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PHASE 1B
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Tract

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Phase 1B - Place Based Analysis

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Overview

1 Introduction

This Report provides analysis of residential, industrial and business zones of the Northern Beaches Local Government Area.

The purpose of this Report is first to inform Phase 1D of the project, the Methodology Overview. Phase 1D establishes the extent of built form controls to be investigated and prepared in Phase 2, in identifying the particular contextual conditions that need to be addressed.

The Report will also be used as a reference document throughout Phase 2, such as to identify whether there are contextual reasons for any significant differences in the statutory framework (built form in the Northern Beaches LGA is currently controlled by four LEPs in effect since before the Council merger).

Place-based Analysis at an LGA-wide scale has required a combination of data analysis, GIS visualisation and on-the-ground survey.

For each of the residential, industrial and business zones, this Report provides analysis of the following features:

- Landform and views
- Slope analysis
- Street pattern
- Lot size
- Building height
- Street setbacks
- Building site coverage/ Permeable surface
- Tree cover
- Development Activity

An additional LGA-wide Hazards overview is also provided.

2 Report Structure

1. OVERVIEW

This introductory chapter outlines the reason and structure of the report; provides a methodology statement of our process for the spatial and data analysis; summarises the five landscape character zones used in this Report; and provides an outline of the major hazards affecting the Northern Beaches LGA, being bushfire, flooding and landslip risk.

2. RESIDENTIAL AREAS

Due to the number of residential contexts across the LGA, residential areas have been broken down using five landscape character zones carried from the draft Northern Beaches Local Character Study. Within each character zone, analysis is broken down based on land use type and the LEP that currently applies.

3. INDUSTRIAL AREAS

An LGA-wide outline of the areas zoned for light and general industrial uses.

4. BUSINESS AREAS

Business areas are described first at an LGA level, with further study of strategic and local centres.

3 Spatial Analysis Methodology

The Place Based Analysis has been undertaken utilising the following GIS datasets and methodologies:

Landform Plan

The Landform Plan has been derived from a 1m Digital Elevation Model sourced from the NSW State Government.

Slope Analysis

The Slope Analysis has been derived from a 1m Digital Elevation Model sourced from the NSW State Government.

The average slope was calculated for each individual property within the study area.

The data was then aggregated to the LEP and Land Zoning areas from which the median value of the individual averages was calculated.

Lot Size, width and depth

The lot size in square metres was calculated for every property within the study area.

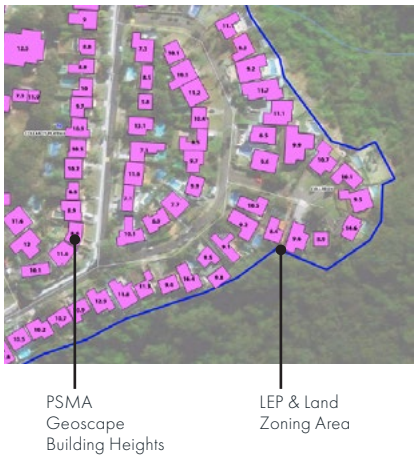
The lot width and depth for each property was calculated by creating a minimum boundary box around the outside of each property. The dimensions of the boundary box were derived as the lot width and depth.

The data was aggregated to the LEP and Land Zoning areas from which the median lot size, width and depth was calculated.

Building Height

Building heights were calculated for each individual building in the study area utilising Geoscape data Buildings data created by PSMA (Public Sector Mapping Agency) Australia. This data provides an outline of each building footprint and a roof height.

The data was aggregated to the LEP and Land Zoning areas from which the median building height was calculated.



Building Height Data

Building Site Cover

Building site cover was calculated utilising PSMA Building footprint data and street block data, derived from property boundaries.

The total building area was calculated for each street block. The total building area was then divided into the street block area to calculate building site cover percentage.

The data was aggregated to the LEP and Land Zoning areas from which the median building site cover was calculated.

Building Site Cover Data

Street Setbacks

Street setbacks were calculated utilising PSMA Building footprint data and road casement data.

Vertices were generated at 4m intervals along the road casement layer. Vertices were generated for every corner of the buildings.

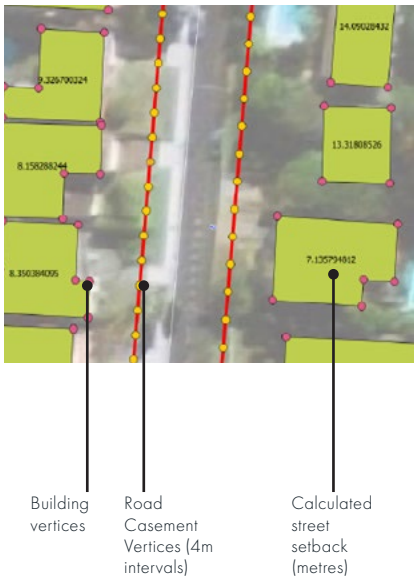
Buildings on lots that had two street frontages were excluded from the calculations because it wasn't possible to determine the primary street frontage. This included corner lots, lots with laneways and lots with two road frontages.

The minimum distance between road casement vertex and the building vertex was measure to calculate the street setback. As such it represents the minimum street setback for each building. This was then attributed back to the building footprint.

The method typically excluded outbuildings at the rear of properties and buildings on battle-axe lots. This occurred because the distance was calculated from the road casement vertex to the closest building vertex. Because outbuildings and battle-axe buildings were further away from the road casement they were typically not registered as the closest building to a road casement vertex.

The median street setback was calculated for each street block.

The median street block setback data was then aggregated to the LEP and Land Zoning areas from which the median street setback was calculated.



Street Setback Data

Permeable Surfaces and Tree Cover Data

Permeable Surfaces and Tree Cover

The permeable surfaces and tree cover analysis utilised the Geoscape Surface Cover (2m) Layer created by PSMA.

This data classifies trees and permeable areas as described in the legend to the left.

The total area of permeable surfaces and tree cover was calculated for each street block. This was then divided into the street block area to calculate permeable surface and tree cover percentage.

The data was aggregated to the LEP and Land Zoning areas from which the median permeable surface and tree cover was calculated.

DA Analysis

The DA Analysis mapping and charts were created from DA data extracted from Council's database for the 2018 to 2019 period.

The data was geocoded utilising the address data field provided. This data was aggregated to each LEP and Land Zoning area.

The data has been displayed in the charts utilising the Primary Category field as the primary category and the Category Type field as the secondary category.

4 Landscape Character Zones Overview

This Place Based Analysis Report has been significantly informed by the NBLCS (Northern Beaches Local Character Study), which was prepared by project team member Tract Consultants.

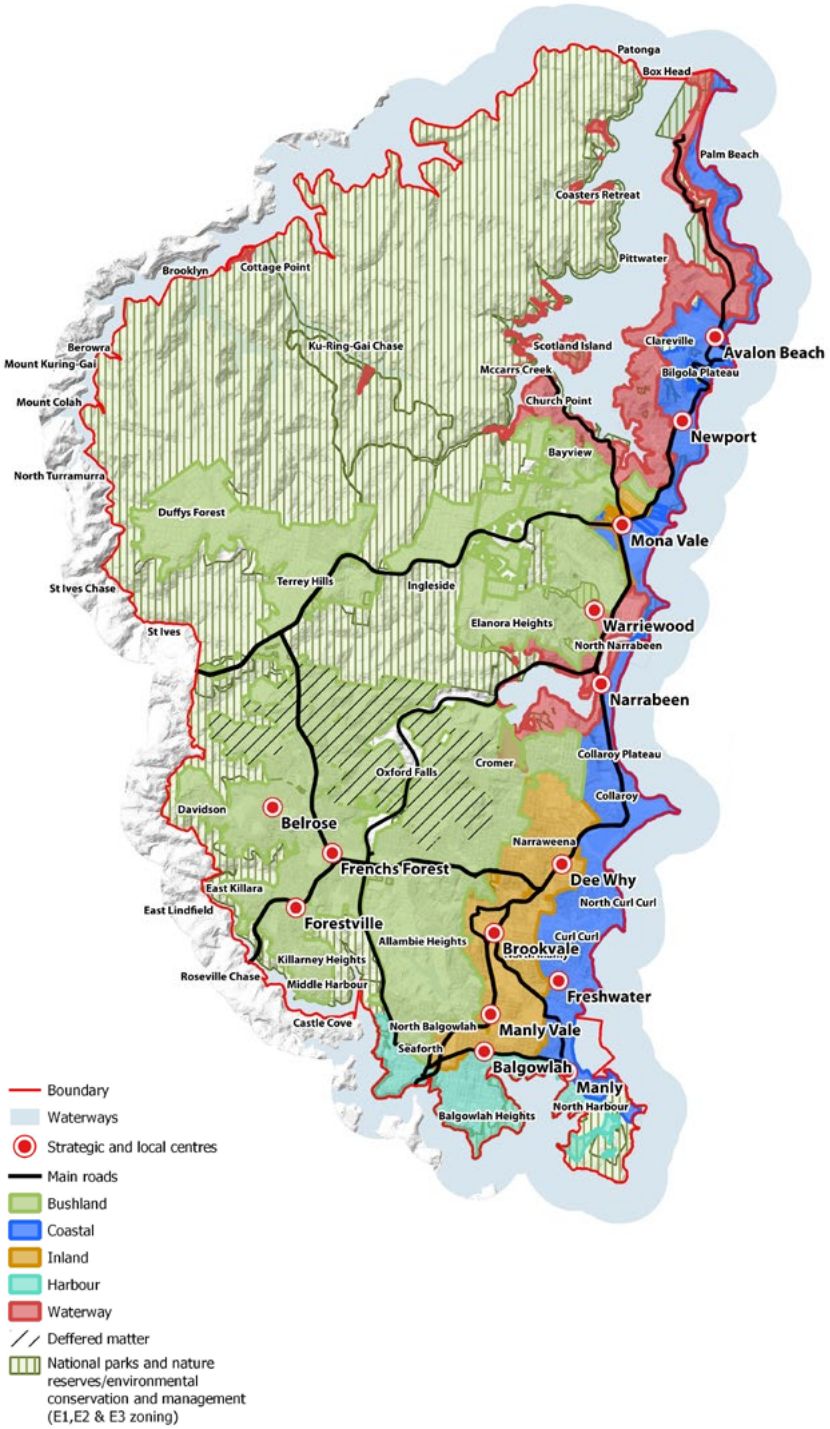
In particular, the five landscape character zones identified in the NBLCS have been used in this report to structure the analysis of residential zones across the LGA.

The five landscape character zones identified by NBLCS are:

- Coastal
- Harbour
- Bushland
- Waterway
- Inland

Note that the 'Inland' zone is named 'General' in the most recently reviewed draft of the NBLCS (October 2020). The term 'Inland' is used here instead for clarity.

Each category is described further in the Residential chapter.



5 Natural Hazards

This section analyses the predominant natural hazards likely to impact the relevant landscape character zones that may impact upon built form controls, e.g. building height or material in flood prone area, setbacks to bushland in bushfire prone areas, cut and fill or height restrictions on steeply sloping sites, setbacks from cliff tops or waterways in coastal or estuarine adjoining sites. Three major natural hazards within Northern Beaches LGA are discussed, including:

- bushfire hazards;
- flood and coastal/estuarine hazards
- landslip hazards.

Bushfire Hazards

The highest risk of bushfire, i.e. Vegetation Category 1-3, are in majority at National Parks and Natural Reserves within Northern Beaches LGA. In addition, bushfire hazards are more prevalent in Bushland Character Zone, as well as the areas surrounding national parks and nature reserves, such as in Waterway and Harbour Character Zones.

The locations within Bushland Character Zone, which are under high bushfire risk, include Frenchs Forest, Allambie Heights, Davidson, Belrose, Cromer, Oxford Falls (deferred matter land), Ingleside, Elanora Heights, Beacon Hill and Bayview.

Within the Waterway Character Zone the highest bushfire risk exists in Narrabeen Lagoon, Church Point, Clareville, Avalon, Palm Beach and the offshore communities, such as Coasters Retreat, Mccarrs Creek and Scotland Island. These areas surround national parks and nature reserves and are heavily vegetated.

In the Harbour Character Zone the most affected areas are the North Head in Manly and Dobroyd Head in Balgowlah Heights.

The Coastal and Inland Character Zones have the least number of areas impacted by bushfire in comparison to Bushland Character Zone. The areas affected include North Curl Curl, Collaroy, Warriewood, Mona Vale, Avalon Beach, Bilgola Beach, Whale Beach and the headland at Palm Beach.

All developments within and/or adjacent to the Vegetation Category 1-3 areas need to consider and/or comply with *Planning for Bush Fire Protection and AS3959*. Mitigation can be done through the building setbacks to bushland, the use of specialised building material, a ring road to create a buffer, buffers within private land etc. Development should not threaten the protection or preservation of bushland nor reduce asset protection zones.

The highest risk areas would be where there is also a landslip hazard and flooding overlay. These areas require regular maintenance and assessments to reduce the effects of a natural hazard from occurring.

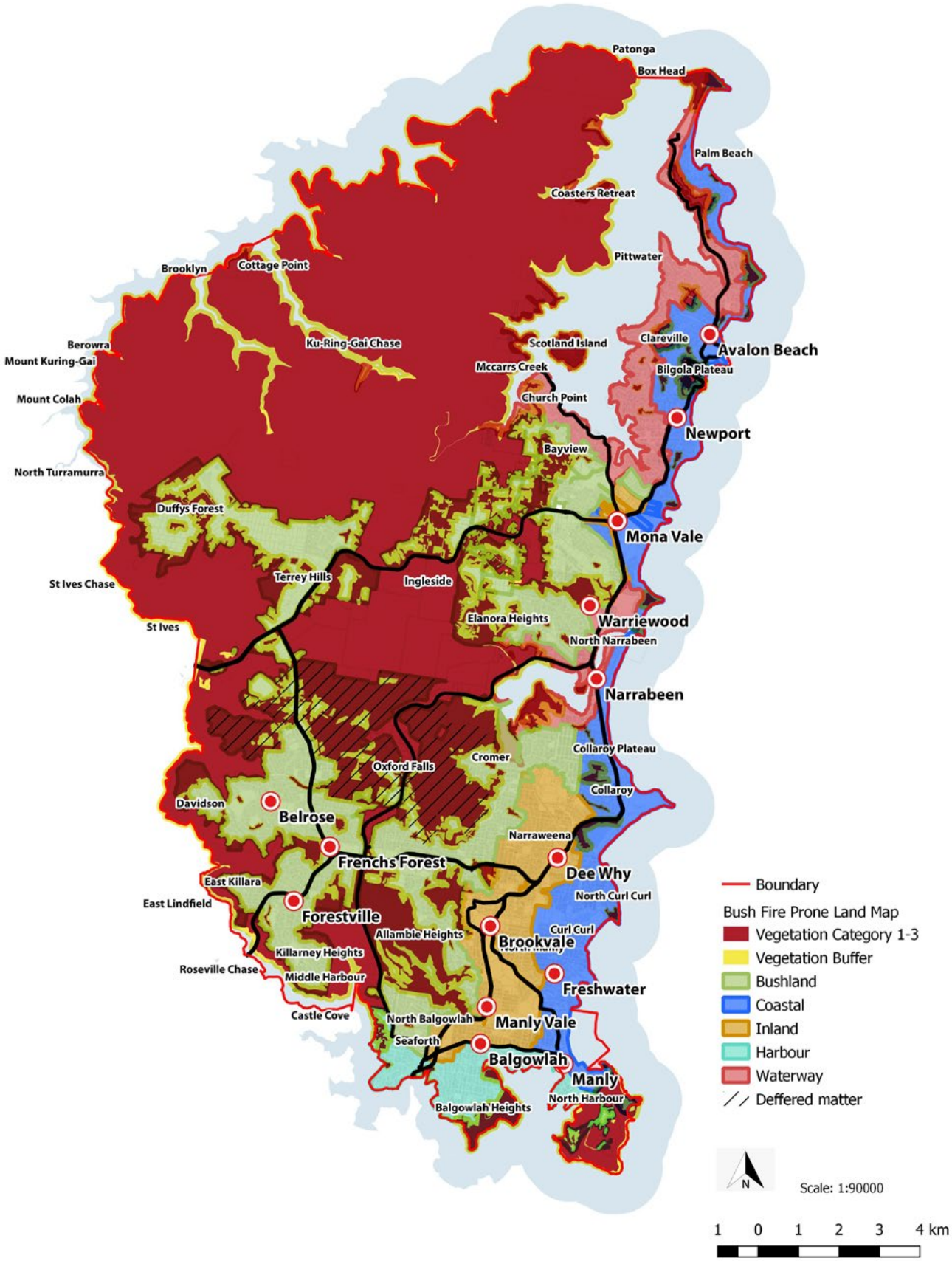


Figure 1. Bushfire Hazards Character Zone Map

Flooding Hazards

Flooding will occur predominantly where there is natural watercourse, such as lake, river, creek and ocean.

Flooding hazards are more prevalent in Coastal and Waterway Character Zones, as well as in Inland and Bushland Character Zones, where there are valleys and riparian corridors.

The highest risk areas are in Waterway Character Zone around Narrabeen Lagoon and South Creek with effects into North Narrabeen and Warriewood. There are further medium and low risk areas around Pittwater, which are affected by the small creeks, such as Cahill Creek in Bayview and Careel Creek in Avalon Beach.

The Coastal Character Zone has a series of affected areas with their close proximity to large water bodies. The highest risk areas are near Dee Why Lagoon in Dee Way and Curl Curl Lagoon on the east of Brookvale.

The valley areas linking between Manly Lagoon, Manly Creek and Manly Reservoir become another high risk flooding precinct, which covers three Landscape Character Zones, i.e. Coastal, Inland and Bushland. The areas around Manly Creek is the highest risk area within the Inland Character Zone and become medium to low risk further inland at Brookvale town centre.

A few flooding areas at different risk levels are identified within the Bushland Character Zone. The highest risk areas within Bushland Zone are located surrounding the Waterway Character Zone. For example the Warriewood Square and its surrounding context are impacted by Mullet Creek, which is connected to South Creek and Narrabeen Lagoon. The medium - low risk areas within the Bushland Character Zone are found in Bayview near Pittwater, and at the south of Belrose along Carroll Creek, which joins back to the Middle Harbour.

The Harbour Character Zone has the least flooding risk due to its relatively high topography and steep landform around the edges. The areas in Harbour Character Zone, such as Manly, Fairlight, South Balgowlah, Balgowlah Heights, Clontarf and Seaforth experience low to medium flooding risk.

The built form response and/or built form controls within the flooding prone areas normally result in an elevated ground floor level above the defined flood level (DFL). This may cause access issue and would require further design consideration, especially where the street level activation is encouraged.

Another response is to allocate non-habitable spaces, such as carparks, loading docks and service areas at ground level, which however does not support street level activation. Balanced design approach is necessary, such as the use of landscaping, lighting, building colours and materials.

