



BOONDAH PRECINCT MASTERPLAN

URBAN DESIGN REPORT

JUNE 2013

GMU



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I. INTRODUCTION



I. INTRODUCTION

I.1. THE BRIEF

GMU has been engaged by Henroth Investments on behalf of the Warriewood Southern Buffer private landowners to undertake an urban design study for a number of private properties located in the Warriewood Valley, herein called “the Site”. The properties are located with frontage to both Jacksons Road and Boondah Road with one land parcel immediately adjacent to the existing Warriewood Centre shopping centre (also known as Centro Warriewood).

There are 6 sites which are proposed for amalgamation to create a significant land parcel of some 6.2ha with direct connection to Jacksons Road and Boondah Road immediately adjacent to Warriewood Centre.

The purpose of the study is to consider the role of the Site within the surrounding area and the Warriewood Centre and to develop a design strategy and indicative master plan for the land that would assist in realising the objectives of the Draft Metrostrategy, Draft SubRegional Strategy and the underlying intent of the Warriewood Valley Strategic Review.

The locality in which the Site is located has already been identified by Council as having the potential for a new Town Centre adjacent to and including the existing Warriewood Centre. This study and indicative master plan offer an alternative option for this area that achieves improved linkages and outcomes as well as a more holistic approach to a new centre for the Southern Buffer area in Warriewood.

The master plan is a concept plan at this point in the project that is intended to inform the suggested rezoning of the Site and its surrounds for appropriate uses to support a local centre. This includes a zoning and height map for the Site. The master plan is indicative and demonstrates that it is possible to achieve a quality outcome on the Site that can work within constraints such as flooding which is an endemic issue across this whole area.

I.2. METHODOLOGY

GMU has undertaken both a broad and local analysis of the area and the Site to understand the potential and constraints as well as the role of the Site as part of the Warriewood Valley Southern Buffer. As part of this analysis, GMU has also considered the Council studies and mapping of this area; the vision developed for the area; and the previous master plan prepared by Council for a new centre in this part of Warriewood. From this work GMU has developed key outcomes that need to be achieved by any master plan for the Site and locality. This has been interpreted into two approaches to urban structure with variations in scale, height and built form emphasis to respond to different links to surrounding uses.

Of the two main directions considered, a preferred master plan has been selected with input from the Southern Buffer private landowners and expert consultants, and this has been developed into a preliminary concept plan which illustrates the potential of the Site as part of a new Town Centre with linkages to the Warriewood Centre and Vuko Place.

The proposed master plan has been tested against Council’s vision for Warriewood and underlying objectives which informed Council’s draft master plan. In arriving at the ideas and conclusions in this report, GMU has undertaken and/or considered the following:



Site location (Adapted from: Six Maps)

- A number of site visits including mapping and study of the immediate and broader context;
- Review of the Draft Metrostrategy and Draft Subregional Strategy;
- Review of the current controls for the Site and Warriewood area;
- Research of previous studies, strategies and suggested concepts prepared for Pittwater Council;
- Analysis of constraints and opportunities of the immediate surroundings;
- Existing connections, built form, open space, facilities, recent developments and proximity of other uses;
- Preliminary study of natural constraints such as topography, flooding, flora and fauna, traffic, riparian corridors, bushfire and land ownership; and
- The Hill PDA (SHOROC) study of the retail potential of the area which indicates significant capacity for additional retail to serve the Northern Beaches area.

2. CONTEXT ANALYSIS

2. CONTEXT ANALYSIS

2.1. BROAD CONTEXT

Warriewood Valley is located within the Pittwater Council LGA. It is south of the Mona Vale Town Centre and north of Narrabeen Lakes. Its location is roughly half way between Mona Vale Town Centre and Narrabeen Village as can be seen from the map opposite. The location relates to the general spacing of centres along the coastal fringe of this area. However the facilities at Warriewood lack a sense of place or true centre for the local community.

The Warriewood Valley is a pocket of development and open space which is contained by the escarpment to the west which defines the area from Terrey Hills and the natural areas of the Garigal National Park. To the east the area is constrained by the ocean.

The area has two main linkages to the west which include Mona Vale Road which scales the escarpment and provides connections to Terrey Hills and St Ives as well as to the Austlink Employment Centre.

The other linkage is to the south along Wakehurst Parkway which links the area to Frenchs Forest, Forestway and finally to Chatswood. The primary connector running through Warriewood is Pittwater Road. This is a major arterial that separates the western low lands from the coast and acts as a barrier to pedestrian movement towards the beach areas. Pittwater Road ultimately connects this area to Collaroy, Dee Why Town Centre and Brookvale.

The locality benefits from a high level of amenity due to the proximity of major recreational areas and national parks as well as the myriad beaches on offer. Development due to the ocean and the escarpment tends to be elongated from north to south along the coastal fringe with limited links up to the highland areas. As such the retail and community facilities are clustered into a string of centres and shopping centres along the coastal areas.

Whilst Newport, Avalon and Palm Beach offer a range of shopping options including supermarkets, Warriewood Centre is the most northern retail shopping centre servicing this area and the northern peninsular. The southern portion of this area tends to be served by Warringah Mall which has a far greater retail offer than the Warriewood Centre.



View from south to the Pittwater area with indication of the Site's location.



Indicative catchment radius

The Warriewood area is well served by public transport through regular bus services to Manly, Palm Beach, Gordon and Chatswood along Pittwater Road and through the connector road network in the area.

This area has been the subject of recent intensification with new residential developments of varying density occurring in Warriewood. This has increased the residential catchment for the Warriewood Centre but has not achieved a true centre for the area.

The Draft Subregional Strategy for the North East Subregion has identified Warriewood Square (Warriewood Centre) as a Stand Alone Shopping Centre. Such centres are also identified as opportunities for new town centres where appropriate to serve the local area. Given the intensification which is occurring around this standalone centre as well as Council's strategic direction for this area, it is appropriate that the Site be considered as a potential Town Centre.

2.2. LOCAL CONTEXT

LOCATION

The Site is located in the southern part of the Warriewood area. It is some 2km from Mona Vale Town Centre and is defined by:

- Jacksons Road with the Narrabeen North Primary School and playing fields to the south and Progress Park to the south west;
- Warriewood Wetlands, Irrawong Reserve and the Escarpment to the west with residential and industrial areas in between;
- Pittwater Road, North Narrabeen Reserve, caravan parks and residential areas leading to the beach to the east; and
- Residential areas and various commercial and semi industrial areas to the north in addition to Narrabeen Creek.

MOVEMENT NETWORK

The area around the Site benefits from a number of key road connections. To the immediate east is Pittwater Road which is a major arterial route running roughly parallel with the coastline.

The primary east west connectors for this area are Jacksons Road immediately to the south of the study area and Macpherson Street to the north. Both streets link to Pittwater Road (Macpherson Street via Warriewood Road) and to Garden Street which provides north/south movement through the residential areas to the west.

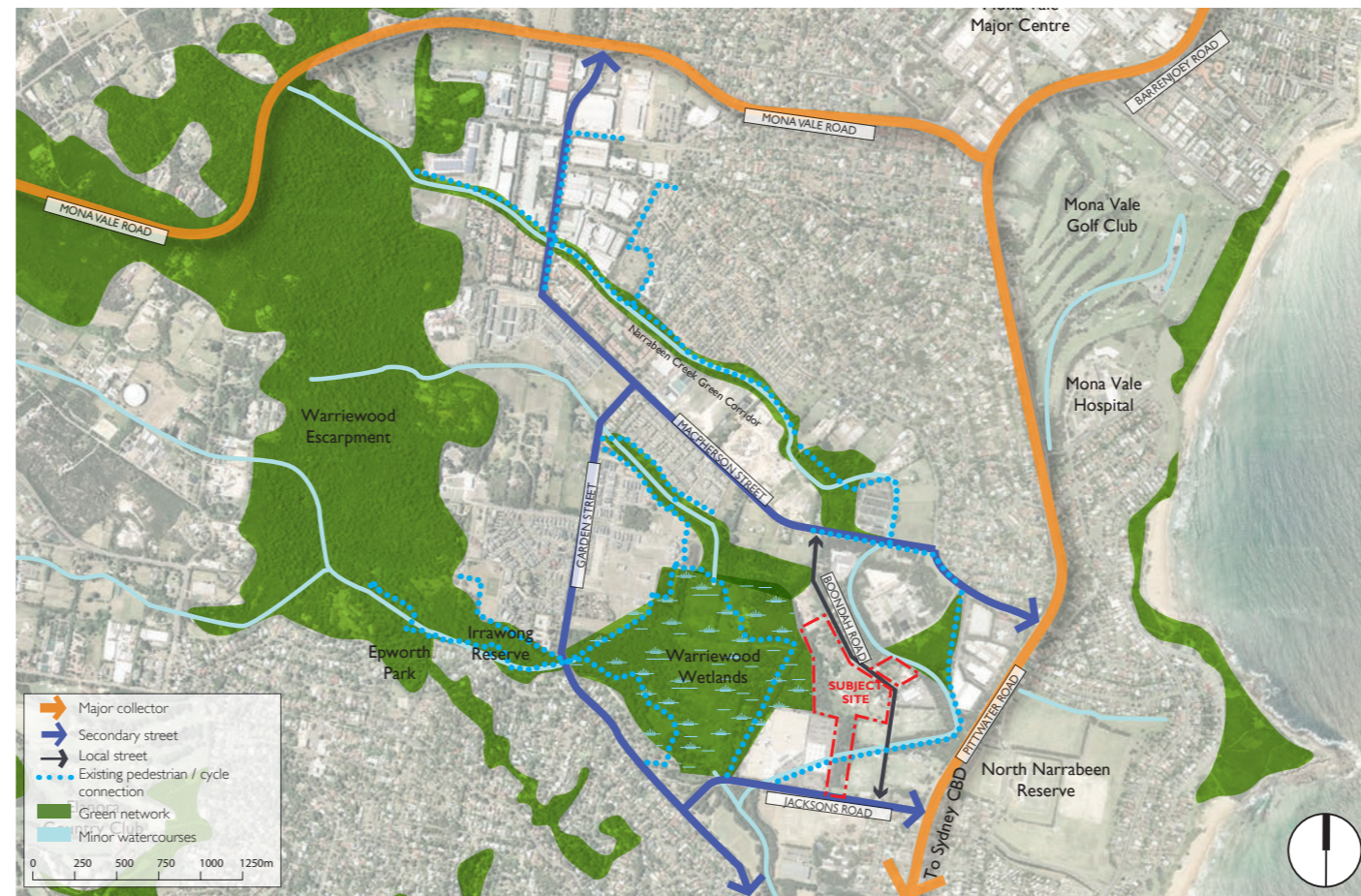
Jacksons Road and Macpherson Street are linked via Boondah Road which provides much of the street address for the Site. The local street network within this part of Warriewood is very disconnected with a commercial hub to the north east accessed via Vuko Place but not connected to Boondah Road.

Jacksons Road provides the main road connection for the existing Warriewood Centre. That said the Site is located on or close to the major routes into and out of the surrounding residential catchment to the west and south.

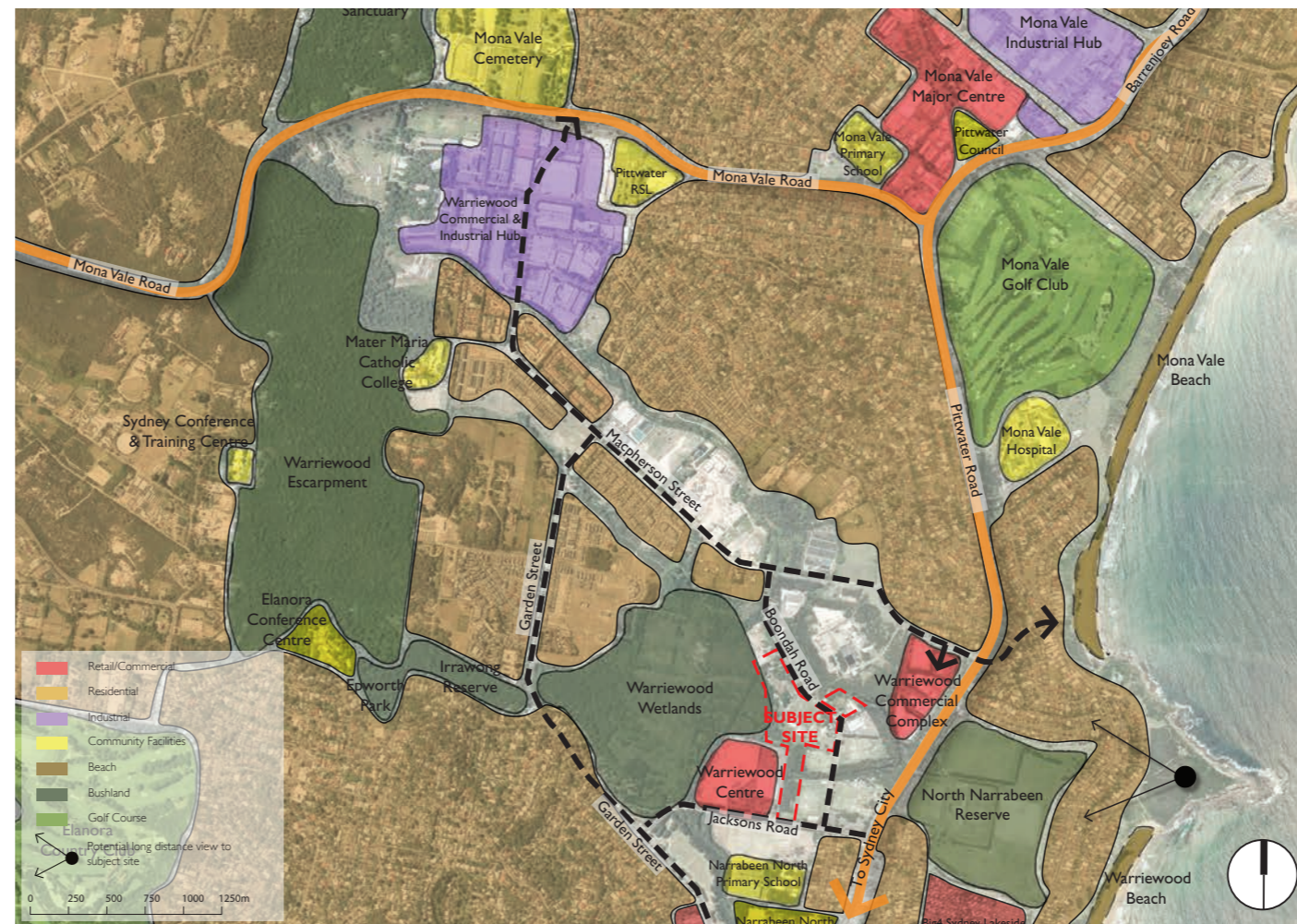
The area is well served by public transport with buses running along Macpherson Street, Pittwater Road and Jacksons Road. The closest bus stop to the Site is located on Jacksons Road and Pittwater Road. Buses that stop here, provide connection to the city and other centres.

In terms of pedestrian movements through the area the majority of movement is along street systems. There is an informal network of walks through the Warriewood Wetlands and across the Narrabeen Creek corridor which allows pedestrian connection to Vuko Place which accommodates the commercial precinct and United Cinemas to the north east of the Site.

Currently, the Warriewood Centre is fairly disconnected in terms of pedestrian movement due to the wetlands and the playing fields which effectively surround the shopping centre. This does not encourage pedestrian use of the centre and effectively isolates the centre. Barriers to pedestrian movement through the area currently are Pittwater Road, the wetlands and reserves, the playing fields and creek corridors. This has created a series of development pockets that do not achieve a sense of place, focus or centre but rather a disparate series of residential or commercial areas that do not have a shared identity.



NETWORK



LAND USE

OPEN SPACE AND TOPOGRAPHY

The topography of the local context is generally fairly flat with slopes less than 15%. The escarpment rises to the west but the area around the Site is lowlands. The lowlands are subject to inundation and some flooding impacts from Narrabeen Lakes.

The areas around the Site, Warriewood Centre, the playing fields and the commercial precinct are all impacted by the potential for sea level rise and flooding by the 1% AEP flood level and the Probable Maximum Flood (PMF) level. Therefore, any future development in proximity to the existing Warriewood Centre will need to deal with these flood impacts.

The area benefits from large areas of open space. To the west is the Warriewood Wetlands and beyond is Irrawong Reserve. To the east is North Narrabeen Reserve and Jacksons Road Reserve with Lakeside Park and Birdwood Park to the south east.

The area immediately around Warriewood Centre is playing fields or privately owned land. The playing fields straddle Boondah Road which creates safety issues. In addition to the open space areas there is also an established green corridor through this area along the Narrabeen Creek which runs from the north near Warriewood Road through the area until it is piped under the Warriewood Centre. On the other side of Jacksons Road, the Narrabeen Creek continues to the south as Mullet Creek.

