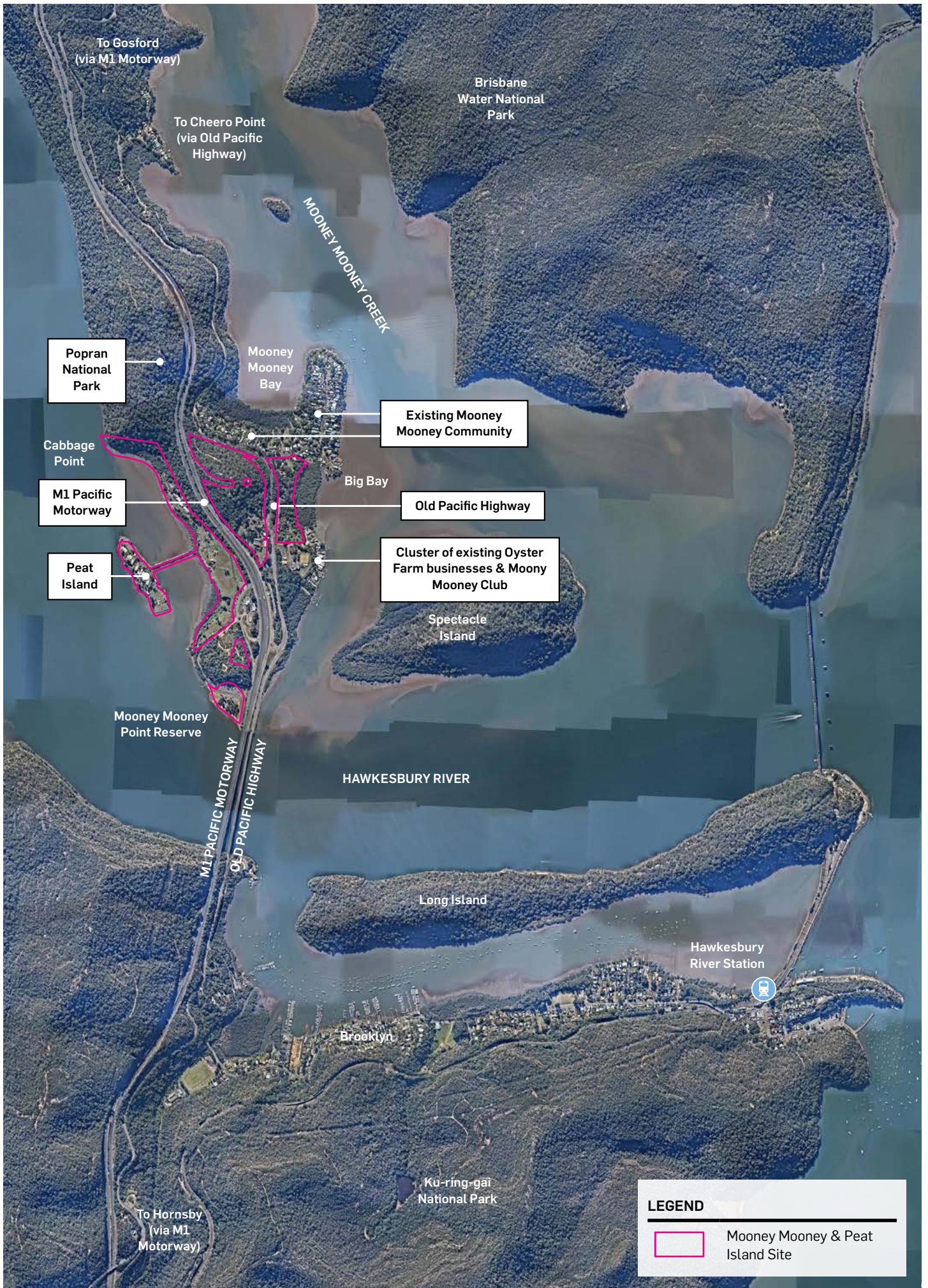


Figure 4 Site Context

SITE OWNERSHIP

The subject site comprises 33.59 hectares of Government owned land on the Mooney Mooney Peninsula, including Peat Island, which has been identified as surplus to current needs. The site consists of 18 lots described in *Table 2* below and *Figure 5* opposite.

Table 2 Lot Description and Ownership

LOT	DP	OWNERSHIP	DESCRIPTION
WESTERN PRECINCT			
2	239249	Property NSW	North west along foreshore
7	1180499		Residual lot fronting causeway
12	1158746		Main lot of western precinct
10	1157280		Peat Island and Causeway
11	1157280		Western foreshore adjacent to main lot 12 of western precinct
8	1180499		Western foreshore strip west of main lot 12.
9	1180499		Western foreshore strip west of lot 2, south of lot 8.
4	239249		West of Peats Ferry Road south of lot 12, east of lot 9.
SOUTH WEST PRECINCT			
7302	1151629	Crown Land	Deerubbin Reserve - small lot
11	863305	TfNSW	Mooney Mooney Point Reserve
CENTRAL NORTH EAST PRECINCT			
7011	1057994	Crown Land	Northern central lot
14	1158746	Property NSW	Main central lot between motorway and highway
13	1158746		Former service station and open space
12	863305	TfNSW	Southernmost central lot by off ramps
EASTERN PRECINCT			
1	945014	Property NSW	North east lot of former Mooney Mooney Public School
2	1205588		North west lot of former Mooney Mooney Public School
1	431780		Main lot of former Mooney Mooney Public School
21	836628		Main eastern lot



Figure 5 Site Ownership Plan



EXISTING SITE CONDITIONS



CENTRAL & EAST MOONEY MOONEY

The Central and East Mooney Mooney land is located to the east of the M1 Motorway. It is bound by the existing low density residential community of Mooney Mooney in the north, the Mooney Mooney Club and existing oyster farm businesses in the south and riparian vegetation (mangroves) and Mooney Mooney Creek to the east.

The Old Pacific Highway runs through the centre of this precinct connecting it to Brooklyn and Cheero Point. Surrounding residential land is zoned R2 Low Density Residential under Gosford Local Environmental Plan (GLEP) 2014.

The central east parcel of land between the M1 Motorway and Old Pacific Highway comprises land associated with the former Peat Island psychiatric facility and is characterised by two distinct areas being cleared and uncleared land.

1 **Uncleared Land**

The northern portion of the site comprises steeply sloping land that is heavily vegetated which rises to a height of RL80 metres from a low point of RL8 metres and is highly visible from surrounding areas. There is a water tower that sits outside the site boundary on the highest point which is accessed via an unsealed road from the north. Alongside the M1 there is also an emergency breaking ramp.

Cleared Land

The southern portion of the site has been cleared and is occupied by:

- 2 **Detached residential dwellings** within the ownership of NSW Government Property. These are nestled into the base of the vegetated escarpment.

- 3 **An existing chapel** which is surrounded by existing vegetation including a number of Norfolk Pines.

- 4 **Institutional buildings and facilities** associated with the former mental institution on Peat Island. This includes dormitory buildings (disused and heavily dilapidated) and former tennis courts. A pedestrian underpass provides access under the M1 Motorway.

- 5 **A pad site** previously occupied by a service station is situated immediately to the west of the Old Pacific Highway. The site has been cleared of buildings and structures. Remediation will be required (removal of underground storage tanks) prior to any future development on this part of the site.

- 6 **Residential Community**

To the east of the Old Pacific Highway, the site comprises predominantly low density residential development (single and two storey detached dwellings on deep blocks) off Kowan Street with surrounding vegetation.

- 7 **Former Mooney Mooney Public School**

The former Mooney Mooney Public School site includes cleared land and former school buildings and facilities addressing Point Road.

- 8 **Rural Fire Service (RFS)**

The shed for the Mooney Mooney RFS is also located in this part of the site on the corner of the Old Pacific Highway and Point Road.

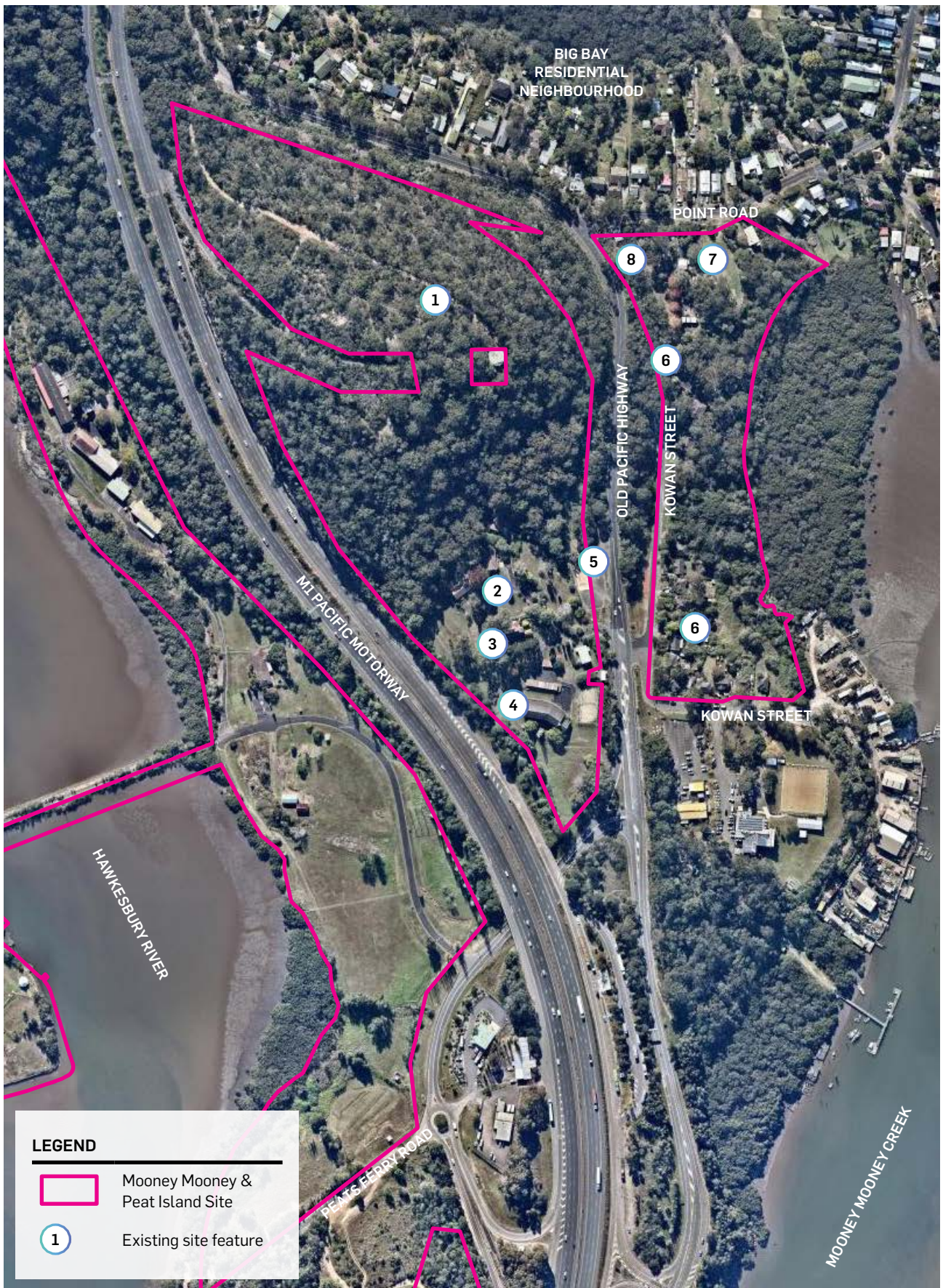


Figure 6 Central and East Mooney Mooney existing site features





WEST MOONEY MOONEY & PEAT ISLAND

The west Mooney Mooney and Peat Island land is located on the western side of the M1 Motorway and is bound by the Hawkesbury River to the west, Derrubin Reserve to the south, Popran National Park (zoned E1 National Parks and Nature Reserves) to the north and the M1 to the east. This land (including Peat Island) is secured and is not accessible to the general public. It is characterised by:

Peat Island

- 9 Peat Island is a key feature of land on the western side of the M1 Motorway. The **former Peat Island psychiatric facility** closed in 2010 and buildings associated with this use are predominately vacant. The island is occupied by an ad-hoc collection of buildings, car parking, open space, in-ground pool, gardens and pathways associated with its former use. The buildings on the island vary in age, style and condition. Many of the site's buildings are extremely dilapidated.
- 10 **The northern and southern ends of the island** are low and consist of flat reclaimed land (2 metres AHD) while the centre of the original island is higher at 4 metres AHD. Vegetation on the island includes lawns and mature trees.
- 11 The 3 hectare island is connected to the mainland by a **250 metre man-made causeway**, which provides shared vehicle (single lane) and pedestrian access to the island.

Mainland areas associated with former Peat Island psychiatric facility

- 12 The most northern tip of the precinct adjoins the Popran Reserve and is heavily vegetated. Land south of Popran Reserve has been cleared and is **occupied by a number of institutional style buildings** associated with the former psychiatric facility.
- 13 Land immediately to the east of Peat Island is also cleared and comprises the **former dairy farming land**, a car park and associated buildings connected with the psychiatric facility. Mangroves and sandstone rocks are located along some parts of the foreshore of the Hawkesbury River.

Connections between the East and West Precincts.

There are two existing connections between the east and west precincts being:

- 14 **An existing pedestrian underpass** providing a connection between the east and west precincts under the M1. This pedestrian underpass is a legacy of the former psychiatric facility.
- 15 **An existing road connection** that connects the M1 off ramp in the northbound direction in the western precinct with the Old Pacific Motorway and the eastern precinct. A pedestrian connection is also possible at this location although this is not formalised.



Figure 7 West Mooney Mooney and Peat Island existing site features





SOUTH WEST MOONEY MOONEY

The south west Mooney Mooney land is located on the western side of the M1 Motorway and is bound by the Hawkesbury River to the west and south, the mainland areas associated with former Peat Island psychiatric facility to the north and the M1 to the east. This land is characterised by:

16 Derrubbun Reserve (part)

The southern portion of the precinct includes Derrubbun Reserve, which generally consists of steeply sloping, heavily vegetated land. Only the small parcel of land is included within the planning proposal which has frontage to the Pacific Motorway off ramp. The land part of an unsealed track to the highest point. This land is owned by the RMS.