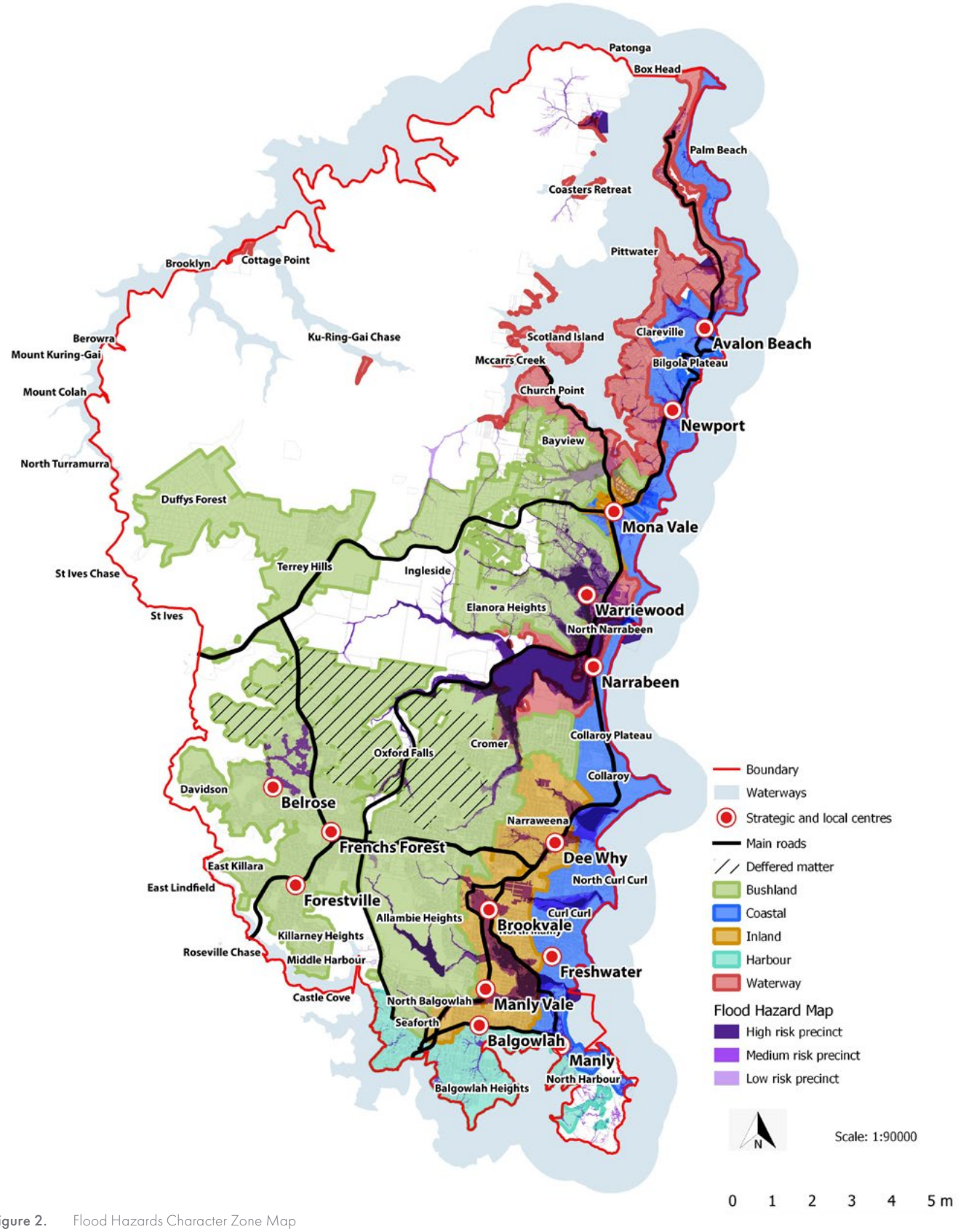


Figure 2. Flood Hazards Character Zone Map

Landslip Hazards

Landslip hazards is where the sliding of a mass of land down a slope or cliff and can be effected by rainfall, land cover and other surface variables. This is prevalent in the Coastal, Waterway, Harbour and Bushland Character Zones within Northern Beaches LGA, where there are steeply sloping sites and cliff tops.

Within the Harbour Character Zone, the landslip hazards are primarily around the edges of the headland in Manly, as well as at the Wellings Reserve along the North Harbour. These areas have steep landform toward the edges, hard rock surface, patches of dense vegetation and low shrubs. Buildings are not encouraged around these areas. If buildings proposed, it would require stable base such as the use of concrete piers.

Landslip hazards are also predominant in Coastal and Waterway Character Zones where the topography descends dramatically. For example, the areas around Collaroy Plateau on the south of Narrabeen Lagoon, Bilgola Plateau, as well as in Avalon Beach and Palm Beach, are all under high landslip risk. The street setbacks on the affected sloped side of the ridge is greater, than the non affected side, and protects the built form from the landslip if it is to occur.

The Bushland Character zone has the most areas affected by landslip risk due to the most steep land, such as Forestville, Frenchs Forest, Belrose and surrounding areas such as Allambie Heights, Davidson, Beacon Hill, Narraweena, Duffys Forest and Terrey Hills. The slope varies from 5 to 25. This low range of landslip seems to have the least amount of built form changes. The building area must have adequate space around it and therefore, the lot sizes are greater to help combat the landslip effects.

The Inland Character zone has some landslip effects in Brookvale and Dee Why and areas bleeding into the Coastal Character Zone, such as Freshwater and North Curl Curl. The built form in these areas must consider the adverse effects of stormwater discharge and the existing subsurface/runoff conditions.

Developments within landslip risk areas should consider:

- stabilising building foundation with geotechnical advice
- assessing risks of erosion
- adequate street setback
- large lot size to enable adequate building platform
- stormwater discharge and runoff
- effect of building subsurface and flow conditions.

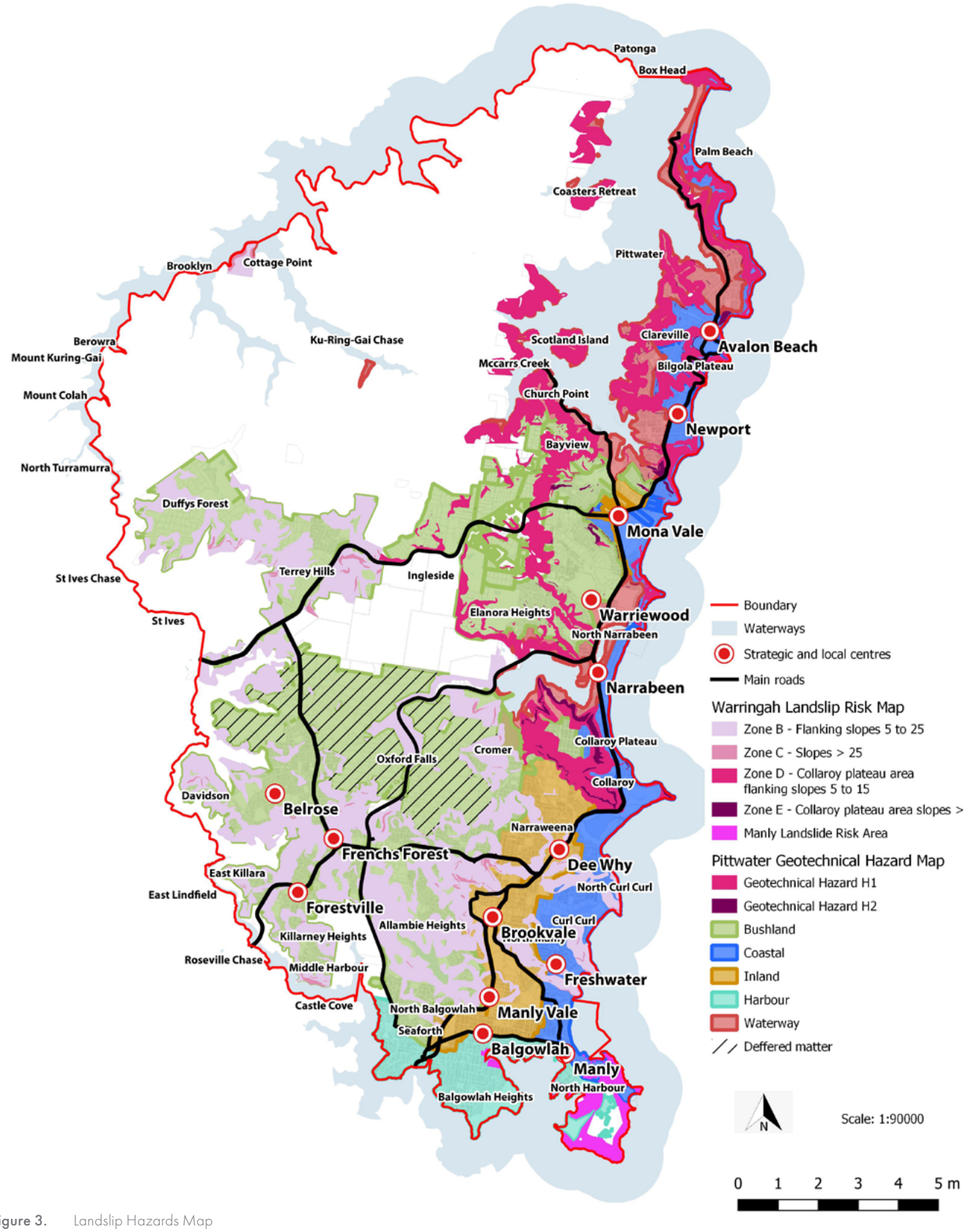


Figure 3. Landslip Hazards Map

Residential Areas

Across the Northern Beaches LGA, the majority of buildings (and development applications) are residential properties. To understand how they differ across the LGA - beyond style and period - this report builds upon the NBC Draft Local Character Study's landscape character zones with specific greater focus on attributes that affect built form.

Coastal

"Areas with an outlook or exposure to the open waters of the coast. The coastal context influences the character of built form and the overall feel and character of the place. The relaxed character of the beach front permeates the identity of this place."

NBLCS p52

Harbour

"This is a localised but important precinct that relates to Middle Harbour and its tributaries [with] housing focused towards the harbour outlook. The landform in this precinct is distinct and consistent with steep slopes falling to the south and the harbour foreshore."

NBLCS p52

Bushland

"Bushland is a strong element of the natural character of the northern beaches that is valued by the community. This character zone refers to areas where a native canopy dominates the built setting, with the built form set within the canopy rather than the canopy set out around the built form."

NBLCS p54

Waterway

"Closed waters without the coastal connection, cover[ing] the enclosed waters of Pittwater as well as the lagoon environments of Dee Why, Narrabeen and Freshwater where development focuses on the water body as a key element of its outlook which in turn influences the character of development."

NBLCS p53

Inland

"This refers to other locations in the LGA that do not have a distinctive underlying natural characteristic. These zones are typically flat to undulating and so are easily developed."

NBLCS p54

6 Summary

The following provides a summary of the key characteristics of each character zone derived from the mapping analysis.

This analysis was undertaken for the residential zones only (R1, R2, R3, R5, E3, E4, DM, RU2, and RU4). For information on the business and industrial zoned land please refer to Part B and C of this report.

Refer to the summary charts in Figure 5 for further details.

Waterway Zone

- It has the greatest median slope (17.9%) within the LGA.
- The majority of lots are provided in an organic and/or modified grid pattern. They are wide and deep (median lot width and depth of 21m x 55m) with relatively large lot sizes (median size just under 1000sqm), which is a reflection of the steep landform.
- Built form is arranged to suit the challenging topography and to accommodate big level changes with greatest median building setback (9.5m), the lowest median building site coverage (25%) and the greatest median building height (median over 10m).
- It has the highest proportion of permeable surfaces (61%) and the greatest median tree cover (43.9%) within the LGA.

Bushland Zone

- It has relatively flat topography with a median slope of 10.7%.
- The majority of lots are provided in a grid and/or modified grid pattern with large median lot sizes (over 1300sqm) and a median lot width and depth of 23m x 48m.
- Built form reflects the flatter landform and large lots. It has low scale developments with median building heights below 8m and large median building setbacks of 8.4m.
- It has low median building site coverage (just under 30%) and high percentage of permeable surfaces (47.7%) and tree cover (just over 30%).

Coastal Zone

- The topography is generally hilly combined with some flatter sections resulting in a median slope over 12%.
- The majority of lots are provided in a grid and/or modified grid pattern with mid-sized lot sizes (median size just under 800sqm) and median lot width and depth of 18m x 47m.
- Built form is influenced by the less challenging topography, particularly in flatter sections between Mona Vale and Manly. It has relatively high scale developments with median building height of 9.3m and standard building setback (median 5.5m).
- It has the highest building site coverage (35.8%) and relatively lower percentage of permeable surfaces (38.9%) and the lowest median tree cover (23.7%) within the LGA.

Inland Zone

- The topography is typically flat to undulating with median slope of 9.3%.
- This zone has fewer development constraints than others. The majority of lots are provided in a grid pattern with small to medium lot sizes (median lot size of 684sqm) and median lot width and depth of 17m x 44m.
- Built form responds to the flatter landform and also the reduced incentive for height to capture views to water. It has relatively low scale development with median building heights below 8m and standard median building setbacks at 5.6m.
- It has relatively high median building site coverage (35.5%) and low percentage of permeable surfaces (39.6%) and tree cover (26.3%).

Harbour Zone

- It has relatively steep topography with a median slope of 15.6%.
- It has a combination of grid, modified grid and organic grid development patterns in response to the different landforms. Lot size vary across the zone with a median over 700sqm. Lot shape is typical with median lot width and depth of 18m x 46m.
- Built form responds to challenging landform. It has relatively high scale developments with median building height of 9.7m and standard median building setbacks of 5.4m
- It has high building site coverage (35.1%) and low percentage of permeable surfaces (37.9%). The tree cover (28.8%) is higher than Coastal and Inland zones but lower than Waterway and Bushland zones.

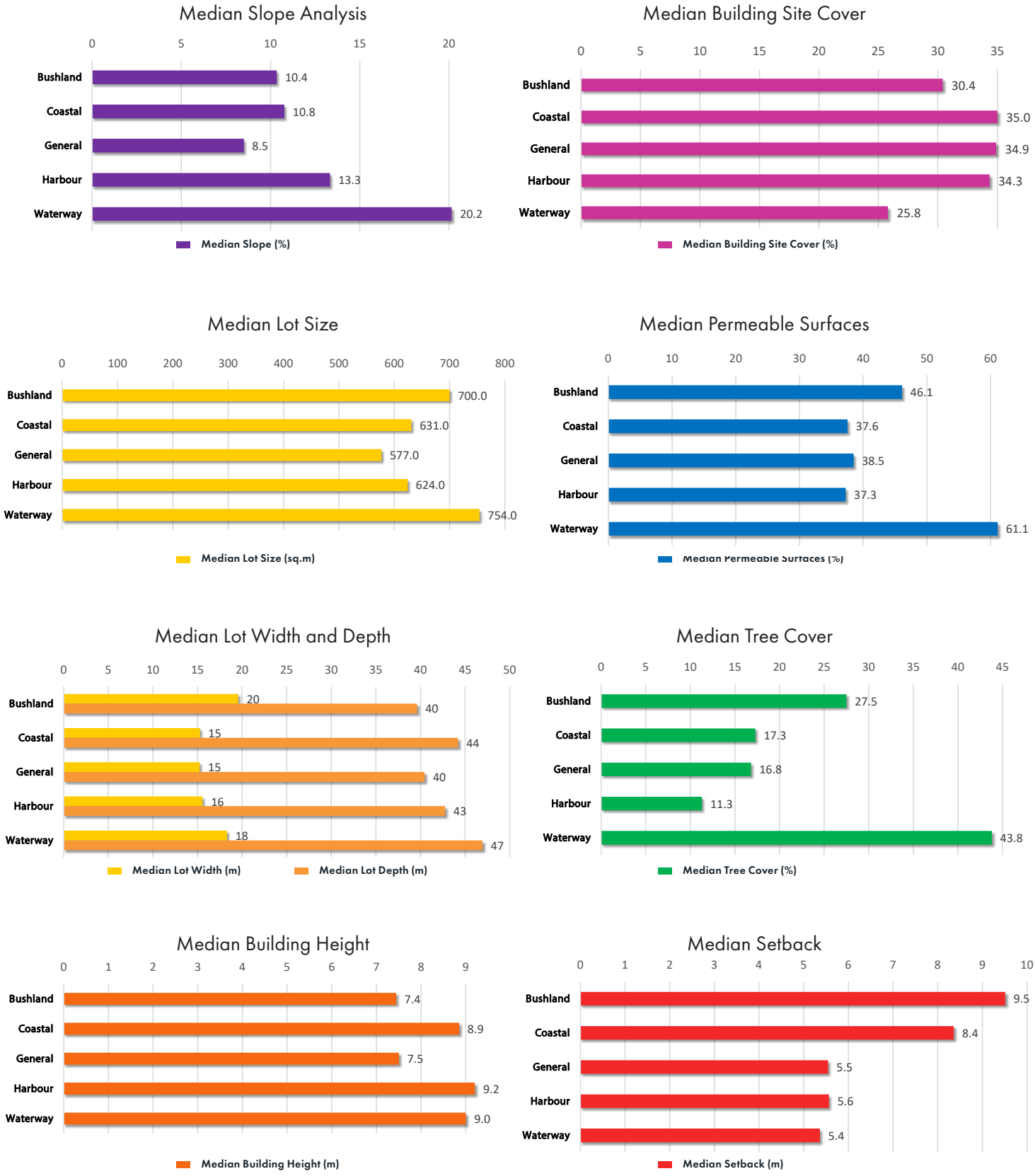


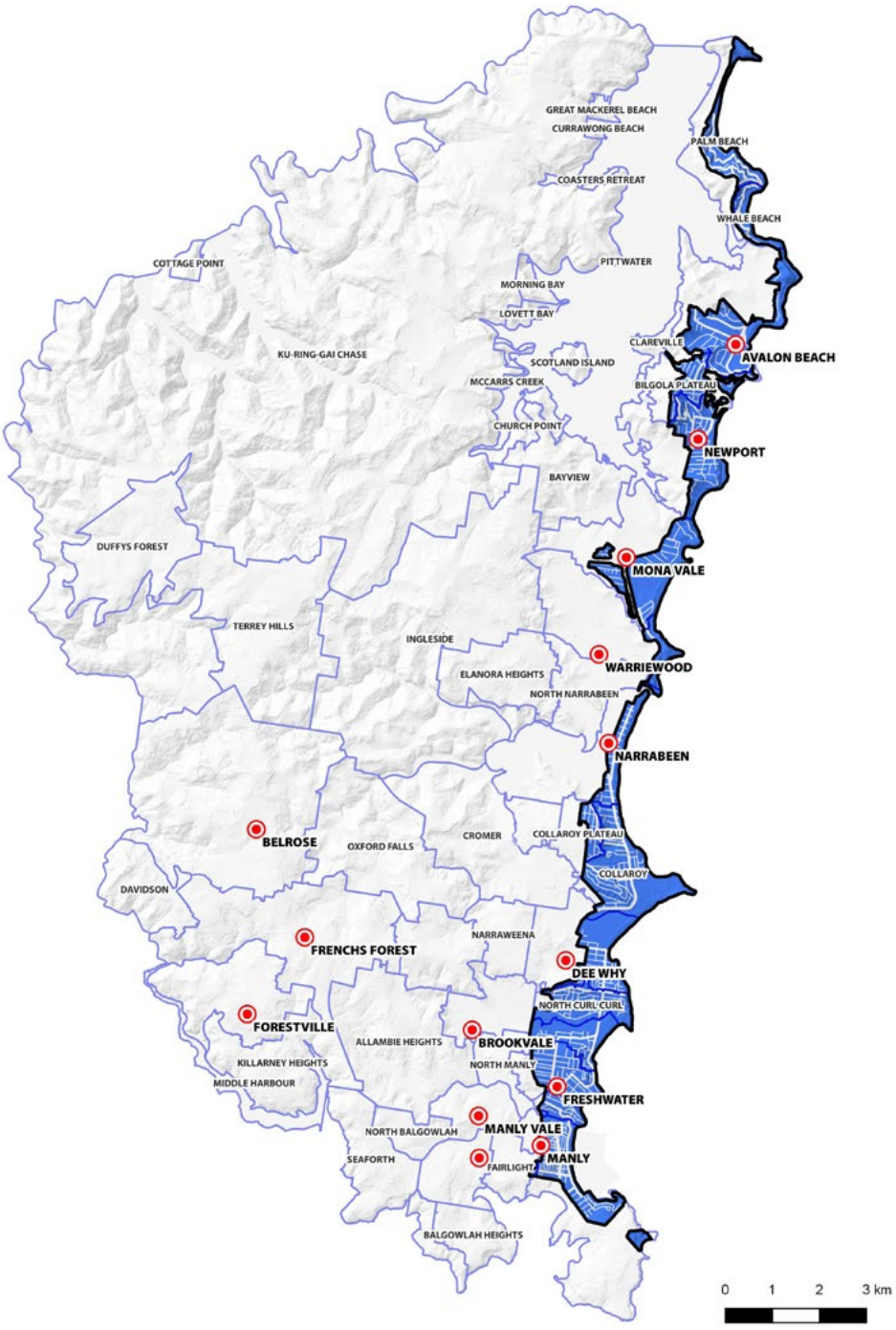
Figure 4. Place-Based Analysis Chart Summary

7 Coastal Character Zone

7.1 Overview

The Coastal Zone has an outlook and exposure to the open waters of the coast. The coastal context influences the character of the built form and overall feel of the place. The relaxed character of the beachfront permeates and sets up the place identity.

Source: Northern Beaches Local Character Study, Tract Consultants, 2020



7.2 Landform and Natural Features

7.2.1 Landform and Slope Analysis

The Coastal Zone includes a combination of landforms comprising of escarpment, plateau, headland and valleys.

The topography is generally hilly with median slopes varying between 0% (flat) and 25.7% (steep).