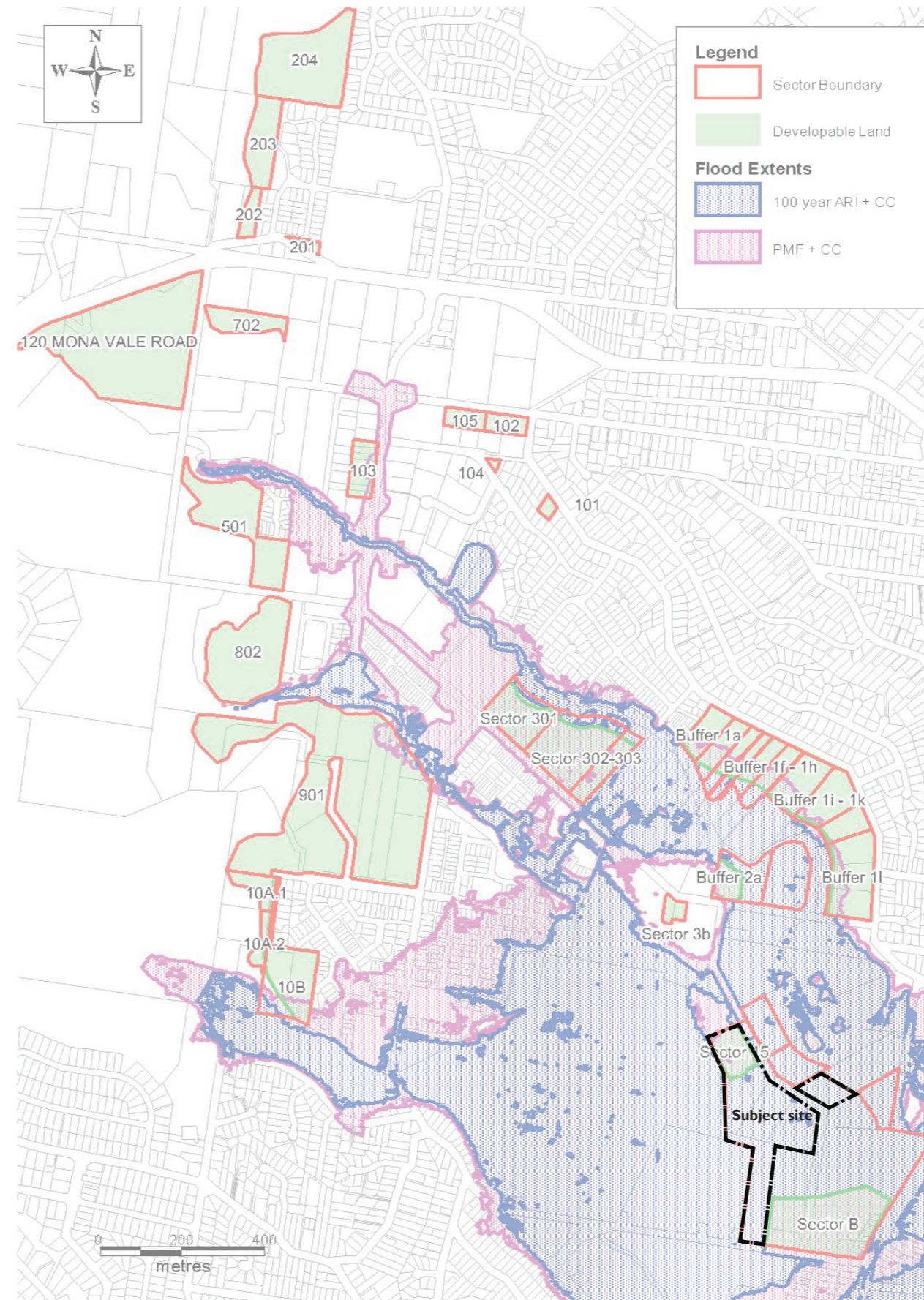
There are also a number of Golf Clubs in proximity and public beaches along the coast as well as Lakeside Park along the Narrabeen Lake. There are no geotechnical issues in this locality. The wetlands do create a bushfire source and the majority of the wetlands is identified as a bushfire flame zone. Due to the wetlands, the area has high biodiversity values in the wetlands themselves, and the wetland edges.

LAND USES

The land uses in the area vary. To the west and north are predominantly residential areas many of which are recently developed as part of the residential strategy for Pittwater Council. To the far north is Mona Vale Town Centre which contains retail and community facilities as well as a local school. To the northwest is an employment precinct that has a connection to Warriewood Centre via Macpherson Street and Boondah Road. To the north east is the Warriewood Commercial Precinct and cinema complex located on Vuko Place.

To the south are playing fields, Northern Beaches Indoor Sports Centre (NBISC) and Narrabeen North Primary and High Schools. To the south west along Garden Street is a pocket of showroom retail uses and ancillary commercial uses usually associated with town edges. To the north east are major services in the local area including Mona Vale Hospital.

Warriewood Centre provides the main retail facilities for this locality and includes supermarkets such as Coles and Woolworths and a number of



Map showing flood extents
(Adapted from: Pittwater Council Warriewood Valley Strategic Review – Hydrology Study)

associated specialty shops.

BUILT FORM

The area has a range of built form. Much of the commercial and retail development is out-dated and of low architectural value. Many of these developments are only one to two storeys particularly in the Warriewood commercial hub to the north east of the Site. This indicates potential for future redevelopment to accommodate employment growth if properly supported with local facilities. This area also includes the cinemas and a number of sites for uses such as fast food.

The Warriewood Centre is single storey with large areas of on grade car parking.

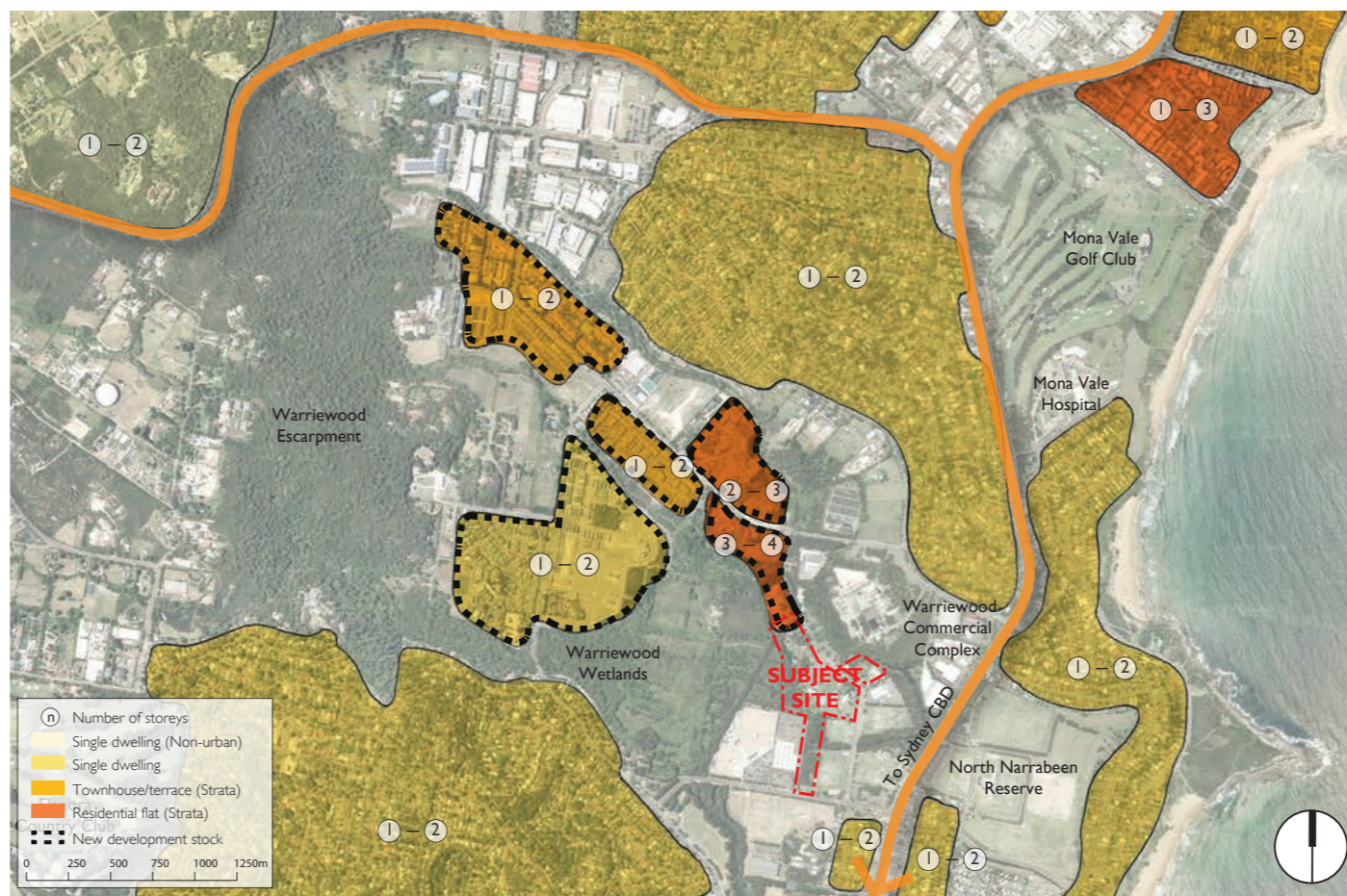
The Warriewood Valley has recently undergone growth in terms of the residential built form. There are pockets of newly constructed medium density housing, which have been developed in less than ten years. The most recent additions to the built form are apartment buildings developed along Macpherson Street (north of the Site), at 3-4 storeys. These areas have been redeveloped with a mix of diverse housing types including 3-4 storey apartments, townhouses and villas. Beyond this area further to the north are more traditional detached dwelling house neighbourhoods. Interestingly, the density and scale of development for residential increases the closer the proximity to the Warriewood Centre which reinforces Council's intent to provide a catchment close to existing facilities.

EXISTING DENSITY

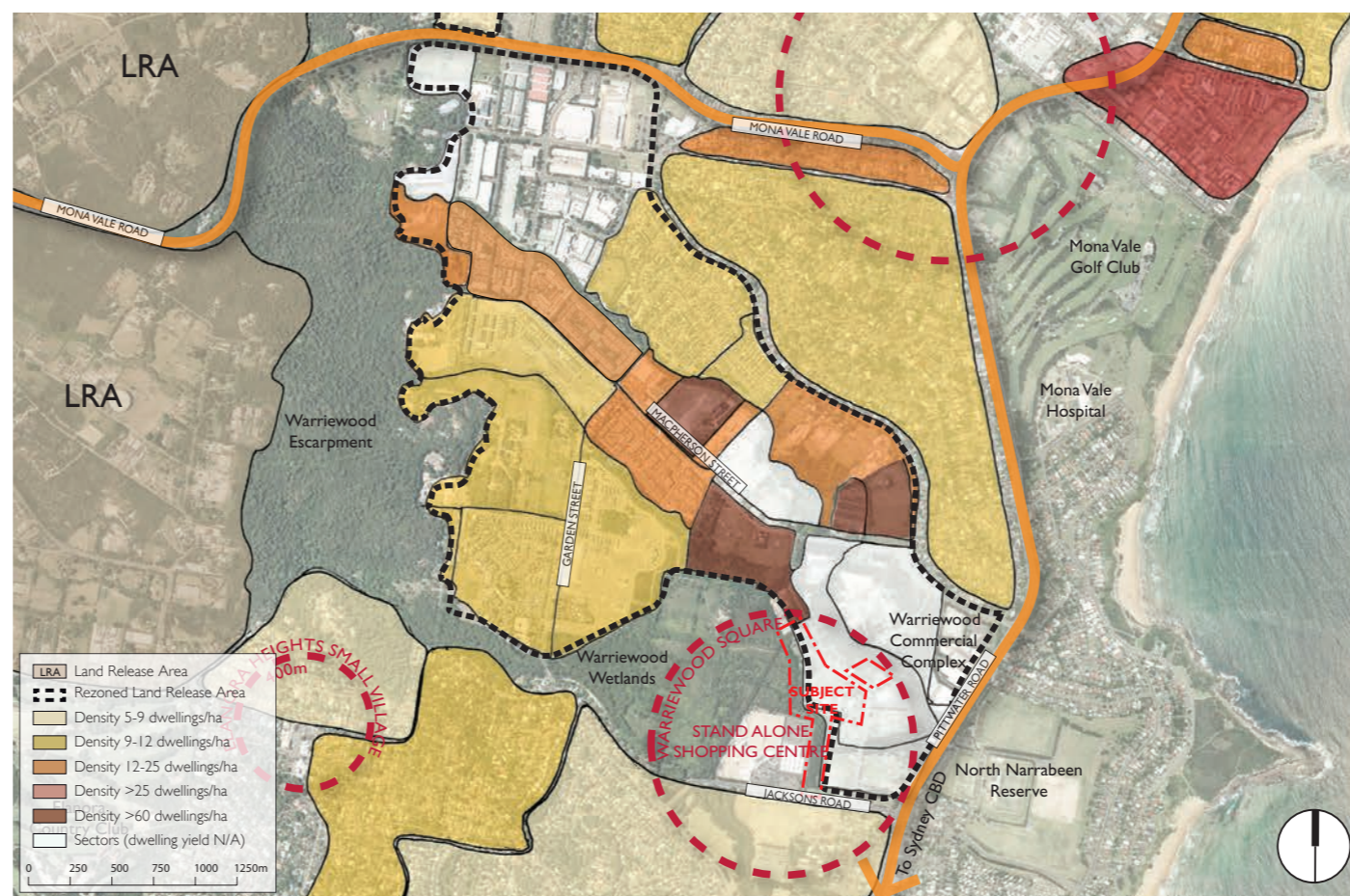
The residential density in the area has increased in recent years. The average density in Warriewood Valley is 9-12 dwellings per hectare, however some sites, such as the recent Meriton Developments to the north of the Site is reaching densities above 60 dwellings per hectare. It is understood that Meriton intends to redevelop other sites in the Warriewood Valley with similar development density.

The diagram to the right bottom illustrates the location of increasing density moving towards the north western edge of the Site. This increased density is already supported by proximity to local schools, public transport, employment uses, health facilities and open space. The missing link is a town centre to draw these uses and disparate pockets into a connected mixed use neighbourhood. With increasing residential density, Warriewood Valley will need more supporting services, retail and facilities. The increased density and its location highlight an opportunity to create a true centre and sense of place for Warriewood Valley that links into the existing commercial and retail uses close to the residential areas.

(The diagram adjacent shows approximate densities only. It is based on the DCP required densities and the available information of the latest approvals in the area).



BUILT FORM



DENSITY

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3. THE SITE



GMU



3. THE SITE AND ITS CONTEXT

GMU and a team of specialist consultants have undertaken a preliminary analysis of the Site and the immediate area surrounding the Site to understand the unique issues and opportunities. This analysis in addition to the context analysis has informed the key outcomes, strategies and options considered for the Site later in this report.

3.1. THE SITE

The Site is located with its primary frontage to Boondah Road. The Site also has a minor street frontage to Jacksons Road adjacent to the Warriewood Centre.

The majority of the Site lies along the western side of Boondah Road with a further small land parcel to the north east of this road. The Site comprises six (6) land parcels owned by private land owners. The land owners are working together to investigate the development potential of the Site. The six properties together create an amalgamated site with a total area of approximately 6.2 ha. They include Lots DP 806132, DP 574339, DP 552465 and three lots within DP26902.

The location of the Site, as can be seen from the adjacent aerial, is strategically positioned between the existing shopping centre, the commercial complex and the residential Meriton land to the immediate north west of the Site which is currently being redeveloped over various stages.

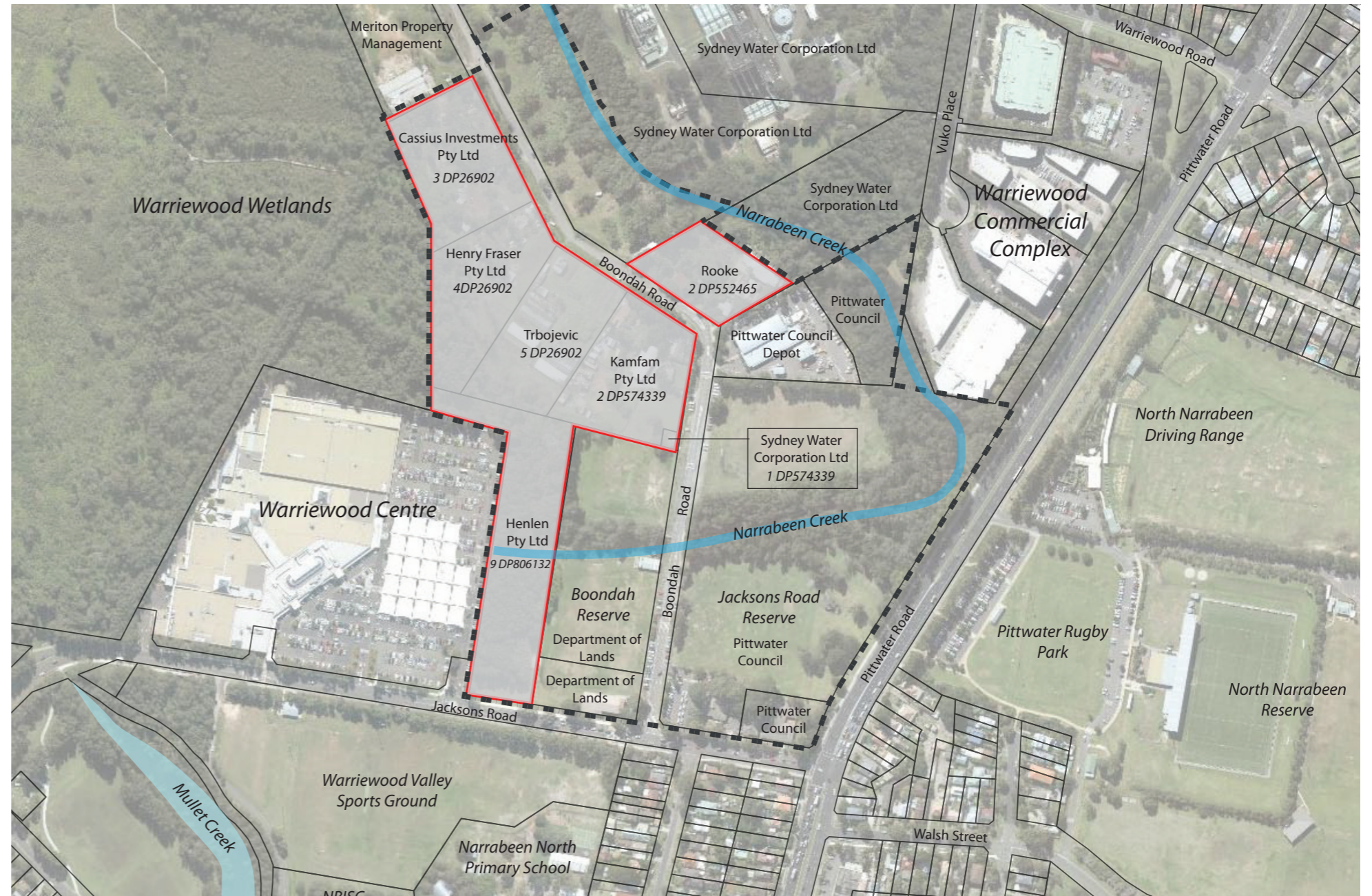
The Site has direct frontage along its western boundary to the Warriewood Wetlands. To the north beyond the Site is Narrabeen Creek and this riparian corridor crosses the Site along its southern extent. The Site currently contains existing improvements which include single dwelling houses and various farm and outbuildings associated with their current uses.