17 Mooney Mooney Point Reserve

The most southern portion of the precinct comprises Mooney Mooney Point Reserve, which provides public recreation facilities including public car and trailer parking and public wharf and jetties. The car parking area within the Reserve has recently been upgraded. Mooney Mooney Point Reserve is Crown land. No changes are proposed to the zoning of the Reserve (the RE1 zoning will be retained) but the land has been included within the planning for the proposal to ensure that its uses are fully recognised and integrated into the future planning of the wider area.



Figure 8 South West Mooney Mooney existing site features





Former School Site

7



Old Pacific Highway

5



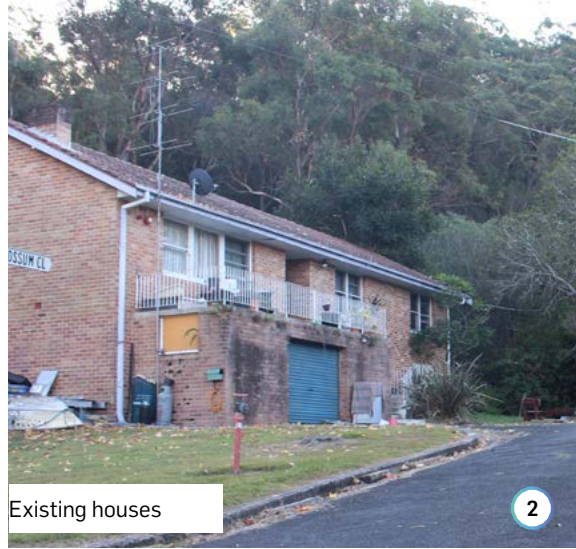
Existing Chapel

3



Dirt track to water tower

1



Existing houses

2



Kowan Street

6



Pedestrian underpass entrance

4

Figure 9 Mooney Mooney & Peat Island Existing Site Photos



Cleared Land looking to Hawkesbury River

13



View back to site from Peat Island

10



Cleared land looking north to vegetated slopes

13



Pedestrian underpass entrance

14



M1 Underpass

15



Existing causeway to Peat Island

11



Mooney Mooney Point reserve

17

03 THE PLANNING PROPOSAL VISION

VISION

“

A MIXED-USE COMMUNITY NESTLED INTO ITS CULTURAL AND SCENIC NATURAL SETTING AT THE GATEWAY TO THE CENTRAL COAST, ON A PENINSULA OF THE HAWKESBURY RIVER ”



DESIGN PRINCIPLES

The vision for the site is underpinned by the following design principles:

- Provide residential choice through the provision of a range of dwelling options;
- Enhance access to local convenience facilities and potentially regional emergency services such as the Rural Fire Service;
- Include employment generating land uses such as local convenient shop and cafés, tourism.
- Retain Chapel for potential use by local community groups (subject to further consultation with Council and Non-Government Organisations);
- Improve opportunities for local recreation activities including increased parkland areas and waterfront access; and
- Unlock access and the heritage significance of Peat Island for both the local and wider community including providing short-stay accommodation options on-site.



ILLUSTRATIVE CONCEPT PLAN

The Illustrative Concept Plan (refer to *Figure 10* opposite) depicts the key outcomes for the site as set out in the planning proposal and outlined below.

Summary of Key Outcomes

1 Mooney Mooney Village

- New parkland for Mooney Mooney Residential Neighbourhood, incorporating existing identified AHIMS site.
- Residential lots with clear demarcation between private lots and areas of retained vegetation.
- Community Title townhouse lots at the southern end of the precinct along Kowan Street including communal open space provision.

2 Chapel Residential Precinct

- Provide greater housing choice and improve safety of pedestrian link under M1 motorway and access to Chapel.
- Apartment development to provide secured car park and opportunity for ground floor retail (neighbourhood shops).
- Retain Chapel and the identified heritage curtilage as publicly accessible open space for community uses.
- Provide a new community facility to the north of the Chapel building.

3 Northern Foreshore

- Align road with reduced cross section to protect AHIMS sites and Inner Vegetated Riparian Zone.
- Residential lots for detached housing.
- Foreshore pathway designated as shared cycling and pedestrian path.

4 Peat Island

- Retain heritage items including reservoir tower, original swimming hut, sewing room and cottages on Peat Island, and the dairy store on Mooney Mooney mainland to support tourism uses and access on Peat Island.

5 Lot 9 (excluded from this Planning Proposal)

- No residential development. Given it is under the care, control and management of Central Coast Council and will be retained as RE1 Public Recreation Zone.

6 Rural Fire Service Station

- Two locations have been identified as potential site for Rural Fire Service Station (south of Peats Ferry Road and within the Chapel Precinct). This is subject to further stakeholder consultation and a separate planning proposal.

7 Southern Foreshore

- Residential lot for townhouses providing demarcation between area of private lots and retained vegetation.
- Apartment development to provide secured car park and opportunity for ground floor retail (neighbourhood shops).
- Align foreshore pathway and designation as shared cycling and pedestrian path.

8 Waterfront Parkland and Public Parking

- Public parking and publicly accessible waterfront parkland will be provided as part of this planning proposal.

9 Land-based Marina (excluded from this Planning Proposal)

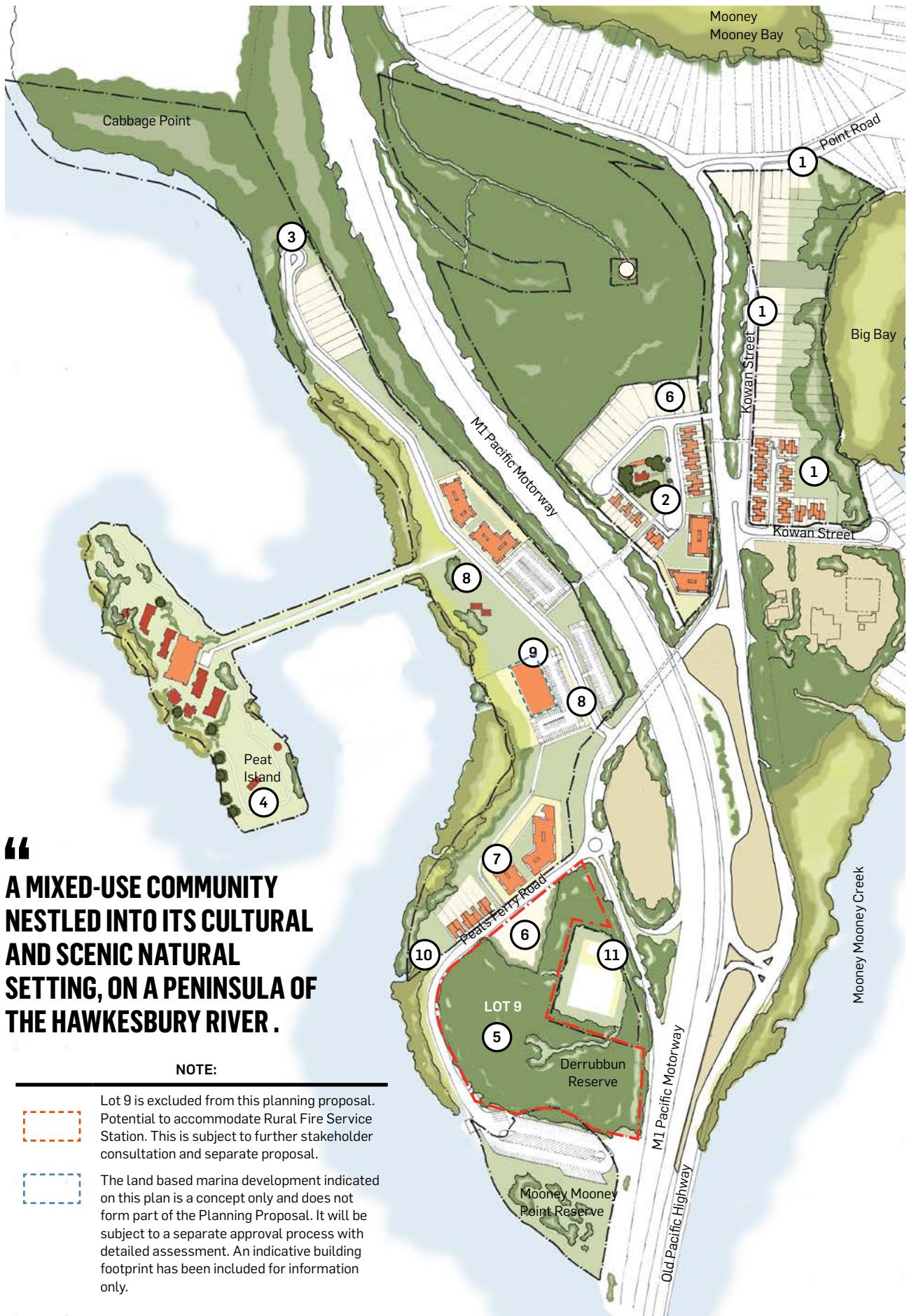
- It does not form part of the planning proposal and would be subject to a separate future planning proposal if it is to proceed. This would include a detailed environmental assessment of the impacts.

10 Marine Rescue NSW facility (excluded from this Planning Proposal)

- Potential location subject to further stakeholder consultation and separate proposal.

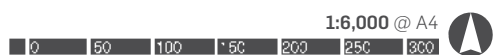
11 AUSGRID Substation

- Preferred location for future substation at the southern end of Mooney Mooney. Ausgrid to inform further technical requirements at a later stage for detailed design.



“
**A MIXED-USE COMMUNITY
 NESTLED INTO ITS CULTURAL
 AND SCENIC NATURAL
 SETTING, ON A PENINSULA OF
 THE HAWKESBURY RIVER .**

Figure 10 Illustrative Concept Plan (Rev K 2021)



04 TECHNICAL INVESTIGATIONS & OUTCOMES

SUMMARY OF TECHNICAL INVESTIGATIONS

The following section provides a summary of the technical investigations undertaken which have informed the preparation of the Concept Plan.

TECHNICAL INVESTIGATION	PREPARED BY
1 Aboriginal Cultural Heritage Assessment	Extent Heritage
2 Conservation Management Plan	Urbis Heritage
3 Flooding and Water Cycle Management Review including review of Riparian Corridors	Mott MacDonald
4 Biodiversity, Riparian and Aquatic Constraints Assessment & Biodiversity Certification Assessment	Ecological Australia
5 Strategic Bushfire Study	Peterson Bushfire
6 Utilities Infrastructure Report ▪ including Letter of support for review of substation site for bushfire compliance (prepared by Peterson Bushfire)	Mott MacDonald
7 Traffic and Parking Assessment	Mott MacDonald
8 Visual Impact Assessment	Richard Lamb & Urbis Design

ABORIGINAL CULTURAL HERITAGE ASSESSMENT

An Aboriginal Cultural Heritage assessment was undertaken by Extent including consultation with the Office of Environment and Heritage (OEH) and the Aboriginal community, the undertaking of site based Aboriginal heritage investigations and assessment. A summary of the key findings from these technical investigations are provided in *Table 3* below and *Figure 11* opposite. These findings have informed the preparation of the Concept Plan.

Table 3 Aboriginal cultural heritage assessment summary

REF	KEY FINDINGS	DESIGN RESPONSE
	No Go Areas: Locations within the study area that have identified Aboriginal sites of cultural value, with an appropriate buffer area. This comprises six groupings of AHIMS sites identified within the study area as follows:	
1	#45-6-1837 and #45-6-0476: Consists of engraved art site containing 34 engraved motifs located on a coastal rock platform that extends approximately 550m along the foreshore of Mooney Mooney Point and an engraved art site containing 4 engraved motifs located on "sandstone platform adjacent to Hawkesbury River".	<ul style="list-style-type: none"> Align cul-de-sac road and residential lots in the north to stay clear of coastal rock platform. Align road, surface parking areas, residential development lots and indicative building forms outside of this site in the south to avoid coastal rock platform.
2	# 45-6-1990, # 45-6-0479 and #45-6-3584: Complex of six rockshelter sites encompasses cultural landscape of a vast, three-tiered sandstone shelf on the southern foreshore.	<ul style="list-style-type: none"> Preliminary concept design for substation has been prepared which indicates some encroachment may occur. Ongoing consultation with the local Aboriginal community is required, and preliminary impact assessment should be further refined as detailed designs are developed.
3	#45-6-3585: Four grinding grooves located on sandstone shelf set in heavily vegetated and weathered areas. Potential additional features may be preserved beneath the vegetation.	<ul style="list-style-type: none"> Provide new open space park to incorporate existing identified AHIMS site. Detailed design stage to consider appropriate response to protect these.
4	#45-6-3586 and #45-6-3587: Entire sandstone outcrop along the western and northern shoreline of Peat Island has been recorded as an Aboriginal site consisting of six grinding grooves in three separate locations and an engraved art site.	<ul style="list-style-type: none"> Align pedestrian pathway around Peat Island outside of the western and northern shoreline to protect aboriginal site. Consider appropriate response in detailed design stage.
5	#45-6-3135: Engraved art site containing 12 engraved motifs on a sandstone shelf within the school grounds, next to the playing oval. Preliminary significance assessment indicates some engravings presently exposed may not be of cultural origin. However, there remains potential for engravings to be present elsewhere which are currently not exposed. Further investigation at future stages required as to determine most suitable management approach.	<ul style="list-style-type: none"> Residential lots subdivision has been indicated. Configuration of the residential lots in this location subject to outcomes of further investigation of the sandstone outcrop to confirm origin and extent of any engravings.
6	#45-6-1836: Closed rockshelter with midden deposit at Cabbage Point.	<ul style="list-style-type: none"> Incorporate Cabbage Point within conservation zone.
	Areas Requiring Further Investigation: There are two categories of areas requiring further investigation as they are currently subject to limited accessibility as outlined below.	
	High-Risk Areas: Potential for sites of high cultural and / or scientific value to be present due to particular landform characteristics namely: <ul style="list-style-type: none"> the presence of areas of vertical / near vertical slope (i.e. sandstone escarpments where rockshelters occur); and/or areas of flat land (where sandstone exposures containing engravings occur). 	<ul style="list-style-type: none"> Further investigations required at later stage but prior to development approval including: PDNSW to prepare an Aboriginal Cultural Heritage Assessment (ACHAR) in accordance with OEH standards and guidelines and undertake further investigation in the form of archaeological test excavations.
	Areas Requiring Further Investigation: Potential for presence of additional cultural material i.e. artefact scatters or sub-surface deposits but less risk of presence of high cultural and / or scientific value sites due to landform characteristics.	
	Areas with Few / No Aboriginal Constraints: within the study area that have been subject to significant ground surface disturbance in the historic period, within which the presences of cultural material is considered of low risk.	