The steepest topography is found at the northern end where the coastal strip is narrow with steep level changes and escarpments. For example, this happens at E4 (Environmental Living) zone under Pittwater LEP 2014 (locations such as Palm Beach and Whale Beach) with the median slope of 25.7%.

The landform is flatter towards the south where there are more valleys in R1, R2 and R3 residential zones, under Manly LEP 2013, Warringah LEP 2011, and Pittwater LEP 2014. For example, locations include Mona Vale, Narrabeen, Collaroy, Dee Why, Curl Curl, Freshwater and Manly, with median slope ranges between 0% and 10.2%.

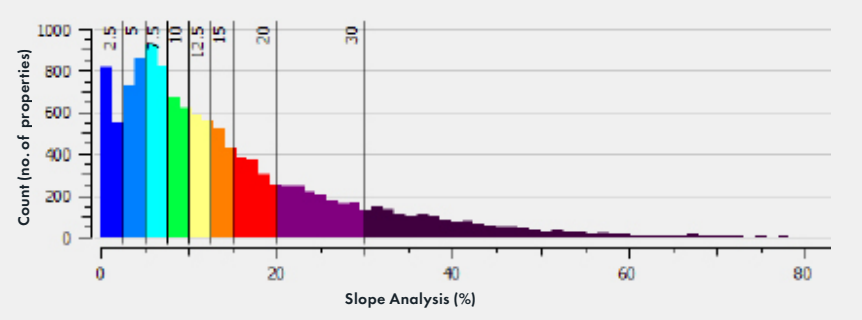


Figure 5. Distribution of Slope for the Coastal Character Zone

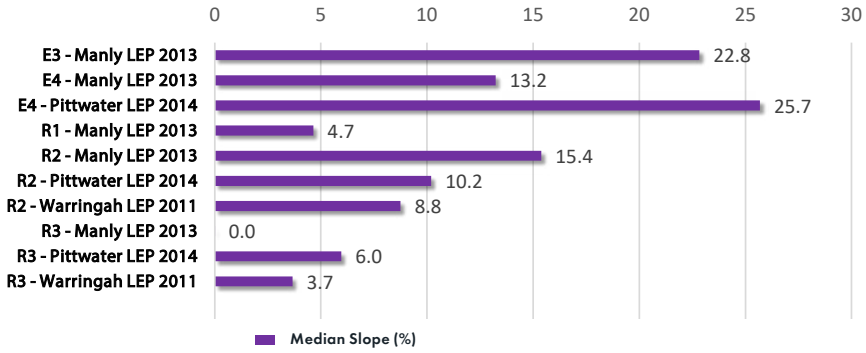


Figure 6. Median Slope by LEP Land Zoning

7.2.2 Key Views

The Coastal Zone has significant scenic value and coastal views from many private properties. It offers a variety of visually important localities along coast line, including

- Scenic arrival point, e.g. at Bilgola Beach, Newport, Mona Vale, Collaroy, Queenscliff and Manly;
- Scenic escarpment, e.g. at Collaroy Plateau;
- Scenic landmark, e.g. at Palm Beach, Manly; and
- Scenic lookout/viewpoint, e.g. at Palm Beach, Whale Beach, Avalon Beach, Bilgola Beach, Newport, Mona Vale, Warriewood, Narrabeen, Collaroy, Dee Why, Curl Curl, Freshwater, Queenscliff and Manly.

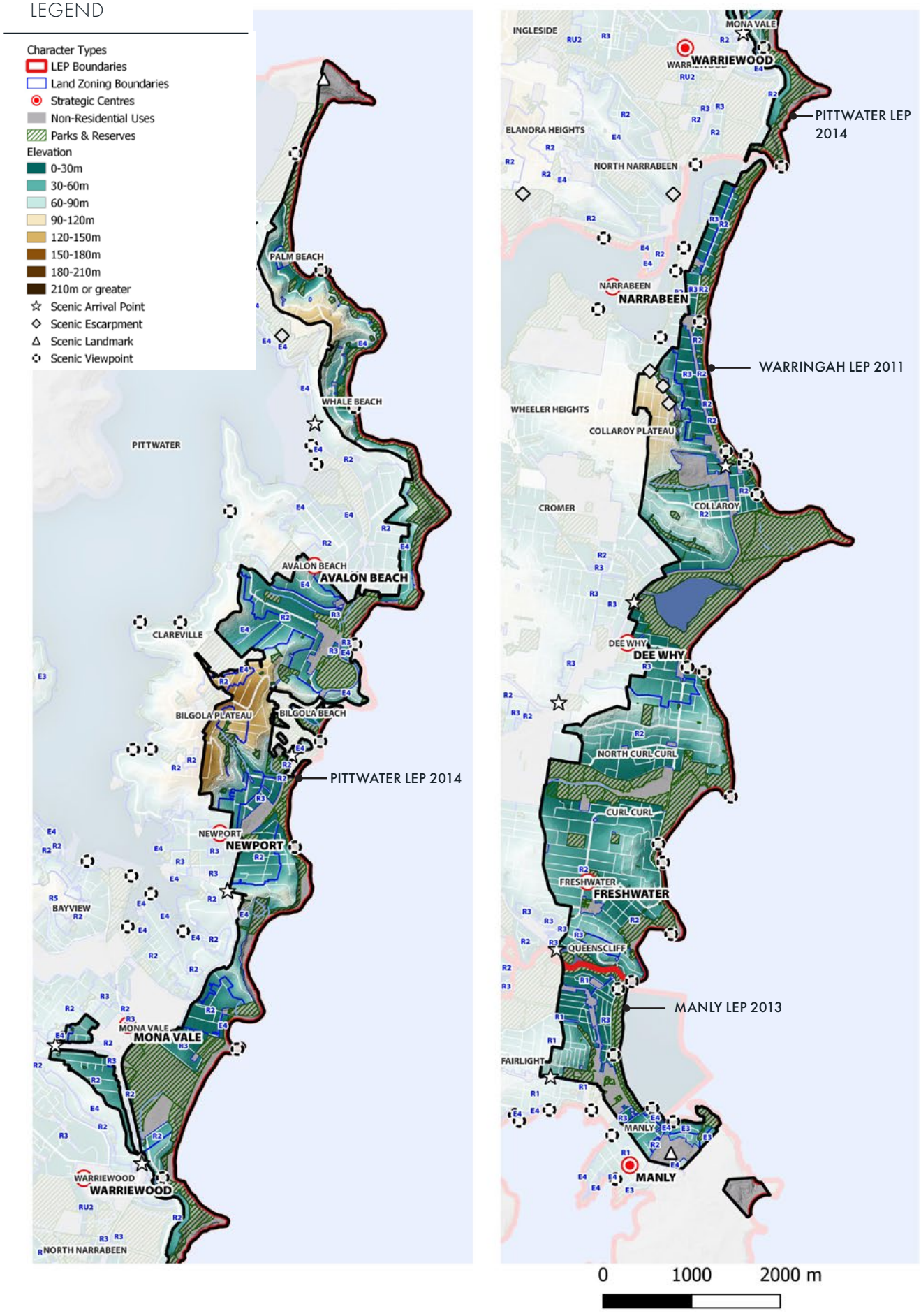


Figure 7. Landform and Views _ Coastal

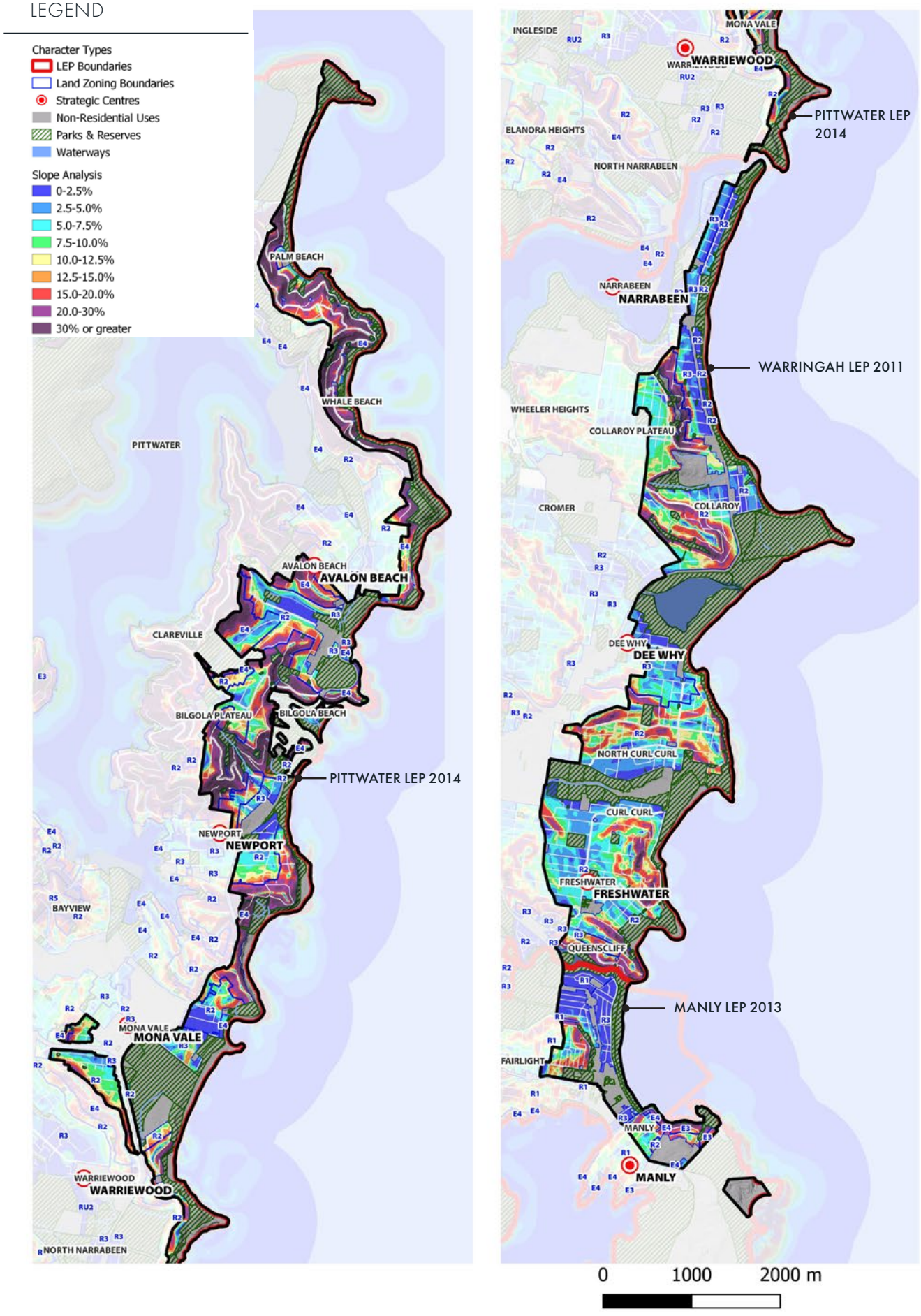


Figure 8. Slope analysis _ Coastal

7.3 Urban Form

7.3.1 Street Pattern

Grid Pattern is typically favoured for its greater yields, desirable lot sizes and shapes, which provide a clear and simple development pattern from which users orientate, interact, and experience the built environment. This type of development is most typically located within low-lying areas or plains, referred to as Valleys, but is also found upon a variety of other landforms, including Plateaus, Escarpments and Headlands.

Modified Grid Pattern is a negotiated response between ideology and landform and is only applied when the underlying topography challenges the rigidity of the more desired grid pattern. This type of development is predominantly located upon moderate transitional landforms or hill sides such as Escarpments and Headlands.

Organic Grid Pattern reinforces a sense of place as it offers a sympathetic response to the dynamic landform which itself, is only adopted when the underlying geography is simply too great to employ a modified grid pattern. This type of development is located upon dynamic or steep landforms such as Escarpments and Headlands.

Source: Northern Beaches Local Character Study, Tract Consultants, 2020

The NBLCS identifies 'grid', 'modified grid' and 'organic grid' street patterns across each landscape character area.

In the Coastal Zone, the organic street pattern occurs in the northernmost suburbs such as Palm Beach and Whale Beach. Further south, the street pattern transitions to a modified grid and grid pattern where the topography is flatter within the valleys and plateaus. This occurs mostly in the southern parts of the Coastal Zone.

Figure 9. Modified Grid Pattern, Newport (Source: NBLCS,Tract Consultants, 2020)

Figure 10. Organic Pattern, Palm Beach (Source: NBLCS,Tract Consultants, 2020)

Figure 11. Grid Pattern, Manly (Source: NBLCS,Tract Consultants, 2020)

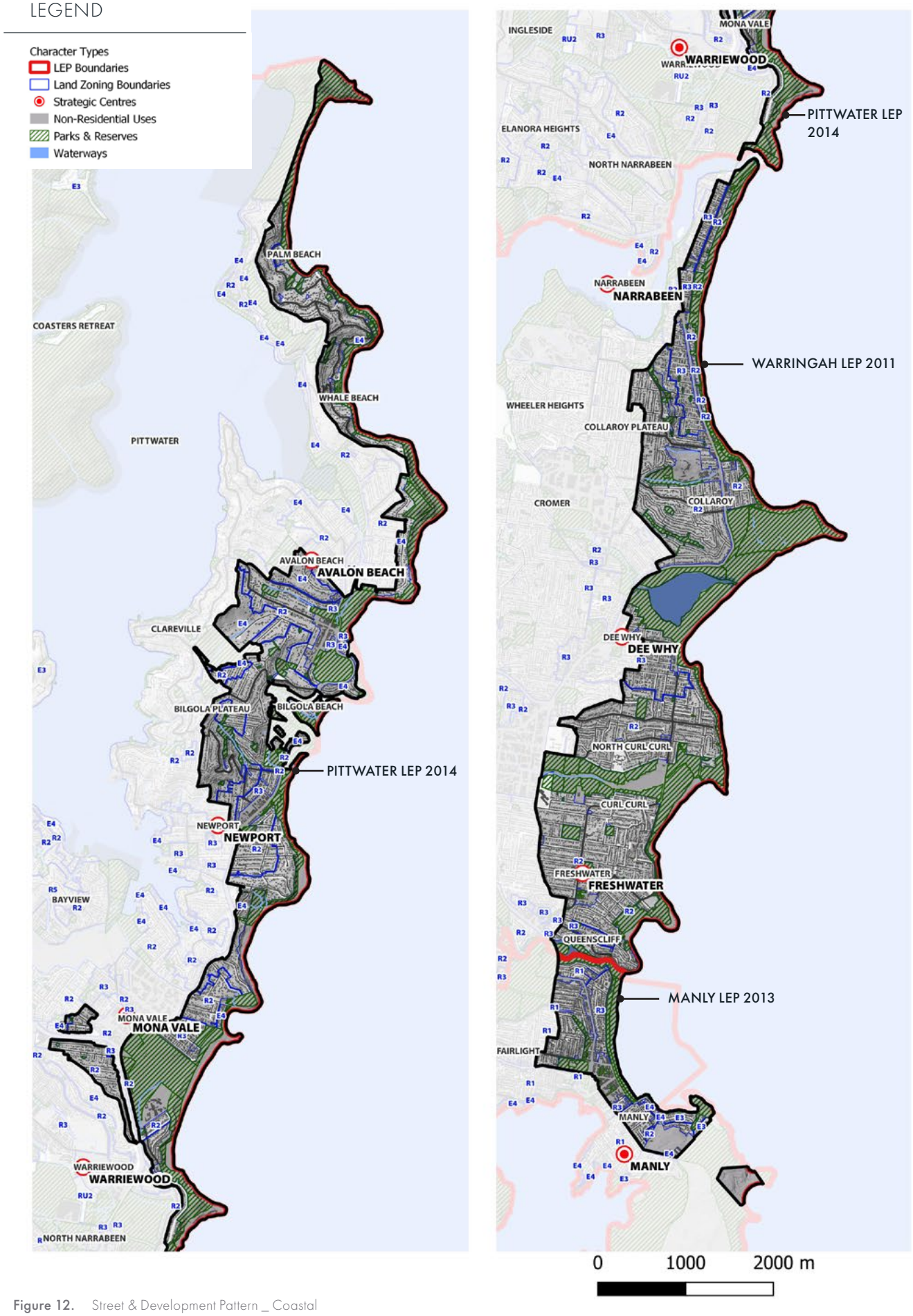


Figure 12. Street & Development Pattern _ Coastal

7.3.2 Lot Size

Lot size and lot width and depth typically respond to the landform across Coastal Character Zone.

Most large lots (over 900sqm) with irregular shapes (narrow and deep) occur at the northern portion of the LGA, in E4, R2 and R3 zones under Pittwater LEP 2014 (locations such as Palm Beach, Avalon Beach and Mona Vale), as well as some escarpments and headlands at R3 zone under Warringah LEP 2011 (locations such as Collaroy Beach and Warriewood), where the organic and modified grid patterns are apparent.

Small to medium lots (300-800sqm) with standard lot shapes (15-20m x 40-45m), located within the grid and modified grid pattern. These lot sizes are predominant at the valleys and plateaus, within R2 zone under Warringah LEP 2011, and R1, R2 and R3 zones under Manly LEP 2013 (locations such as Bilgola Plateau, Collaroy Plateau, Curl Curl, Dee Why, Freshwater, Queenscliff and Manly).