IMMEDIATE ADJACENT USES

The lands immediately adjacent to the Site are:

- Department of Lands' site located on the western corner of Boondah Road and Jacksons Road. This land is currently being used as playing fields;
- Pittwater Council's site comprising most of the eastern side of Boondah Road down to Jacksons Road with frontage to Pittwater Road. These lands are currently used as playing fields including community buildings as well as the riparian corridor of Narrabeen Creek;
- Sydney Water Corporation lands to the north-east of Boondah Road and the Narrabeen Creek. This land is currently occupied by a sewer treatment plant;
- Pittwater Council Depot to the immediate south of the north eastern portion of the Site on the eastern side of Boondah Road which is operational;
- Meriton Property Management lands to the immediate north of the Site and to the western side of Boondah Road which is being redeveloped into medium density residential apartment buildings;
- The Warriewood Centre shopping centre and on grade car park to the immediate west of the southern portion of the Site.

The rest of the western boundary of the Site comprises the recreational areas of Warriewood Wetlands. This local Reserve contains walking tracks and bicycle paths.



Existing individual lots within site and corresponding ownerships
(Adapted from: Pittwater Council Warriewood Southern Buffer Areas Ownership Map - April 2012)

OPEN SPACE AND TOPOGRAPHY

The existing playing fields straddle Boondah Road and Narrabeen Creek. Council has identified the barrier created by the road as a major safety concern when the sporting grounds are in use with children attempting to cross the roads between the different sports grounds. There is an opportunity to mitigate this impact through redevelopment of this area and the Site.

Other open space areas in proximity include the wetlands, Pittwater Rugby Park and North Narrabeen Driving Range to the east. To the south of Jacksons Road is Warriewood Valley Sports Grounds and the Northern Beaches Indoor Sports Centre (NBISC). The Site is bisected by the Narrabeen Creek corridor which contains a pedestrian footpath along the creek. This footpath is being used to informally connect the shopping centre with the commercial hub to the north-east. The creek is in its 'natural' and somewhat, degraded state, until it is piped under the Warriewood Centre.

The Site is generally flat with a slight fall towards the wetlands along the south western corner. Much of the Site is below the recommended floor freeboard level of AHD 4.5m. The higher land is located to the northern portion of the Site with the lower portions of the land near the creek and wetlands down at AHD 1.5m. As mentioned earlier, this is typical of land in the vicinity of Warriewood Centre.

FLOODING

Preliminary investigation into the Site shows that the Site is flood affected due to backwater flooding from Warriewood Wetlands and Narrabeen Lagoon. There is a high hazard of temporary flooding along the low lying areas with a reduced hazard on the higher areas of the Site and its surrounding areas. The flow regime for Narrabeen Creek is generally from north to south on

northeast to southwest in the immediate vicinity of the Site with flood waters from the lake approaching from the south.

The Warriewood Valley Strategic Review identified the PMF (Probable Maximum Flood) level to be at 4.5m AHD for this locality. The flood engineers have recommended preliminary mitigation strategies to address flooding whilst enabling reasonable redevelopment of this Site and the lands surrounding it to allow achievement of a new town centre adjacent to the Warriewood Centre.

Whilst this represents a significant intervention in terms of the flood affected land it is necessary for the Site to achieve a town centre outcome whilst actually providing a linked and cohesive centre. The intention is that the water flow would not be impeded under the suspended deck areas with the developable filled land able to facilitate the raising of Boondah Road to 4.5m AHD which is already occurring for redevelopment north of the Site.

BIODIVERSITY AND BUSHFIRE

A preliminary study has also been undertaken for bushfire and biodiversity constraints. The majority of the Site is a disturbed landscape. There are pockets of Bangalay/Apple Open Forest which has been disturbed to the northern and north western portion of the Site and immediately adjacent to the wetlands to the northern area are areas of planted and exotic vegetation and wasteland.

There is a line of Swamp Oaks adjacent to Boondah Road to the east but it is a very localised group. Within the wetlands and along the creek is a community of Swamp Oak Forest but this does not intrude into the Site.

A biodiversity corridor is recommended to connect the wetlands. There are three options for the general locations where the biodiversity corridors can be located. Option 1 is to the southern playing fields in the general location shown on the analysis diagram. Option 2 as shown in the diagram (far right) could be redeveloped further to the east on adjoining lands subject to achieving an efficient layout for a future centre. Option 3 is to provide the link towards the northern part of the Site. These options can be further investigated in later stages of the design process.

A riparian protection zone is required for the Narrabeen Creek riparian corridor with a width of 20m, based on information provided by Travers Bushfire and Ecology. The conclusion of the report on biodiversity is that the Site contains significant areas which may be suitable for future development.

In terms of bushfire, the main bushfire sources identified are the wetlands and the creek line. Recommended setbacks to create appropriate asset protection zones have been identified as shown on the adjacent diagram ranging from 10m setbacks for commercial uses up to 39m for residential uses.

The 60m and 70m special fire protection development setbacks are applicable if special mobility class uses are intended within the centre such as day care, schools or aged care.

SITE CHARACTER

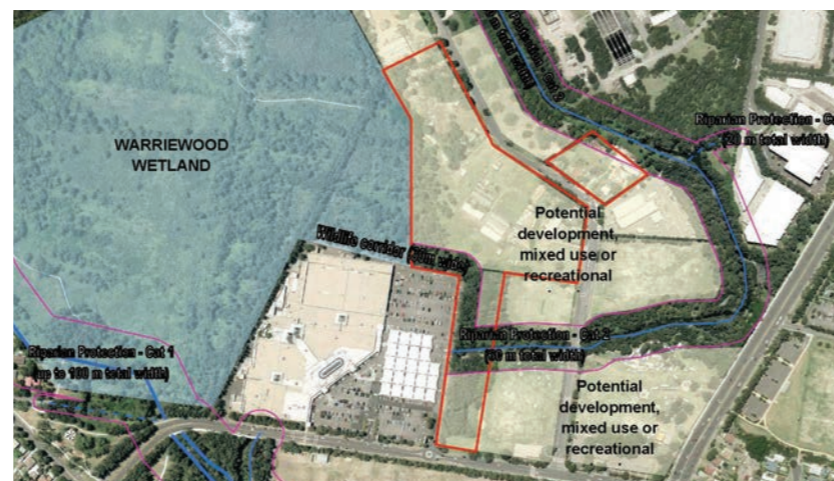
A photographic study of the site character is provided on the adjacent page with a key map showing the locations at which the photographs were taken.



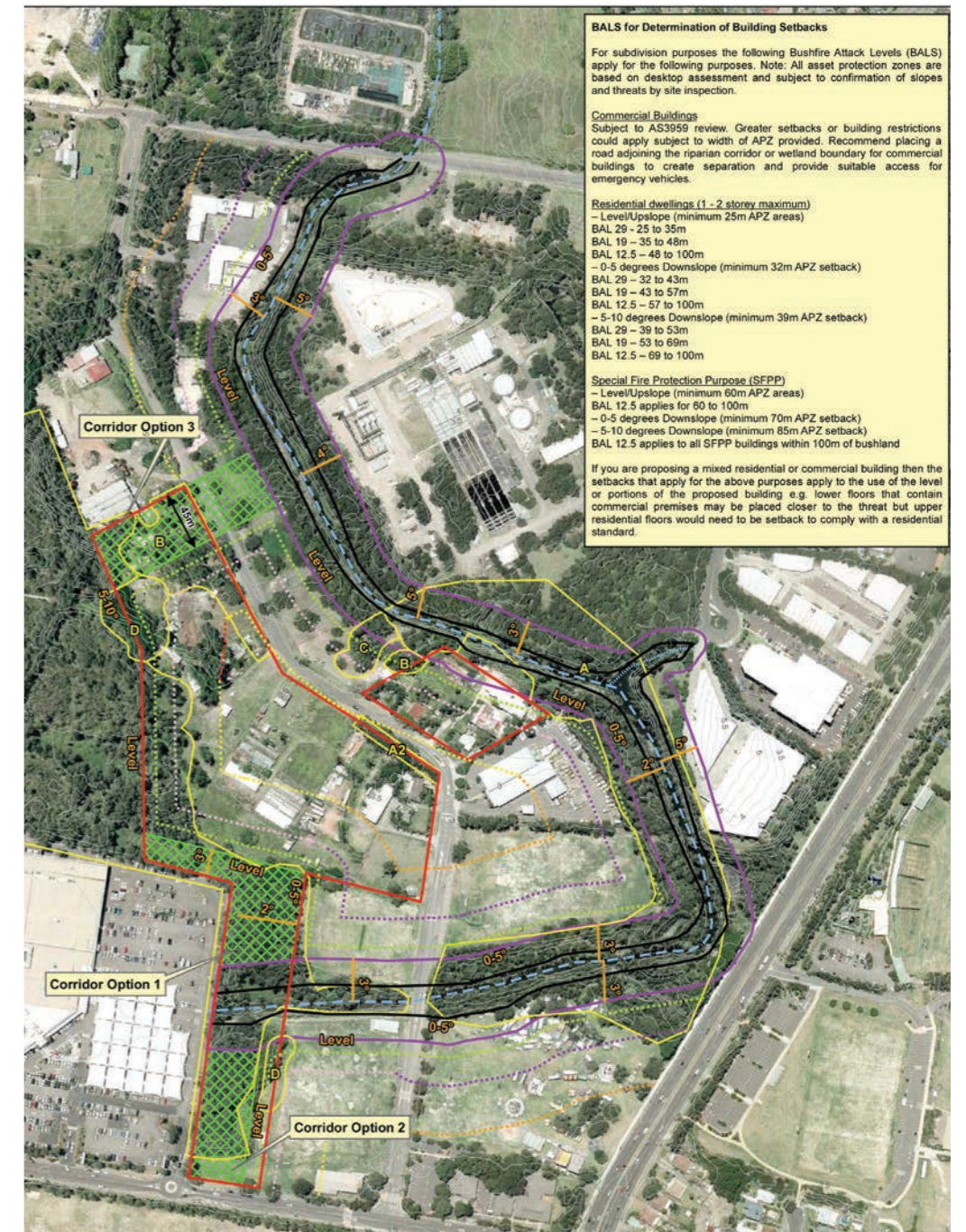
Flow Regime (Source: Brown Consulting)



Vegetation Communities (Source: Travers - Review of Southern Buffer)



Concept Conservation Plan (Source: Travers - Review of Southern Buffer)



Riparian and minimum bushfire constraints (Source: Travers Report)

3.2. SITE PHOTOGRAPHS



A.



B.



C.



D.



E.



F.



G.



H.



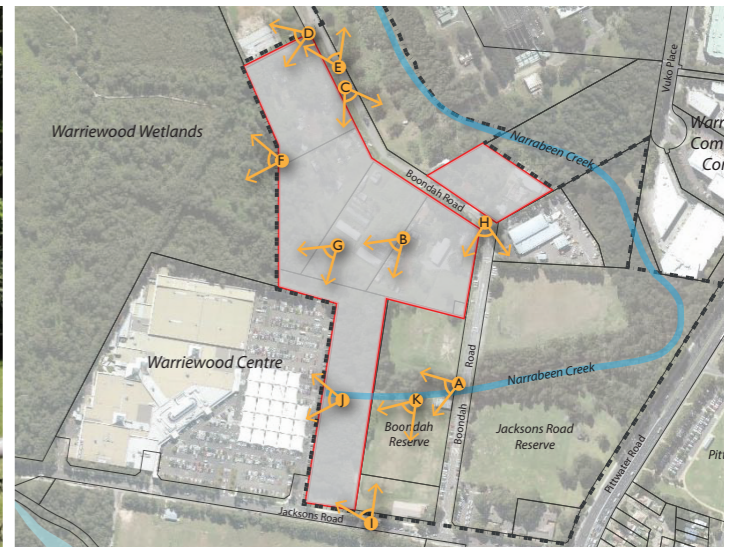
I.



J.

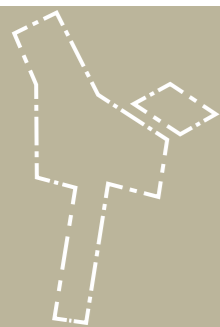


K.



Views location key

4. COUNCIL CONTROLS AND STRATEGIES



4. CONTROLS & OTHER REQUIREMENTS

4.1. DRAFT LEP 2013

The Site is currently zoned I(b) Non-Urban “B” under the Pittwater Local Environmental Plan 1993. The LEP has been recently reviewed and a new Draft LEP has been exhibited. The Draft Pittwater LEP 2013 includes the following controls that are intended to apply to the Site:

Zone: RU2 – Rural Landscape

Foreshore Building Line: N/A

Heritage: N/A

Minimum Lot Size: 10,000m²

Floor Space Ratio: N/A

Height: 8.5m

Bushfire Prone: Class 2 / Bushfire Vegetation Buffer

The Site is zoned Rural with a Medium Density Residential zone immediately adjacent to the north, Infrastructure and Public Recreation zones to the east and Local Centre zone to the west (Warriewood Centre).

The Warriewood Wetlands are zoned Environmental Conservation to the west of the Site. The zoning review has downzoned the land to Rural from the previous zone, non urban, despite the strategies and studies undertaken by Council prior to this Warriewood Valley Strategic Review which identified the opportunity to create a real centre in proximity to the Warriewood Centre.

Instead the draft LEP downzones the Site to a rural landscape zone with other lands adjacent identified as medium density residential and public recreation. This seems at odds with the intent for this area and is not providing the support needed for the medium density zones that surround the Site or the community/ educational uses located to the south of the Site.

It should be noted that the Warriewood Review Strategic Review, in contrast to the draft LEP zoning, is inviting Planning Proposals from land owners within the Warriewood Valley Southern Buffer area.

4.2. PITTWATER DCP 21

The DCP contains specific controls that relate to both particular uses and specific controls that relate to the Warriewood Valley Locality. The key outcomes of these controls as they affect the Site are summarised as follows:

CONTROLS RELATING TO THE WARRIEWOOD VALLEY URBAN LAND RELEASE PLANNING FRAMEWORK

A number of controls within the DCP, including those relating to density and desired character, refer to compliance with the draft Warriewood Valley Urban Land Release Planning Framework. This document has been consolidated into the Warriewood Valley Planning Framework 2010, which itself has been re-examined within the Warriewood Valley Strategic Review. The Warriewood Valley Strategic Review is discussed in section 4.4 of this report.

DENSITY

The outcomes for density within the Warriewood Valley Land Release Area are stated as follows:

- The density and scale of development reflects the infrastructure and environmental capability of the area. (En, S)
- The development does not adversely impact on adjoining development. (En, S)
- A range of lot sizes and dwelling types to cater for a mix of residential development styles.

HEIGHT BULK AND SCALE

The DCP sets a maximum building height of 8.5m for buildings within the Warriewood Valley Land Release Area. The objectives for height within the Warriewood Valley Land Release Area are stated as follows:

- To achieve the desired future character of the Locality. (S)
- Buildings should reinforce the bushland landform character of Pittwater and be designed to preserve and strengthen the bushland character.
- To ensure sites are designed in scale with Pittwater’s bushland setting and encourage visual integration and connectivity to the natural environment.
- Building design, location and landscaping is to encourage view sharing between properties.
- Buildings and structures below the tree canopy level. (S)
- Equitable preservation of views and vistas to and/or from public/private places. (S)
- The built form does not dominate the natural setting. (En, S)
- To encourage buildings that are designed to respond sensitively to natural topography.
- Environmental impacts, including overshadowing, on natural vegetation, trees and residential and recreational areas are minimised (En, S)

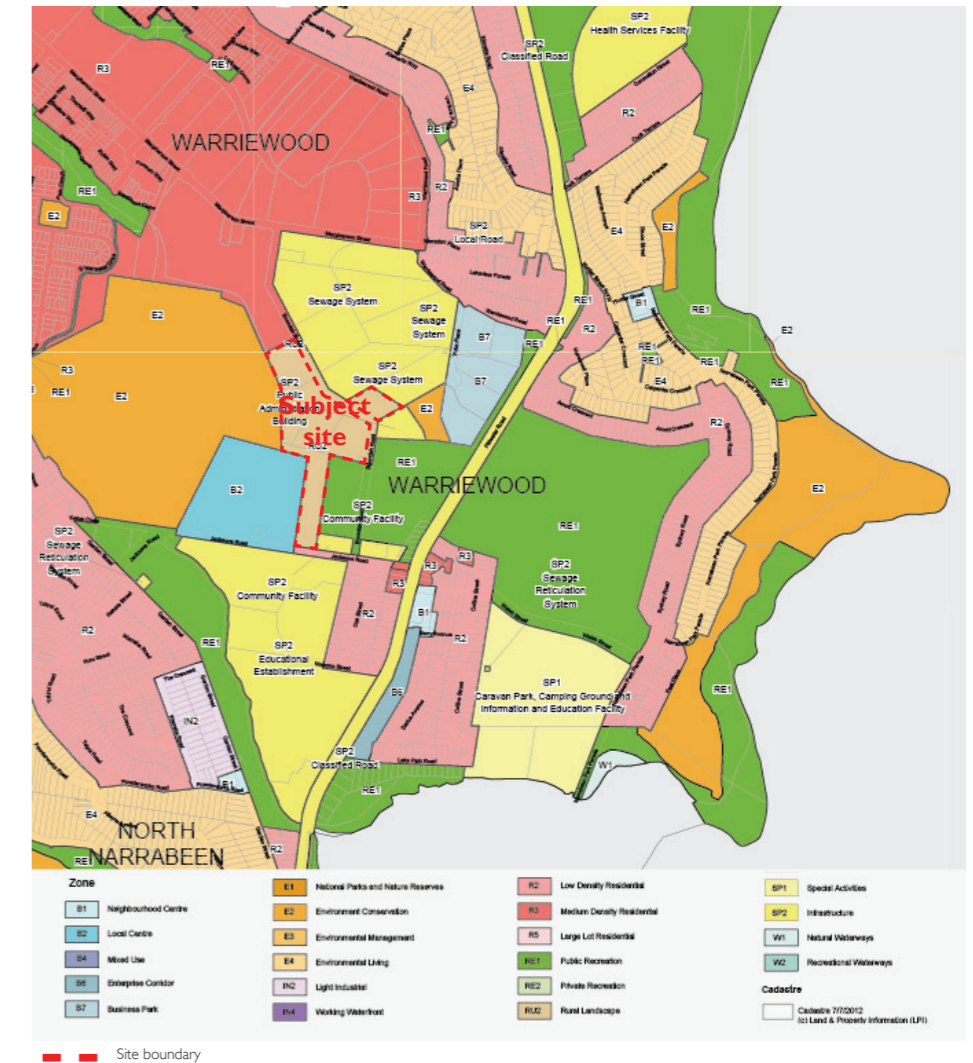
The DCP also provides some further guidance with regard to setbacks and site coverage for the Warriewood Valley Land Release Area. These include:

- a 6.5m front setback abutting Boondah Road (and other ‘avenues’) is required;
- a 4.0m front setback abutting other street types (with 5.5m setback to garages and carports) is required; and
- the site coverage for multi-unit housing developments should not exceed 55% of the overall site area.