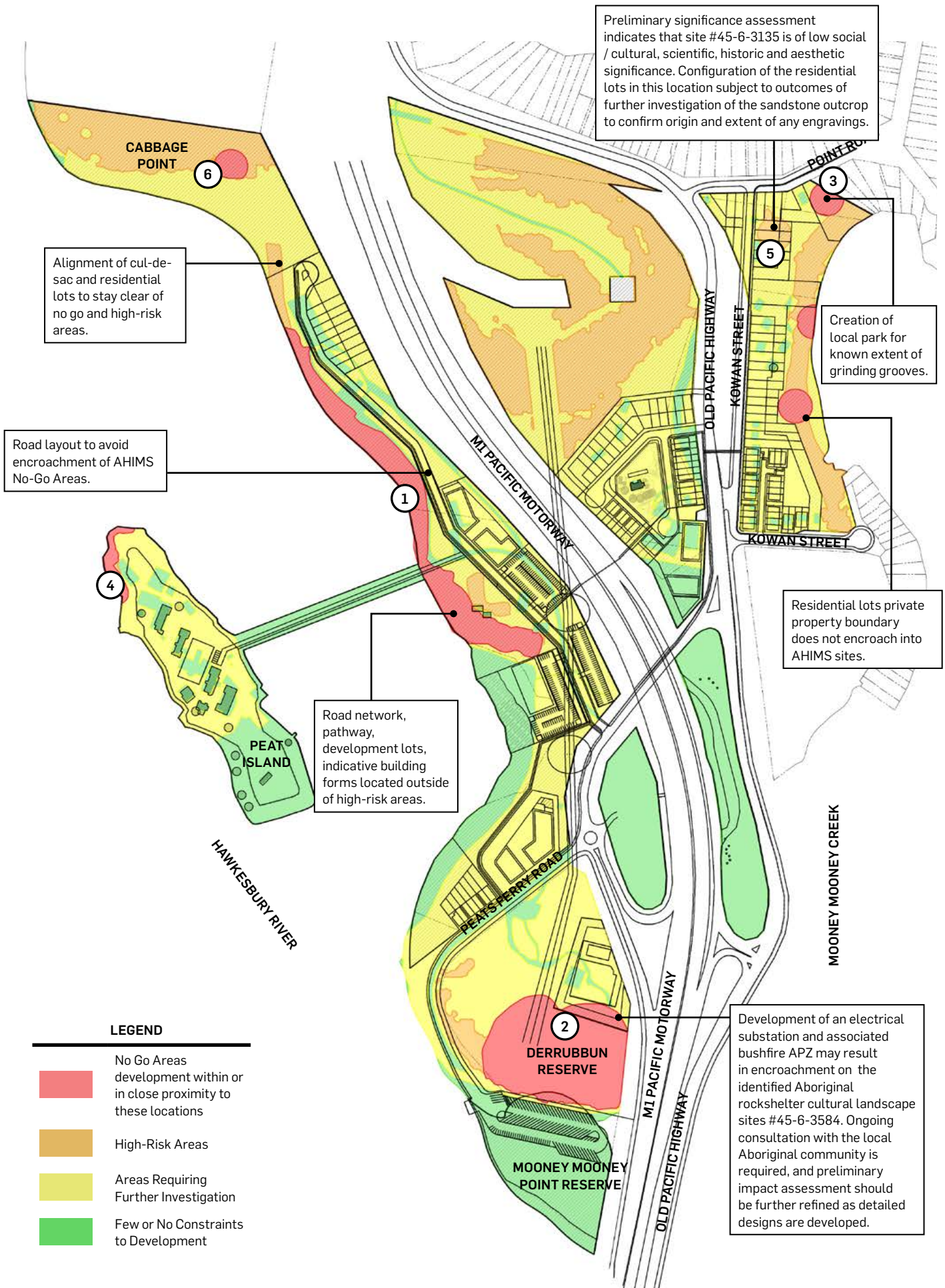


Figure 11 Aboriginal Cultural Heritage Development Constraints
 (Source: Extent Heritage Advisors)

CONSERVATION MANAGEMENT PLAN

Urbis Heritage prepared a Conservation Management Plan (CMP) for the site. The CMP provides gradings of significance for identified buildings, structures and landscape features, which contribute to the overall heritage significance of the place and will assist the property owners to conserve, manage and maintain existing heritage elements and guide any new works within the site. A summary of the key findings from these technical investigations are provided in *Table 4* below and *Figure 12* opposite. These findings have informed the preparation of the Concept Plan.

Table 4 Heritage significance assessment summary

REF	KEY FINDINGS	DESIGN RESPONSE
x	Significant views and vistas: Six (6) views have been identified with heritage significance. These are associated with the overall visual understanding of its location, development and former use.	<ul style="list-style-type: none"> Future development is to be designed to retain and enhance the visual setting and scenic qualities of Peat Island and Mooney Mooney.
	Exceptional, High and Moderate Significance - to be retained: Predominantly comprises heritage elements within the site with a heritage significance grading of exceptional, high and moderate. The following 5 groupings of structures with heritage value have been recommended to be retained:	
1	<ul style="list-style-type: none"> Former Matrons Cottage (14) and Former Reception Cottage (15): High significance - heritage assessment confirms restored cottages will provide a valuable historic association and scale differentiation with the institutional buildings. The two cottages provide an understanding and sense of place for Peat Island. 	<ul style="list-style-type: none"> Cottages and the swimming hut on Peat Island are retained to provide a valuable sense of place for Peat Island.
2	<ul style="list-style-type: none"> Garden Program Building - Former Original Swimming Hut/ Greenhouse/ Shelter (20): High significance. Four Ward Buildings: Administration (06), Pines (08), Denby (12), Sea Breeze (13): High significance - these buildings are intact and sit within a visible curtilage and landscape. 	<ul style="list-style-type: none"> Existing buildings have been retained.
3	<ul style="list-style-type: none"> Reservoir Tower (02): Moderate significance. 	<ul style="list-style-type: none"> Reservoir tower and the Rotunda building on Peat Island are retained and adaptively reused.
4	<ul style="list-style-type: none"> Original Sewing Room, Reconstructed as the Rotunda/Gazebo (21): Moderate significance. 	
5	<ul style="list-style-type: none"> Chapel (34): Heritage element of moderate significance to be retained within its landscape setting. 	<ul style="list-style-type: none"> Retain the Chapel & Rose Garden and establish curtilage for new community facility.
	Moderate Significance - to be removed: Removal of these elements will support new uses and activation of Peat Island and allows for an overall positive heritage outcome.	
6	<ul style="list-style-type: none"> Original Kitchen and Laundry (10): Moderate significance - despite moderate grading, the principal building form has lost its significance due to highly altered structure as a result of through later intrusive development adjoining both sides. 	<ul style="list-style-type: none"> Proposed new accommodation / hotel building including common facilities (i.e. dining) at ground level.
	Little Significance, Neutral and Intrusive - retain: Elements have the potential to be adaptively reuse to restore the overall heritage significance of the element or place.	
7	<ul style="list-style-type: none"> Dairy and Secondary Stores (30): Little significance - change or removal is allowed as long as it does not adversely affect the overall heritage significance of the element or place. 	<ul style="list-style-type: none"> Dairy stores are reused as "Check-in Point" to support tourism uses and access on Peat Island.
	Little Significance, Neutral and Intrusive - remove: These can be considered for removal.	
	Landscape Elements of High and Moderate Significance: <ul style="list-style-type: none"> Chapel Precinct: Memorial Flagstaff Garden (50), Memorial Rose Gardens (51), Pine Trees and other mature trees around Chapel (48) Peat Island & Causeway: Wharf Road (16); Causeway (52); Pine Trees (59) adjacent to swimming pool (19) and staff amenities (18); Retaining Wall along foreshore (61); Wharf (3); Stone revetment and stairs (63) Chapel Precinct and Mooney Mooney Village: Pedestrian Tunnel (alignment) (47) 	

NOTE: The numbers in brackets in the table are the reference numbers of existing buildings / element in the CMP.

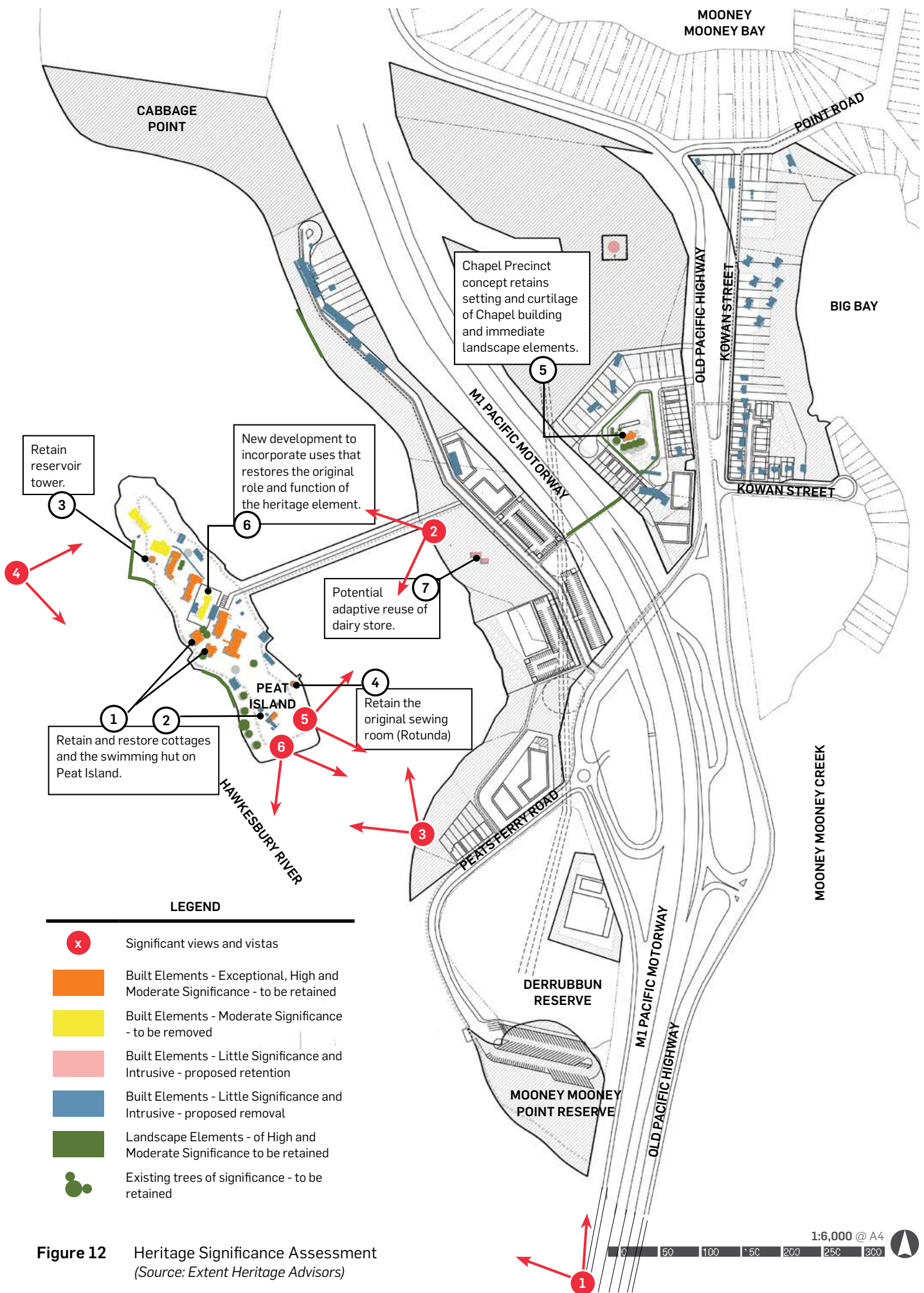


Figure 12 Heritage Significance Assessment
(Source: Extent Heritage Advisors)

FLOODING AND WATER CYCLE MANAGEMENT

A water cycle management report has been prepared by Mott MacDonald to:

- identify appropriate flood planning levels;
- understand flooding conditions and provide recommendations for mitigation;
- provide recommendations on a flood evacuation strategy for Peat Island; and
- consider a water cycle strategy for future development in relation to stormwater infrastructure.

A summary of the key findings from these technical investigations are provided in *Table 5* below and *Figure 13* opposite. These findings have informed the preparation of the Concept Plan.