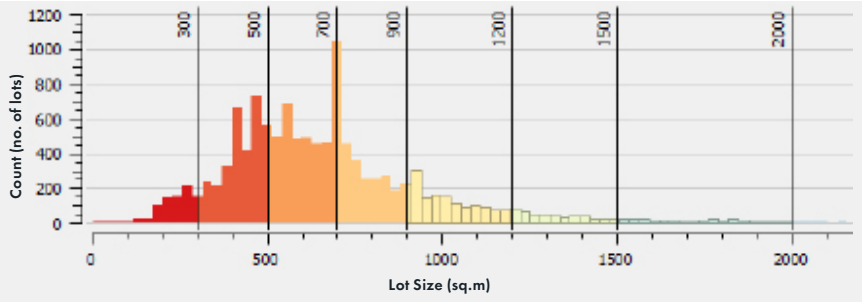


Figure 13. Distribution of lot sizes across the Coastal Character Zone

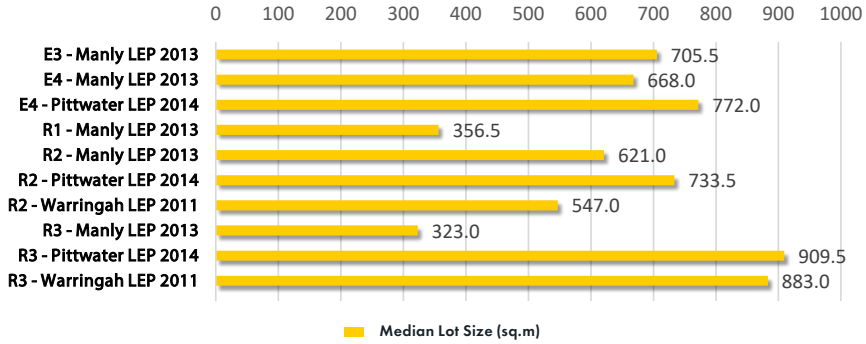


Figure 14. Median Lot Size by Land Zoning & LEP

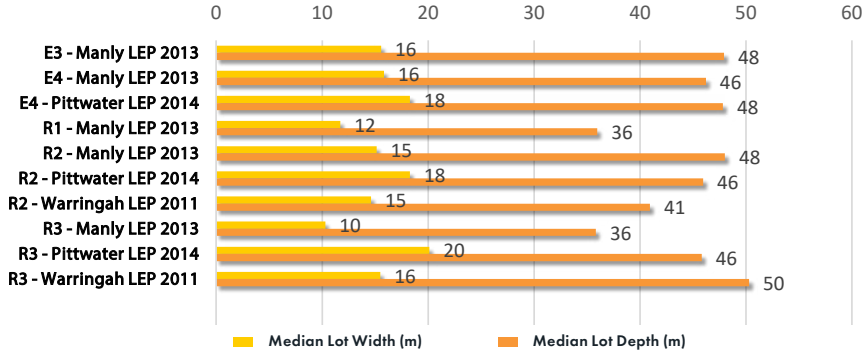


Figure 15. Median Lot Width and Depth by Land Zoning & LEP

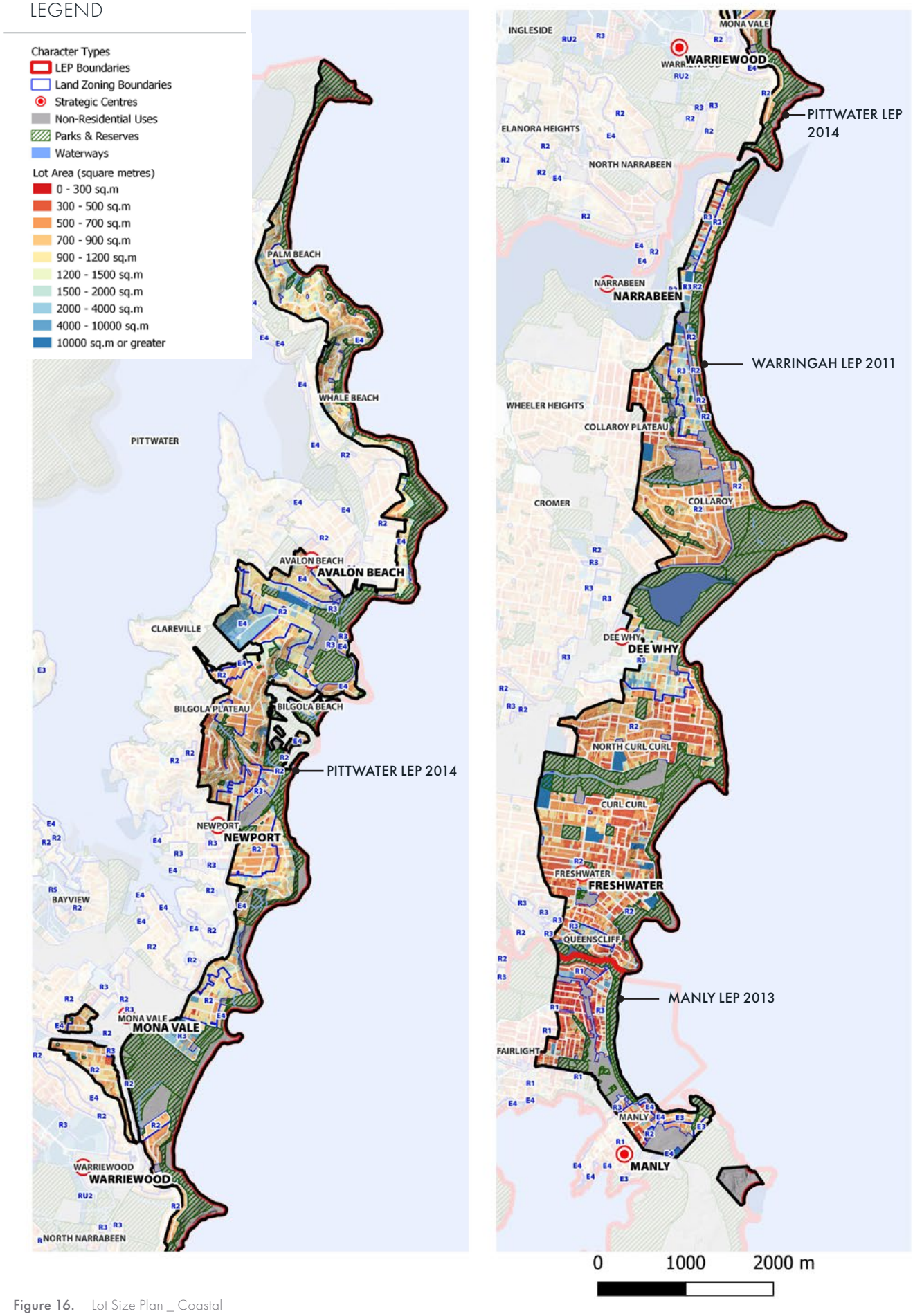


Figure 16. Lot Size Plan _ Coastal

7.4 Built Form

7.4.1 Architectural Styles

NBLCS identifies the typical architectural products found within the urban and suburban residential areas within the LGA. The following are found within the Coastal Character Zone:

Pre- War and Inter-War Housing - This housing type is typically free standing or semi-detached housing although a range of moderate height apartment blocks are also evident from this era. Construction is masonry, predominantly brick construction, has maintained the natural slope of the land or controlled it through the use of retaining walls, and is dominated by housing from 1910-1930's which is typified by the Californian Bungalow. The standard gabled tiled roof is a key element of both low- and high-rise structures from this time. The built forms have been modified and expanded to meet the needs of the changing society but still reflect these key attributes.

Post - War Housing – This housing type covers the period from 1940's to 1960's reflects the adaptation of modern technologies and architectural styles. Built forms were simpler and cladding technologies reflected the new era. Focus was on cheaper mass-produced forms of materials including Fibrous sheeting, brick veneer construction. It is this era in which the beach house and a new character began to develop. Roof form was either a skillion or pitched or a combination of the two. The architectural style that typified this period was the fibro/weatherboard bungalow.

Contemporary Housing – Covering from the 1960's to today there is a variety of styles. Construction is dominated by slab on ground in which the landform is modified to support the house. Modern construction techniques and materials are used including a combination of fibrous sheeting, brick veneer, and render. A range of architectural styles and forms have been adopted including Federation Revival, Pavilion Style, and Post Modernism.

Site Specific Housing – This architectural form is largely site driven. It occurs on steeper terrain where traditional construction techniques are not efficient. Built forms are predominantly light weight, suspended structures on piers with a range of cladding materials including metal, timber or fibrous cement or a combination. Examples of suburbs where this applies includes Bayview.

Source: Northern Beaches Local Character Study, Tract Consultants, 2020

Pre-War and Inter-War Housing is predominant in the southern portions of the Coastal Character Zone. This includes the suburbs of Manly, Balgowlah and Freshwater.

Post-War Housing scattered across the Coastal Zone, while Contemporary Housing is generally found closer to the centres and the beaches where the offer of convenience, amenities and scenic views has led to housing gentrification.

For further analysis on building elements please refer to Part 3 of Place Based Analysis Report.

Figure 17. Victorian Style, Mona Vale

Figure 20. Victorian Style, Narrabeen

Figure 18. Californian Bungalow, Manly

Figure 21. Postmodern Beach House, Narrabeen

Figure 19. Modernist House, Mona Vale

7.4.2 Building Height

The greatest building heights within the Coastal Character Zone are concentrated at the centres which accommodate denser population and offer more development opportunities. Manly and Dee Why are the key focus areas under Manly LEP 2013 and Warringah LEP 2011 respectively.

The highest median building heights are seen in E3, E4, R2 zones under Manly LEP 2013, and R3 zone under Warringah LEP 2011, such as in Collaroy and Narrabeen.

Taller buildings (over 10m) are also identified at escarpment and headland locations, such as Palm Beach and Whale Beach in E4 zone under Pittwater LEP 2014 and Queenscliff in R3 zone under Manly LEP 2013. These areas are lower in density but greater in building height because of the need in responding to the steep topography. This results in split level housing stepping with the landform.

The distribution of building height within Coastal Character Zone focuses between 7-10m, with the most concentration of approximately 8.5m.

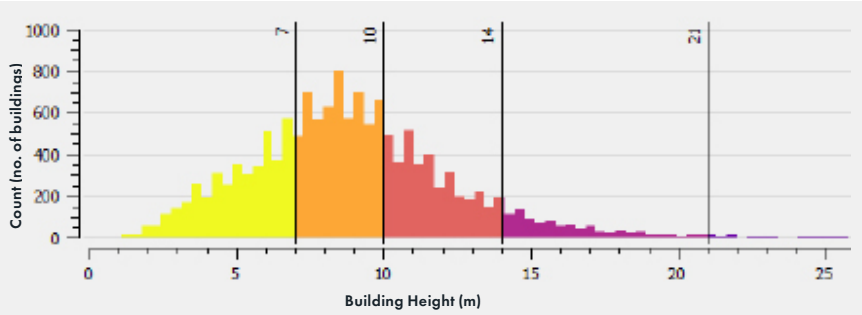


Figure 22. Distribution of Building Heights across the Coastal Character Zone

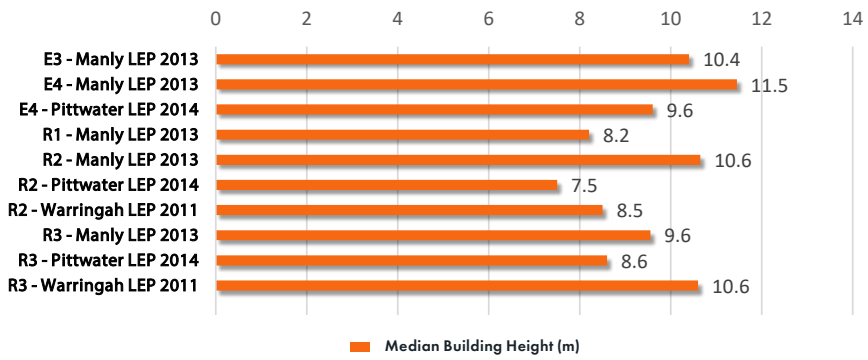


Figure 23. Median Building Height by Land Zoning & LEP

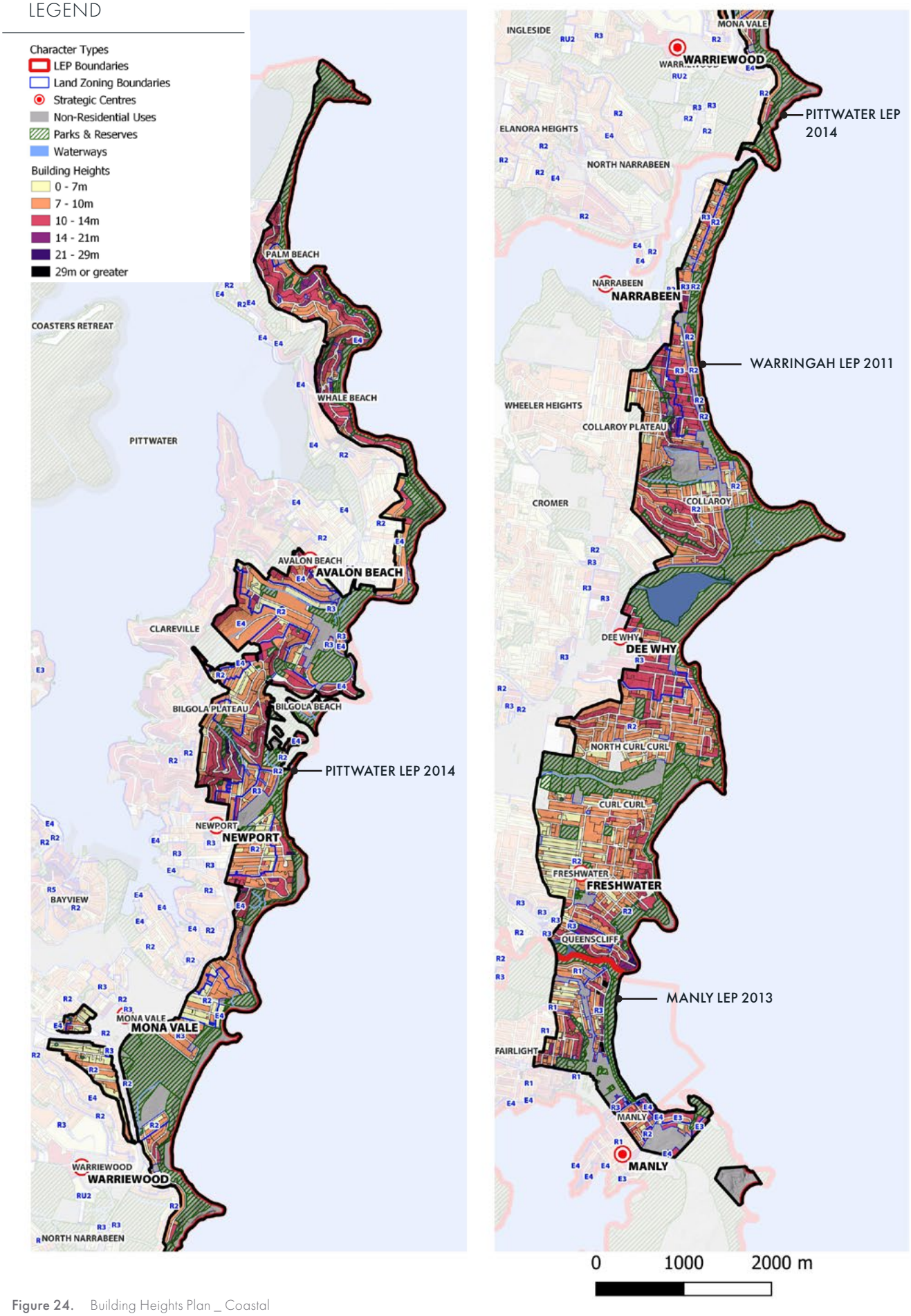


Figure 24. Building Heights Plan _ Coastal

7.4.3 Street Setbacks

Small to medium street setbacks between 2.5m - 5m mostly occur on the southern portion of the LGA, for example within R1 and R3 zones under Manly LEP 2013, where the landform is moderate and flat.

Medium to large street setbacks between 5m-10m become more prominent in the northern parts of the LGA where the landform becomes steeper. This is reflected in E4, R2 and R3 zones under Pittwater LEP 2014, and R2 and R3 zones under Warringah LEP 2011.

The highest distribution of the street setbacks across the Coastal Character Zone is between 5 to 7m.

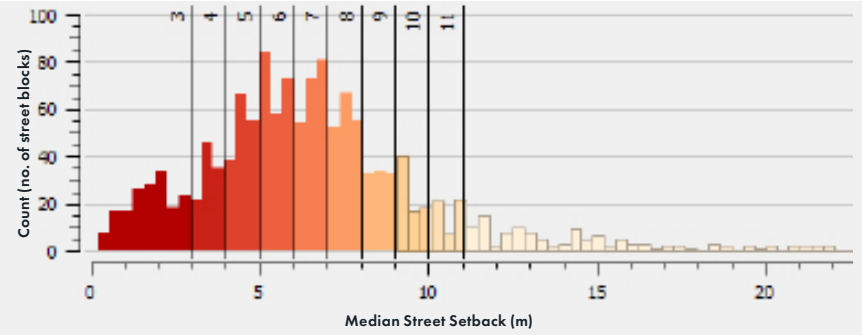


Figure 25. Distribution of Street Setback across the Coastal Character Zone

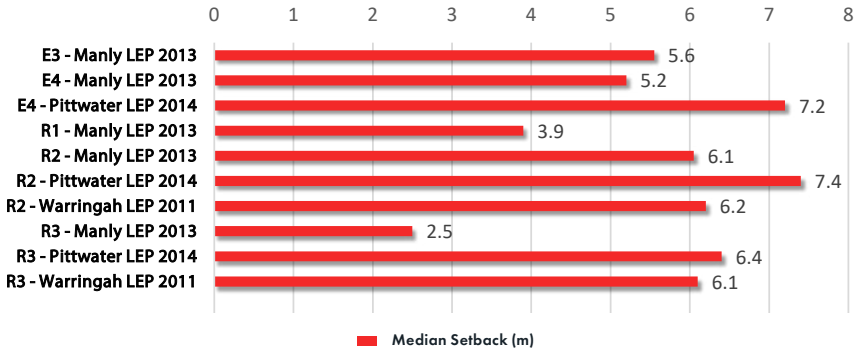


Figure 26. Median Setback by Land Zoning & LEP

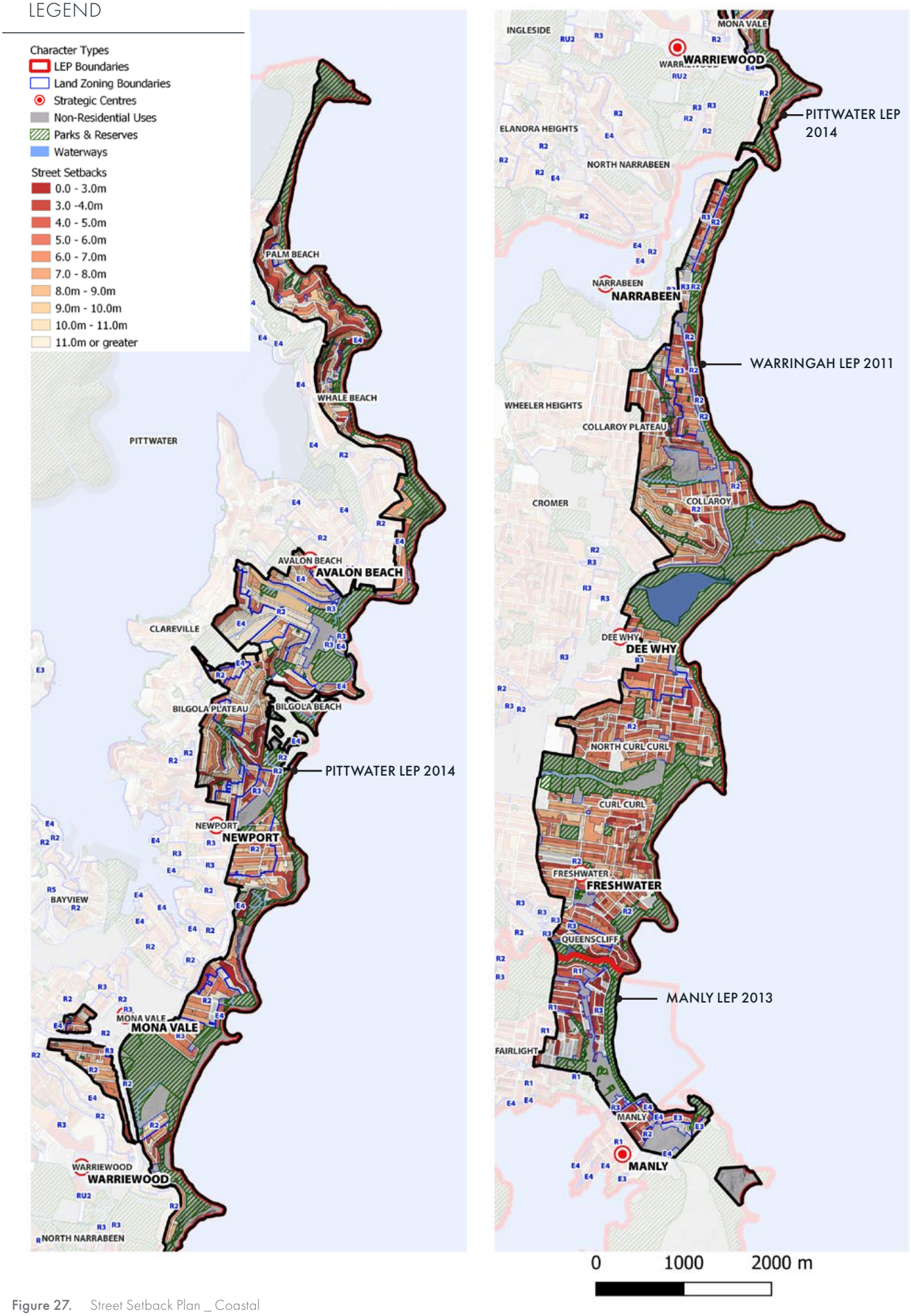


Figure 27. Street Setback Plan _ Coastal

7.4.4 Building Site Coverage

There is a clear increase in building site coverage in the southern portion of the LGA where the landform is flatter. This includes locations such as Manly, Freshwater, Dee Why, Collaroy and Narrabeen. The permeable surfaces in these areas are consequently low. This is reflected mostly in E4, R1, R3 zones under Manly LEP 2013, and R3 zone under Warringah LEP 2011. These zones have median building site coverage above 40%.

In the north of Coastal Character Zone, there are some areas in R3 zone under Pittwater LEP 2014 with a relatively higher median building site coverage of 37.6%, such as in Newport.

The building site coverage decreases further north in the steeper landform areas. The percentage of permeable surfaces increases as a consequence. This can be found in R2, R3, E4 zones under Pittwater LEP 2014, locations such as Avalon Beach, Whale Beach and Palm Beach.

The highest distribution of both building site coverage and permeable surface across Coastal Character Zone are between 30-40%.