Zero lot lines for rear and side setbacks are permitted, however Council encourages spatial separation between buildings.

PUBLIC DOMAIN

The DCP generally requires the provision of street trees which are planted at 6m centres (with the notable exception of business areas within commercial centres where a master plan sets an alternative). Street trees should consistent with Council’s list of endemic native species where possible.



ZONING (Source: Pittwater draft LEP 2013)



Warriewood Land Release Area (Source: Pittwater DCP 21)

Reference is made to the “Warriewood Valley and Landscape Masterplan and Design Guidelines” with regard to the design of the public domain and the provision of parks. This document sets out general controls for the design and location of public open spaces.

SERVICING AND PARKING

Car parking requirements within Pittwater include the following:

- For multi unit housing: 1 space per 1 bed dwelling; 2 spaces per 2 bed dwelling; a separate visitor parking provision of 1 space per 3 dwellings rounded up; and provision for service vehicles;
- For commercial premises: 2.5 spaces per 100sqm GLA plus service vehicle areas;
- For restaurants and retail: 1 space per 30sqm GLA (not including shopping centre developments) plus service vehicle areas.

DESIGN OF LAND SUBDIVISIONS

The DCP sets out a number of issues which should be addressed through the design of land subdivisions. In particular it asserts that the application should clearly demonstrate that a building envelope can be built on site that has regard for the following:

- retention of trees and bushland,
- vehicular access,
- provision of services,
- provision of emergency services,
- and safety from hazard,
- A building which achieves the desired character of the area and is commensurate with the amenity standards of surrounding development, and does not overly impact on the environment, and can be erected within that envelope.

FLOOD PRONE LAND

The DCP also includes flood controls for affected land which indicate the following strategies for development:

- Open carparks (including covered carpark areas) are permissible on the existing ground level;
- For shop top housing, business and light industrial development, car parking should be provided above the flood level and vehicle barriers or restraints are to be provided to prevent floating vehicles leaving the site.

4.3. PITTWATER LOCAL PLANNING STRATEGY

The Pittwater Local Planning Strategy has been prepared by the Council to achieve the overall vision for Pittwater area. The vision is to ensure Pittwater is a “...vibrant sustainable community of connected villages inspired by bush, beach and water.”

The strategy was prepared to facilitate the achievement of the Pittwater 2020 Strategic Plan, provide for land use planning decisions and to underpin a new LEP and DCP. The strategy proposes to investigate the Southern Buffer (in which the Site is located) as the location for potential retail/commercial/residential development and to promote working from home. It mentions the housing targets of 4,600 new dwellings between 2004 and 2031.

A capability mapping analysis were undertaken in order to support the zoning decisions within the LGA. The analysis helped in determining major environmental, social and economic constraints. The maps considered constraints such as biodiversity, topography, sea level rise and flooding, geotechnical constraints, proximity to centres and transport and services capacity.

These maps were used to categorise the land within the LGA. The categorisation was provided through layering these maps into a single Capability Map which categorises the land as follows:

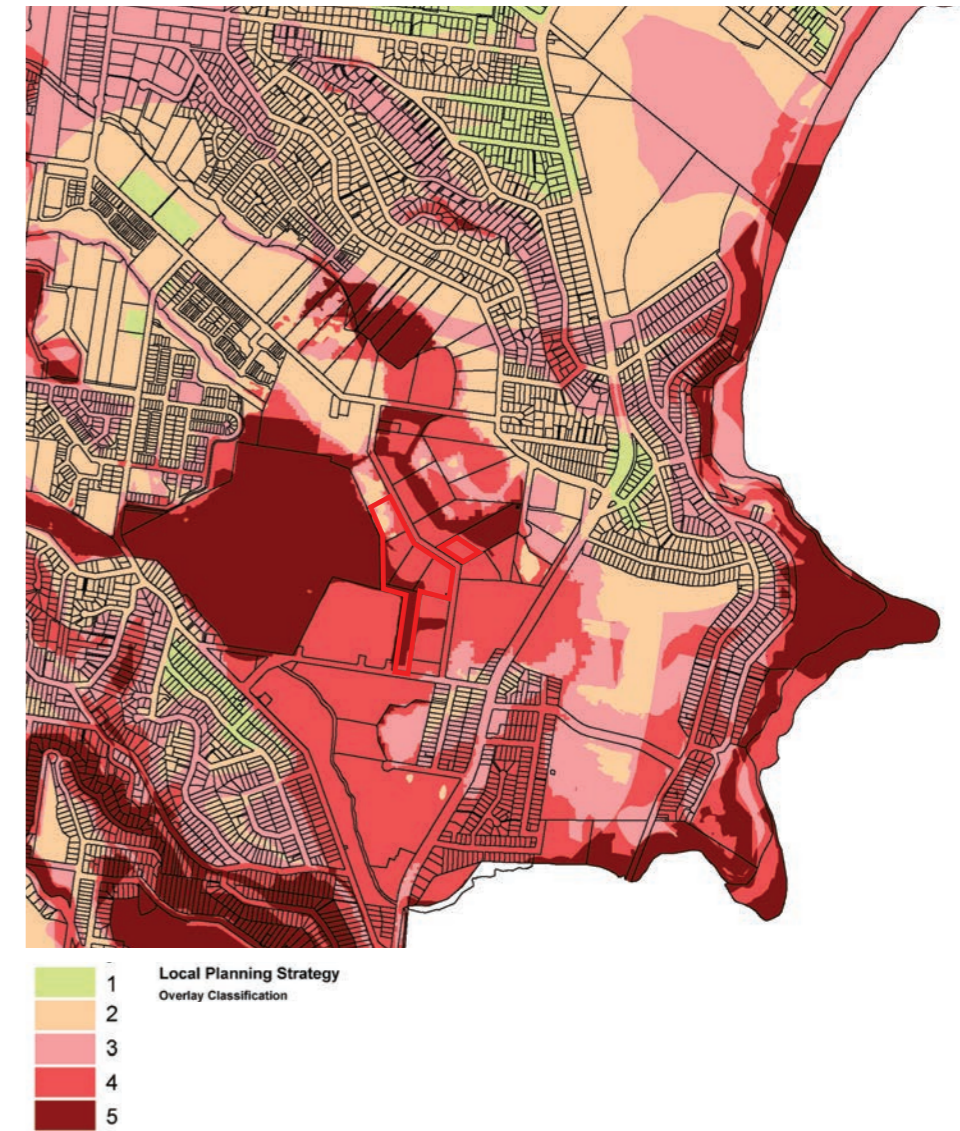
- 1 - Most - All As: areas of land that were mapped as suitable for development or intensification;
- 2 - More - All A and B: areas of land that were mapped as having at least one moderate constraint to development or intensification;
- 3 - Moderate - Only have one instance of C: areas of land that were mapped as having one severe constraint to development or intensification;
- 4 - Less - Have two instances of C: areas of land that were mapped as having two instances of severe constraint to development or intensification;
- 5 - Least - Have three or more instances of C: areas of land that were mapped as having three or more severe constraints to development or intensification.

The Pittwater Land Capability Map (adopted) shown to the right, classifies the Site land to class 5 along the Warriewood Wetlands border and in the southern portion along Warriewood Centre boundary, class 4 for most of the area along Boondah Road and some areas to the north classified as 2 and 3.

The main constraint found on the Site was flooding and sea level rise. Chapter 5.0 Assessing Land Capability of the Pittwater Local Planning Strategy 2011 acknowledges that in paragraph 5.1.1:

“While it remains important to have regard for the constraints identified, it is acknowledged that there are measures and solutions that can be employed to mitigate against constraints, and that such measures may result in sustainable development of constrained areas. The mapping does however offer a tool for comparing areas in relation to the level of constraint and may be useful in determining areas that may be more or less appropriate to develop than others.”

Since this report was prepared the Council and Department of Planning and Infrastructure have undertaken a review of this information and have formed a different view of the opportunity presented by this land.



Pittwater Land Capability Map (Adopted from Pittwater Council’s Local Planning Strategy)

4.4. WARRIEWOOD VALLEY STRATEGIC REVIEW

The Warriewood Valley Strategic Review was prepared jointly by Pittwater Council and the Department of Planning and Infrastructure as a result of the PAC determination of the development at 14-18 Boondah Road under the Part 3A of EP&AA 1979. This was a catalyst for a comprehensive strategic study of all undeveloped land in the Warriewood Valley.

The draft Strategic Review re-examined the Warriewood Valley Planning Framework 2010 and was exhibited for public comment. The review of the Warriewood Valley lands identified a number of undeveloped sites, including the undeveloped lands within the Southern Buffer. These sites were then assessed in order to establish their development potential.

The last step of the assessment of the undeveloped land included detailed investigation comprising hydrology, urban design, transport and economic feasibility study. The updated Composite Capability Map (to the right) shows land within the Site classified at predominantly class 2 with minor areas of class 3 and 4. The further assessment concludes that the Southern Buffer has potential as a mixed-use precinct.

The key recommendation from the consultant studies for these lands was that earthworks could be utilised to create flood-free development sites within the Southern Buffer. The concept plan showed residential to the north and a mixed-use centre on the corner of Pittwater Road and Jacksons Road.

This indicative location was selected at that point due to the opportunities of the location, such as adjacent Warriewood Centre, public transport, good vehicle accessibility and the opportunity for retail activation to Pittwater Road.

Residential uses were encouraged to provide passive surveillance of the adjacent open spaces. The mixed use centre was intended to provide for

- Large floor plate retail, commercial office space, community facilities;
- Residential development of up to 6 storeys;
- A public square which could provide for public gatherings;
- Pedestrian links to Warriewood Centre (Square);
- Potential realignment of Boondah Road; and
- Integration of pedestrian and bicycle networks around the mixed use centre into existing networks.

The economic component of the study concluded that there was potential for a single level subregional shopping centre complementing the Warriewood Centre which fostered the creation of a town centre in Warriewood Valley as the most economically viable option for the Southern Buffer.

The final Strategic Review has not accepted the concept plan and has advised that the concept plan will not be further progressed. The reasons for the abandonment of the mixed use centre within the Strategic Review was due to the lack of community support, reliance on the cut and fill of other Southern Buffer lands in order to develop the centre on Council owned land, as well as the inability to provide a satisfactory means of evacuation in the event of a flood. The Report states that: *'The exhibited concept plan is one option for this area and at this stage will not be progressed further. The onus is on landowners, acting independently or in partnership, to explore and further investigate opportunities for the future development of the sector.'*

The study developed an appropriate vision for the centre - it is to achieve:

'A sustainable, created space ... to work, play and interact, where people come to meet and engage connected with its community, in its setting.'

Design principles were also developed as follows:

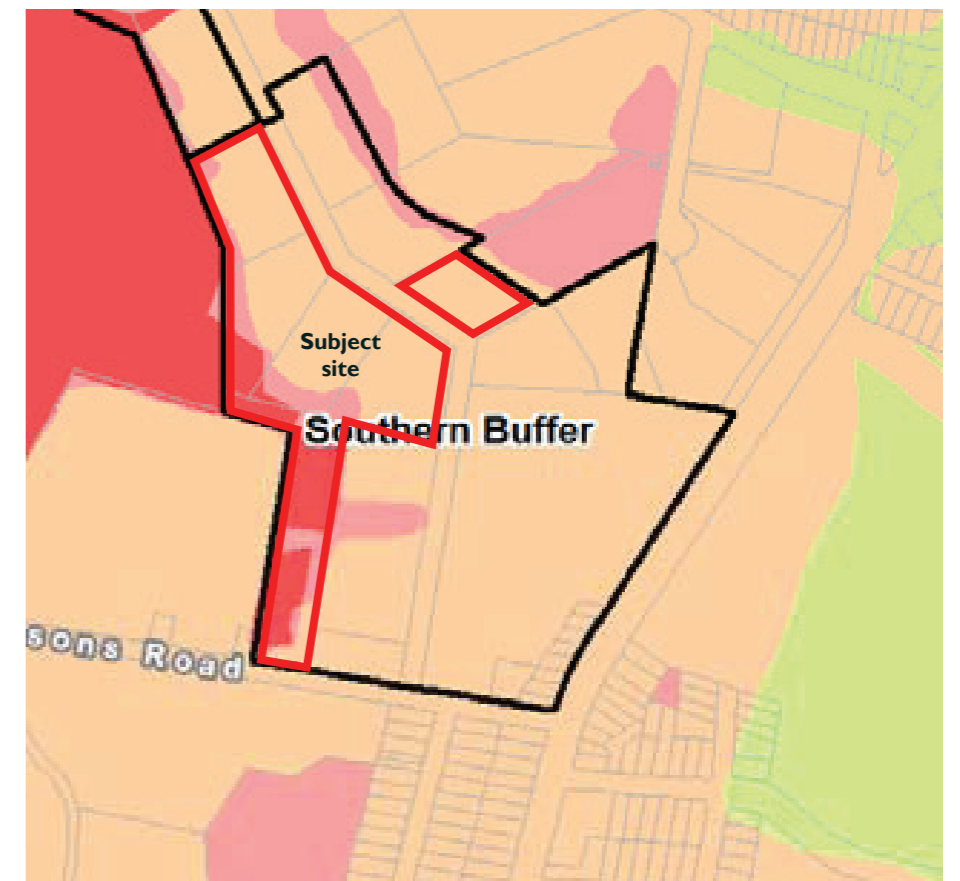
'1. Respond to the environmental constraints of the locality:



Final Outcome of Land Capability Mapping and Hydrology Study (Source: Warriewood Valley Strategic Review)

- Undertake earthworks to create flood-free development sites at the southeast and northwest corners of the Southern Buffer
- Re-engineer Boondah Road to meet flood requirements
- Adapt to the impacts of climate change

2. Improve vehicular circulation in the Southern Buffer Precinct:



Map Classification	Level of Capability	Categories from composite maps
1	Most	All As: areas of land that were mapped as suitable for development or intensification
2	More	All A and B: areas of land that were mapped as having at least one moderate constraint to development or intensification
3	Moderate	Only have one instance of C: areas of land that were mapped as having one severe constraint to development or intensification
4	Less	Two instances of C: areas of land that were mapped as having two instances of severe constraint to development or intensification
5	Least	Three or more instances of C: areas of land that were mapped as having three or more severe constraints to development or intensification

Composite Capability Map (excluding Climate Change and Sea Level Rise; Flooding; Proximity to Centres; and Proximity to Public Transport map layers)

- Investigate a new local road around the new mixed-use centre
- Put traffic calming measures in place in pedestrian areas

3. Enhance pedestrian and bicycle links:

- Implement a fine grain pedestrian and cycle network around the active recreation space and mixed-use centre, with connections to existing and proposed paths
- Provide a direct pedestrian links between the new public square, Warriewood Centre and Jacksons Road
- Provide canopies at all main pedestrian entries to provide weather protection

4. Improve public open space and protect biodiversity:

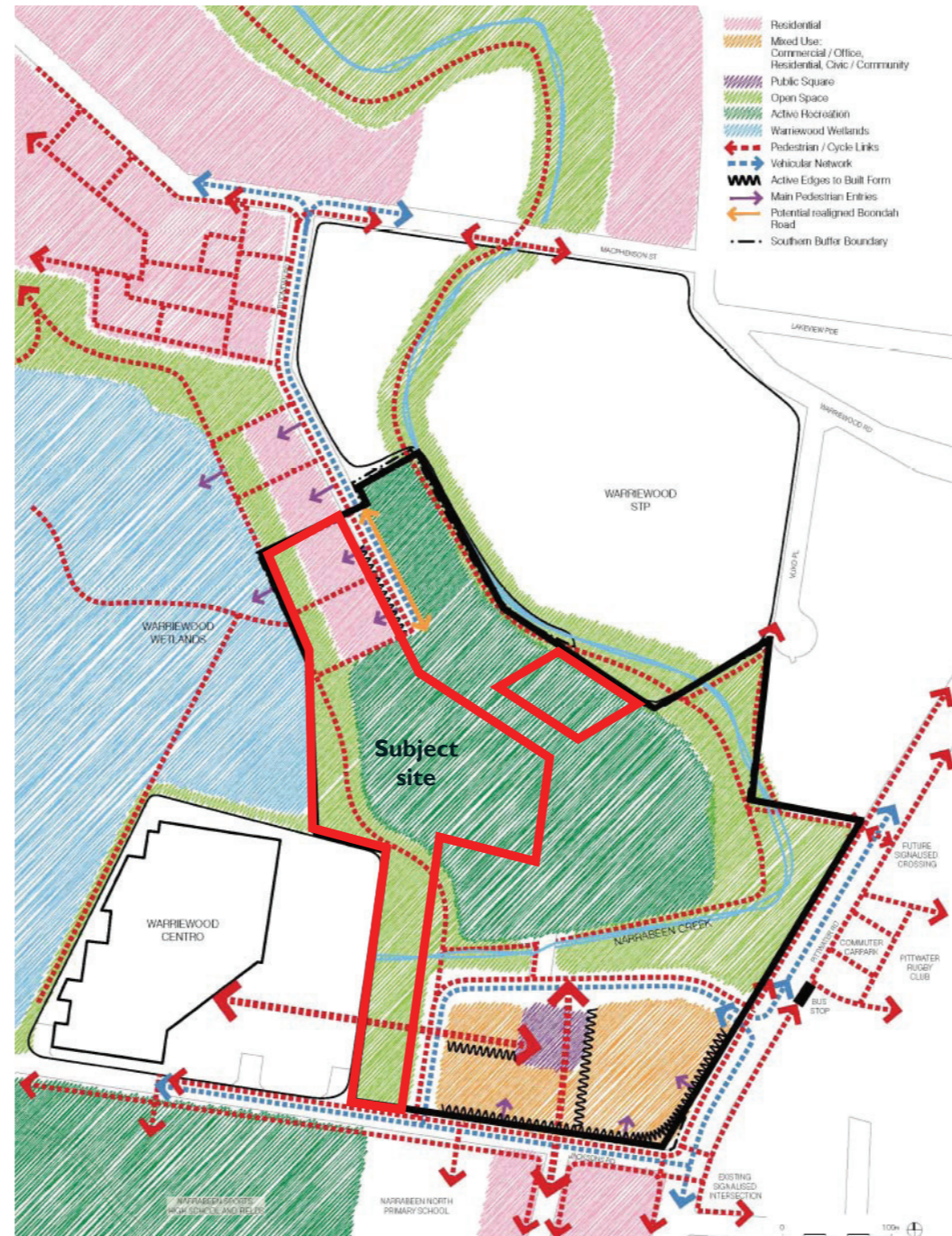
- Realign Boondah Road to ensure that it does not dissect active recreation areas
- Retain and enhance active recreation uses
- Preserve and rehabilitate ecologically sensitive zones, especially the western ecological corridor extending north from Jacksons Road and adjoining Warriewood Wetlands
- Maintain a 25 metre inner corridor along each side of the creek line

5. Encourage the development of a vibrant, active mixed-use centre that will function as a focal point for the community:

- Create an exciting hub of leisure and lifestyle uses
- Create a north-facing public square that looks out over the Narrabeen Creek corridor
- Activate pedestrian links uses such as small scale retail outlets, cafes and restaurants
- Align buildings and entrances to street frontages and the new public square
- Activate any future built form at the corner of Pittwater Road and Jacksons Road

6. Ensure a sustainable and attractive built form:

- Incorporate sustainability best practice
- Encourage design excellence
- Provide visually attractive building edges and pedestrian entries
- Incorporate appropriate landscape treatments
- Maintain clear view corridors between the new public square, Warriewood Centre and Jacksons Road
- Locate all utilities underground
- Locate parking underground where possible or, if above ground, away from active edges.