Table 5 Flooding and water cycle investigation summary

REF	KEY FINDINGS	DESIGN RESPONSE
1	<p>Flooding:</p> <ul style="list-style-type: none"> ▪ 100 Year ARI Storm Event: The majority of The Site is flood free with small portions of The Site being flood affected in the 100 year ARI storm event as follows: <ul style="list-style-type: none"> – The outskirts of Peat Island; – The southern peninsula (car park) of the mainland; – Areas along the western coastline of the mainland, primarily at the proposed wharf entrance and for one proposed apartment building on the western coastline; and – Areas along the eastern coastline of the mainland, primarily at the proposed low density residential backs of lots. ▪ PMF Storm Event: Two proposed apartment buildings on the western coastline are affected. 	<ul style="list-style-type: none"> ▪ Area on the western coastline is proposed to be raised above the flood planning level to ensure apartment building currently within 100yr ARI is flood free. ▪ Apartment buildings are proposed to be constructed to withstand flood waters during this event and include appropriate flood evacuation plan management plan.
2	<p>Flood Planning Levels:</p> <ul style="list-style-type: none"> ▪ Have been determined by: <ul style="list-style-type: none"> – Adopting Brooklyn flood data and extrapolating back to the site; and – Considering 100 yr Flood Levels, PMF Flood Levels, Climate Change (Estuarine & Coastal), Freeboard and Evacuation. ▪ Proposed Flood Planning Levels for the site are: <ul style="list-style-type: none"> – Habitable buildings - mainland: 3.6m AHD – Non-habitable buildings - mainland: 3.1m AHD – Peat Island buildings: 4.4m AHD. 	<ul style="list-style-type: none"> ▪ The proposal complies with the proposed flooding levels.
3	<p>Flood Hazard:</p> <ul style="list-style-type: none"> ▪ Those areas of the site above the 100 yr ARI assumed to be low; and ▪ A portion of the site on the western coastline on the mainland (south of the Peat Island Causeway) currently lies within the 100 year ARI flood affectation area is assumed to be high. ▪ Rationalisation of flood hazard across the site proposes to fill the high hazard area above Flood Planning Levels. Relative scale and location of this fill in relation to the overall catchment mean changes to the flood characteristics are expected to be negligible. 	<ul style="list-style-type: none"> ▪ Filling of land on the western coastline to the south of the Peat Island Causeway is undertaken to raise this area to the proposed minimum Flood Planning Level (change in classification to low).
4	<p>Flood Evacuation:</p> <ul style="list-style-type: none"> ▪ Peat Island: Identified as a high flood island with causeway cut off but including land higher than PMF. It is expected that adequate warning time would allow early evacuation, however refuge will be available on the island and evacuation may not be required. ▪ Mainland: Proposed development areas within the mainland either have a safe evacuation route or have a safe refuge area above the PMF identified. 	<ul style="list-style-type: none"> ▪ Safe evacuation route and / or safe refuge areas have been identified for all development locations.
5	<p>Water Cycle Management: Detailed analysis of the water cycle management across The Site would need to be undertaken at the Development Application stage.</p>	<ul style="list-style-type: none"> ▪ To be undertaken at development application stage

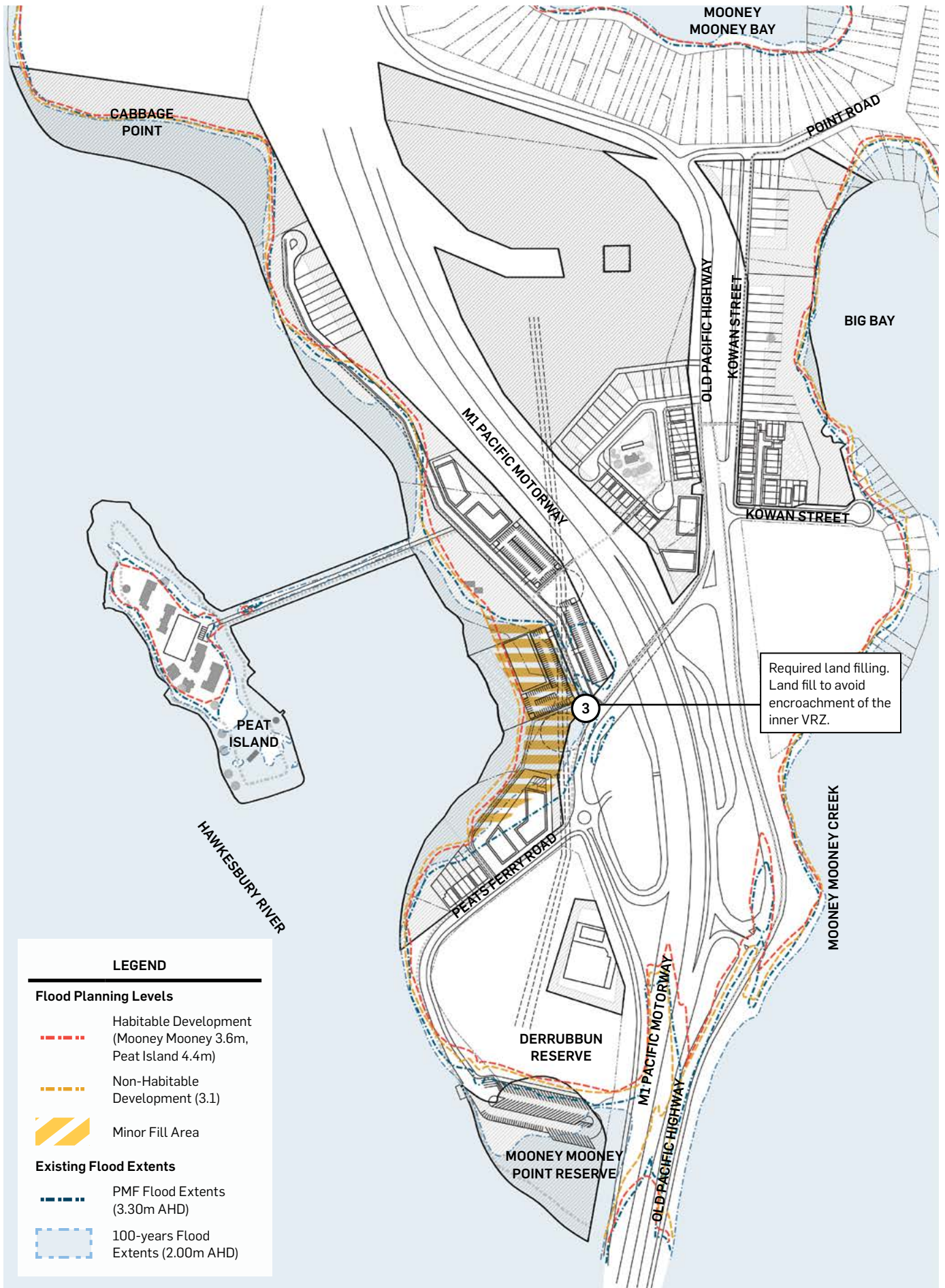


Figure 13 Flood Planning and Management
 Source: Mott Macdonald)

RIPARIAN AREAS

As part of the water cycle management report prepared by Mott MacDonald, appropriate riparian setback areas were determined for the site in accordance with NSW Office of Water guidelines.

A summary of the key findings from these technical investigations are provided in *Table 6* below and *Figure 14* opposite. These findings have informed the preparation of the Concept Plan.

Table 6 Riparian corridor investigation summary

REF	KEY FINDINGS	DESIGN RESPONSE
①	<p>Riparian Corridor (is established as follow):</p> <ul style="list-style-type: none"> ▪ Riparian offset of 40m established to the inner edge of the mangroves along both the eastern and western banks of Mooney Mooney. ▪ Some minor areas adjacent the Peat Island Causeway encroaches on the outer 20m - offsetting has been applied to compensate for this. ▪ Existing structures within the riparian zones in the northern area to the west of the motorway and on Peat Island have been excluded from the riparian assessment as there are no proposed changes to the development footprints of these. 	<ul style="list-style-type: none"> ▪ All proposed development stay clear of riparian corridor areas except for minor areas adjacent the Peat Island Causeway where an offset has been applied to compensate for this.

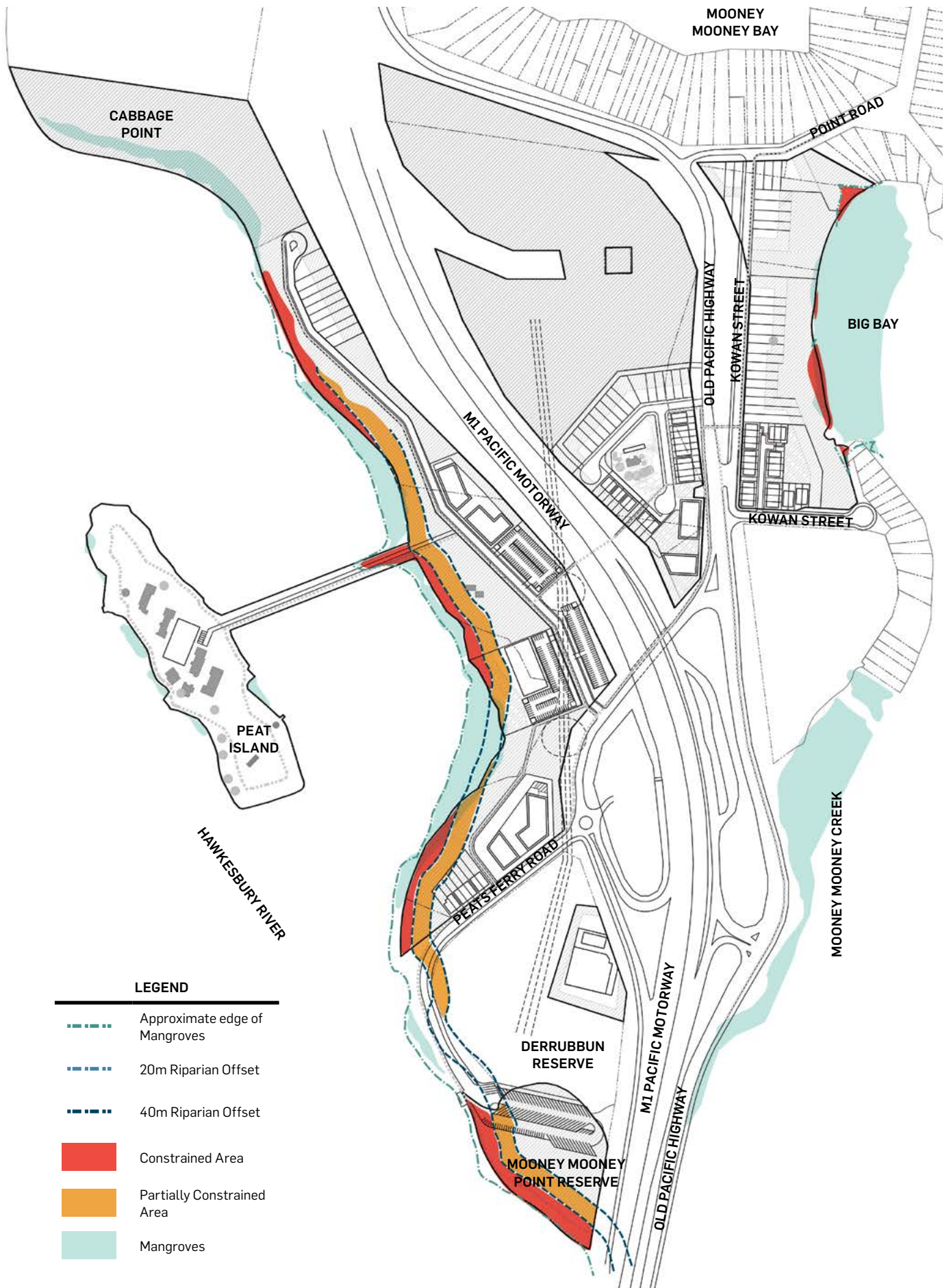


Figure 14 Riparian Constraints Plan
 (Source: Mott Macdonald)



BIODIVERSITY, RIPARIAN AND AQUATIC ASSESSMENT

EcoLogical Australia prepared a Flora and Fauna Assessment, and a Riparian and Aquatic Constraints Assessment to assess the biodiversity values present across the study area. Both assessments provides recommendations for offsetting requirements in accordance with the Biodiversity Offsets Scheme, proposed location of riparian buffers and the likely requirements for assessment at the DA stage.

A summary of the key findings from these technical investigations are provided in *Table 7* below and *Figure 15* opposite. These findings have informed the preparation of the Concept Plan.

Table 7 Biodiversity, Riparian and Aquatic assessment summary

REF	KEY FINDINGS	DESIGN RESPONSE
	<p>No Go Areas: Areas within the study area that have identified riparian and aquatic constraints. This predominantly comprises areas with mangroves community and the inner vegetated riparian zone of 20m.</p>	
1	<ul style="list-style-type: none"> ▪ Mangrove Community: Shows signs of active recruitment and plants of multiple ages, indicating the community is very healthy and actively growing. ▪ Inner Vegetated Riparian Zone (VRZ) of 20m: This zone represent the inner 50% of the total 40m VRZ applied to the site at Peat Island and Mooney Mooney, starting from the edge of the mangroves. This inner 50% of the VRZ must be fully maintained and vegetated with native, endemic, riparian plant species. ▪ Biocertification Area: This area should be located to minimise impacts on riparian areas and avoid impacts to native vegetation in good condition. 	<ul style="list-style-type: none"> ▪ Align road structure and configuration of the construction / development footprints to avoid encroachment into the inner VRZ. ▪ Configure development and construction footprints to stay clear of sensitive riparian areas and vegetation in good condition.
	<p>High-Risk Areas: Areas within the study area that have biodiversity value, identified riparian and aquatic constraints. This predominantly comprises of the outer vegetated riparian zone of 20m, indicative area of mudflats and the areas of concern with potential acid sulfate soils and water quality.</p>	
2	<ul style="list-style-type: none"> ▪ Outer Vegetated Riparian Zone (VRZ) of 20m: This zone represent the outer 50% of the total 40m VRZ applied to the site at Peat Island and Mooney Mooney, starting from the edge of the mangroves. Where appropriate, this outer VRZ may be used for non-riparian uses including asset protection zones, recreational areas, roads, development lots and infrastructure. 	<ul style="list-style-type: none"> ▪ Configure building envelope to avoid encroachment into the outer VRZ. ▪ Configuration of residential lots to maintain clear separation of private properties and vegetation area.
3	<ul style="list-style-type: none"> ▪ Tidal Mudflats: Areas which provide habitat for shorebirds. 	<ul style="list-style-type: none"> ▪ The planning proposal does not propose any works in this location.
4	<ul style="list-style-type: none"> ▪ Presence of Eastern Cave Bat and roosting habitat: A Microbat Management Plan (MMP) has been provided by EcoLogical to guide future development. This MMP sets out measures required to manage risks to microbats prior to, during and post-construction works. 	<ul style="list-style-type: none"> ▪ A project ecologist should be appointed prior to any construction.
	<p>Areas Requiring Further Investigation: areas within the study area that have potential habitat of significance that require further investigation, and/or pose riparian and aquatic constraints that can be mitigated.</p>	<ul style="list-style-type: none"> ▪ Further investigations required at later stage prior to development approval.
	<p>Areas with Few / No Constraints to Development: areas within the study area that have no threatened flora and fauna species found, nor poses any riparian and aquatic constraints.</p>	