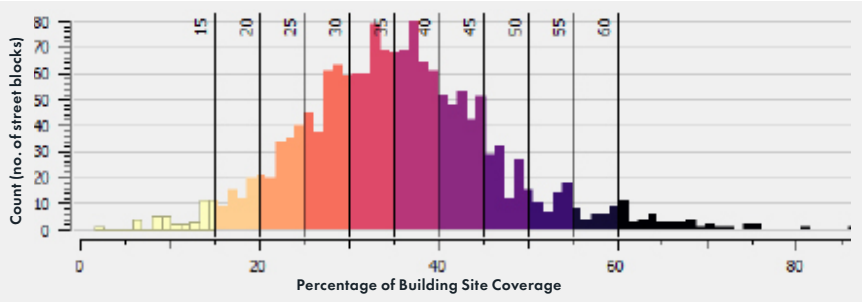


Figure 28. Distribution of Building Site Coverage (aggregated to street blocks) across the Coastal Character Zone

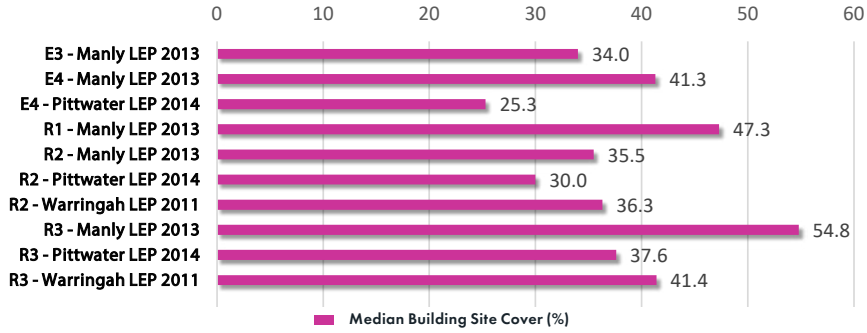


Figure 29. Median Building Site Coverage by Land Zoning & LEP

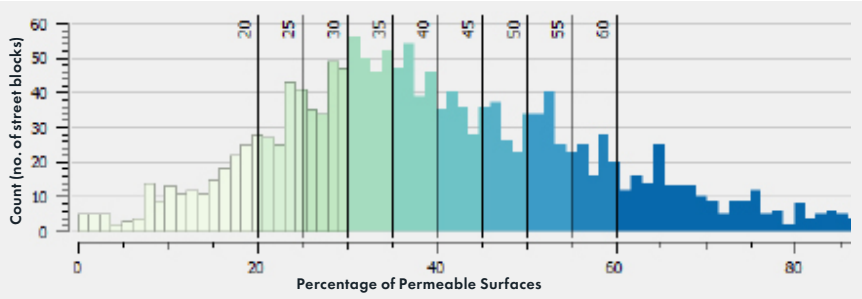


Figure 30. Distribution of Permeable Surface (aggregated to street blocks) across the Coastal Character Zone

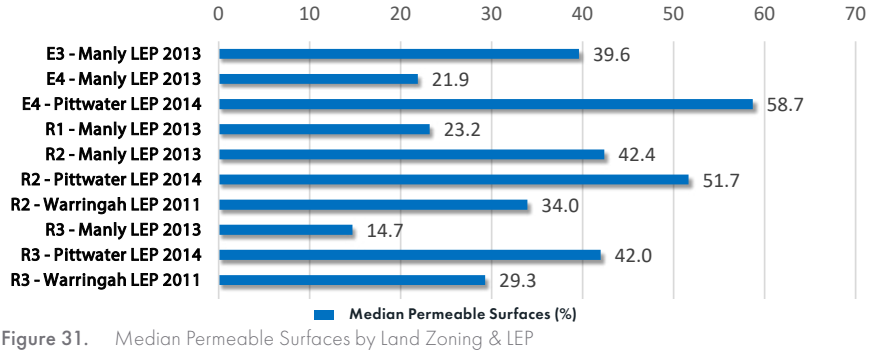


Figure 31. Median Permeable Surfaces by Land Zoning & LEP

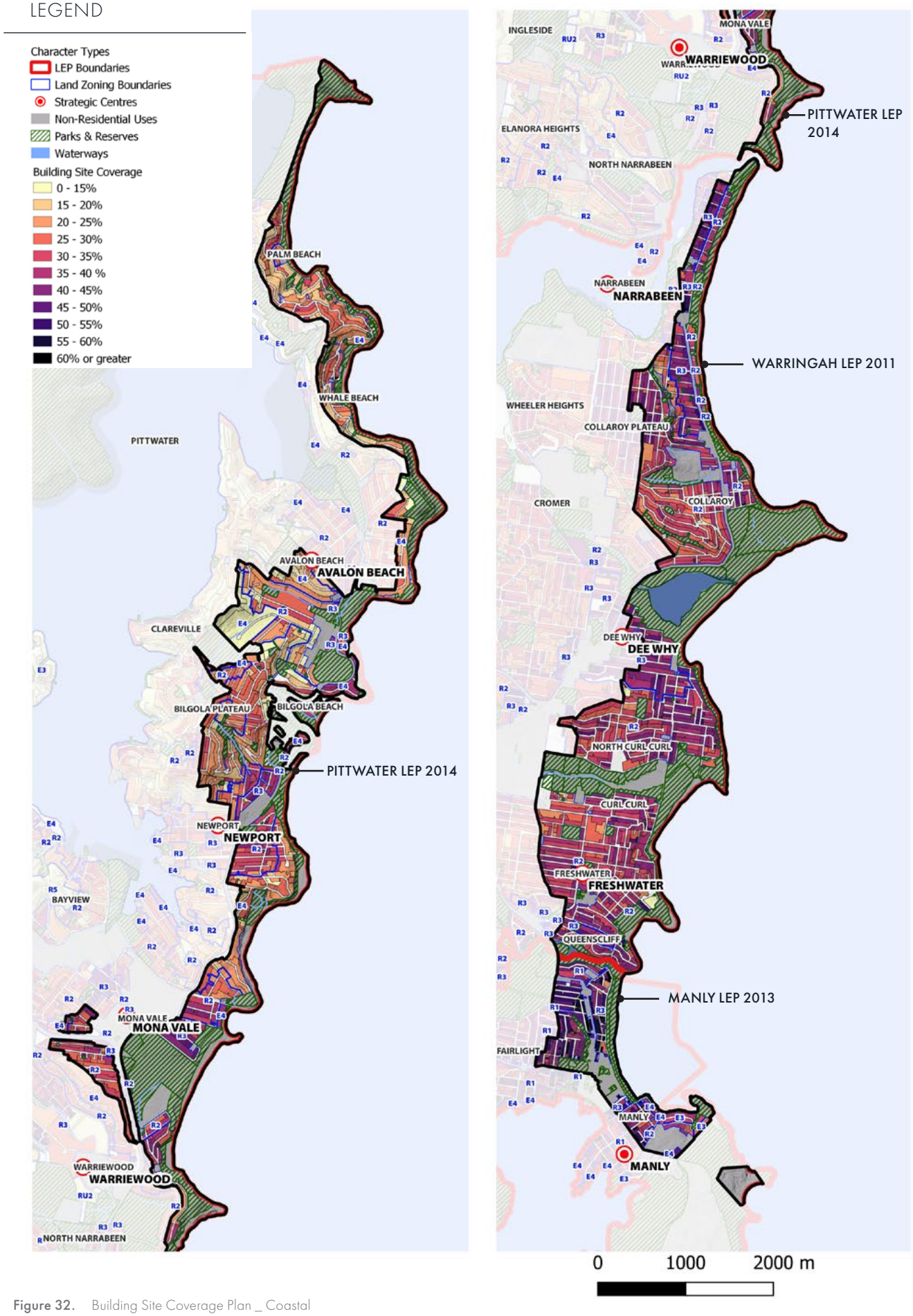


Figure 32. Building Site Coverage Plan _ Coastal

7.4.5 Tree Cover

There is a clear increase in tree cover in the northern portion of the LGA, where there is lower building site coverage. Locations with greater than 35% tree cover, which is calculated based on street block area, include Palm Beach, Avalon Beach, Clareville, Bilgola Beach and Bilgola Plateau. They are categorised in E4, R2 zones under Pittwater LEP 2014.

The median tree cover above 25% in Coastal Character Zone is within R3 zone under Pittwater LEP 2014, such as in Mona Vale, and E3 and R2 zones under Manly LEP 2013, such as in Freshwater.

The southern portion of the LGA has higher building site coverage resulting in lower tree cover. Locations with less than 30% tree cover include areas in R1 zone under Manly LEP 2013, and R1, R3 zones under Warringah LEP 2011, such as Narrabeen, Warriewood, Collaroy, Curl Curl, Dee Why, Freshwater and Queenscliff.

The lowest tree cover of 8-9% are found in E4 and R3 zones under Manly LEP 2013.

The highest distribution of tree cover in the Coastal Character Zone is between 0-5% over 100 street blocks. The distribution of tree cover percentage decreases at a gradual level beyond 20%.

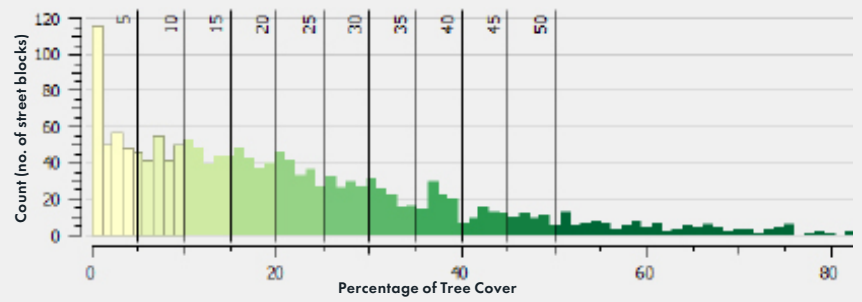


Figure 33. Distribution of Tree Coverage (aggregated to street blocks) across the Coastal Character Zone

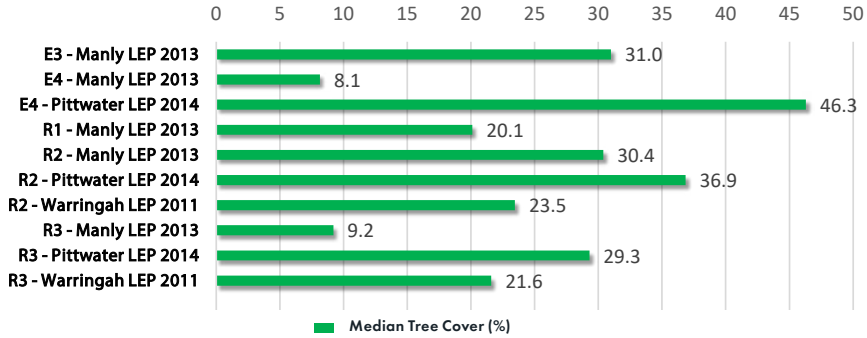


Figure 34. Median Tree Cover by Land Zoning & LEP

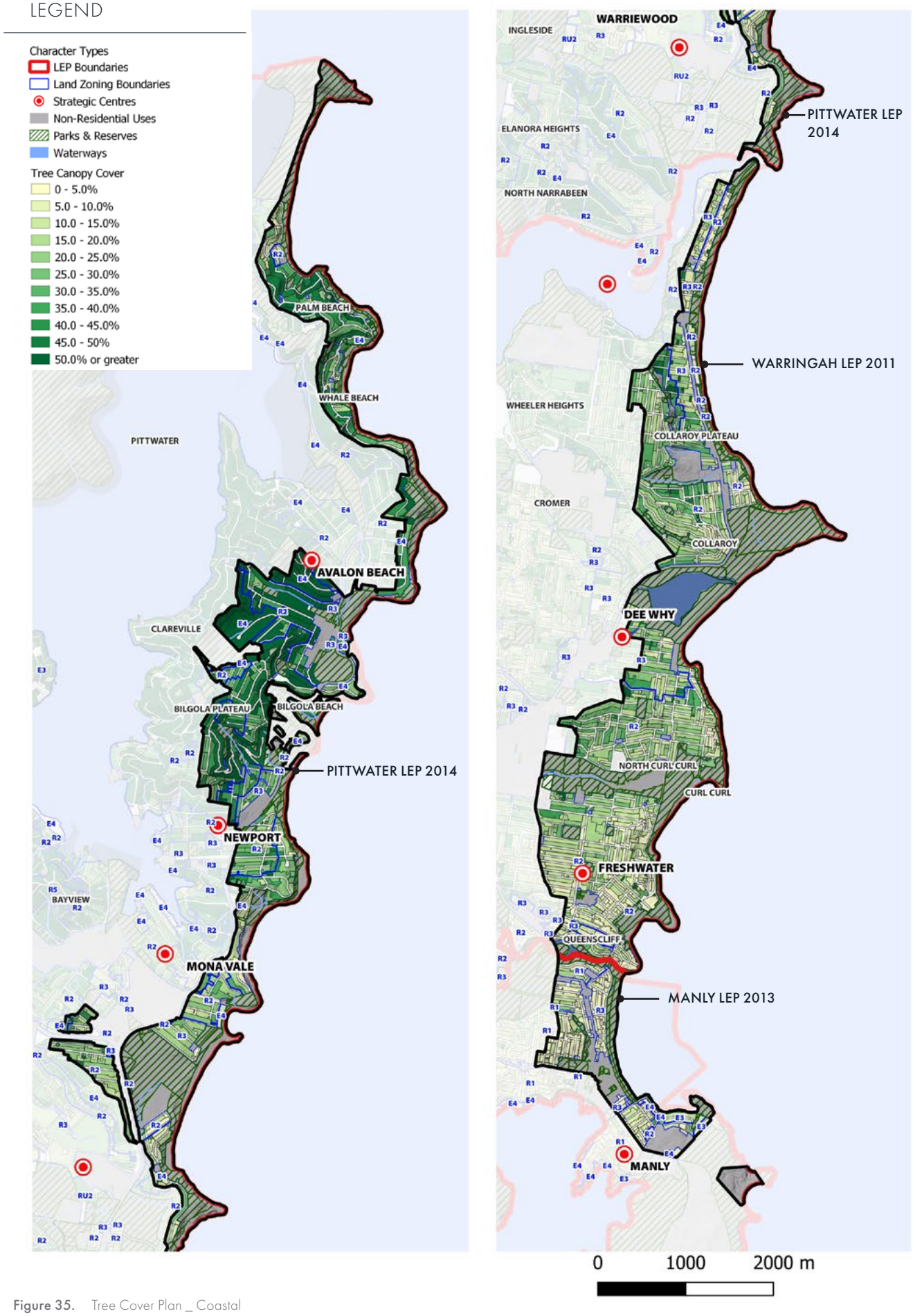


Figure 35. Tree Cover Plan _ Coastal

7.5 Development Activity

7.5.1 Development Applications

Within the Coastal Character Zone, there is a large variety of development applications which ranges from subdivision, new use, new development, demolition, change of use and alterations and additions. They have been categorised into the LEP zones which compares and demonstrates the number of development applications in the last 2 to 5 years. Some development may have been approved by CDCs and this has not been included as it would skew results.

The new development category is in relation to the construction of new dwelling house/ commercial building/ industry building and/ or new dwelling house with an attached secondary dwelling or creating a secondary dwelling.

There are a greater number of development applications in the higher density areas, such as Manly, Newport, Collaroy and North Curl Curl. These results represent where the most changes are currently occurring.

The development application categories that have the most applications are alterations and additions followed by new development. This is reflected in the graph below with dwelling house being the most frequent application as well as alterations and additions.

It also indicates that there is a lot of development activities occurring within R2 zone of Warringah LEP 2011 and E4 zone of Pittwater LEP 2014, followed by R2 zone of Pittwater LEP 2014 and R1 zone of Manly LEP 2013.

The lowest number of applications are for multi dwellings, ancillary structures, residential accommodation and senior housing.

It is also interesting to note that there has not been many new use, demolition or change of use development applications over the last 2 to 5 years. There is also low numbers of subdivision applications. These numbers suggests the community have confidence in the land use zoning of the existing Local Environment Plans.

The map of Development Application demonstrates spatially the different DA categories, DA determination periods and DA results.

The areas that have the most rejected development applications is in Manly (in all zones of the Manly LEP 2013), Newport (R2 zone of the Pittwater LEP 2014) and Palm Beach (Pittwater LEP 2014).