Exhibited Draft Concept Plan
(Source: Warriewood Valley Strategic Review - The Southern Buffer)

Conclusion:

Council and DoP&I are supportive of a mixed use development in the area of the Southern Buffer. The concept plan proposed by Council's consultants has not been progressed and instead land owners are encouraged to investigate other opportunities that would deliver a better solution for the area.

This report presents an alternative solution to this concept plan that will deliver all of the outcomes mentioned above and also meet the strategic principles at the same time.

There is evidence to support the need for a town centre and additional retail / commercial space adjacent to the existing Warriewood Centre.

4.5. SHOROC EMPLOYMENT LANDS STUDY ADDENDUM

In 2008 SHOROC (Shore Regional Organisation of Councils - a partnership between Manly, Mosman, Pittwater and Warringah Councils) have engaged a economic consultant Hill PDA to undertake a regional study for sustainable growth for the period of 2006-2031. This study has included targets determining the employment and retail growth in the area. The study has been updated in 2011 where the population growth forecast in the SHOROC area was reduced.

The report by Hill PDA indicated that a demand for retail floorspace will increase due to an ageing population in the SHOROC area. The demand for bulky goods retail will also grow. The flexible commercial units and spaces are required to be located within a range of town centres. These are the main trends influencing the employment in the northern beaches area.

The guiding land use principles and strategies for the Pittwater LGA include investigation of opportunities through a master plan to expand and integrate the Warriewood Centre with additional retailers and commercial services to form a village centre for Warriewood Valley (Report 2008 s 1.13, page 25).

It is also noted that the Boondah Road south area should be investigated for its potential contribution to employment lands and its synergy with existing office space and businesses in Vuko Place and retailers such as Warriewood Centre.

The demand for retail floor space in Pittwater area at 2006 was 145,310sqm with an undersupply of 34,285sqm.

The report also provides a forecast of the retail demand growth up to 171,742 (+26,432) sqm in 2016 and up to 252,600 (+106,700) sqm in 2031. This demand translates to additional 4-17 supermarkets in the Pittwater area in between the period of 2006-2031 with the department stores focused in established larger centres such as the Warriewood Centre.

The increase in demand for commercial floorspace in Pittwater area from 2006 to 2031 was forecasted at 21,237sqm. The Boondah Road South area has been mentioned as a potential location for quality commercial floor space in association with light industry and distributions as contribution to employment lands and its synergy with the existing commercial land at Vuko Place. Bulky good premises are to be investigated for integration with Warriewood Centre as another alternative.



The SHOROC region (Source: Map Info, Hill PDA)

5. OPPORTUNITIES & CONSTRAINTS



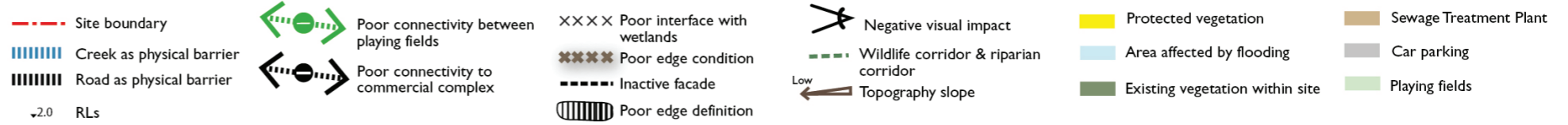
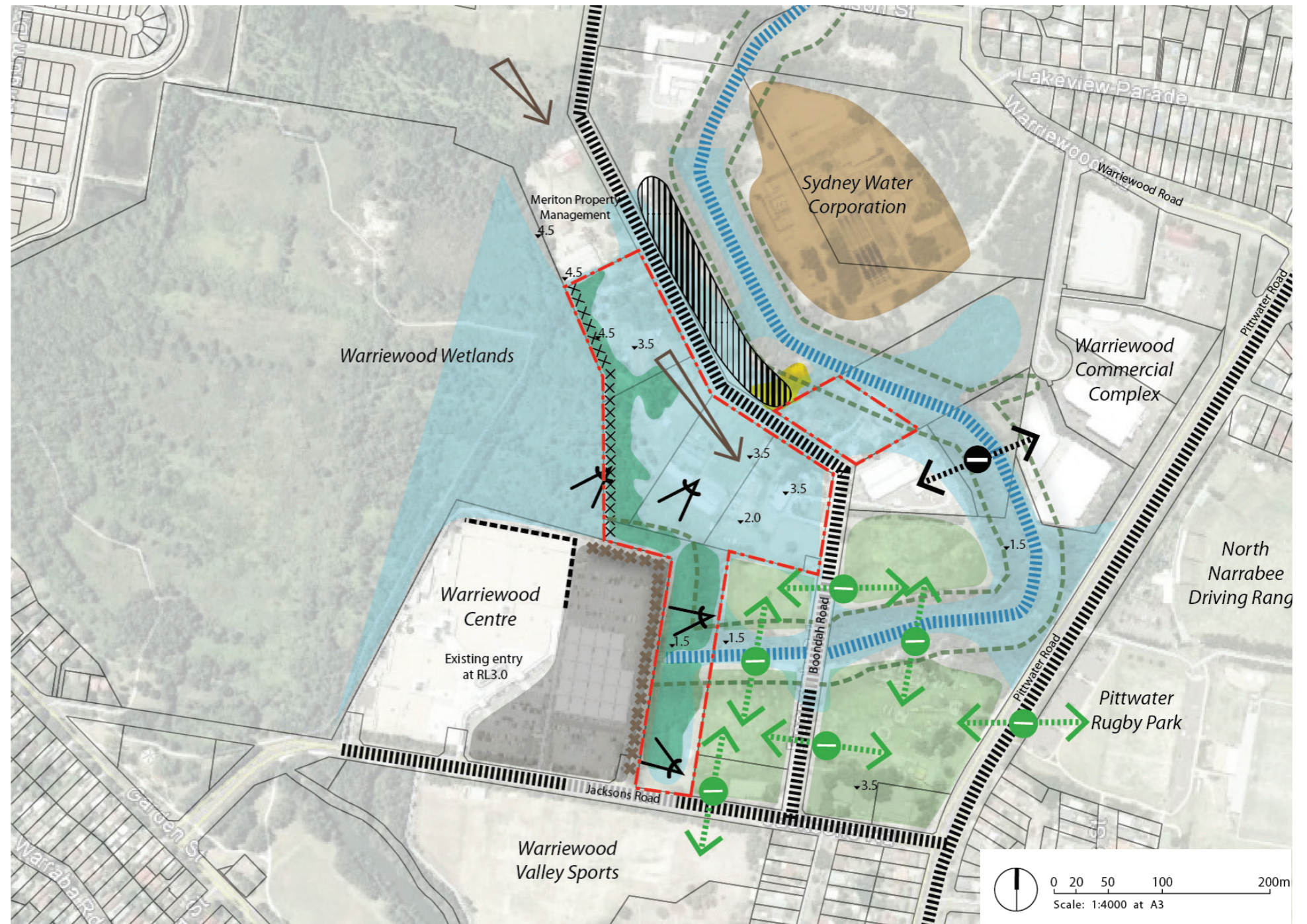
5. CONSTRAINTS & OPPORTUNITIES

The analysis of the context, controls and unique site capabilities indicate that the following constraints and opportunities exist for the Site.

5.1. CONSTRAINTS

The constraints of the Site are as follows:

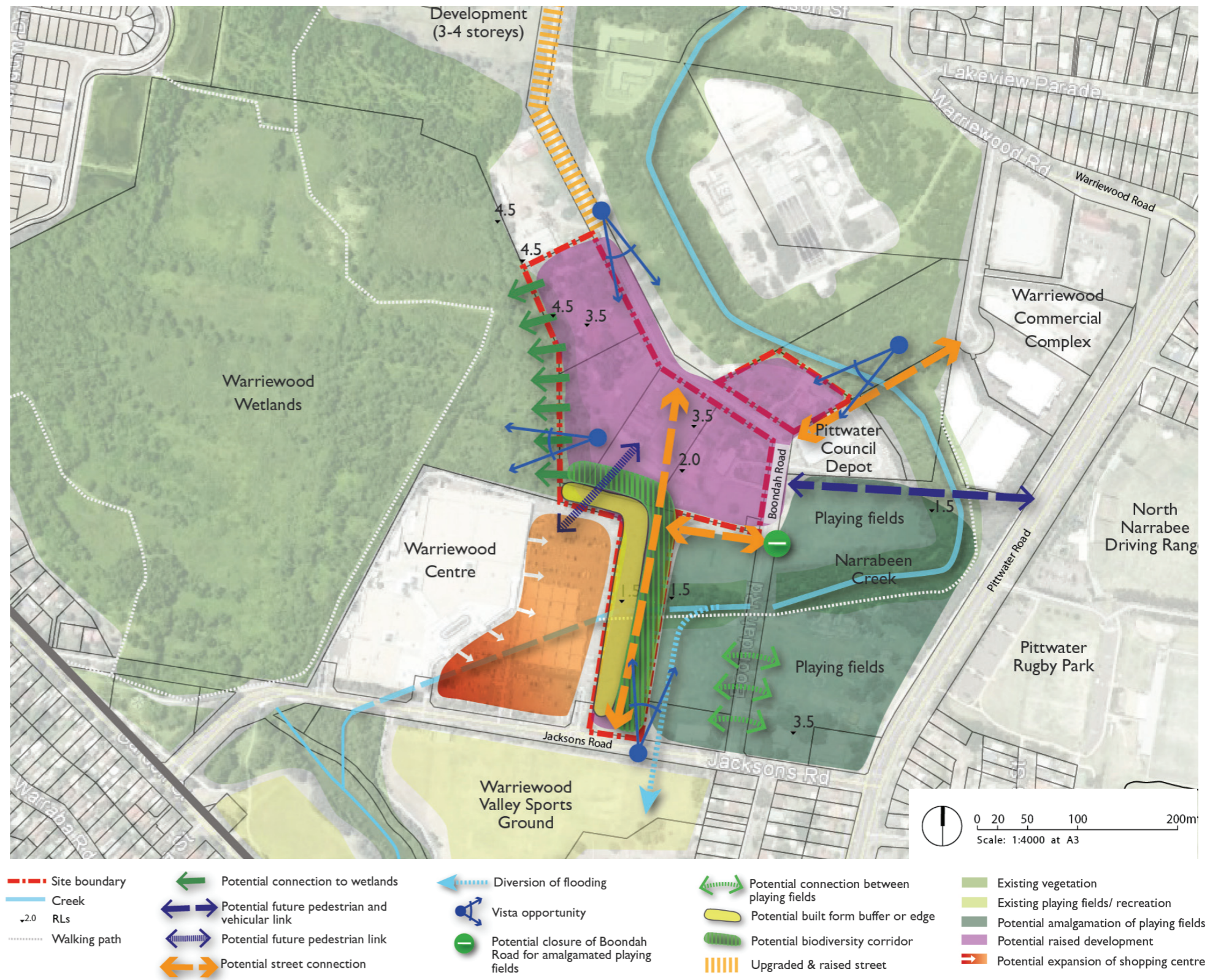
- The existing Warriewood Centre does not act as a centre or focal point and does not integrate into or address the surrounding urban network;
- The wetlands act as a barrier to both pedestrian and vehicle movement through the area and to the Site and existing mall;
- Poor connectivity to the commercial hub to the east;
- The creek and riparian corridor also act as a barrier to movement;
- The location of the existing playing fields is a poor use adjacent to a major retail facility and further divides connectivity to the surrounding catchment;
- Boondah Road which bisects the playing fields creates safety issues;
- Pittwater Road is a major arterial road with heavy traffic and is not suitable as a frontage for a new town centre. It also creates a barrier to pedestrian movement from the east;
- The proximity of the Sewage Treatment plant could be seen as a negative use despite being capped to control olfactory impacts;
- The proximity of the Wetlands restricts development opportunities to the west and north of the shopping centre and also constrains the western edge of the Site;
- Existing vegetation on the lower southern portion of the Site is a potential constraint that will need to be balanced against the need to create a linked centre;
- Biodiversity, riparian and bushfire setbacks will constrain the location of different uses on the Site and in the area and will reduce the developable area;
- Warriewood Centre presents a poor visual outlook to the wetlands and to the rest of the precinct;
- The surface car parking outside the centre creates safety issues and further isolates the centre from the surrounding street networks;
- Flooding impacts create the need to raise the public domain of any town centre to provide safe and usable streets and spaces as well as to protect future uses;
- The level of most uses will need to be at AHD 4.5m. Council has previously recommended AHD 3.7m however recent development to the north has raised Boondah Road to AHD 4.5m;
- Any fill on the Site or within the area will need to still allow for adequate flood storage; and
- A biodiversity corridor connection should be provided within the area to connect the wetlands to the riparian corridor for the Narrabeen Creek.



5.2. OPPORTUNITIES

The main opportunities identified by the analysis are:

- The creation of a new vibrant and accessible employment and very strong retail demand in the area;
- Proximity to major arterial could connect the new centre to the broader catchment;
- The wetlands create a 'green' outlook that can create a true sense of place for a new centre;
- The creek also presents a visual marker that could be better enjoyed over time;
- Warriewood Wetlands reserve provides lush vegetation and an opportunity to link the town centre to the walking/recreation in the reserve which also connects to the National Park and other reserves;
- Potential new footpaths within the Warriewood Wetlands could provide access to the residential area located on the western side of the reserve;
- The Site has excellent connectivity to Pittwater Road and includes extensive frontage to Boondah Road which provides good access for the surrounding catchment;
- There is potential to provide either a pedestrian or vehicular link to the existing commercial precinct, restaurants and cinema to the north east over time to formalise it as part of the town centre;
- Relocation of Boondah Road can provide an improved link between the existing shopping centre and the playing fields;
- The northern portion of Boondah Road is currently under construction and being raised by 1.5m to meet the new requirements of the flood level zone (PMF);
- The location of the Warriewood Centre adjacent to the Site provides the opportunity to expand the retail offering through and into the Site and provide a connected and vibrant town centre that integrates the existing shopping centre and sleeves it;
- Use of the Site for a town centre would allow links to the schools to the south and the relocation of Boondah Road also provides the opportunity to create a true main street and public space associated with the wetlands and the creek line;
- The shape of the Site gives opportunity to utilise 'the finger' area, abutting Warriewood Centre for a future connection from the Site to the south (Jacksons Road). It also provides a potential development buffer to the existing shopping centre car park;
- Extension of the residential neighbourhood into the Site to reinforce the new town centre;
- Potential to provide mixed use development to create a true centre with active edges and residential and commercial development above retail uses;
- The flooding issues provide opportunities for retail parking on grade with transition treatments to the adjoining areas and a raised town centre public domain above the flood level;
- A relocated Boondah Road provides a main street with good visual



connection to the area without being a major traffic route or barrier. Vistas are available within both the north and south approaches to anchor views to a new town centre;

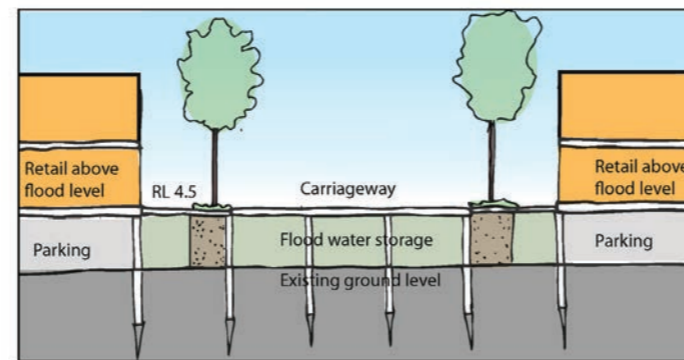
- The commercial complex (Vuko Place) provides opportunity to be revitalised as the commercial and entertainment element of the new town centre providing connection and vehicular and pedestrian flow from the north and east.