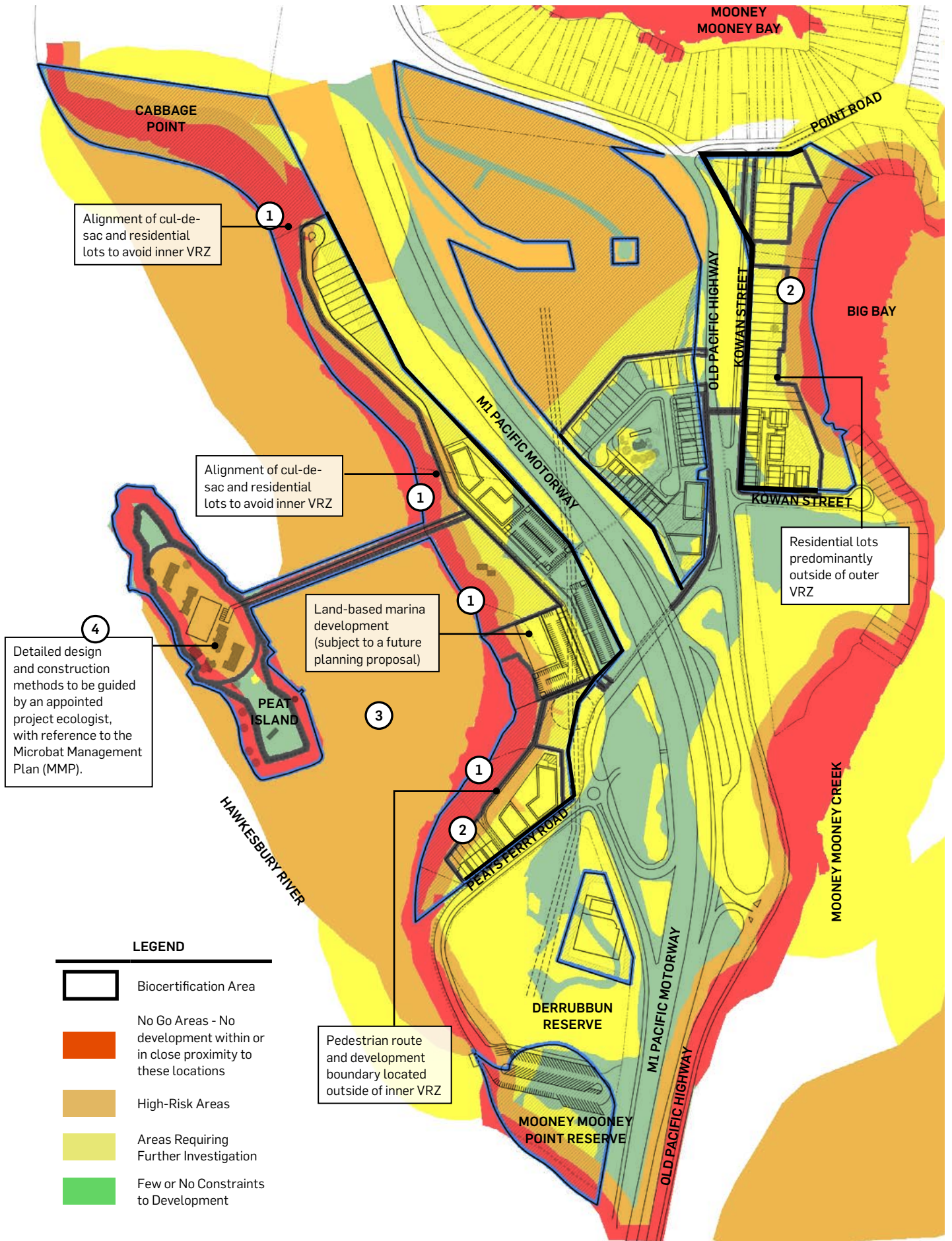


Figure 15 Riparian, Aquatic and Biodiversity Consolidated Constraints
 (Source: EcoLogical Australia)




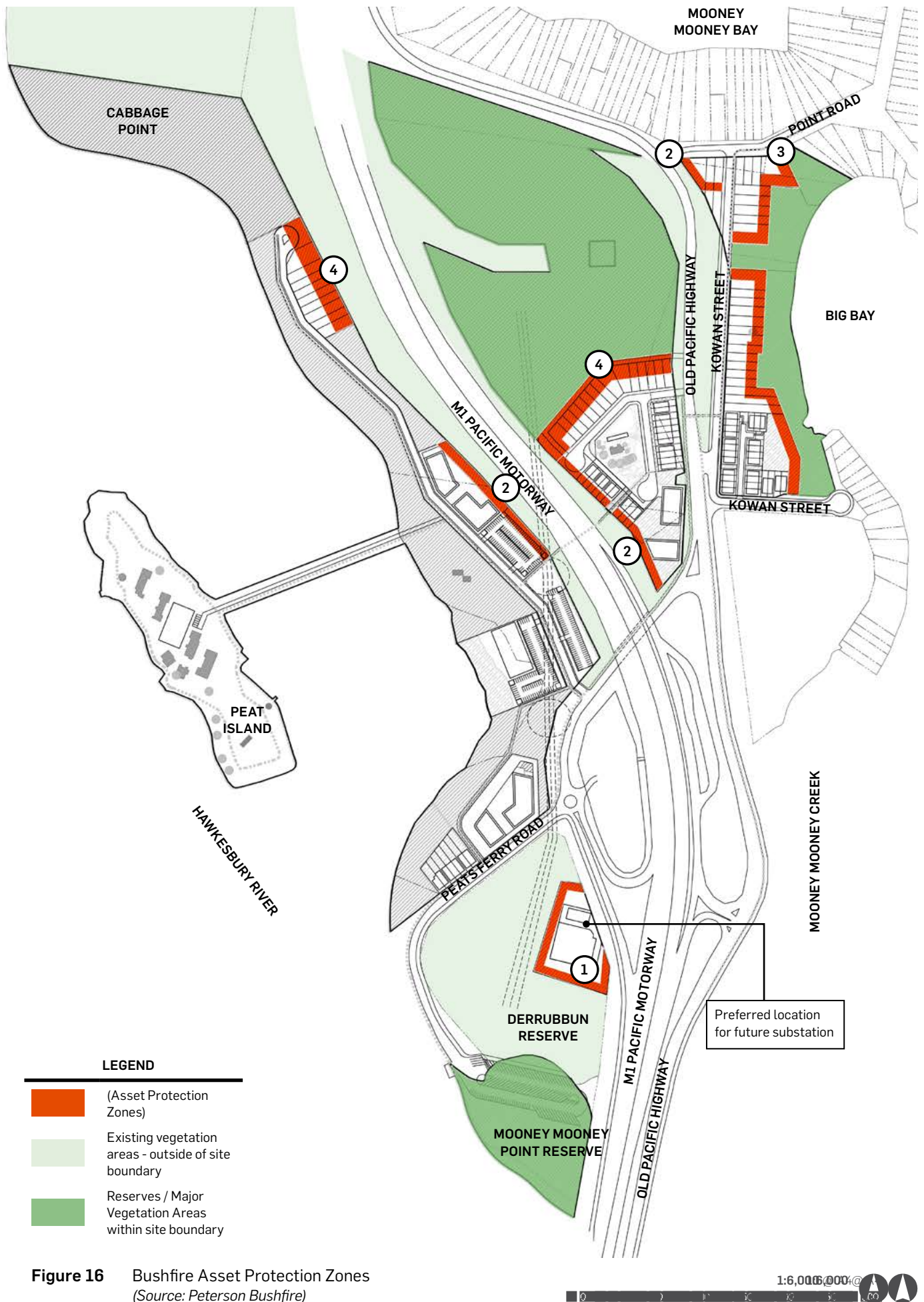
STRATEGIC BUSHFIRE STUDY

A Bushfire Assessment was prepared by Peterson Bushfire to determine the required Asset Protection Zones (APZ) across the study area. The assessment provides an APZ strategy in accordance with Planning for Bushfire Protection 2019 (PBP 2019). The APZ strategy responds to the existing topography and the various types of vegetation that are present in the study area. It is based on the retention of existing native vegetation (including the mangrove community), and any anticipated revegetation as part of the planning proposal.

A summary of the key findings from these technical investigations are provided in *Table 8* below and *Figure 16* opposite. These findings have informed the preparation of the Concept Plan.

Table 8 Bushfire assessment summary

REF	KEY FINDINGS	DESIGN RESPONSE
	 Asset Protection Zones: Areas within the study area that have identified as Asset Protection Zones (APZ). This comprises areas along native vegetation including mangroves community, and any anticipated revegetation area. The applicable APZ across the study area ranges between 10m and 24m.	
1	<p>APZ of 10m: Applicable on sites that are not threatened by a landscape-wide fire scenario, as remnant vegetation is isolated from other bushland areas by distances that greatly exceed 100m.</p> <p>The energy provider will be required to maintain vegetation around the site in accordance with 'ISSC3-2016 Guide for the Management of Vegetation in the Vicinity of Electrical Assets' (ISSC3-2016).</p> <p>Specifically, the 10 m wide Asset Protection Zone (APZ) around the boundary fence of a substation is to be maintained as grass only.</p>	<ul style="list-style-type: none"> ▪ Preliminary concept design prepared for substation incorporates required APZ.
2	<p>APZ of 11m: Applicable on sites that sits along the narrow corridors of vegetation along the M1, near the Old Pacific Highway overpass.</p>	<ul style="list-style-type: none"> ▪ Lots and residential blocks configured with 11m APZ clear of future building or habitable structures.
3	<p>APZ of 14m: Applicable on sites along riparian vegetation, and ecological corridor less than 50m in width.</p>	<ul style="list-style-type: none"> ▪ Lots configured with 14m APZ clear of future building or habitable structures.
4	<p>APZ of 24m: Applicable on sites that are adjacent to a upslope forest land, or forest corridor that is wider than 50m and directly linked to bushland.</p>	<ul style="list-style-type: none"> ▪ Lots configured with 24m APZ clear of future building or habitable structures. ▪ A 6m wide perimeter road access along the northern boundary of Chapel Precinct is provided for emergency access.



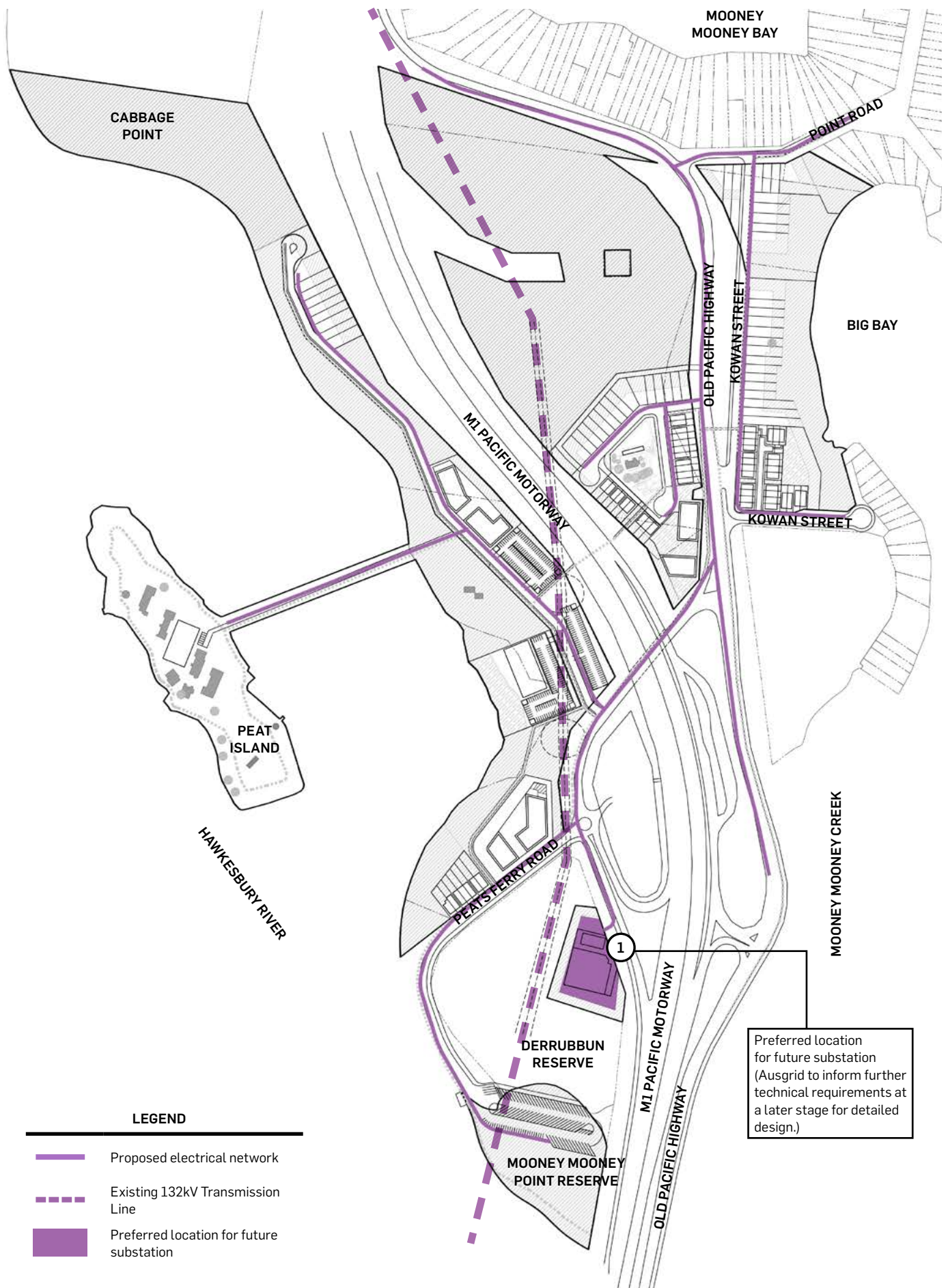
UTILITIES AND INFRASTRUCTURE

A technical study of the existing utilities in the vicinity of the site has been conducted by Mott MacDonald have undertaken existing utilities investigation and prepared an infrastructure and servicing strategy. This includes the existing and required water, sewer, electricity and telecommunications service and utilities infrastructure.

A summary of the key findings from these technical investigations are provided in *Table 8* below and *Figure 16* opposite. These findings have informed the preparation of the Concept Plan - of which the proposed electricity network has the greatest implication for the concept plan due to the requirement for a new electricity substation.