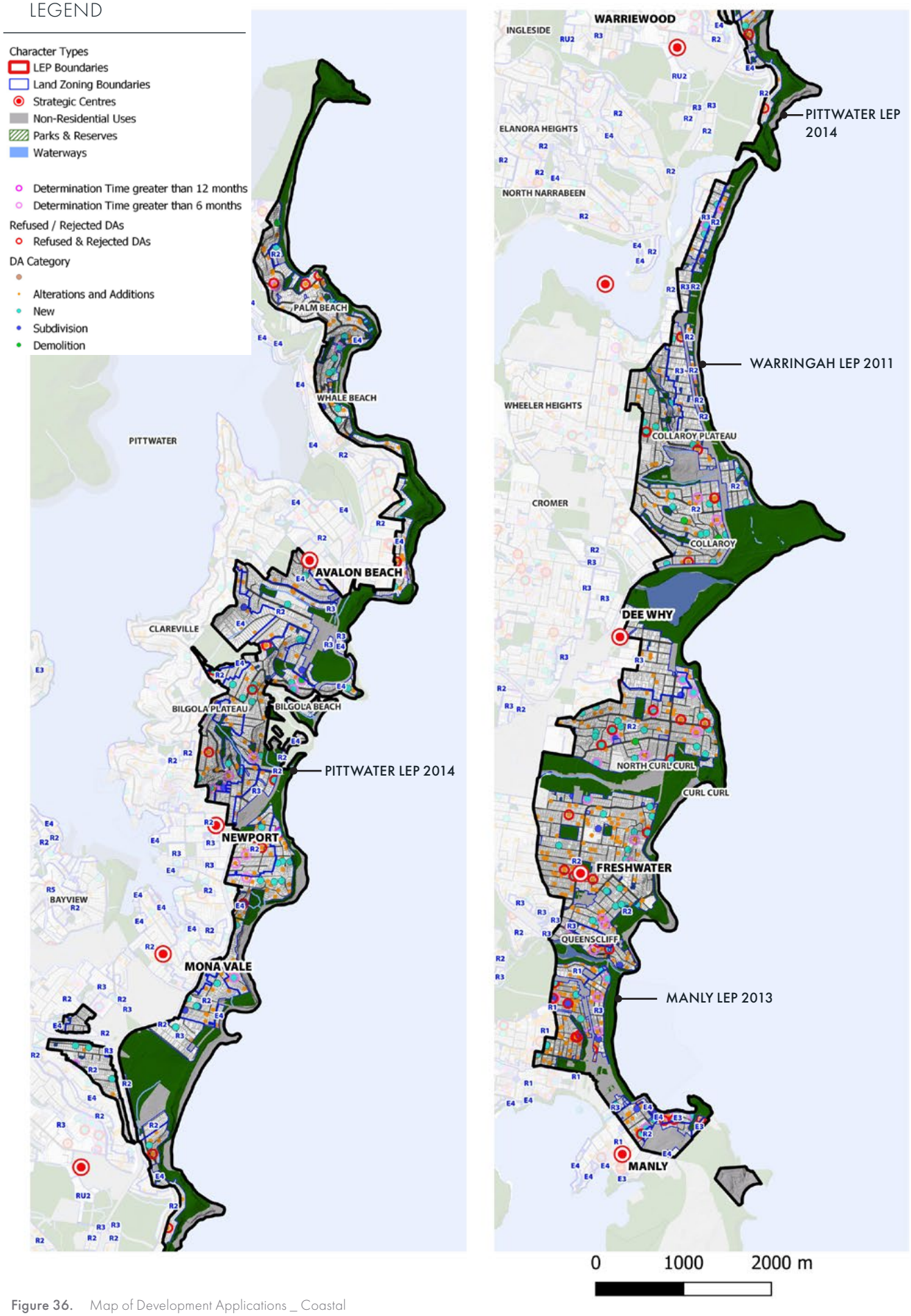


Figure 36. Map of Development Applications _ Coastal

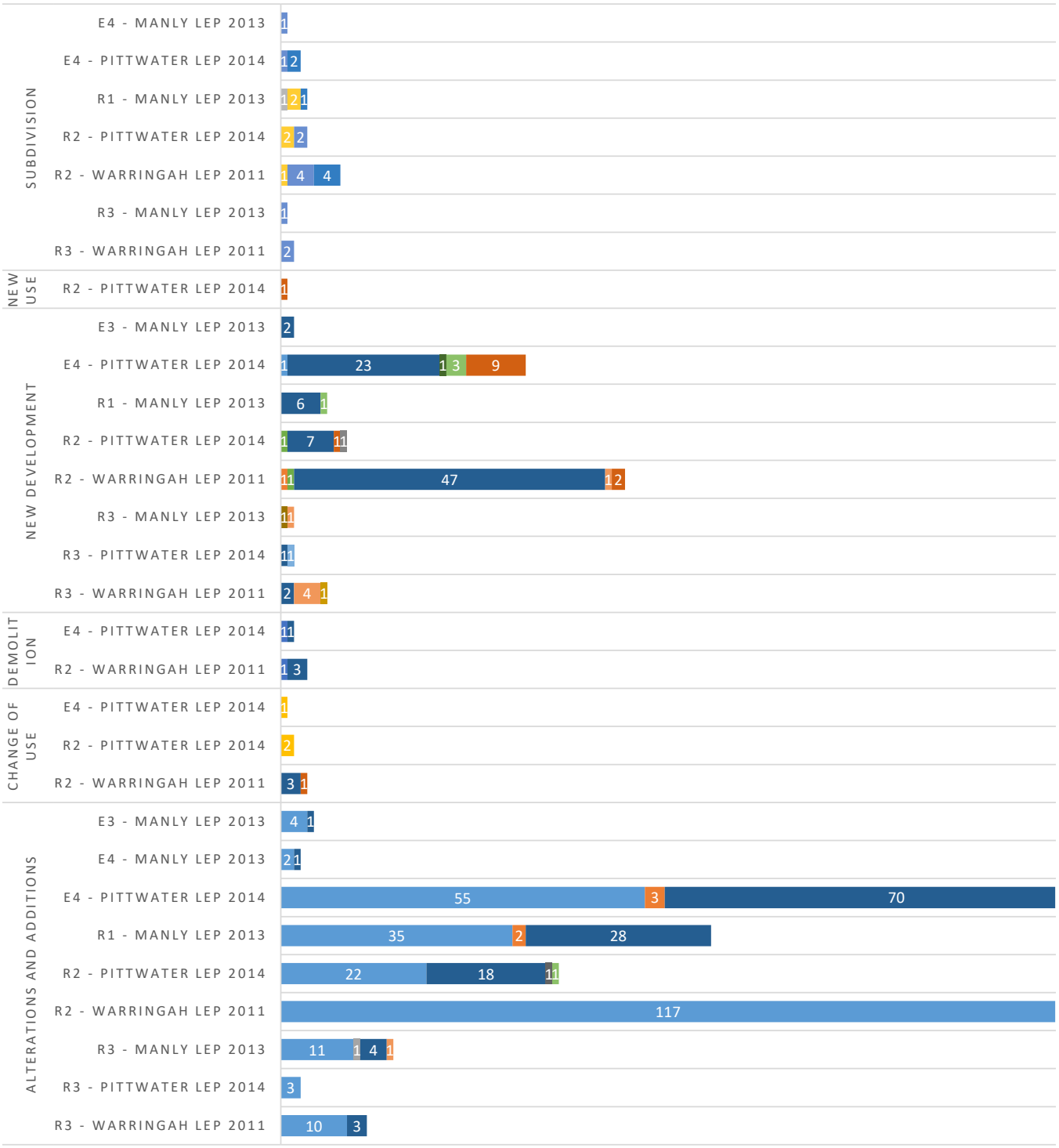


Figure 37. Development Activity Graph _ Coastal

LEGEND

- Alterations and Additions
- Ancillary Structures
- Backpackers Accommodation
- Change of Use
- Demolition
- Dual Occupancy
- Dwelling House
- Earthworks
- Home Business
- Hotel Accommodation
- Registered Club
- Residential Accommodation
- Residential Care Facility
- Residential Flat Building
- Semi Detached Dwellings
- Strata
- Subdivision
- Swimming Pool
- Torrens
- Secondary Dwelling
- Seniors Housing
- Multi Dwelling House

7.6 Summary

The following provides a summary of the key elements that will need to be considered when developing built form controls for the Coastal Character Zone.

Landform & Natural Features

- Steep topography is primarily focused in the northern section of the LGA but also on a number of headlands along the coastline. Future built form controls on the steeply sloping land may be needed to minimise cut and fill to reduce erosion risk and geotech hazard and reduce the overall height of development.
- Flooding is another dominant natural hazard within Coastal Character Zone. Built form controls need to respond to the flooding risk, meanwhile to consider minimising the negative impact on the street level accessibility and activation.

Scenic Views

- There are a number of important public lookouts within the coastal zone. Careful consideration of built form particularly within the foreground of key views may be required.
- Protection of views from private land should be considered as part of development appropriate built form controls.

Urban Form

- Lot sizes and dimensions vary dramatically in response to the landform across Coastal Character Zone. Street setbacks are further in reflection of different geographic features with a mix of small and large setbacks due to either flat or steep topography. These elements need further investigation to determine whether it makes a significant contribution to character in some areas and requires further built form control.
- Setbacks to the coastal cliffs and beachfront properties should be considered when directly adjoining the beach, coast and waterways. This is due to the concern of natural hazards.

Built Form

- Building height is generally greater in areas where there is steeper topography. It is also focused in areas closer to the coastline and areas with potential of water views. Future controls may need to consider reducing the visual bulk of upper level elements particularly in areas where water views to both private and public land are available.

Tree Cover

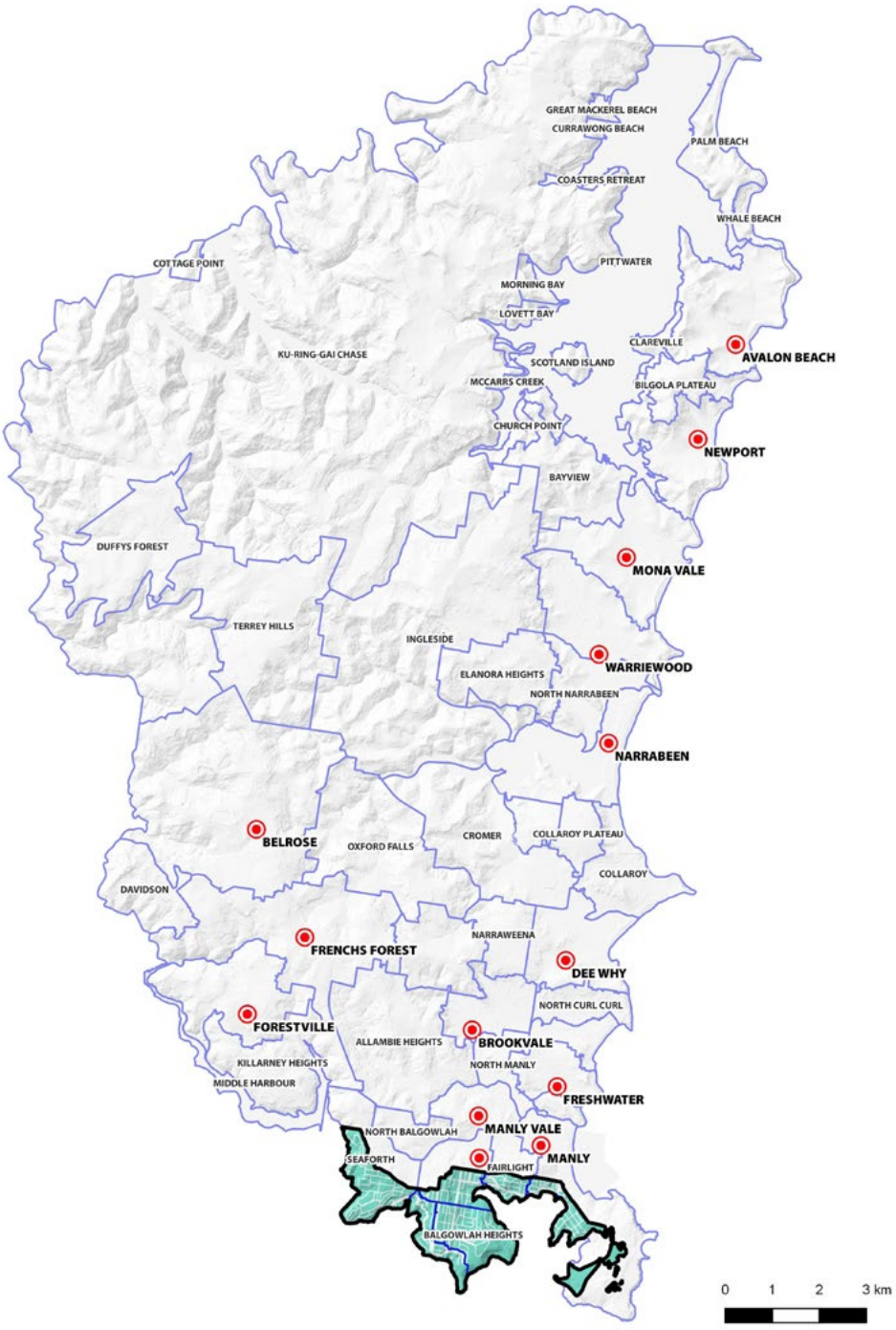
- Tree cover is moderate compared to other character zones however it is higher in areas north of Newport. There may require additional setback, site coverage and lot size requirements to ensure the strong tree canopy is retained and space for the planting of new canopy trees is provided.

8 Harbour Character Zone

8.1 Overview

Within the municipality the Harbour Character Zone is a localised but important precinct that relates to North and Middle Harbours and its tributaries. It is located at the southern limits of the LGA and housing is oriented towards the harbour outlook. The landform in this precinct is distinct and consistent with steep slopes falling to the south and the harbour foreshore.

Source: Northern Beaches Local Character Study, Tract Consultants, 2020



8.2 Landform and Natural Features

8.2.1 Landform and Slope Analysis

The Harbour Zone has a combination of plateau, escarpment and headland.

The topography is generally flat further inland and increases in steepness when closer to the foreshore. The largest distribution of slope was ~~+~~12.5% at approximately 300 properties.

The steepest topography is at western and southern end at Seaforth and at Clontarf going down through Clontarf Reserve to access the beach and Sandy Bay. This is reflected in the E3 zone of the Manly LEP 2013 at 37.8%. The E4 zone is the next highest median at 20.1%.

Balgowlah Heights, where Arabanoo Lookout, Dobroyd Head and Grotto Point Lighthouse are located, is the highest point and has the steepest drop to the ocean at 30% slope or greater. This results in a destination parkland with scenic views.

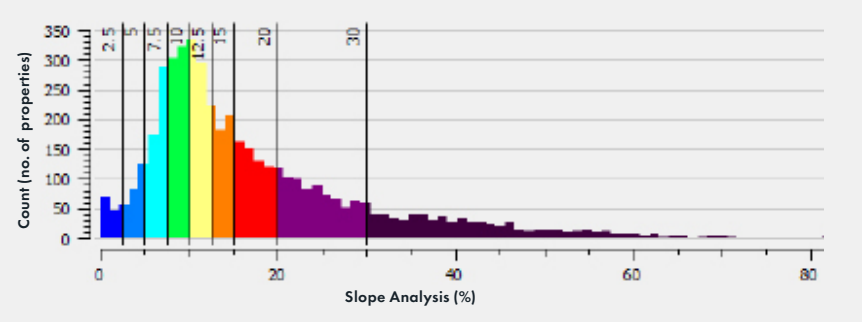


Figure 38. Distribution of Slope for the Harbour Character Zone

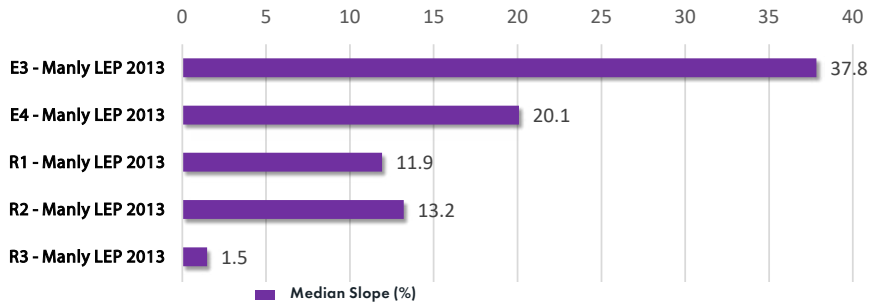


Figure 39. Median Slope Graph _ Harbour

8.2.2 Key Views

Harbour Zone has some of the greatest views within Sydney with views over to Watsons Bay, Manly and Georges Heights. The key views offer a variety of visually important localities along the harbour foreshore, including:

- Scenic arrival point, e.g. at Fairlight with views over to Dobroyd Head, Kay-Ye-My Point, Fairlight Beach, and Delwood Beach.
- Scenic escarpment, e.g. at Seaforth Bluff;
- Scenic Landmark, e.g. at Grotto Point Lighthouse.
- Scenic lookout/ viewpoint, e.g. at Laura Street in Seaforth, Sandy Bay, Clontarf Reserve, Jungle Float, North Harbour Reserve, Fairlight beach, Kay-Ye-My Point, Delwood Beach, Manly Cove, Manly Wharf, East Manly Cove Beach and Little Many Beach.

LEGEND

Character Types
- LEP Boundaries
- Land Zoning Boundaries
- Strategic Centres
- Non-Residential Uses
- Parks & Reserves
- Waterways

Elevation
- 0-30m
- 30-60m
- 60-90m
- 90-120m
- 120-150m
- 150-180m
- 180-210m
- 210m or greater

- Scenic Arrival Point
- Scenic Escarpment
- Scenic Landmark
- Scenic Viewpoint

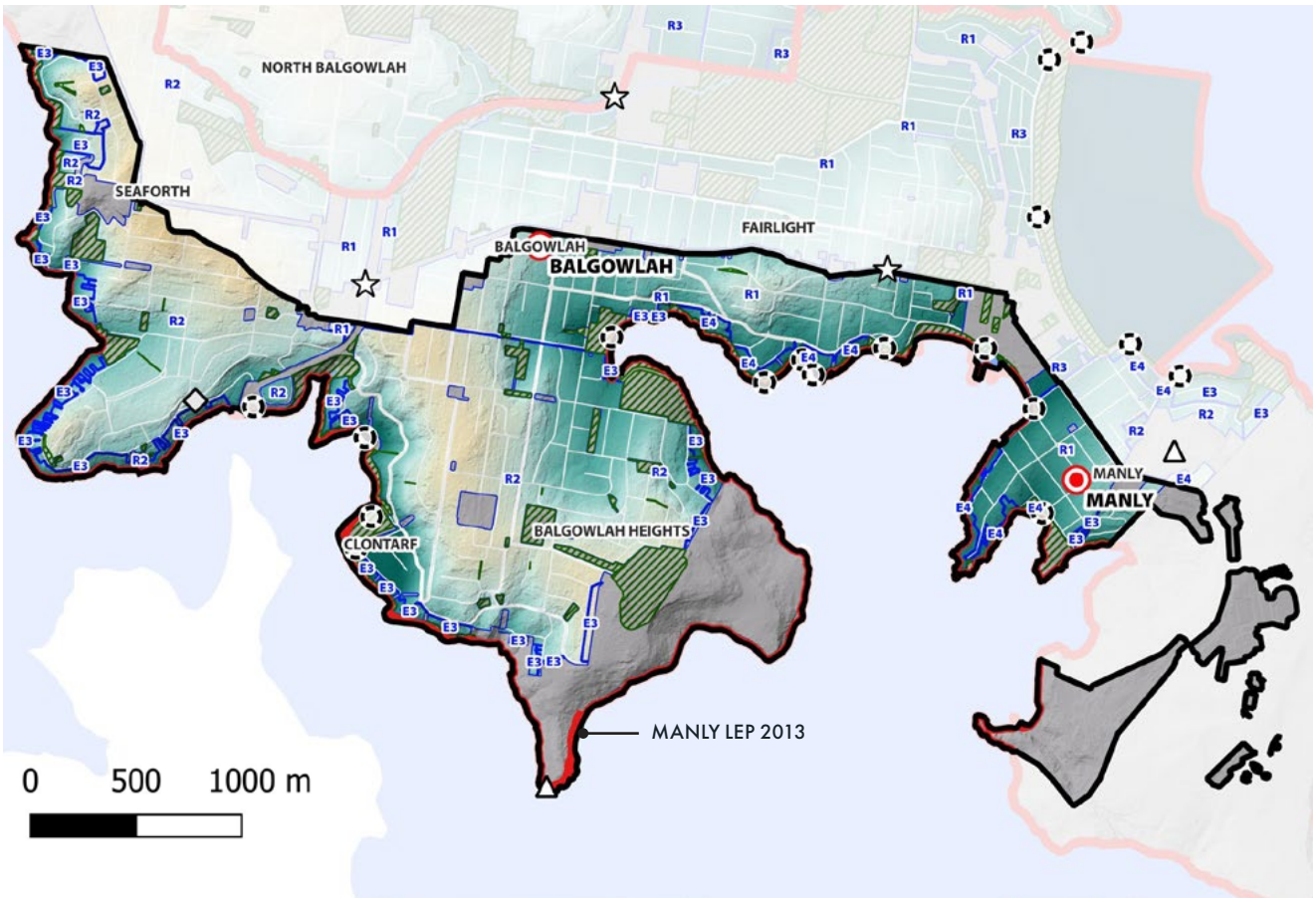


Figure 40. Landform and Views _Harbour

LEGEND

Character Types
- LEP Boundaries
- Land Zoning Boundaries
- Strategic Centres
- Non-Residential Uses
- Parks & Reserves
- Waterways

Slope Analysis
- 0-2.5%
- 2.5-5.0%
- 5.0-7.5%
- 7.5-10.0%
- 10.0-12.5%
- 12.5-15.0%
- 15.0-20.0%
- 20.0-30%
- 30% or greater

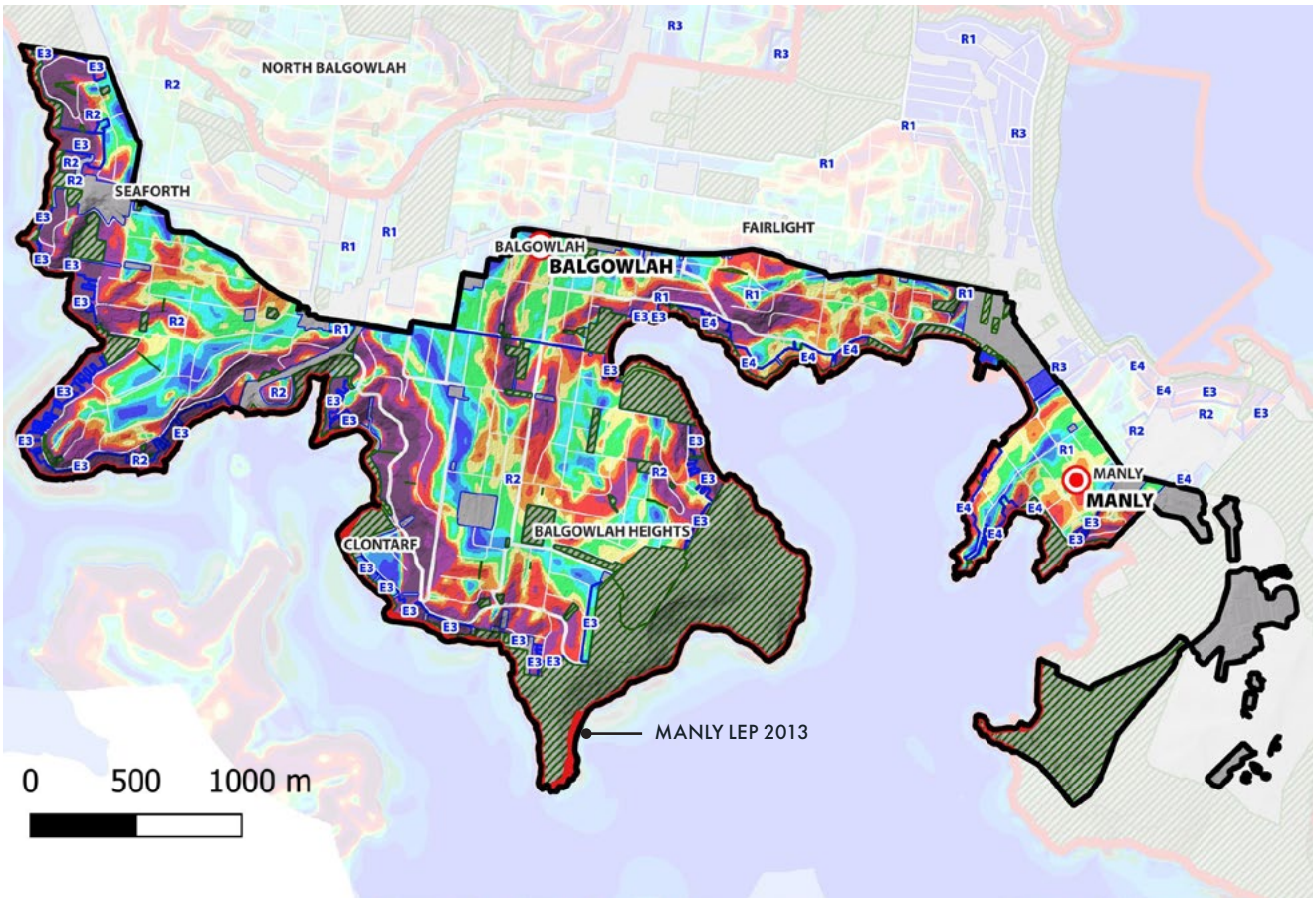


Figure 41. Slope analysis _ Harbour

8.3 Urban Form

8.3.1 Street Pattern

The NBLCS identifies 'grid', 'modified grid' and 'organic grid' street patterns across the LGA (see 7.3.1 for descriptions).