5.3. CONCLUSION AND KEY OUTCOMES FOR ANY REDEVELOPMENT OF THE SITE

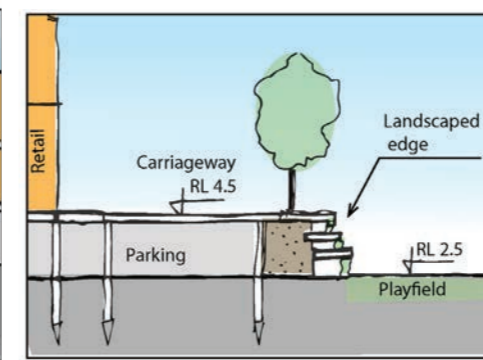
- The Site is located within the flood prone zone with a high PMF level of 4.5m AHD, which is in places up to 2.5m above the existing ground level. Therefore a solution of a suspended floor level will need to be introduced as the most efficient solution for the area. The town centre will be raised above the existing ground including the new roads and pedestrian connections to ensure a good patronage of the town centre and ease of access to main public spaces.
- The section of Boondah Road to the north of the Site, adjacent to the recent Meriton development will be upgraded and raised up to the PMF level (4.5m AHD), which will be continued through the proposed design.
- There are some areas where the existing road network and sites cannot be raised to meet the flood level outside of the Site, however they need to be connected with the proposed new town centre. These areas are Jacksons Road and Vuko Place as well as playing fields.
- Any new road connecting to Jacksons Road will slope down from RL 4.5m to RL 3.0m which will result in approximate slope grade of 1:120, which is much less than the maximum preferred grade of 1:8 or 1:10. Similar solution and grade will be proposed to any road linking to Vuko Place. The access to the playing fields or any other areas will be provided through a ramp system.
- The edge of the elevated road, for example along playing fields to the east will need to be treated with landscape terraces, which will allow for water flow through and under the road in case of a flood event to access the flood storage.
- The elevated roads system will also provide an evacuation path from the south towards the northern area.
- The area between the elevated ground level and the existing levels will be utilised as a temporary retail and commercial parking.
- Any proposed development will include a number of destinations including the Warriewood Centre, Vuko Place, playing fields and a new town centre, and additional retail centre to service the growth of the community;
- Development options will include a Main Street, which is envisaged to be a street with the main activity providing access to main open spaces and the destinations.
- Open spaces will include a public urban plaza and a landscape feature.
- There is potential for the extension of the Warriewood Centre, however the height and potential links will differ depending on final preferred development option.
- The Warriewood Wetlands and the Narrabeen Creek riparian corridor setbacks will be provided according to advice from the preliminary studies by Travers.
- New connections will be provided from the north of Boondah Road towards Jacksons Road providing for a centralised link between Warriewood Centre, Wetlands and a new development as well as Vuko Place, however some options will provide alternative connection to Jacksons Road through the existing Boondah Road.
- Connection to the Warriewood Wetlands will be provided as the main asset and a positive outlook from the new centre. This area can be utilised

as a landscape feature allowing pedestrian access to the reserve and as an informal gathering space for the community.

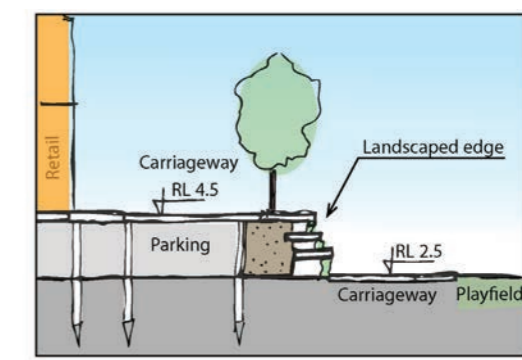
- A network of pedestrian links will be provided in the proposed setback adjacent to Warriewood Wetlands and along the existing creek with pedestrian bridges and ramps where necessary.
- A much better solution should be found for the water that slowly transfers to the north and gets distributed to Warriewood Wetlands during seasonal floods with a solution to transfer the water away from the reserve in order to protect the established environment of the Wetlands.
- The potential options for the interface of the new town centre and the existing ground levels are shown below.



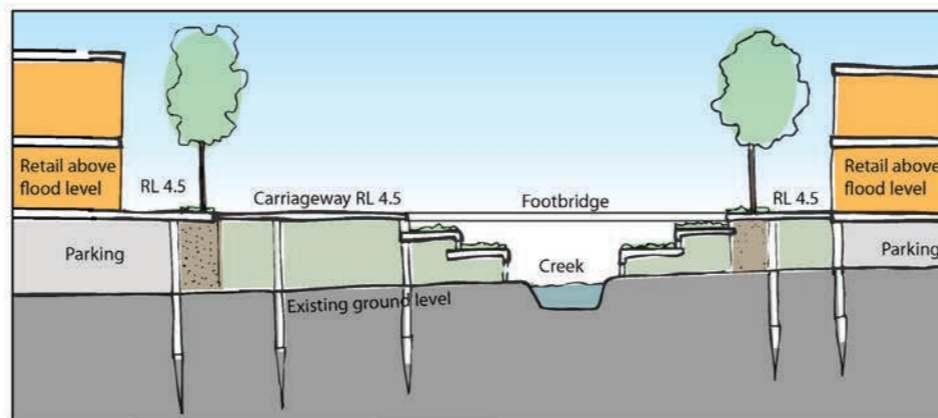
Section A - RAISED CARRIEGWAY AND ACTIVE USES



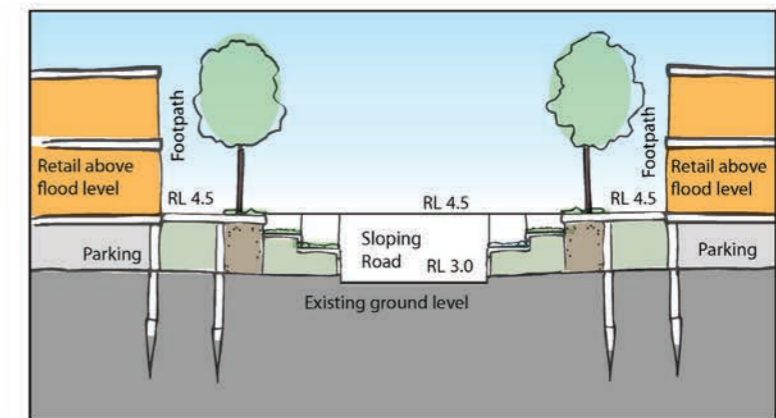
Section B1 - GREEN EDGE TO RAISED ROAD



Section B2 - SPLIT LEVEL ROAD + LANDSCAPE EDGE



Section C - TREATMENT TO THE CREEK - landscape edge + footbridge



Section D - RAISED FOOTPATHS ABOVE SLOPING ROAD

The sections to the above provide potential solutions for elevated ground level in the proposed options. (Shown on page 28).

6. MASTERPLAN STRATEGIES



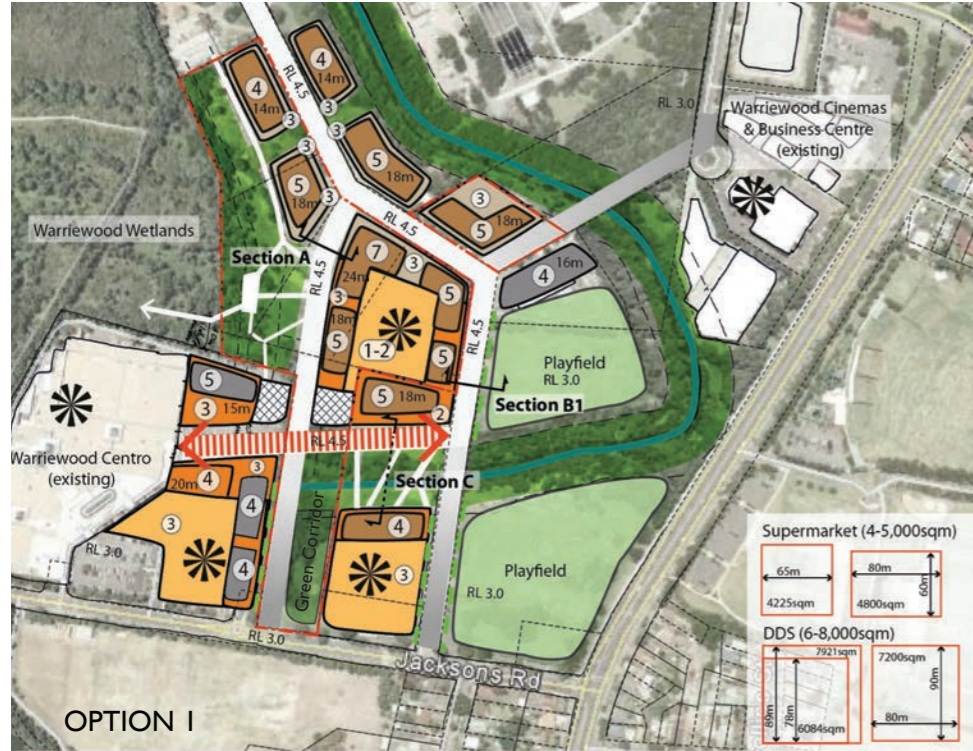
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6. MASTERPLAN STRATEGIES

The opportunities suggest two main approaches for the Site. These two approaches or concepts are illustrated and discussed below:

Main Street 1 - running east to west linking to Warriewood Centre at its western end and forming a single sided street towards the east with second major destination to the northern end.



OPTION 1 includes the following:

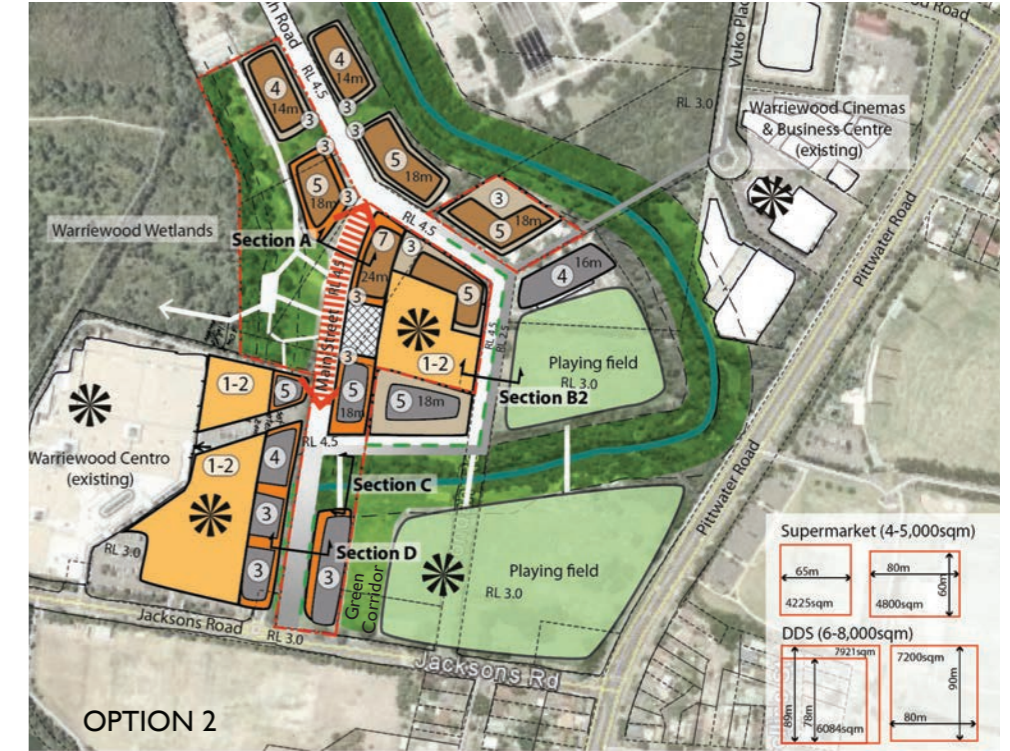
- A new road is introduced connecting the northern part of the existing Boondah Road directly along the Warriewood Centre eastern boundary to Jacksons Road.
- A new road has been proposed from the existing Boondah Road on the bend along the eastern side of the Site's property owned by Rooke to connect with Vuko Place.
- A new road is also introduced directly in-line with the existing entries/exits from the Warriewood Centre and along the northern side of the creek. This new road is proposed as a Main Street in this option providing for a direct synergy with the existing shopping centre.
- New public plaza is proposed on the northern side of the Main Street, on both sides of the new road and adjacent to the landscape area.
- The green corridor advised by the ecology consultant is located along the new road to the south.
- The proposed heights are up to 7 storeys on the corner of the new road and Boondah Road and 5 storeys in other areas.
- The development outside of the Site includes commercial use in place of the existing Council Depot building and some mixed use developments along the eastern side of Boondah Road.
- The property owned by Department of Lands to the south of the proposed new town centre is proposed to be developed as a mixed use/retail use, with residential use adjacent to the creek. The retail would be accessible from the existing Boondah Road, which in this option stays as per existing condition.



OPTION 1A includes the following:

- Boondah Road is discontinued in the southern part allowing for a continuous playing field area along Jacksons Road.
- The new street along Warriewood Centre eastern boundary is proposed to be double sided with new developments on either side.
- The green corridor is located to the west of the playing fields outside of the Site's boundary to the east.
- The main street and plazas location is the same as in Option 1.
- The heights are similar to Option 2 with a 7 storeys corner emphasis at the intersection of Boondah and the Main Street.
- The development outside of the Site includes commercial use in place of the existing Council Depot building and some mixed use development along the eastern side of Boondah Road.

Main Street 2 - running north to south between two major destinations: new shopping centre along the eastern footpath and Warriewood Centre to the south western end.



OPTION 2 includes the following:

- The Main Street is proposed along the new connection that runs north-south with outlook to the Warriewood Wetlands to the west and a new town centre plaza and shopping area entry to the east.
- Boondah Road is discontinued as in Option 1A.
- The new road along the eastern boundary of the Warriewood Centre has a 3 storey development to the west.
- The green corridor runs along the eastern boundary outside of the Site along the playing fields.
- The connection to Vuko Place is only a pedestrian connection.
- The roads include a split-level solution which helps in access from the elevated roads to the playing fields.

7. PREFERRED MASTERPLAN



7. PREFERRED MASTERPLAN - BOONDAH PRECINCT MASTERPLAN

7.1. DISCUSSION

The proposed options in the previous section have been studied in terms of their pros and cons which has informed the selection of a preferred strategy for the Site. The outcome of these considerations indicate that the Main Street in the east-west direction will provide a high level of synergy with the existing shopping centre, however it also means that the new development fully depends on the decision to extend by Warriewood Centre, which may be un-delivered.

This orientation of the street will also result in overshadowing of the public domain for most hours of the day due to a new development proposed to the north.

The other constraint of this Main Street option is the fact that it would be activated on one side only, due to the location of the creek on the southern side. This strategy attempts to activate the Main Street via the introduction of a built form to the south of the creek in place of the existing playing fields.

This however, is also dependent on the owner of this land and may be un-delivered in the near future. It is also known that the Council is seeking to maximise the land for recreation and the existing area available for playing fields shouldn't be decreased.

It was also established that a 7 storeys height on the corner of Boondah Road and the new road will give more emphasis to this corner compared to the 5 - 4 storeys across the rest of the area.

The connection to Vuko Place was best achieved with vehicular access to provide synergy and a direct connection to the commercial centre.

The result of the review of the proposed strategies suggested that a variation of Option 2 with a vehicular connection to Vuko Place and a fully elevated road along the perimeter of the new mixed use centre was the most suitable option.

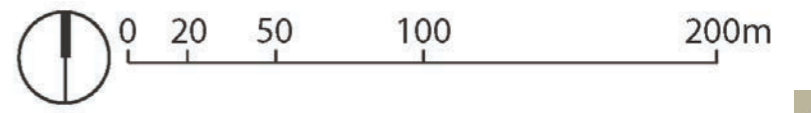
Detailed analysis and information of the preferred option will be provided in the following pages.



Key:

Site boundary	Pedestrian connections	Retail - on ground floor	Playing fields	Residential	Number of storeys
Cadastre	Vehicular connections at RL 4.5	Retail destinations (supermarket/DDS)	Commercial & retail in podium levels	Green roof	Ground level
Vehicular connections sloping	Plaza	Green / Wildlife corridor	Commercial	Destination	Creek
		Active frontage (retail/commercial/community facilities)	Community facilities	Main Street	

The preferred option - Boondah Precinct Masterplan.



7.2. VISION

The masterplan creates a vibrant new mixed-use centre within Warriewood Valley. A focal point of Warriewood. It will be a pedestrian friendly precinct which is active and attractive for residents, workers and visitors.

The development will provide organisation and focus to the existing disparate retail/commercial uses within the area. The new uses proposed within the Centre will be complementary to those within the local context and will also complement the wider pattern of centres within Pittwater.

The development will provide significant new public open spaces including a high quality plaza which overlooks the Warriewood Wetlands and a pedestrian-focussed Main Street boulevard. The structure of the masterplan takes advantage of the environmental assets of its context for the benefit of the local community.

The development will also provide significant enhancements to the pedestrian experience, legibility and connectivity of the local area; through the creation of new attractive public linkages between the Warriewood Centre, Warriewood Commercial Complex, the Warriewood Wetlands and Narrabeen Creek.

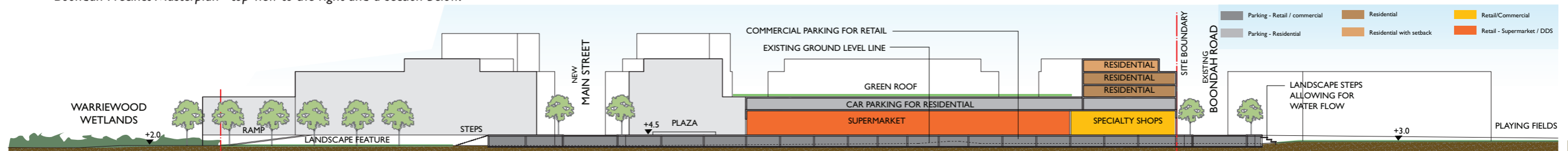
The development will be of a high quality contemporary architectural character, drawing on best practice urban design principles. Designs will fit within the local context and respond to the green context of the Site through the use of high quality natural materials.

The strong character and transformative nature of the masterplan will create a landmark development for the local community which will set a benchmark for future developments within the area.



- Existing built form
- Potential new built form
- Subject site
- Residential
- Other

Boondah Precinct Masterplan - top view to the right and a section below.



7.3. KEY DESIGN PRINCIPLES

The key design principles for the proposed Masterplan respond directly to the principles set out in the Warriewood Valley Strategic Review. The key design principles are as follows:

1. Respond to the environmental constraints of the locality:

- Re-engineer Boondah Road to meet flood requirements; and
- Minimise the negative effects of flooding on the site.

2. Improve vehicular circulation in the Southern Buffer Precinct:

- Provide a new local road around the new mixed-use centre;
- Provide a new local link to Vuko Place; and
- Put traffic calming measures in place in pedestrian areas.

3. Enhance pedestrian and bicycle links:

- Provide new connections between the site, Warriewood Centre, Vuko Place, Narabeen Creek and the Warriewood Wetlands.