Table 9 Utilities and infrastructure investigation summary

REF	KEY FINDINGS	DESIGN RESPONSE
1	<p>Electricity: Ausgrid have indicated that a new substation may be required to service the development. They have recommended that a 4,000m² site adjacent the existing 132kV transmission lines be reserved for this purpose.</p> <p>Should a substation be constructed, proposed apartment blocks would likely be supplied via high voltage cabling to padmount or chamber substations located within the property boundaries. A chamber substation can service up to 150 dwellings. New underground electrical infrastructure will be provided along all new roads to supply the proposed dwellings. There is also potential to underground overhead electrical cables located on existing roads to improve street amenity.</p>	<ul style="list-style-type: none"> ▪ Preliminary concept design for the substation has been prepared for the preferred location at the southern end of Mooney Mooney adjacent to the M1 Motorway off-ramp. Ausgrid to inform further technical requirements at a later stage for detailed design.
2	<p>Potable Water: There is sufficient capacity to support the increased demand generated by the development. However, the assessment recommended that additional capacity be provided as a contingency, and further analysis be undertaken to determine the adequacy of the reservoir capacity. This is expected to be undertaken by Sydney Water at a later date.</p>	<ul style="list-style-type: none"> ▪ New potable water reticulation mains network to be accommodated within the proposed road network.
3	<p>Sewer: The current system has sufficient capacity to service the additional proposed growth. It may be feasible for the proposed dwellings on the eastern side of the motorway to connect directly into the existing infrastructure located on Kowan Street. The exact servicing requirements will be confirmed by Council during the DA stage.</p>	<ul style="list-style-type: none"> ▪ New sewer reticulation network to be accommodated within the proposed road network.
4	<p>Telecommunications: Telecommunications infrastructure supplying existing dwellings will need to be maintained. It is expected that all existing infrastructure on the western side of the motorway, with exception to infrastructure supplying Peat Island, will be decommissioned and removed or relocated to suit the proposed master plan layout. The existing fibre optic cabling on located along the Old Pacific Highway will also need to be retained.</p>	<ul style="list-style-type: none"> ▪ Telecommunications infrastructure supplying existing dwellings are maintained. ▪ Existing infrastructure on the western side of the motorway, with exception to infrastructure supplying Peat Island, are removed or relocated for the new layout. ▪ The existing fibre optic cabling along the Old Pacific Highway is retained.



LEGEND

- Proposed electrical network
- Existing 132kV Transmission Line
- Preferred location for future substation

Preferred location for future substation (Ausgrid to inform further technical requirements at a later stage for detailed design.)

Figure 17 Proposed Electrical Network
 (Source: Mott Macdonald)



TRAFFIC AND TRANSPORT ASSESSMENT

A Traffic and Transport Review has been prepared by Mott MacDonald to identify appropriate mitigation measures complementary to the proposed land use and address to all key traffic and transport related matters associated with the proposed Concept Plan, including comments received from Transport for NSW (TfNSW) and various government agencies.

A summary of the key findings from these technical investigations are provided in *Table 10* below and *Figure 18* opposite. These findings have informed the preparation of the Concept Plan - of which the proposed electricity network has the greatest implication for the concept plan due to the requirement for a new electricity substation.

Table 10 Traffic and Transport Assessment Summary

REF	KEY FINDINGS	DESIGN RESPONSE
1	<p>Road Network, Traffic and Parking Provision</p> <ul style="list-style-type: none"> ▪ The existing road network contains spare capacity to accommodate the additional trips associated with proposed rezoning of the area. ▪ The proposed development resulting from the rezoning proposal is not expected to have a negative impact on the operational performance of the local road network nor the bridge operation, and all key intersections operate at satisfactory Level of Service (LoS). ▪ Parking provision is adequate for the development. ▪ The causeway to Peat Island is narrow and is considered suitable for pedestrian, cyclist and one-way vehicular access only. It is recommended that the vehicular movements are limited to service vehicles and shuttle services to and from the hotel. 	<ul style="list-style-type: none"> ▪ Align pathway within road reserve and to stay clear of aboriginal cultural heritage sites and inner vegetated riparian zone.
2	<p>Active Transport</p> <ul style="list-style-type: none"> ▪ Provide a number of cycle parking spaces at a rate of one bike parking per residential unit for the residents of the area to promote active transport. ▪ Retain the existing shared pedestrian/cycling path along the foreshore on the western side of the development. ▪ A shared pedestrian/cycling path to be provided along Pacific Highway Link through the underpass. ▪ Improvements to the existing pedestrian underpass crossing M1 and links both eastern and western areas of the development. ▪ Provide suitable cycling and pedestrian crossing on Old Pacific Highway. ▪ Provide a dedicated cycle lane along Old Pacific Highway to tie-in with existing cycle lane. ▪ Improvements should be considered for the existing cycle lane with recommendations to extend the cycle lane and formalise it to connect Mooney Mooney area with Hawkesbury River Station in Brooklyn. 	<ul style="list-style-type: none"> ▪ Designate the foreshore pathway network as shared pedestrian and cycle path ▪ Allowance made for cycle parking spaces for residents in future apartment buildings to promote active transport. ▪ Upgrade existing pedestrian crossing on Old Pacific Highway. ▪ Designate recommended pedestrian and cycle crossings.
3	<p>Public Transport: Improvements to the public transport network were identified to support train travel and improve bus convenience and frequency.</p>	<p>The improvements specifically to the study area includes:</p> <ul style="list-style-type: none"> ▪ Provide frequent services to Peat Island and 592 bus services. ▪ Improve the bus stops on the Old Pacific Highway with possibility to provide bus shelters and reconfigure the curb lines.

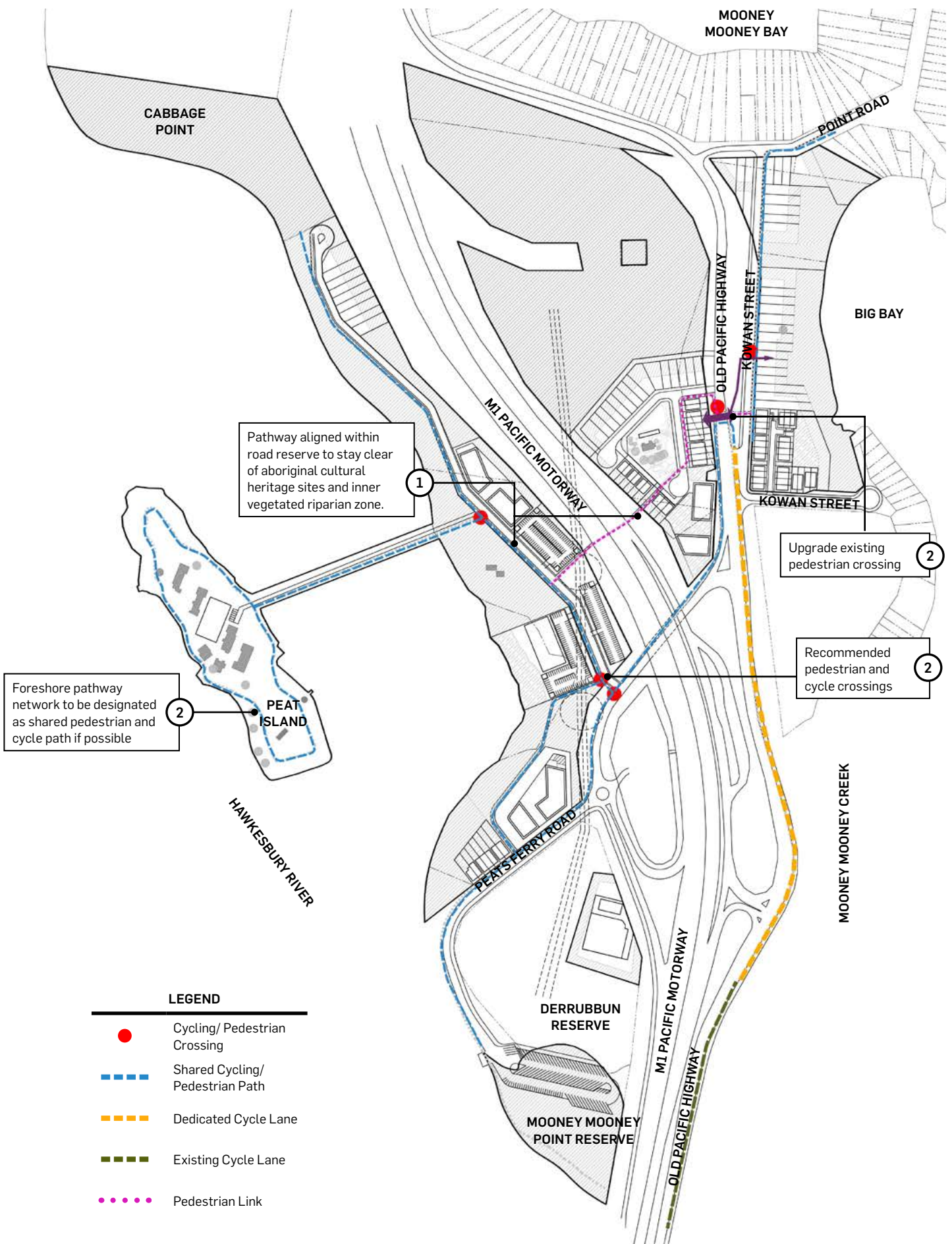


Figure 18 Recommended Pedestrian and Cycling Strategy
 (Source: Mott Macdonald)



VISUAL CONSTRAINTS

A Visual Constraints analysis was undertaken by Richard Lamb and Associates (RLA) to identify visually sensitive locations and assess the potential visual effects of the proposed development from those key places. An update of the assessment of potential visual effects was undertaken by Urbis Design whose visual impact specialist worked at Richard Lamb Associates.

A summary of the key findings from these technical investigations are provided in *Table 11* below and *Figure 19* opposite. These findings have informed the preparation of the Concept Plan - of which the proposed electricity network has the greatest implication for the concept plan due to the requirement for a new electricity substation.

Table 11 Visual Impact Assessment Summary

REF	KEY FINDINGS	DESIGN RESPONSE
①	<p>High Constraints</p> <ul style="list-style-type: none"> High constraints were determined to apply to scenic natural landscape areas and isolated parts of the foreshore of the Hawkesbury River. 	<ul style="list-style-type: none"> A proposed substation is located on the northern side of Derrubbun Reserve adjacent to the M1 off ramp. Further detailed design is required and more detailed visual assessment will be required at this time. Two low-rise apartment buildings are proposed adjacent to the existing vegetation alongside the western side of the M1 Motorway. The remainder of this area is proposed as open space which will allow for retention of views across the landscape to Peat Island. Low rise residential housing is proposed at the lower levels of the hills on the eastern side of the M1 Motorway.
②	<p>Medium Constraints</p> <ul style="list-style-type: none"> Moderate constraints were determined for an existing disturbed area south west of the Motorway, fronting the Hawkesbury River. This area is significantly screened from views from the River by Peat Island and its buildings and landscape. Peat Island was identified as an area that presents the opportunity for adaptive reuse. 	<ul style="list-style-type: none"> A proposed 2 storey building is the only change for Peat Island and this will sit nestled between existing two storey buildings thus resulting in minimal visual change. Additionally, the retention of existing buildings, a number of cottages and trees of significance reduces the extent of change in visual character. Low density housing is proposed in the location of existing buildings in the north-western extent of the site just south of Cabbage Point. On the northern side of Peats Ferry Road a mix of townhouses and low-rise apartment buildings are proposed. These sit adjacent to dense planting (mangroves) which line the waters edge and will be retained minimising visual change from the Hawkesbury River.
③	<p>Low Constraints</p> <ul style="list-style-type: none"> Low constraints were determined for disturbed areas, areas of existing urban character and areas isolated in the infrastructure corridor. 	<ul style="list-style-type: none"> The area of low constraints adjacent to the western side of the M1 is not part of this planning proposal and no changes are proposed. A mix of low density residential housing, townhouses and low-rise apartments are proposed to the east of the M1 along the Old Pacific Highway. The east edge of the Mooney Mooney Village retains a significant band of vegetation which will limit any likely increase in external visibility to the proposed development including in respect of higher density town houses in views from the east. Further, the inclusion of a public park at the northern end of the village precinct will allow for the retention of significant existing vegetation and limit the extent of visibility from the north and north-east towards the proposed residential development.

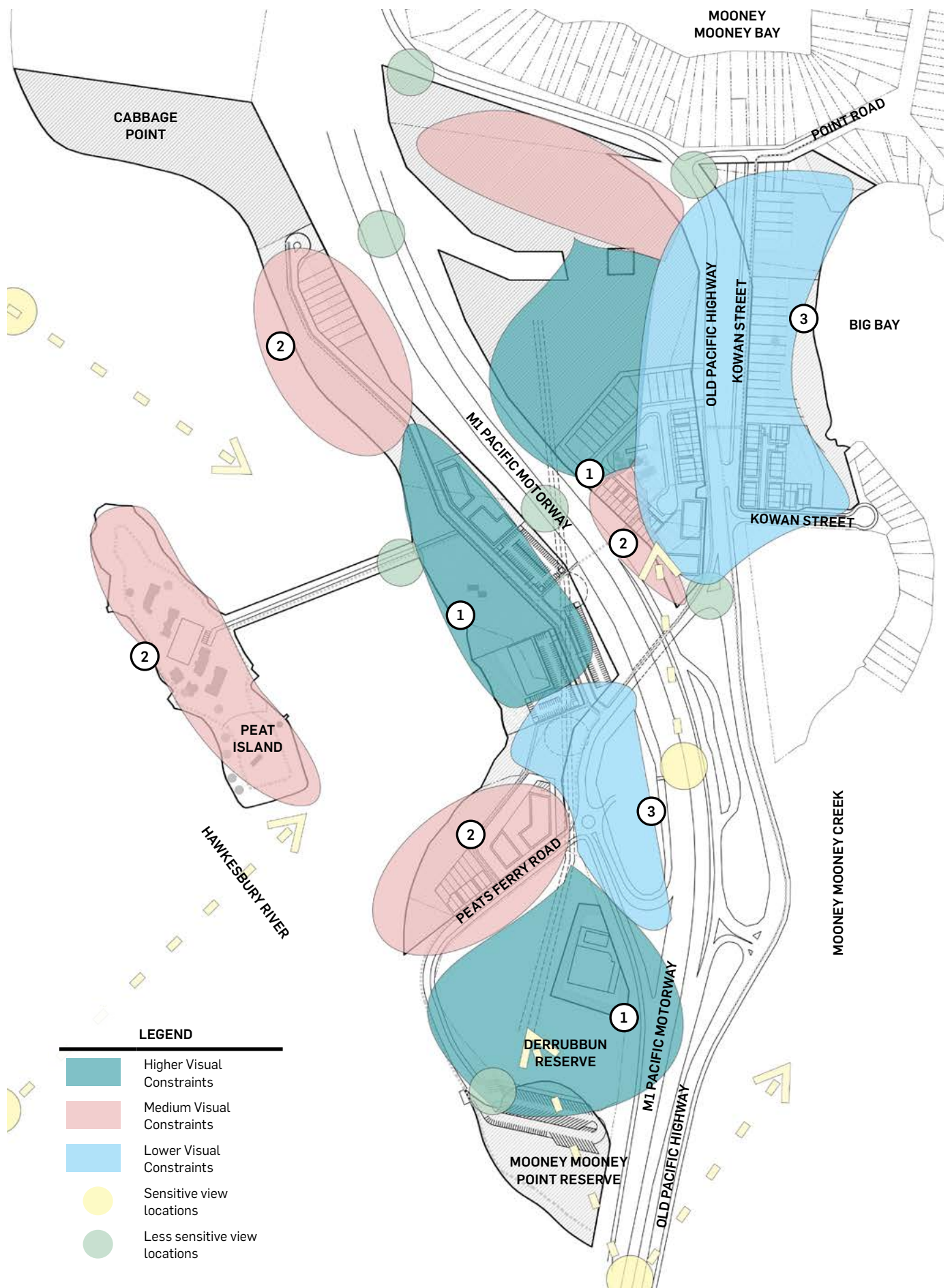


Figure 19 Visual Constraints
 (Source: Richard Lamb Associates)