In the Harbour zone, the Grid Pattern occurs in Balgowlah, Balgowlah Heights, inland of Seaforth and South Manly. This allows for the greatest development efficiency around the most populated areas and allows for easy access to the harbour foreshore.

Where the landform transitions to the escarpment and foreshore, mostly in Balgowlah Heights near the parklands and lookouts, West Manly near Kay-Ye-My Point and Clontarf near Sandy Bay, the predominant pattern becomes modified grid pattern. This allows development to occur on moderate transitional landforms.

Towards the escarpments there is a prevalence of more organic street patterns which work with the steep landform and coastline. This can be seen in Seaforth.

Figure 42. Grid Pattern, South Manly (Source: NBLCS,Tract Consultants, 2020)

Figure 43. Modified Grid Pattern, Clontarf (Source: NBLCS,Tract Consultants, 2020)

Figure 44. Organic Pattern, Seaforth (Source: NBLCS,Tract Consultants, 2020)

LEGEND

Character Types
LEP Boundaries
Land Zoning Boundaries
Strategic Centres
Non-Residential Uses
Parks & Reserves
Waterways

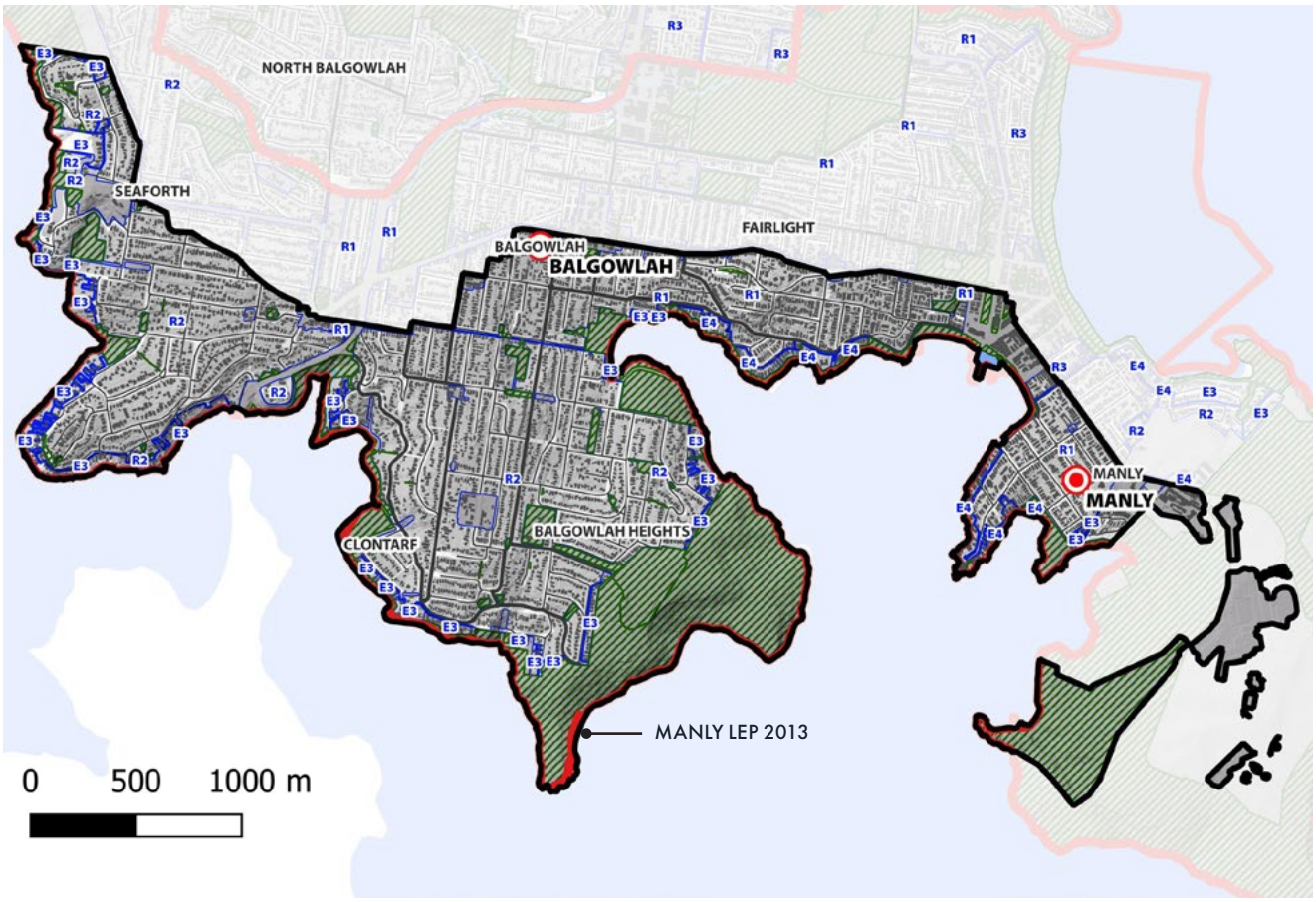


Figure 45. Street Pattern _ Harbour

8.3.2 Lot Size

Most large lots (over 1000m²) with irregular shapes (narrow and deep) occur towards the water and along the escarpment. These areas are zoned E3 under Manly LEP 2013 and are seen in Balgowlah Heights where the parklands are situated and in Seaforth and Clontarf. This is where the organic and modified grid pattern occurs.

Small to medium lots (400-900m²) with standard lots shapes are located within the grid pattern and modified grid pattern. These areas are zoned R1 and R2 under Manly LEP 2013 and can be seen in Balgowlah Heights, West and South Manly.

The smaller lots (medium density focus areas 0-400m²) are in the central areas where there is a grid street pattern on relatively flat land. It is also seen around the major centres and destinations such as Manly Foreshore. This is reflected in the R3 zone of the Manly LEP 2013, where the median lot size is 206m² which is typical of a Semi-detached residential development .

The highest distribution of lot size across the Harbour Character Zone is about 600m² at approximately 300 lots.

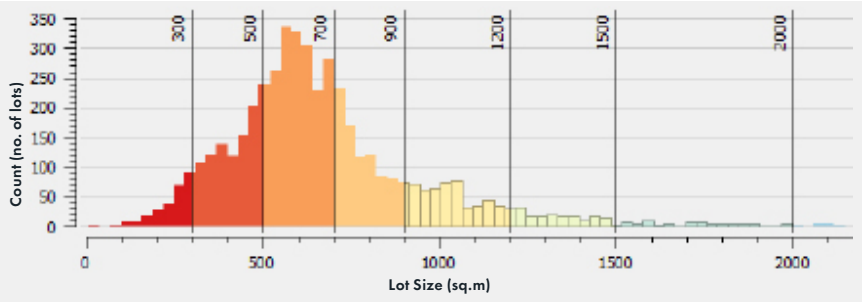


Figure 46. Distribution of lot sizes across the Harbour Character Zone

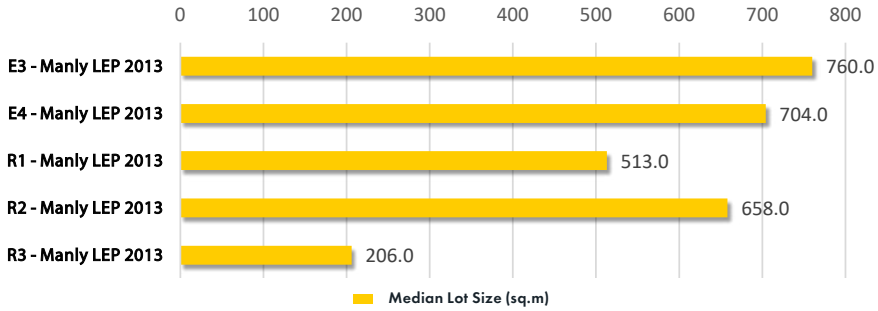


Figure 47. Median Lot Size by Land Zoning & LEP

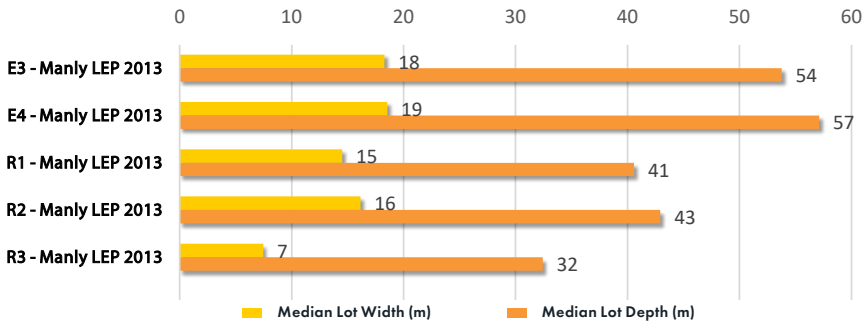


Figure 48. Median Lot Width and Depth by Land Zoning & LEP

LEGEND

Character Types
LEP Boundaries
Land Zoning Boundaries
Strategic Centres
Non-Residential Uses
Parks & Reserves
Waterways
Lot Area (square metres)
0 - 300 sq.m
300 - 500 sq.m
500 - 700 sq.m
700 - 900 sq.m
900 - 1200 sq.m
1200 - 1500 sq.m
1500 - 2000 sq.m
2000 - 4000 sq.m
4000 - 10000 sq.m
10000 sq.m or greater

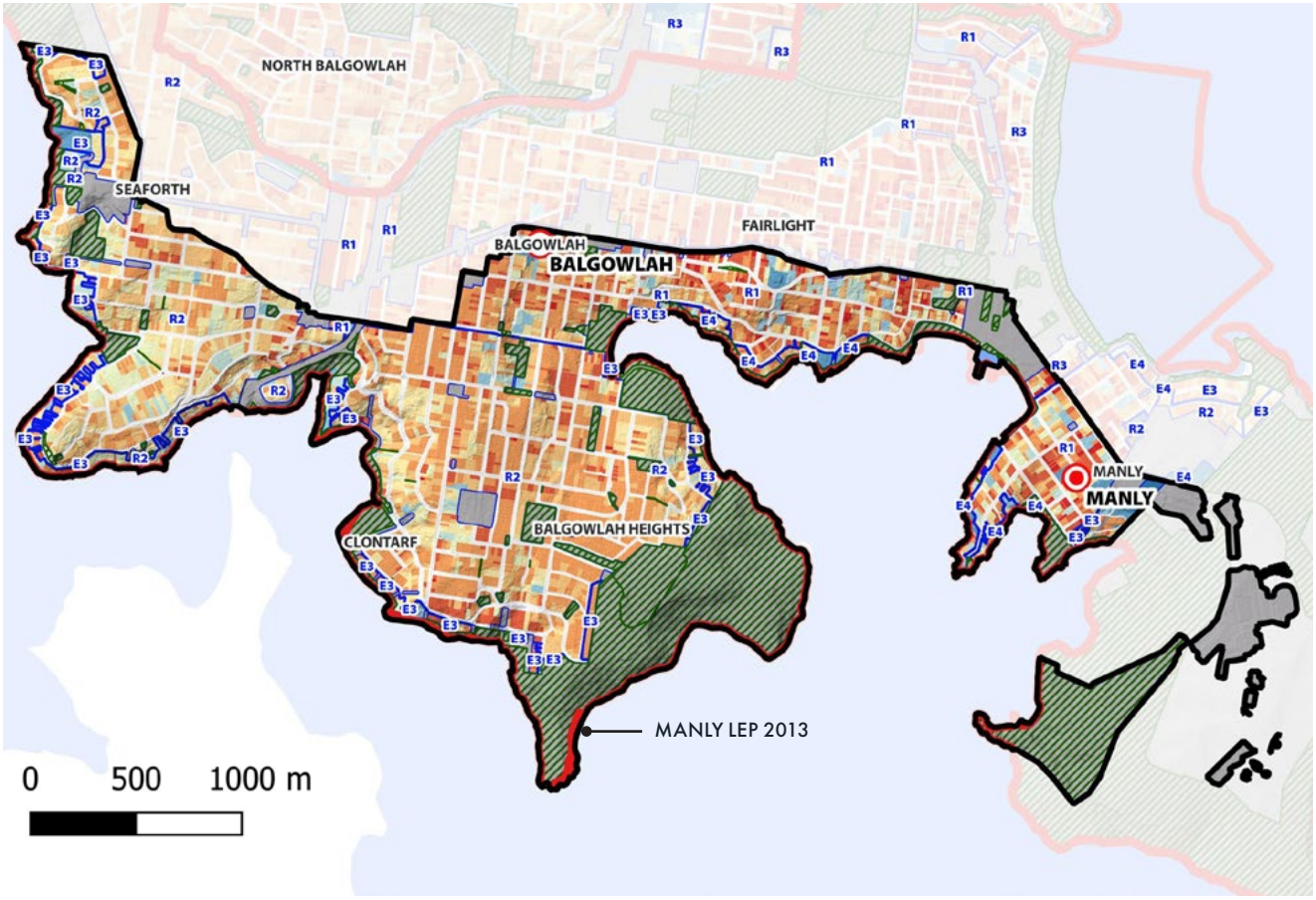


Figure 49. Lot Size _ Harbour

8.4 Built Form

8.4.1 Architectural Styles

NBLCS identifies the typical architectural styles found within the urban and suburban residential areas within the LGA. The following are found within the Coastal Character Zone:

Pre- War and Inter-War Housing - This housing type is typically free standing or semi-detached housing although a range of moderate height apartment blocks are also evident from this era. Construction is masonry, predominantly brick construction, has maintained the natural slope of the land or controlled it through the use of retaining walls, and is dominated by housing from 1910- 1930's which is typified by the Californian Bungalow. The standard gabled tiled roof is a key element of both low- and high-rise structures from this time. The built forms have been modified and expanded to meet the needs of the changing society but still reflect these key attributes.

Post - War Housing – This housing type covers the period from 1940's to 1960's reflects the adaptation of modern technologies and architectural styles. Built forms were simpler and cladding technologies reflected the new era. Focus was on cheaper mass-produced forms of materials including Fibrous sheeting, brick veneer construction. It is this era in which the beach house and a new character began to develop. Roof form was either a skillion or pitched or a combination of the two. The architectural style that typified this period was the fibro/weatherboard bungalow.

Contemporary Housing – Covering from the 1960's to today there is a variety of styles. Construction is dominated by slab on ground in which the landform is modified to support the house. Modern construction techniques and materials are used including a combination of fibrous sheeting, brick veneer, and render. A range of architectural styles and forms have been adopted including Federation Revival, Pavilion Style, and Post Modernism.

Site Specific Housing – This architectural form is largely site driven. It occurs on steeper terrain where traditional construction techniques are not efficient. Built forms are predominantly light weight, suspended structures on piers with a range of cladding materials including metal, timber or fibrous cement or a combination. Examples of suburbs where this applies includes Bayview.

Source: Northern Beaches Local Character Study, Tract Consultants, 2020

Pre-War and Inter-War Housing is found in the Harbour Zone. This includes the suburbs of Manly, Balgowlah and Fairlight.

Post-War Housing scattered across the Harbour Zone, while Contemporary Housing is generally found closer to the centres and the water foreshore where the offer of convenience, amenities and scenic views has led to housing gentrification.

For further analysis on building elements please refer to Part 3 of Place Based Analysis Report.

Modern Residential Apartment, Manly

Post-War Housing, Balgowlah Heights

Inter-War Housing, Manly

Contemporary Housing, Clontarf

Contemporary Housing, Manly

Modern Residential Apartment, Fairlight

8.4.2 Building Height

The building heights along the harbour are concentrated at the centres which accommodate greater population and offer more development opportunities, such as Manly, Fairlight and Clontarf.

Tall buildings with building heights over 10m are also identified along the escarpment and headland locations, such as Seaforth, Clontarf and Eastern Hill at Manly. The steeper topography results in taller buildings to accommodate the significant level changes. This is reflected in E3, E4 and R3 zones under Manly LEP 2013.

The 0-10m buildings are mostly reflected in the residential zones of Seaforth and Balgowlah Heights. The landform in these areas is flatter and has the highest elevation levels within Harbour Character Zone. These areas are zoned R1 and R2 under Manly LEP 2013.

The majority of building heights distribution across Harbour Character Zone focus between 7-10m.

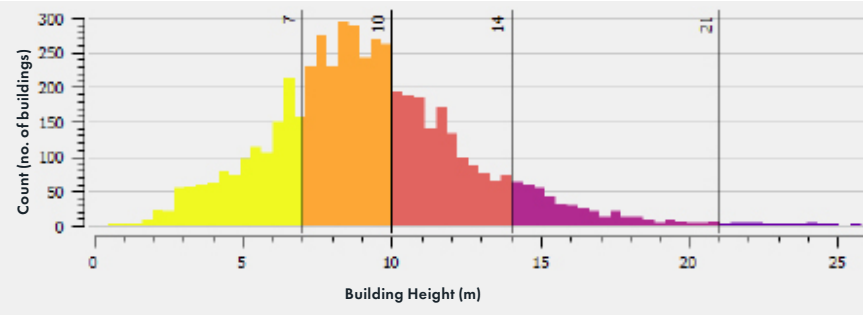


Figure 50. Distribution of Building Heights across the Harbour Character Zone

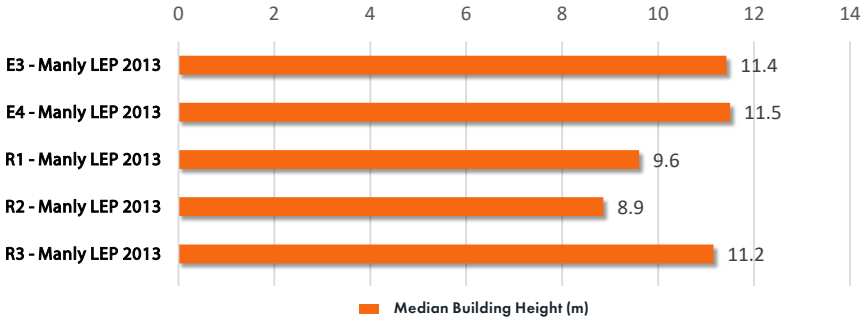


Figure 51. Median Building Height by Land Zoning & LEP

LEGEND

Character Types
- LEP Boundaries
- Land Zoning Boundaries
- Strategic Centres
- Non-Residential Uses
- Parks & Reserves
- Waterways

Building Heights
- 0 - 7m
- 7 - 10m
- 10 - 14m
- 14 - 21m
- 21 - 29m
- 29m or greater

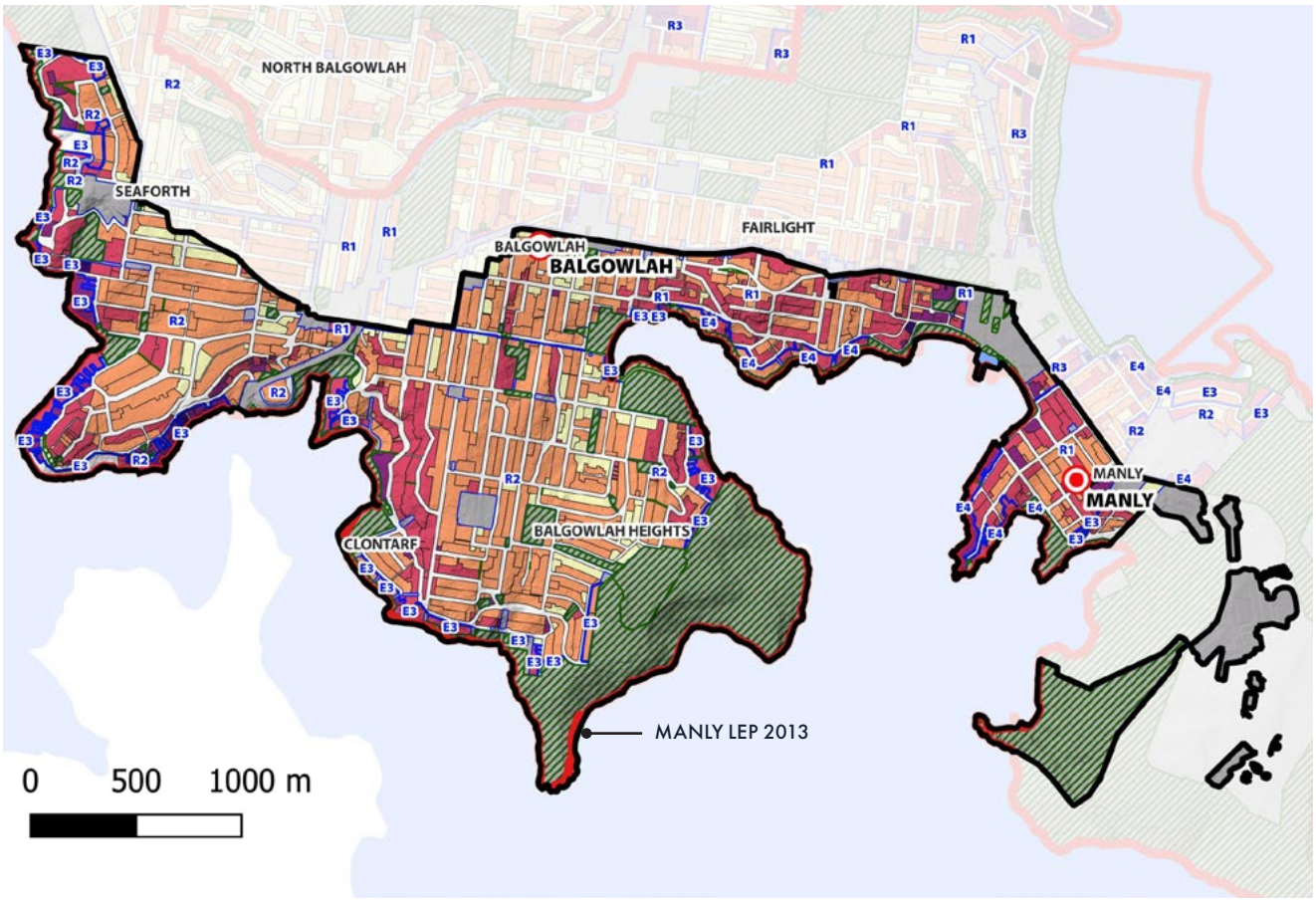


Figure 52. Building Height _ Harbour

8.4.3 Street Setbacks

The highest distribution of street setbacks within the Harbour Character Zone is between 7-9m with above 25 0 street blocks identified. It is mainly reflected in R2 zone under Manly LEP 2013.