4. Improve public open space and protect biodiversity:

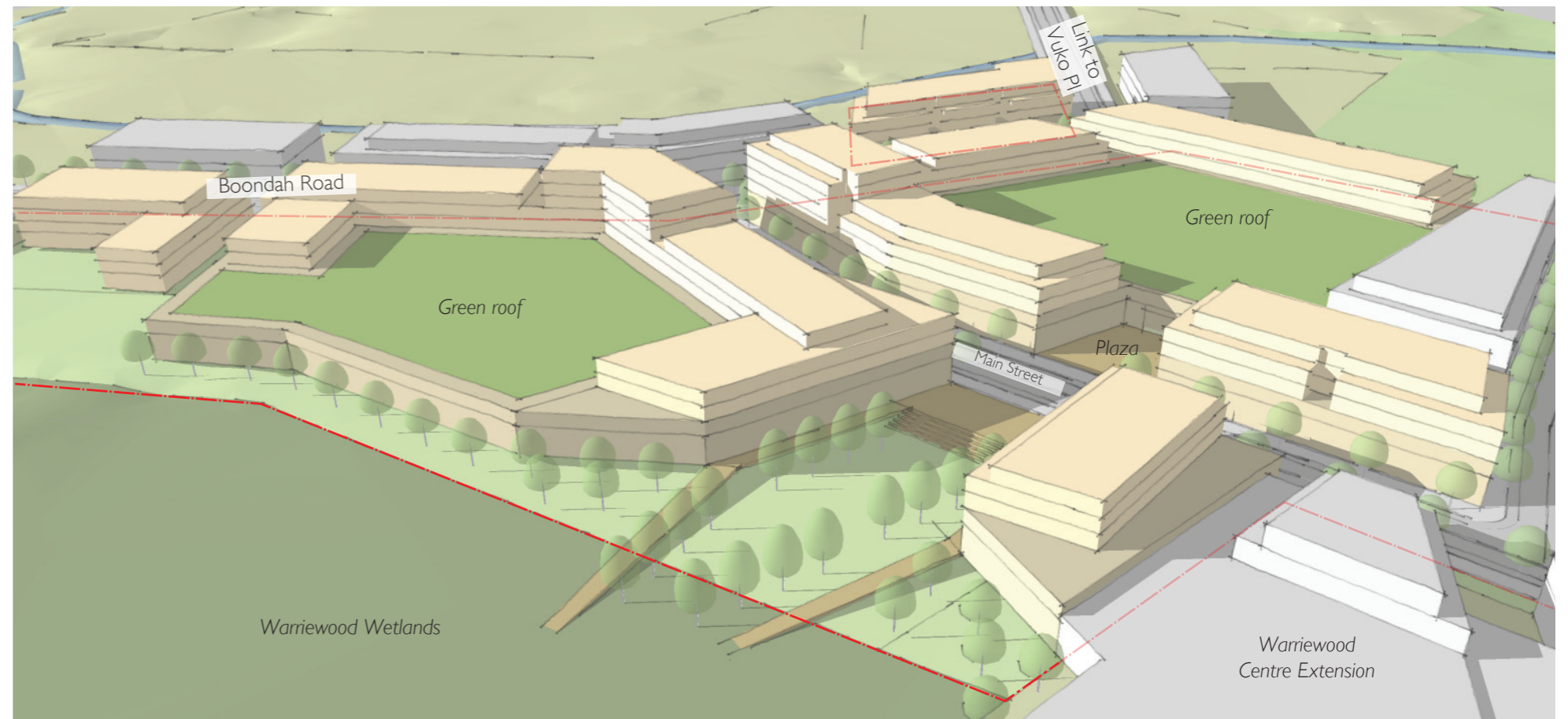
- Provide a new public plaza as a focal point for activity;
- Realign Boondah Road to ensure that it does not dissect active recreation areas;
- Retain and enhance active recreation uses;
- Preserve and rehabilitate ecologically sensitive zones, especially the western ecological corridor extending north from Jacksons Road and adjoining Warriewood Centre and Warriewood Wetlands; and
- Allow for habitat connections.

5. Encourage the development of a vibrant, active mixed-use centre that will function as a focal point for the community:

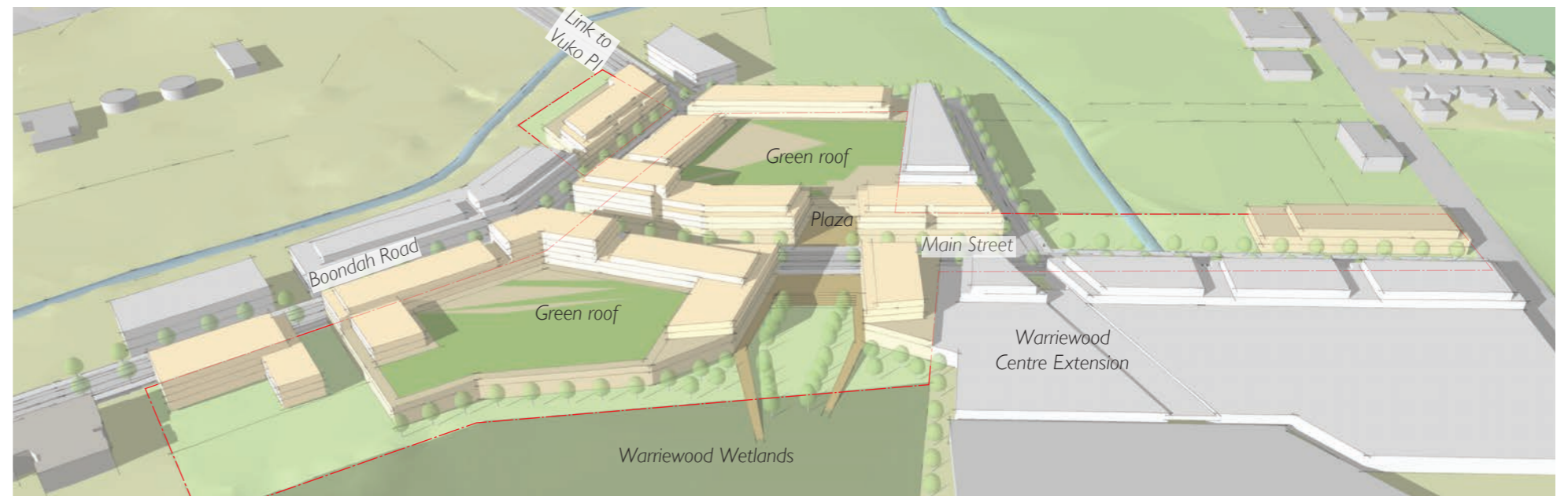
- Create an exciting hub of leisure and lifestyle uses;
- Create an attractive public plaza to act as the focal point for the Boondah Precinct; and
- Activate pedestrian links uses such as small scale retail outlets, cafes and restaurants.

6. Ensure a sustainable and attractive built form:

- Incorporate sustainability best practice;
- Encourage design excellence in built form and landscape elements;
- Ensure development responds appropriately to views and vistas from key locations; and
- Locate parking and servicing away from active edges.

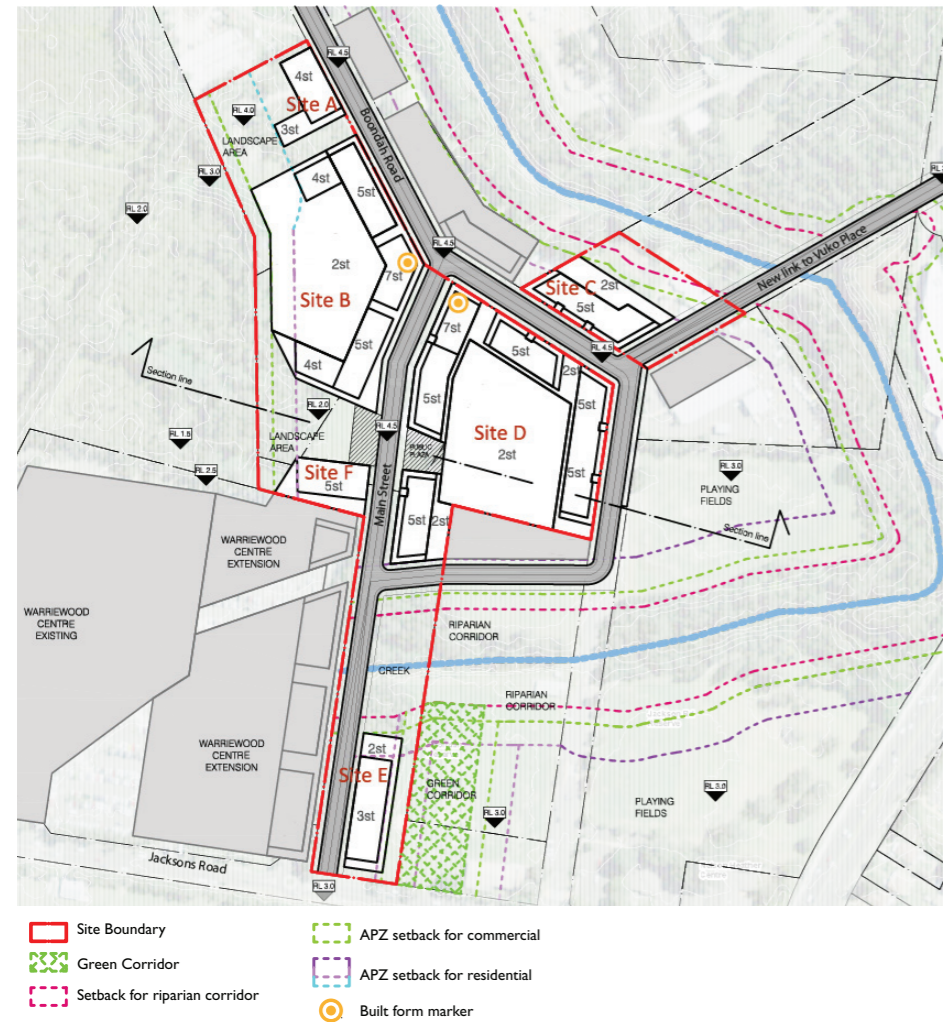


Aerial view from south west



Aerial view from west

HEIGHT



Preferred Masterplan - Height

The preferred masterplan provides a building height strategy which addresses a number of key issues.

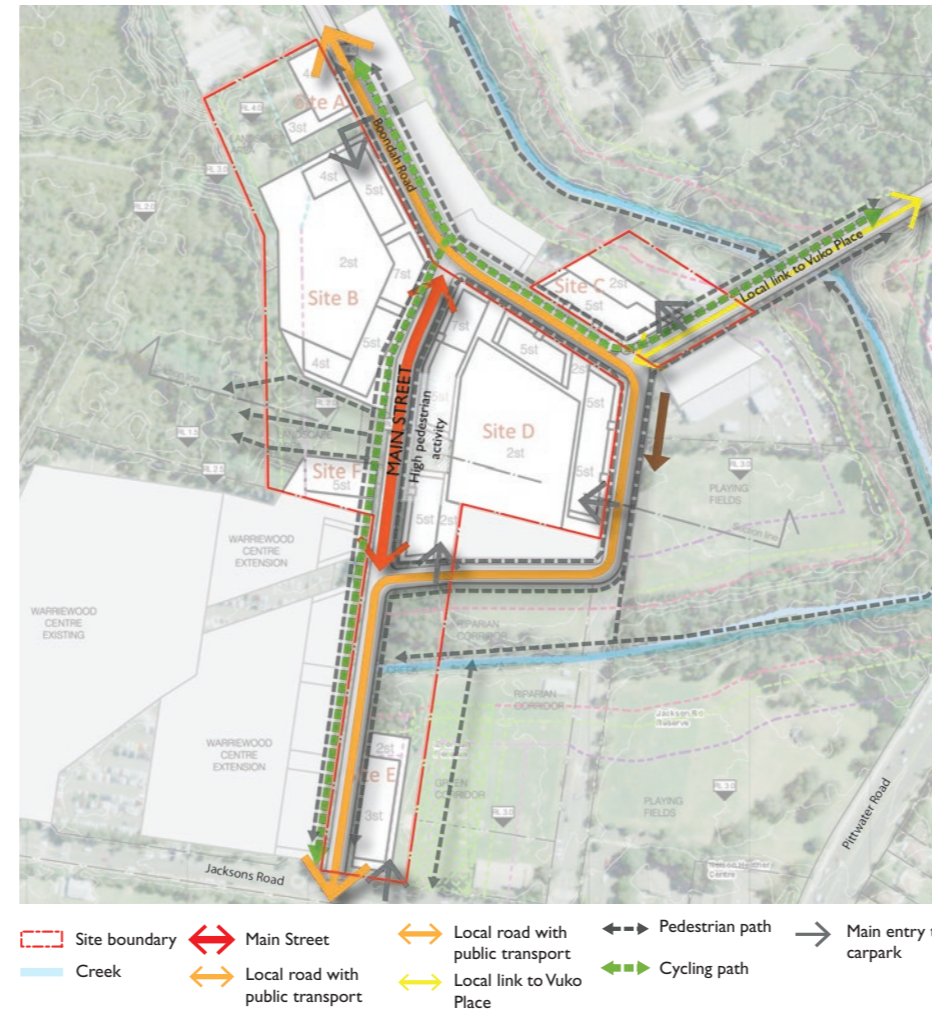
The height of buildings is lowest to the northwest and south of the masterplan. (two-to-three and three-to-four storeys respectively). These heights allow the proposal to relate to the built form of the surrounding context along Boondah Road and Jacksons Road.

The tallest elements of the proposal are seven storeys and create a gateway element marking the entrance to the Boondah Precinct Main Street from Boondah Road.

Five storey elements are situated around the urban plaza at the centre of the masterplan, creating a strong definition of this space. Five storey elements are also located to the northeast of the Site around Boondah Road, creating a strong definition of this street within the Boondah Precinct. The five-storey heights of the proposal are broadly located between the Warriewood Centre and Warriewood Commercial Complex areas, helping to create a connection between the commercial uses within the local context.

The proposal's built form also provides an appropriate response to areas outside the Site including the playing fields which will be well overlooked by the proposed development.

HIERARCHY OF STREETS



Preferred Masterplan - Hierarchy of Streets

The preferred masterplan introduces a new street hierarchy within the local context. It removes the existing north-south link of Boondah Road and provides a new north-south road parallel to and approximately 150m to the west of the existing Boondah Road link. It also provides a new road on an east-west alignment linking the southern end of Boondah Road with the new north-south road and a further new road linking Boondah Road to the northeast of the Site with the southern end of Vuko Place.

The proposal provides a new 'Main Street'. This will be a pedestrian friendly boulevard with street tree planting that will form the focus of commercial and retail uses within the Boondah Precinct.

Around the edges of the Site are 'local roads' with public transport which will provide connectivity within the area including public transport links.

The new link provided to Vuko Place will formalise the existing informal link along this axis, helping to provide connectivity from the Site and Warriewood Centre to the Warriewood Commercial Complex to the northeast.

SPECIAL PLACES



Preferred Masterplan - Special Places

The preferred masterplan introduces a number of new special places within the Site.

A new urban plaza is provided at the centre of the proposal, crossing the Main Street. It will be surrounded by active uses such as cafes and retail uses and will provide a 'heart' for the new precinct. This area has been designed to benefit from a strong outlook over the Warriewood Wetlands to the west.

The masterplan also includes a significant green open space area linking the plaza and Warriewood Wetlands. This space will include pedestrian links and be more informal and quieter than the plaza. Its character will be predominantly green with native species planting providing a link to the Wetlands.

The provision of the urban plaza and green open spaces together provide a significant new space from which the Warriewood Wetlands can be enjoyed.

The masterplan will also provide stronger connections from the masterplan area to the riparian corridor around Narrabeen Creek and the playing fields areas with the intent that in future these areas provide greater access for pedestrians and cyclists and an improved green landscape quality which benefits local residents.