PRECINCT PLAN AND DEVELOPMENT SUMMARY

Table 12 Development Summary by Precinct

	MAX HEIGHT (STOREYS)	GROSS BUILDING ENVELOPE (GBE)	GROSS FLOOR AREA (GFA)	UNITS/ DWELLINGS	AVERAGE LOT DIMENSION (WIDTH X DEPTH)	AVERAGE LOT AREA	# CAR PARKS
PRECINCT 1 - MOONEY MOONEY VILLAGE							
Residential Lots	2	-	-	27	10 x 30	300	54
Townhouses (Community Title Townhouse Scheme)	2	-	-	27	7.5 x 20	150	54
PRECINCT 1 TOTAL		-	-	54			108
PRECINCT 2 - CHAPEL RESIDENTIAL							
Residential Lots	2	-	-	15	10 x 30	300	30
Townhouses (Community Title Townhouse Scheme)	2	-	-	20	8 x 30	240	40
Community facility	1	-	300 (Approx.)	-	-	-	-
Apartment Block 1	3	3,240	2,268	26	-	-	-
Apartment Block 2	3	2,715	1,900	21	-	-	-
Apartment Subtotal	-	5,955	4,168	47	-	-	116
PRECINCT 2 TOTAL		-	4,468	82			186
PRECINCT 3 - SOUTHERN FORESHORE							
Townhouses	2	-	-	7	8 x 30	240	14
Apartment Block 1	3	4,640	3,248	37	-	-	-
Apartment Block 2	3	2,598	1,819	20	-	-	-
Neighbourhood Shops	1	-	170 ¹	-	-	-	-
Apartment Subtotal	-	7,238	5,067	57			128
PRECINCT 3 TOTAL		-	5,067	64			142
PRECINCT 4 - WATERSIDE VILLAGE							
Apartment Block 1	3	3,595	2,517	28	-	-	-
Apartment Block 2	3	3,832	2,683	30	-	-	-
Apartment Subtotal	-	7,427	5,200	58			127
Public at grade parking							97
PRECINCT 4 SUBTOTAL		-	5,200	58			224
PRECINCT 5 - NORTHERN FORESHORE							
Residential Lots	2	-	-	9	10 x 45	450	18
PRECINCT 5 SUBTOTAL		-	-	9			18
MOONEY MOONEY TOTAL		-	14,735	267	-	-	678
<i>*Assumption: 70% efficiency from GBA to GFA, 90% efficiency from GFA to NSA, average 80 sq.m/apartment</i>							
PRECINCT 6 - PEAT ISLAND TOURISM							
Proposed New Building	2	2,586	1,810 ²	40	-	-	40
Existing Buildings	2	3,136	2,195	45	-	-	45
PRECINCT 6 - PEAT ISLAND TOTAL			4,005	85			85
<i>Assumptions:</i>							
1. The planning proposal included two locations for 'shop' to allow future land use flexibility - Southern Foreshore Precinct nad / or the Chapel Precinct. The location of local convenience retailing will be determined by future market demand at either/both locations.							
2. Approximate 400m ² of common facilities (i.e. reception, dining etc) provided at ground level of proposed new building.							
MOONEY MOONEY & PEAT ISLAND TOTAL PROPOSED DEVELOPMENT		-	-	352	-	-	763

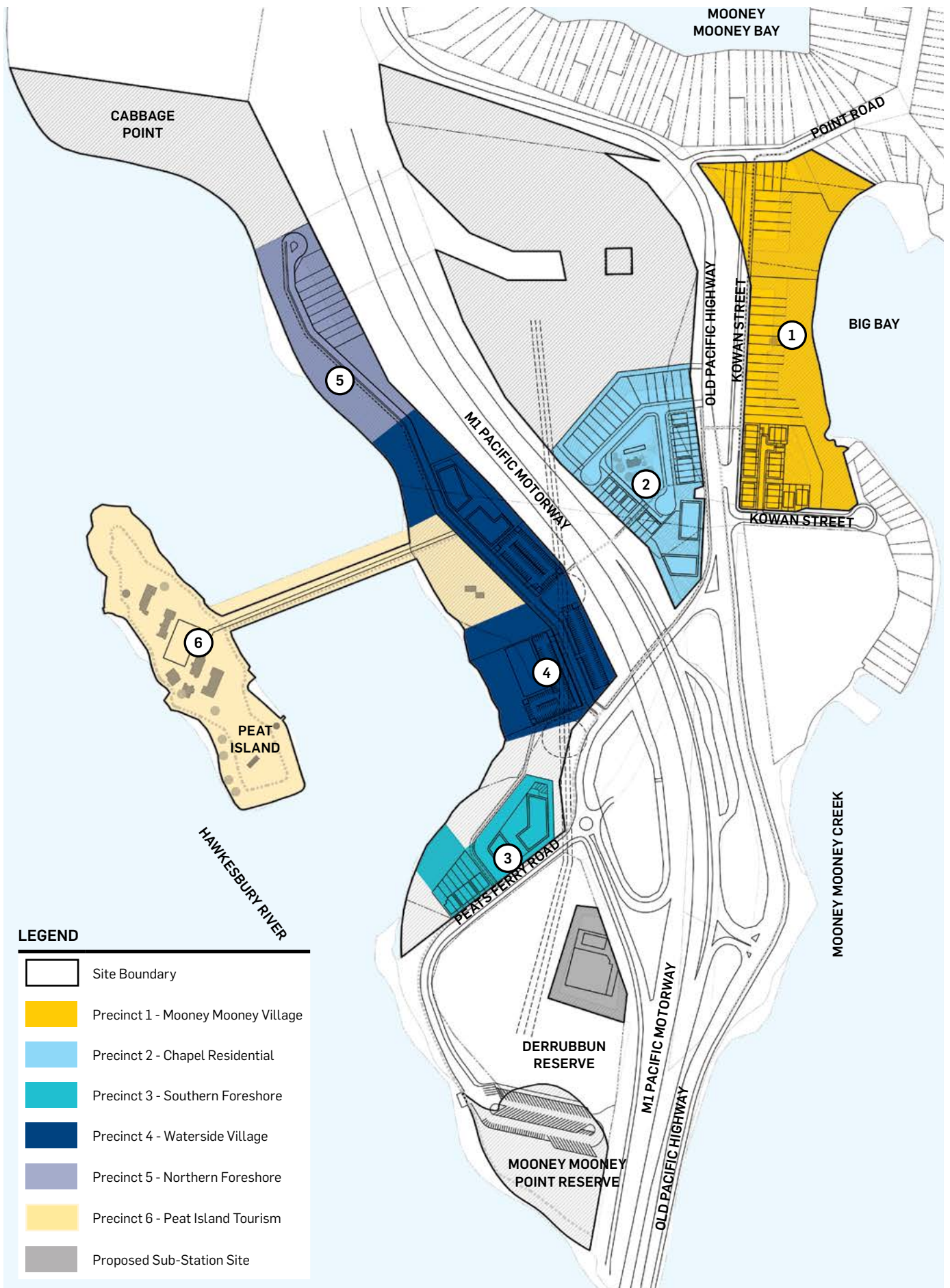


Figure 20 Mooney Mooney & Peat Island Precinct Plan



05 PROPOSED LEP PLANS

LEP PLANS

The proposed Concept Plan has informed the preparation of proposed LEP Maps for the Site as set out on the following pages being:

- Land Zoning
- Height of Building
- Minimum Lot Size
- Additional Permitted Uses
- Heritage Map

PROPOSED ZONING & INDICATIVE YIELD

The proposed zoning to underpin the concept plan has been informed by the indicative table of development as outlined in *Table 13* below and is illustrated in *Figure 21* opposite.

Table 13 Summary Table of Development

ZONE	ZONING LAND AREA (SQM)	# DWELLINGS			GFA (SQM)	TOTAL
		RESIDENTIAL LOTS	TOWNHOUSE	APARTMENTS /UNITS		
R1 - GENERAL RESIDENTIAL						
- Residential	52,591	15	54	162		231
- Chapel / Community Centre	3,882					
- Neighbourhood Shops at Southern Foreshore and or Chapel Precinct					170	
R2 LOW DENSITY RESIDENTIAL						
- Residential	36,725	36				36
TOTAL RESIDENTIAL	89,316	51	54	162	170	267
TOTAL RETAIL					170	
SP3 TOURIST						
- New buildings				40		40
- Existing buildings	50,530			45		45
TOTAL ACCOMMODATION	50,530			85		85
RE2 - PRIVATE RECREATION						
	9,150					
E2 - ENVIRONMENTAL CONSERVATION						
	104,583					
RE1 - PUBLIC RECREATION						
- Substation	94,709					
	7,400					
TOTAL OPEN SPACE	208,442					
TOTAL AREA	348,287					

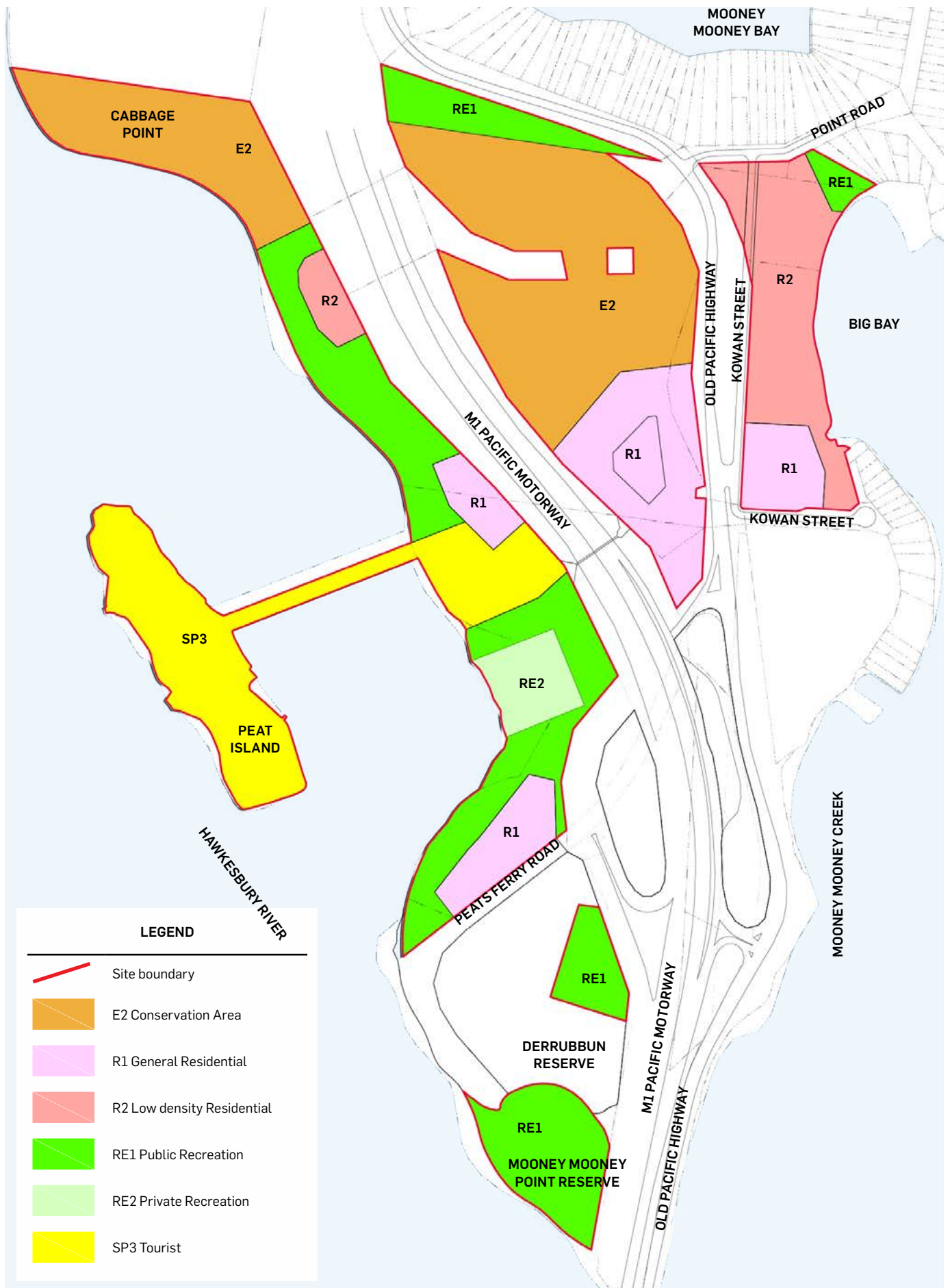


Figure 21 LEP Zoning Plan

HEIGHT OF BUILDING

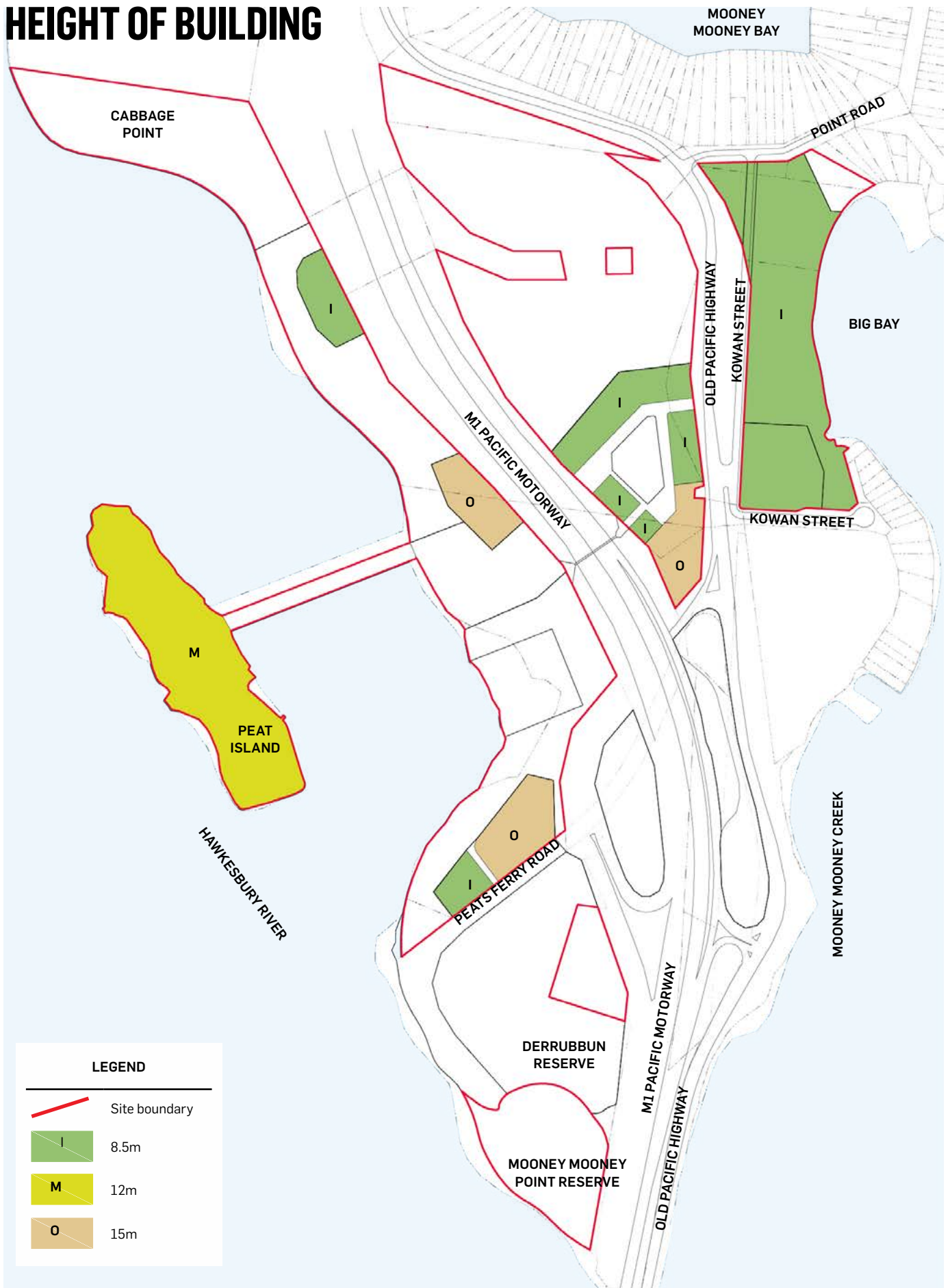


Figure 22 Maximum Height of Building Plan



MINIMUM LOT SIZE

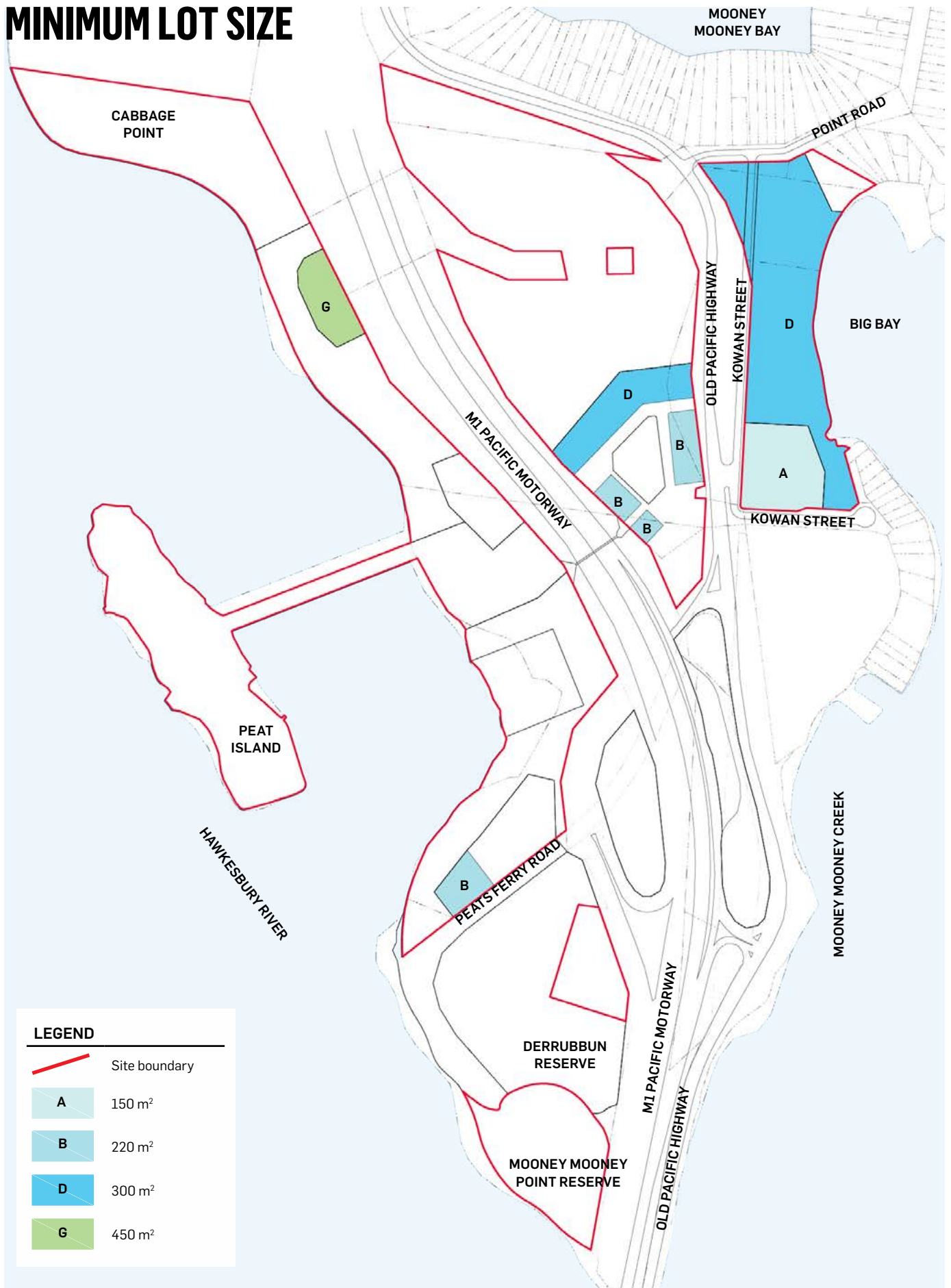


Figure 23 Minimum Lot Size Plan



ADDITIONAL PERMITTED USES

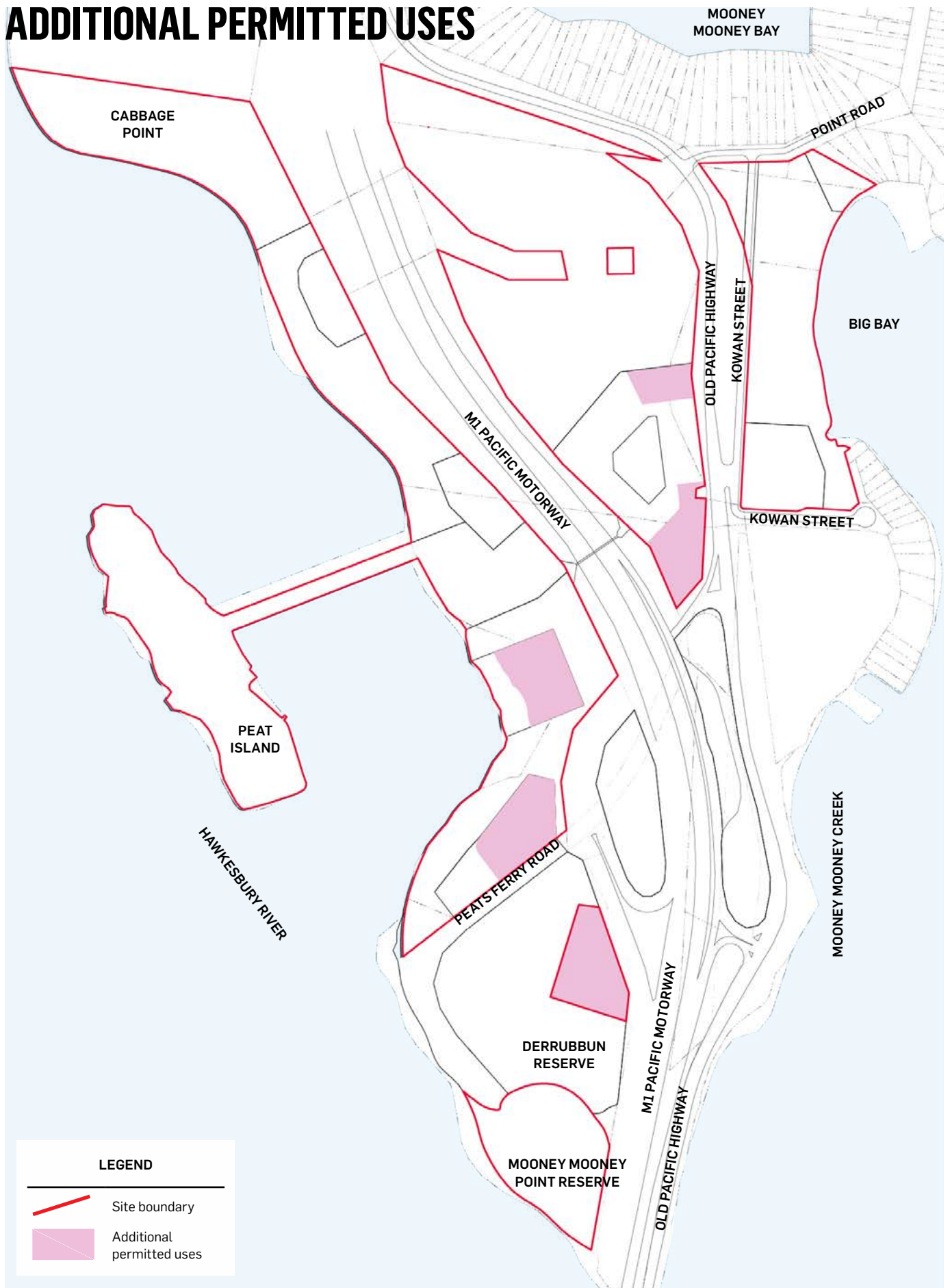
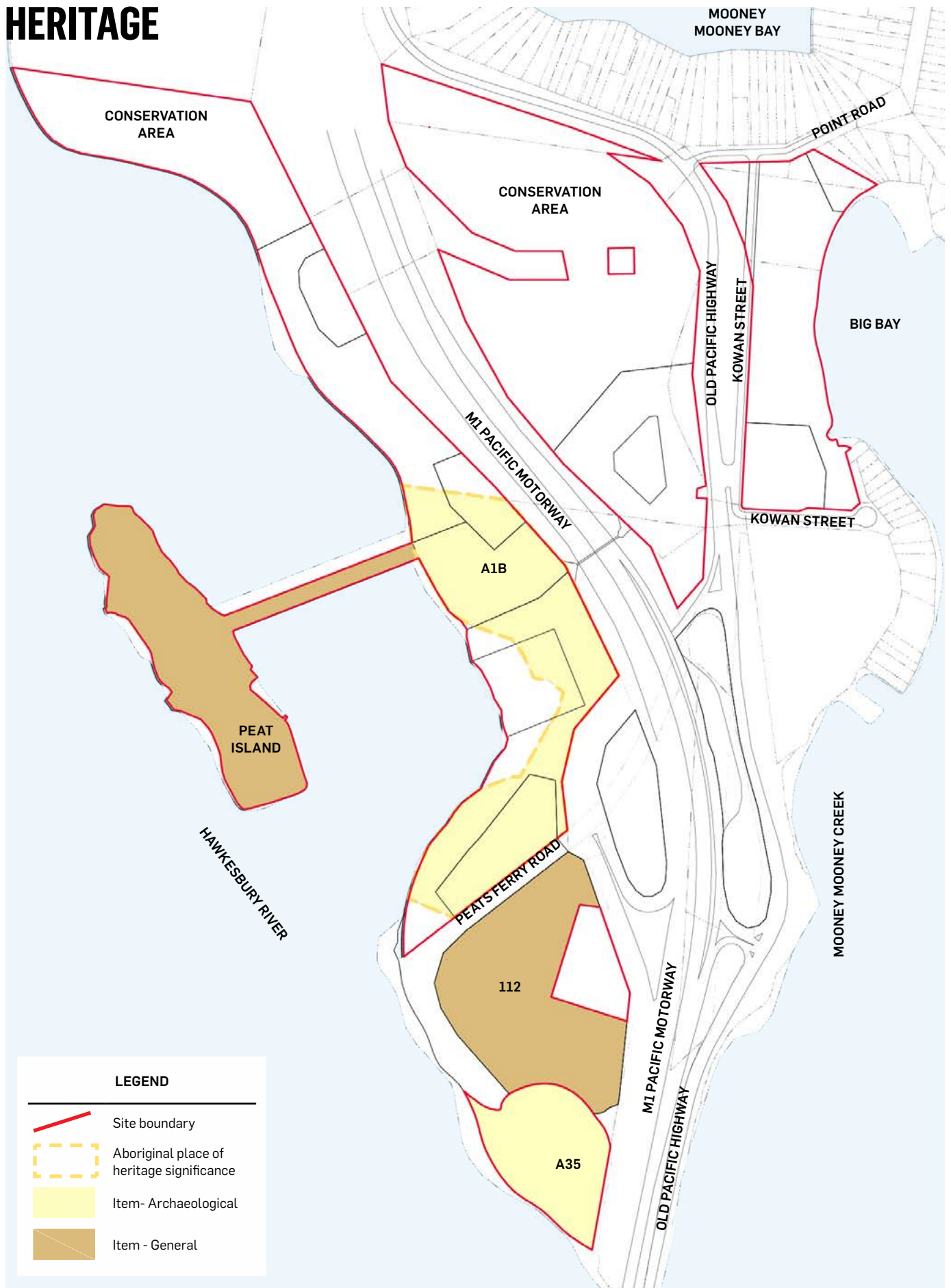


Figure 24 Additional Permitted Uses Plan



HERITAGE



LEGEND

- Site boundary
- Aboriginal place of heritage significance
- Item- Archaeological
- Item - General

Figure 25 Heritage Map

1:6,000 @ A4