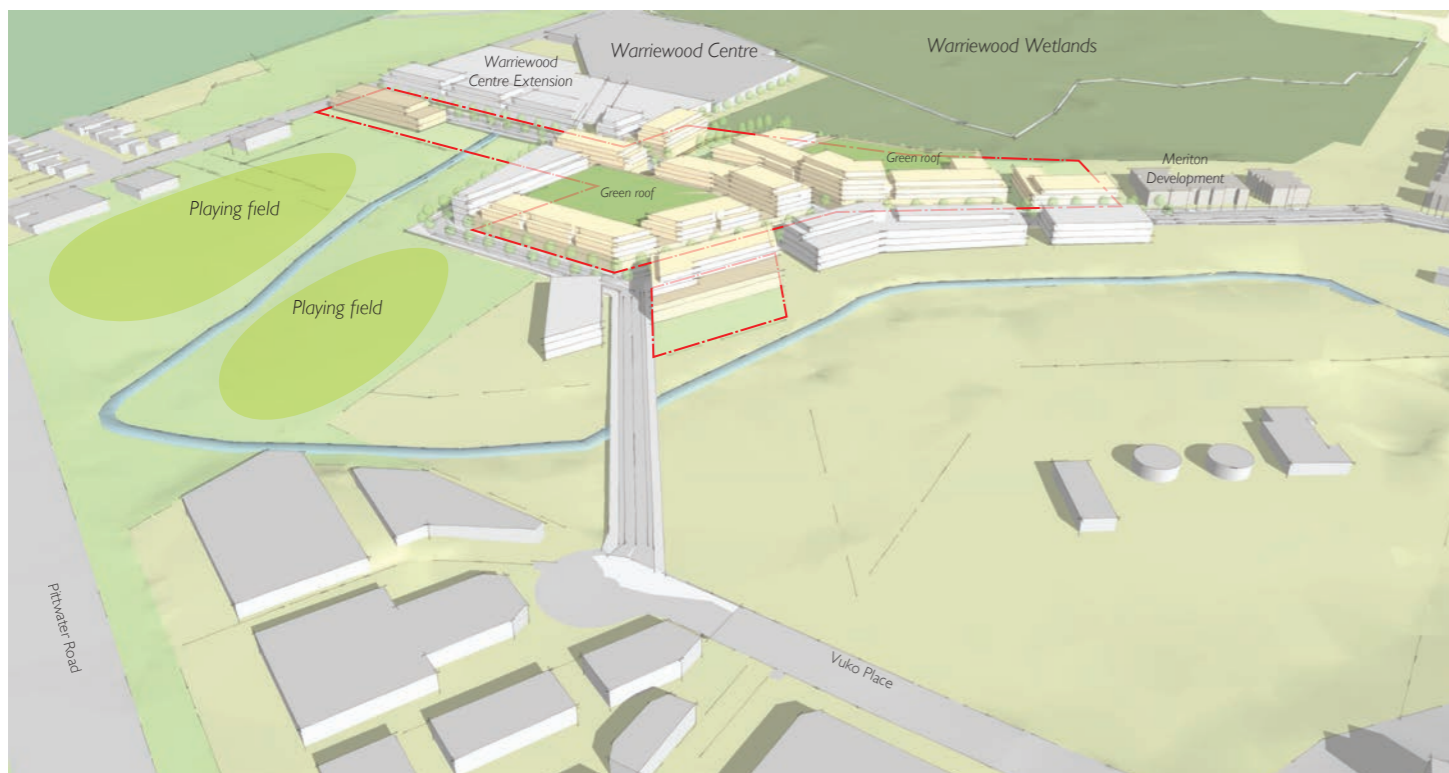
7.4. VIEWS OF 3D MODEL ILLUSTRATING THE INTENDED MASSING



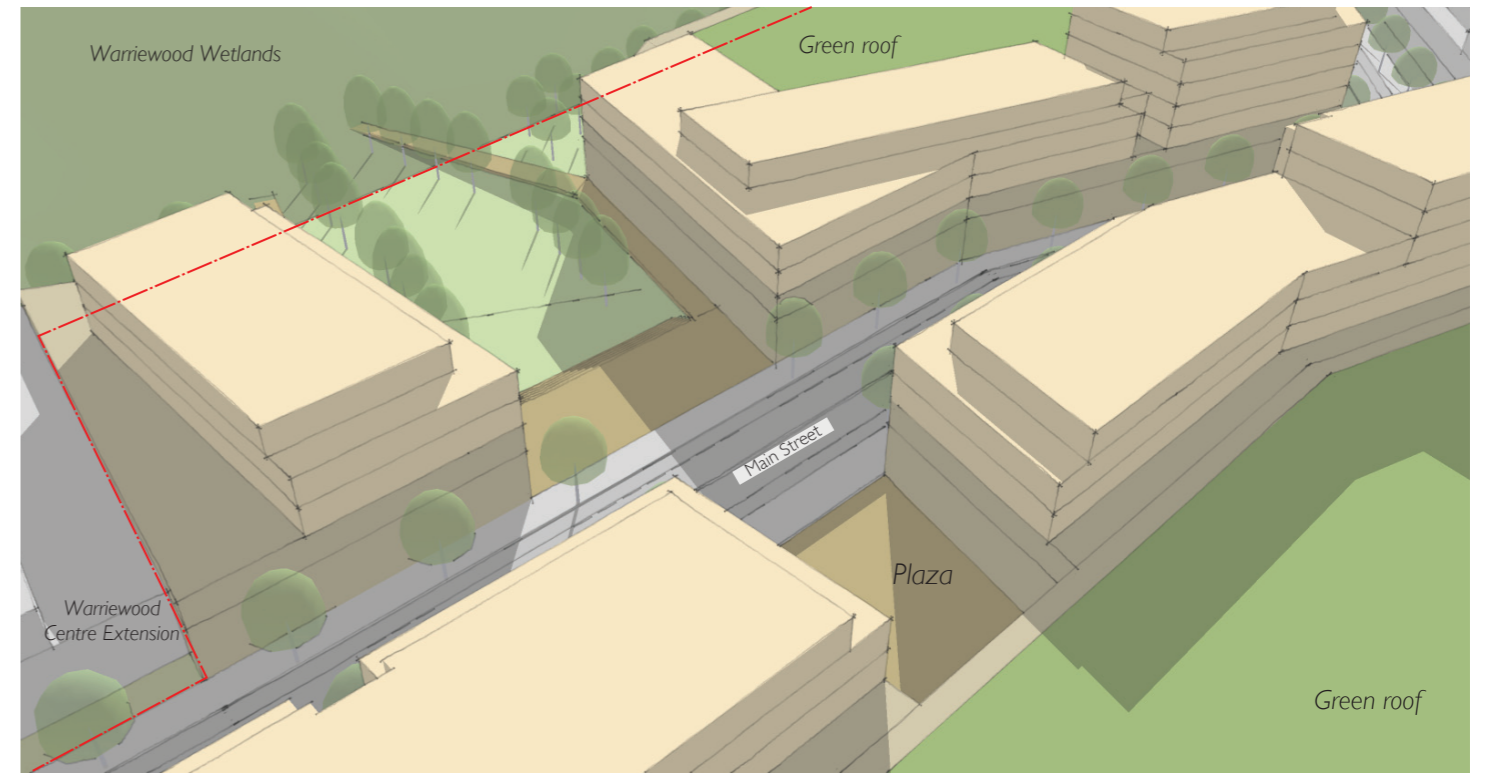
Aerial view from south west - proposed as an extension of the existing shopping centre



View to public plaza - proposed opening to the reserve



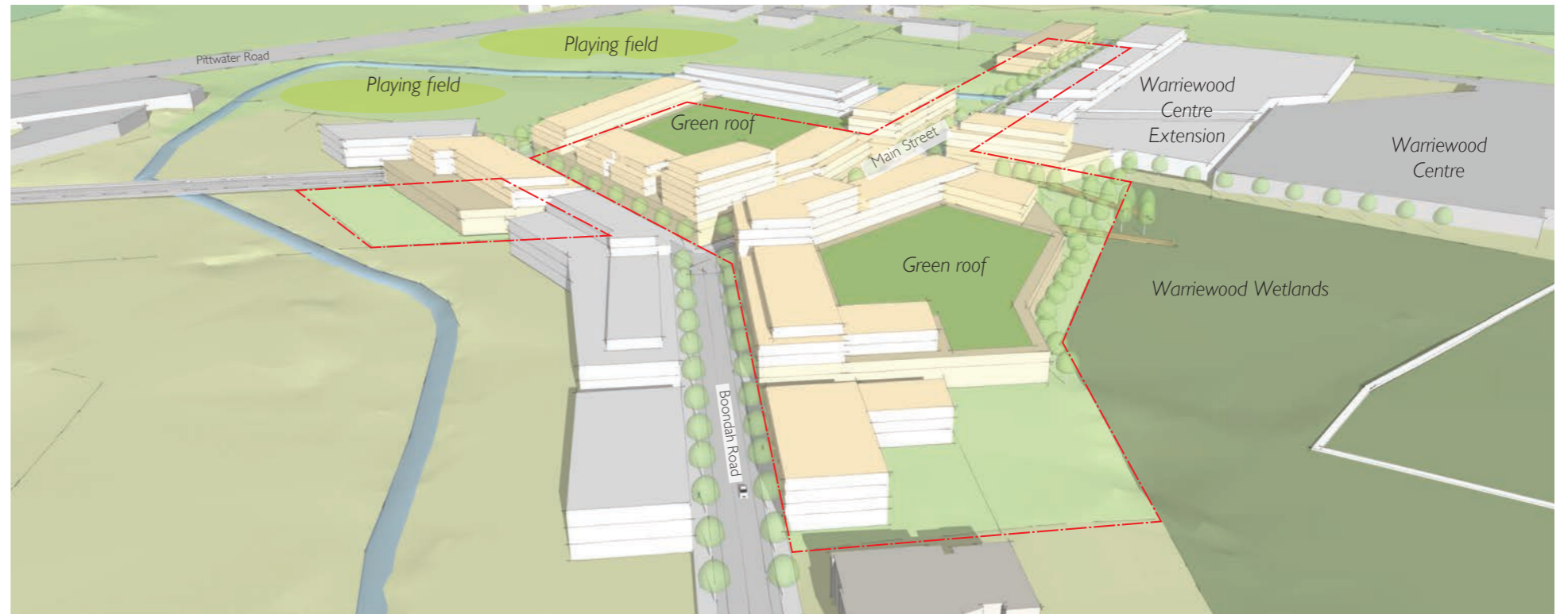
Aerial view from north east



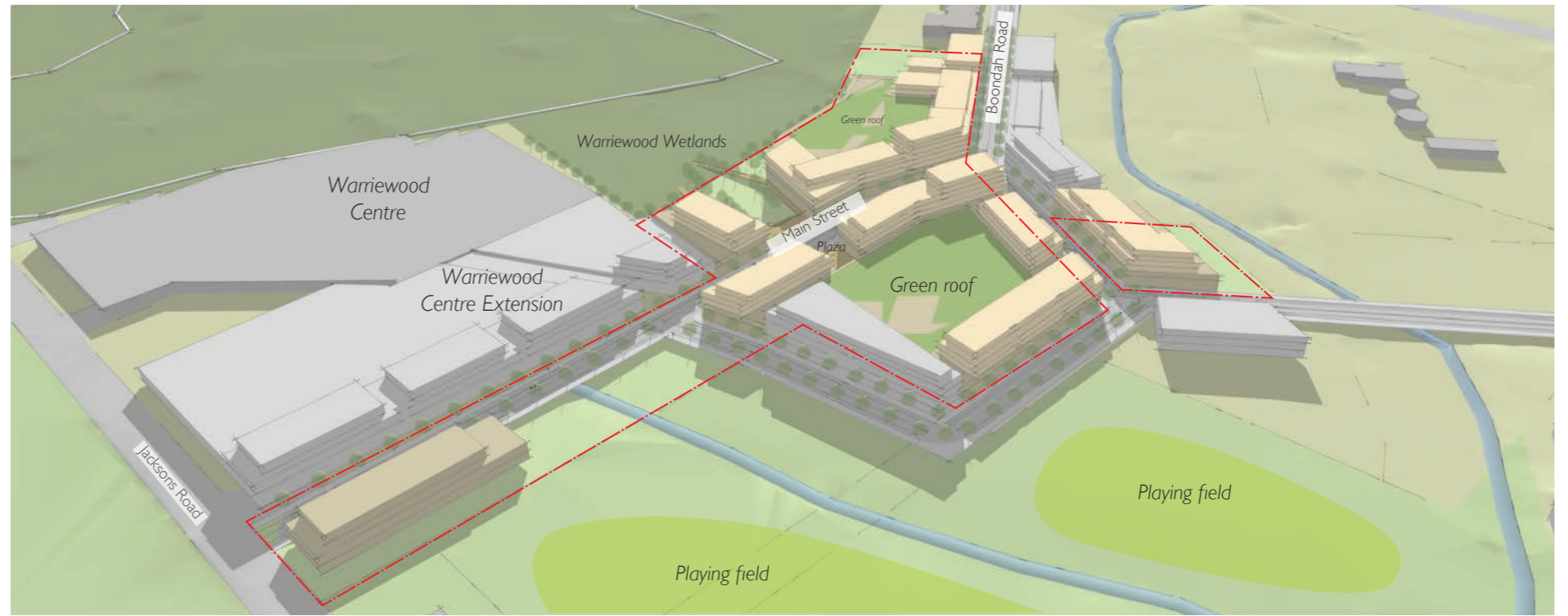
Aerial view from southeast to public plaza and proposed opening to the reserve



Aerial view from south along Main Street

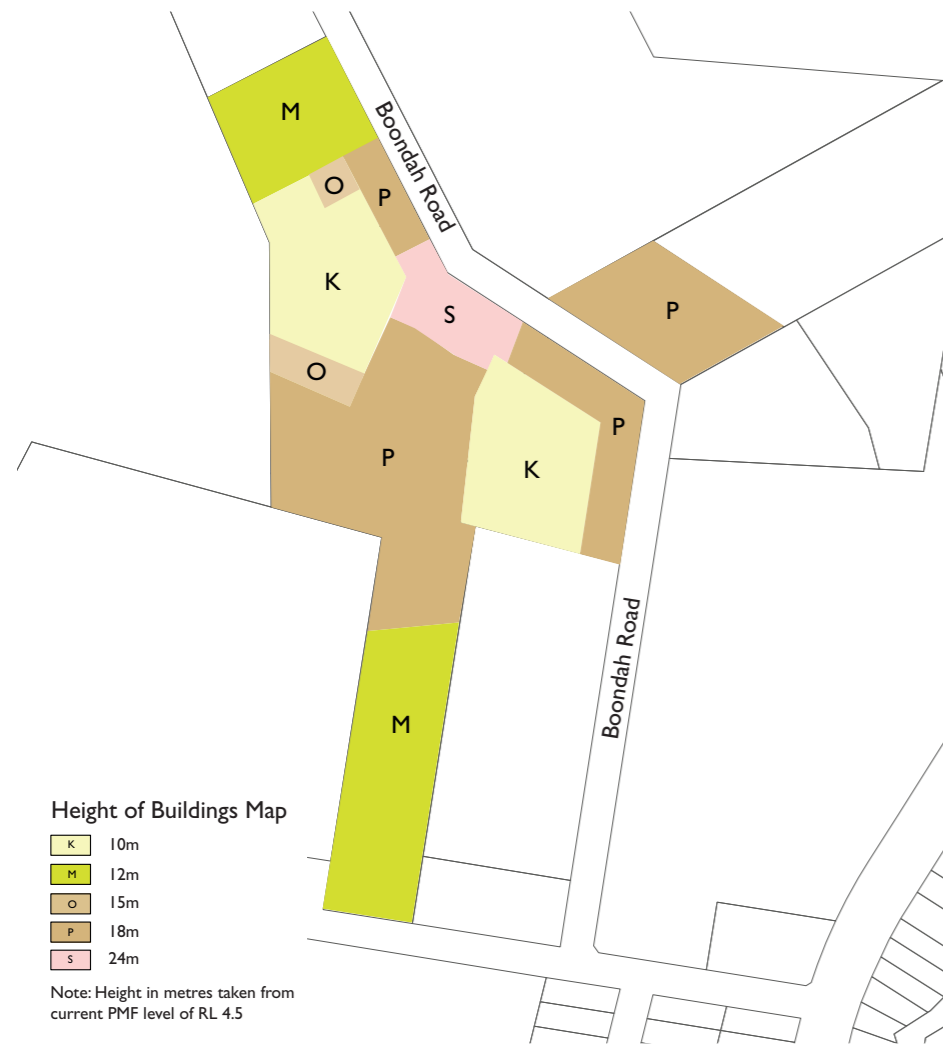


Aerial view from north along Boondah Road



Aerial view from southeast

7.5. HEIGHT



The proposed building heights map has been developed to provide the following key outcomes:

- A transition in scale from surrounding areas including lower building heights to the northwest along Boondah Road and south facing Jacksons Road.
- A taller building form at the centre of the Site which provides a modest built form marker for the Boondah Precinct.
- A built form of a moderate height which links the Warriewood Centre site to the southwest and the Warriewood Commercial Complex to the northeast.

The proposed building heights map provides a number of positive outcomes with regard to the height of buildings objectives within the draft LEP through:

- ensuring that the area is compatible with the height and scale of surrounding and nearby development.
- minimising the overshadowing impact to neighbouring properties.
- allowing for reasonable sharing of views.
- responding sensitively to the natural topography.
- minimising any adverse visual impact on the natural environment.

7.6. ZONING



The proposed zoning map includes a B4 'Mixed Use' zoning for the Site. This will allow the Site to provide a mixed-use link between the B2 'Local Centre' uses of the Warriewood Centre site to the southwest and the B7 'Business Park' uses of the Warriewood Commercial Complex to the northeast.

7.7. CHARACTER OF PUBLIC AND COMMUNAL OPEN SPACE

The landscape character of the proposal will:

- Provide a series of spaces which are appropriate to the use and context of the proposal including high quality pedestrian boulevards, an urban plaza and green open spaces;
- Preserve the 'green' character of the local area through the inclusion of large areas of green open space and significant tree planting;
- Promote the enjoyment of existing green open spaces including the Creek and Warriewood Wetlands through connecting and extending the existing open space network;
- Provide a high quality contemporary landscape architecture character;
- Include natural materials such as timber and stone;
- Encourage pedestrian activity within the Site and its context; and
- Include high quality landscaped boulevards with significant street trees which create a high quality street character through the Site.

CONNECTION WITH WARRIEWOOD WETLANDS



PUBLIC PLAZA AND PUBLIC DOMAIN



GREEN ROOFS ADDING QUALITY COMMUNAL OPEN SPACE



7.8. ARCHITECTURAL CHARACTER

The proposal will create a contemporary architectural character for the precinct which responds to the local context and to best practice urban design principles. The proposal will:

- Provide definition of the edges of the public domain;
- Provide articulation to long building forms to ensure that buildings are attractive and elegant;
- Highlight key features and respond to key views and vistas through high quality architectural expression;
- Include setbacks at upper levels to reduce the visual and overshadowing impact of the proposal;
- Include high quality materials;
- Provide passive surveillance of all open space areas;
- Be structured and oriented to provide high quality amenity to all buildings and open spaces;
- Include dual-aspect apartments where possible; and
- Provide built form responses which provide a transition between built form within the Site and its context.



8. CONCLUSIONS & RECOMMENDATIONS



8. CONCLUSIONS & RECOMMENDATIONS

This report has considered the existing regional, local and immediate context of the Site as well as the aims and objectives of the most relevant statutory and planning controls applicable to the land. The design team has considered the opportunities and constraints available, which has in turn informed the built form strategies for the Site. These have been weighed in terms of their advantages and disadvantages in order to select the preferred option for the Site which influenced the creation of a vision and design principles for the final preferred option. The design team's thorough analysis and place-based approach have ensured a vibrant solution that responds to the Site's constraints and maximizes the opportunities of the Site with a high amenity public domain and open spaces as well as increased opportunities for much needed employment and retail facilities for the region. The proposed master plan has been assessed by bushfire, ecology, traffic and flood experts, who were engaged to advise the team from the beginning of the design process to ensure a sustainable, viable and workable solution for the centre. The experts' assessments are provided as appendices to this report for Council and the Department's consideration.

Based on the above, the proposed town centre achieves a new and vibrant destination within Warriewood that has the potential to realise number of positive outcomes for the area which include the following:

- A centre that strengthens the area's identity and 'sense of place';
- A mixed use development that creates a true centre with active edges and residential and commercial development above retail uses;
- The use of Warriewood Wetlands as an integral part of the centre with enhanced recreational, walking and nature-watching opportunities;
- Enhanced access and services to surrounding residential areas;
- Improved permeability with a new road connection from the Site to Jacksons Road;
- Pedestrian and vehicular links to the Vuko Place Commercial Precinct;
- Relocation of part of Boondah Road that connects the playing fields together;
- A raised centre that meets the new requirements of the flood level zone (PMF) including retail parking on grade, transition treatments to adjoining areas and a raised public domain;
- Opportunity to expand and link with the Warriewood Centre;
- Creation of new vistas available from both, the north and south approaches to anchor views to a new town centre; and
- A new employment and retail hub well connected to the broader catchment.

For these reasons and for other positive outcomes discussed throughout this report, GMU recommends that Council and the Department of Planning & Infrastructure support the rezoning of the land to facilitate such an outcome.