The setbacks greater than 5m in locations such as Balgowlah, Balgowlah Heights, Clontarf and Seaforth where the slope is greater and the landform is challenging.

The small to medium setbacks of 3m-5m generally occur in Manly and Fairlight, close to the main centres and where the land is moderately flat. These zones are E3, E4 and R1 under Manly LEP 2013.

The lots on the harbour foreshore edge, zoned E3 and E4 under Manly LEP 2013, all have a small setback between 0 to 5m at maximum. This is to take advantage of the views and maximise the development area.

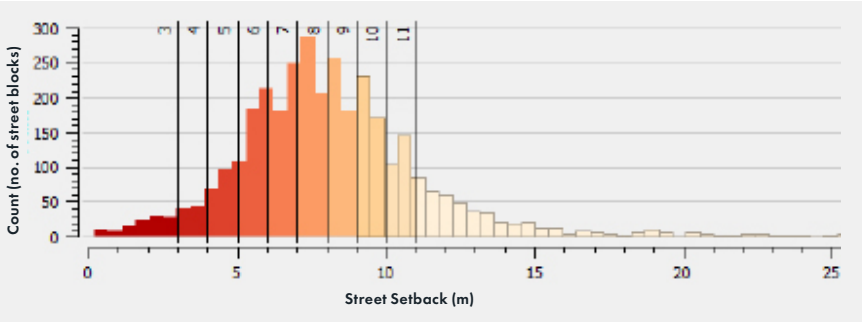


Figure 53. Distribution of Street Setback across the Harbour Character Zone

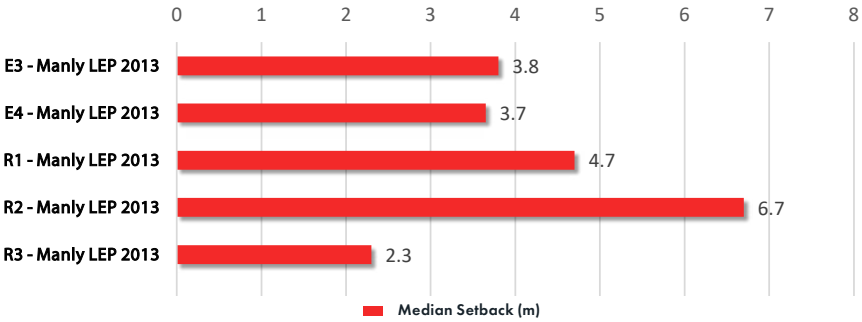


Figure 54. Median Setback by Land Zoning & LEP

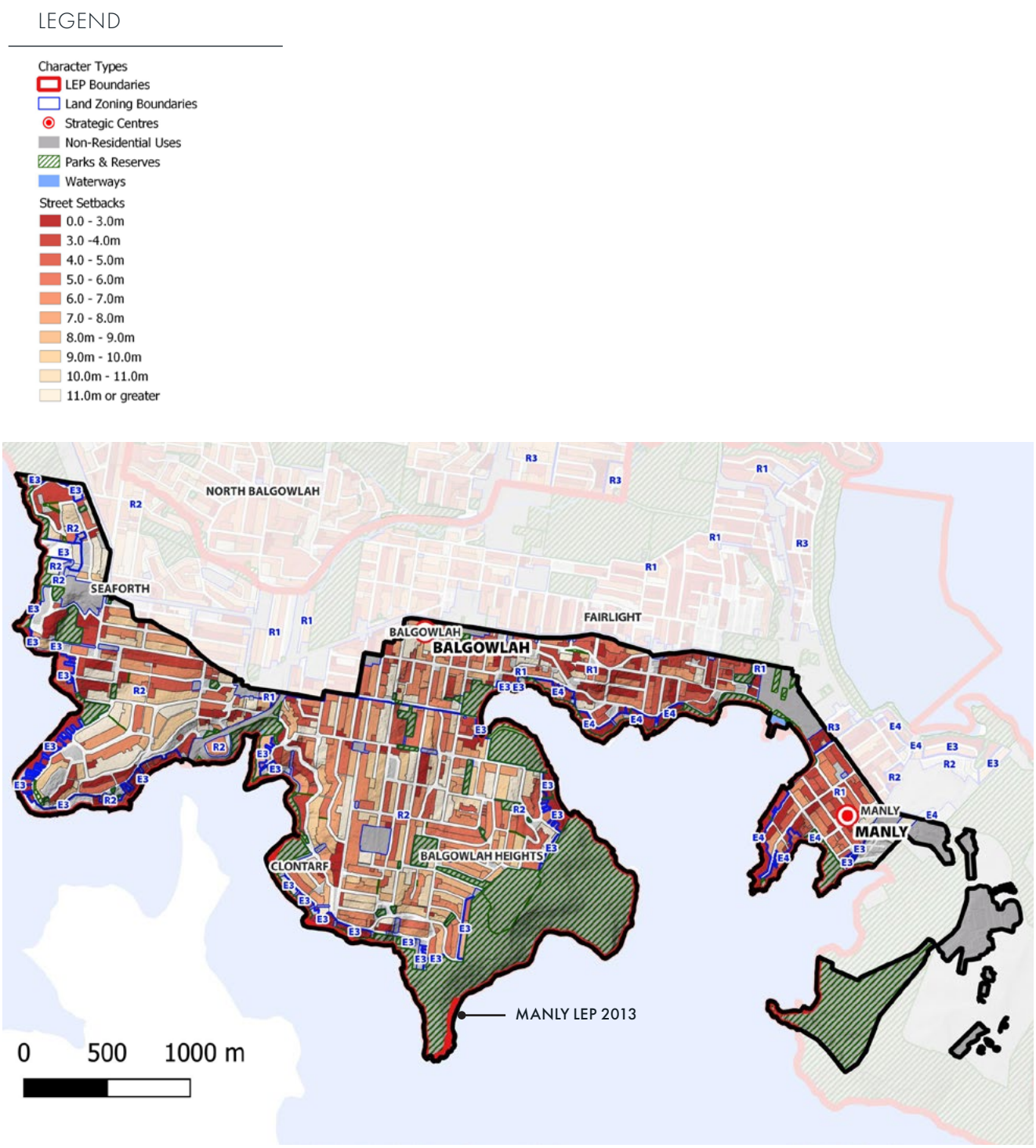


Figure 55. Street Setbacks _ Harbour

8.4.4 Building Site Coverage

The building site coverage is generally higher around Manly and Fairlight. Consequently, the permeable surfaces of these two areas are the lowest of the LGA. The building site cover is over 40% while the permeable surface is as low as 14-30%. This is reflected in R1 and R3 zones under Manly LEP 2013.

Building site coverages decrease further to the west in Seaforth and Clontarf. There are some areas which reflect a 0-20% building site coverage in the R2 zone of the LEP. These areas also exhibit higher building heights due to their steep topography. The E3 zones are mainly located at the harbour edge to the west of Manly and Fairlight, which depict a lower median building site cover across Harbour Character Zone and a higher median permeable surfaces. The E4 zones are located on the harbour edge of Manly and Fairlight and identified to have a higher median building site coverage in comparison to E3 zone.

Across Harbour Character Zone, the highest distribution of building site coverage is between 30-37%. The permeable surface has its highest distribution between 35- 37%.

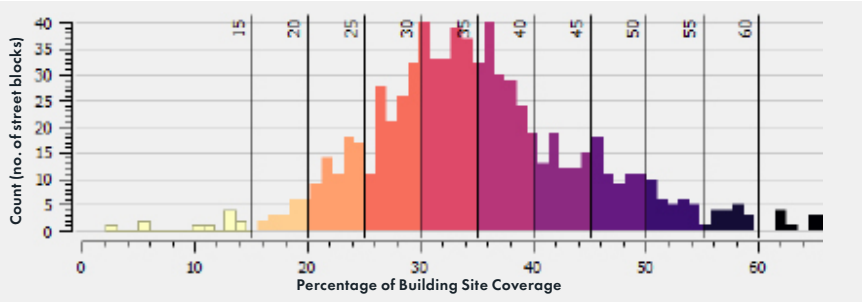


Figure 56. Distribution of Building Site Coverage (aggregated to street blocks) across the Harbour Character Zone

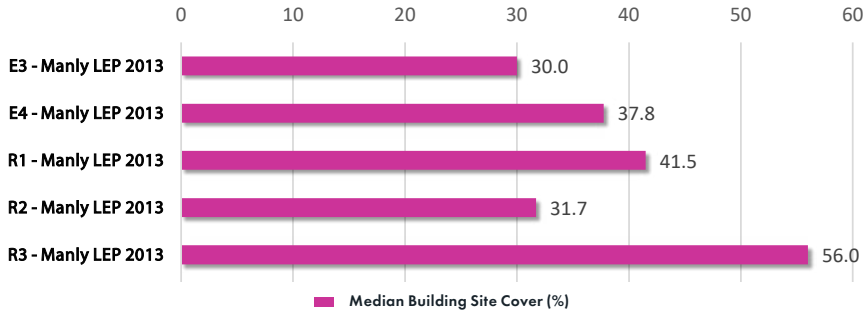


Figure 57. Median Building Site Coverage by Land Zoning & LEP

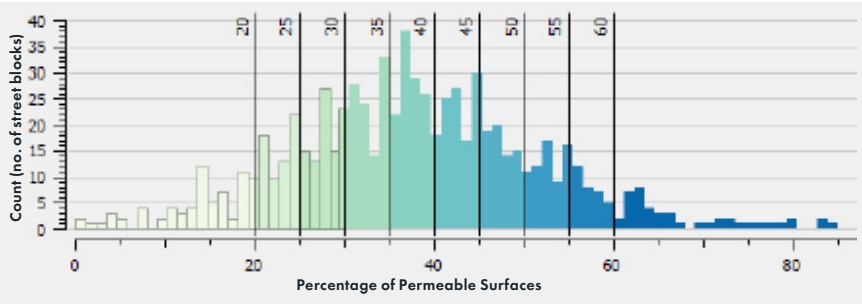


Figure 58. Distribution of Permeable Surface (aggregated to street blocks) across the Harbour Character Zone

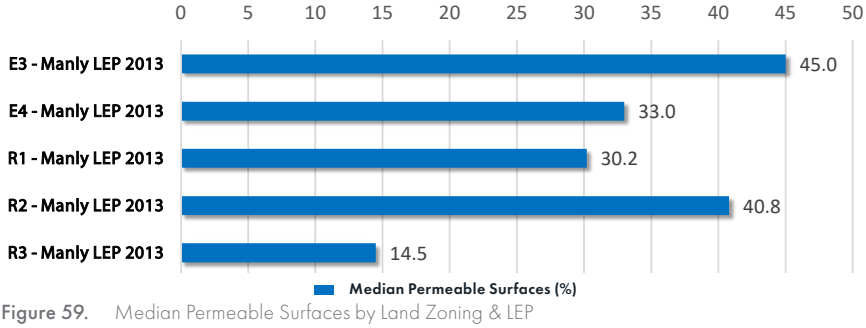


Figure 59. Median Permeable Surfaces by Land Zoning & LEP

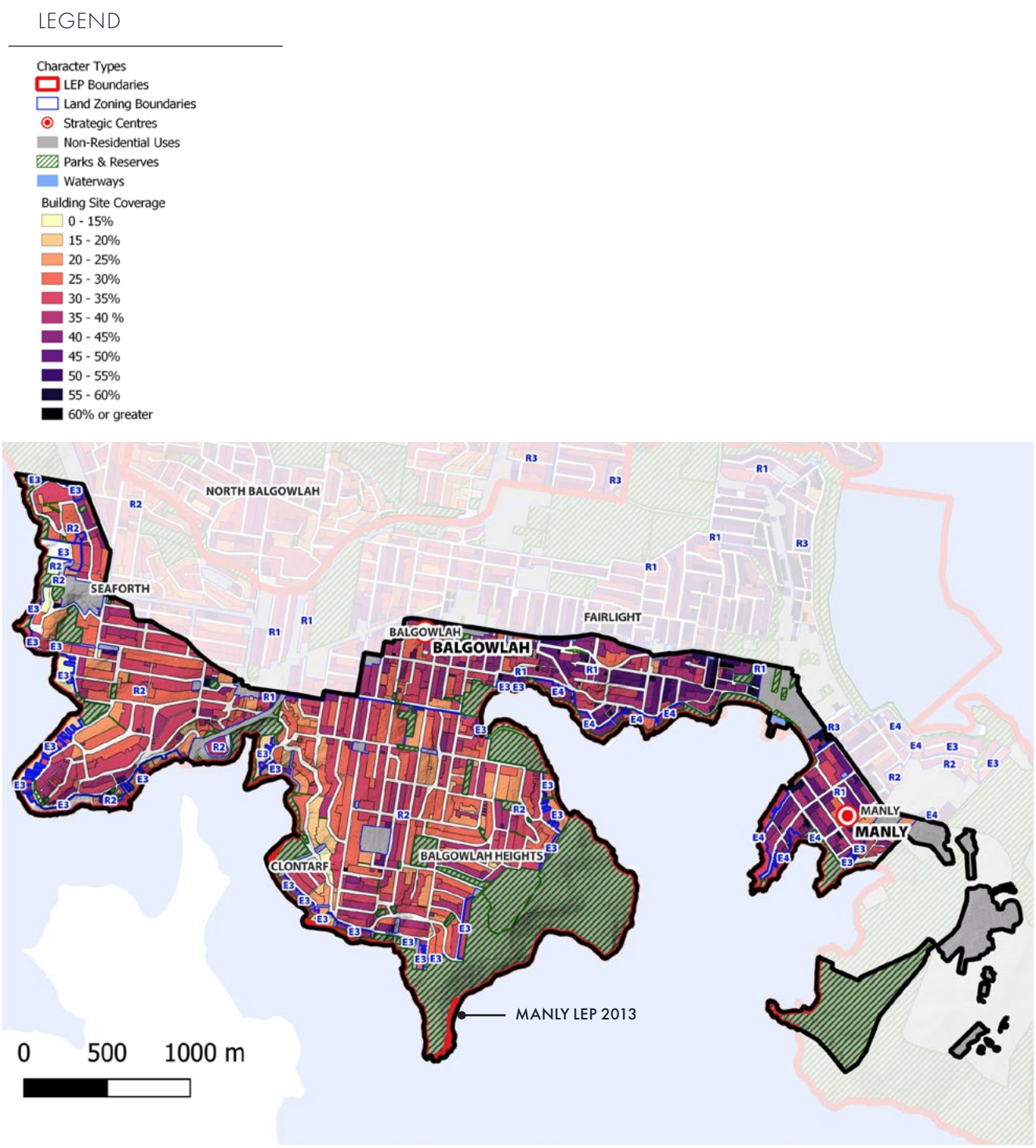


Figure 60. Building Site Coverage _ Harbour

8.4.5 Tree Cover

The tree cover is the greatest on the western edge of Harbour Character Zone, such as in Seaforth and Clontarf, which are zoned E3 under Manly LEP 2013. There are pockets of areas in Balgowlah Heights, zoned R2 and E3 under Manly LEP 2013, having greater tree cover above 25%. These areas have less development density.

The rest of Harbour Character Zone has relatively low tree cover, such as east of Seaforth, central part of Balgowlah and Balgowlah Heights, south of Fairlight and west of Manly, where has higher density.

The tree cover across Harbour Character Zone has the largest distribution at 1% over 70 street blocks. This is an alarmingly result and require further consideration on built form controls to balance the result out.

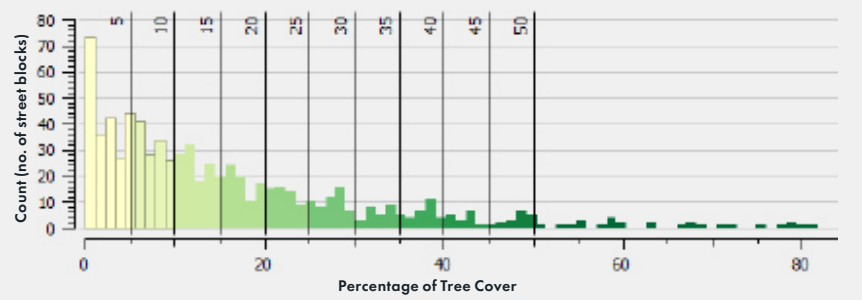


Figure 61. Distribution of Tree Coverage (aggregated to street blocks) across the Harbour Character Zone

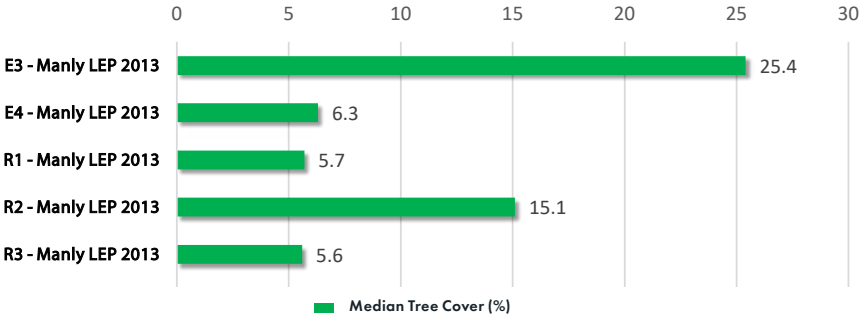


Figure 62. Median Tree Cover by Land Zoning & LEP

LEGEND

Character Types
- LEP Boundaries
- Land Zoning Boundaries
- Strategic Centres
- Non-Residential Uses
- Parks & Reserves
- Waterways

Tree Canopy Cover
- 0 - 5.0%
- 5.0 - 10.0%
- 10.0 - 15.0%
- 15.0 - 20.0%
- 20.0 - 25.0%
- 25.0 - 30.0%
- 30.0 - 35.0%
- 35.0 - 40.0%
- 40.0 - 45.0%
- 45.0 - 50%
- 50.0% or greater

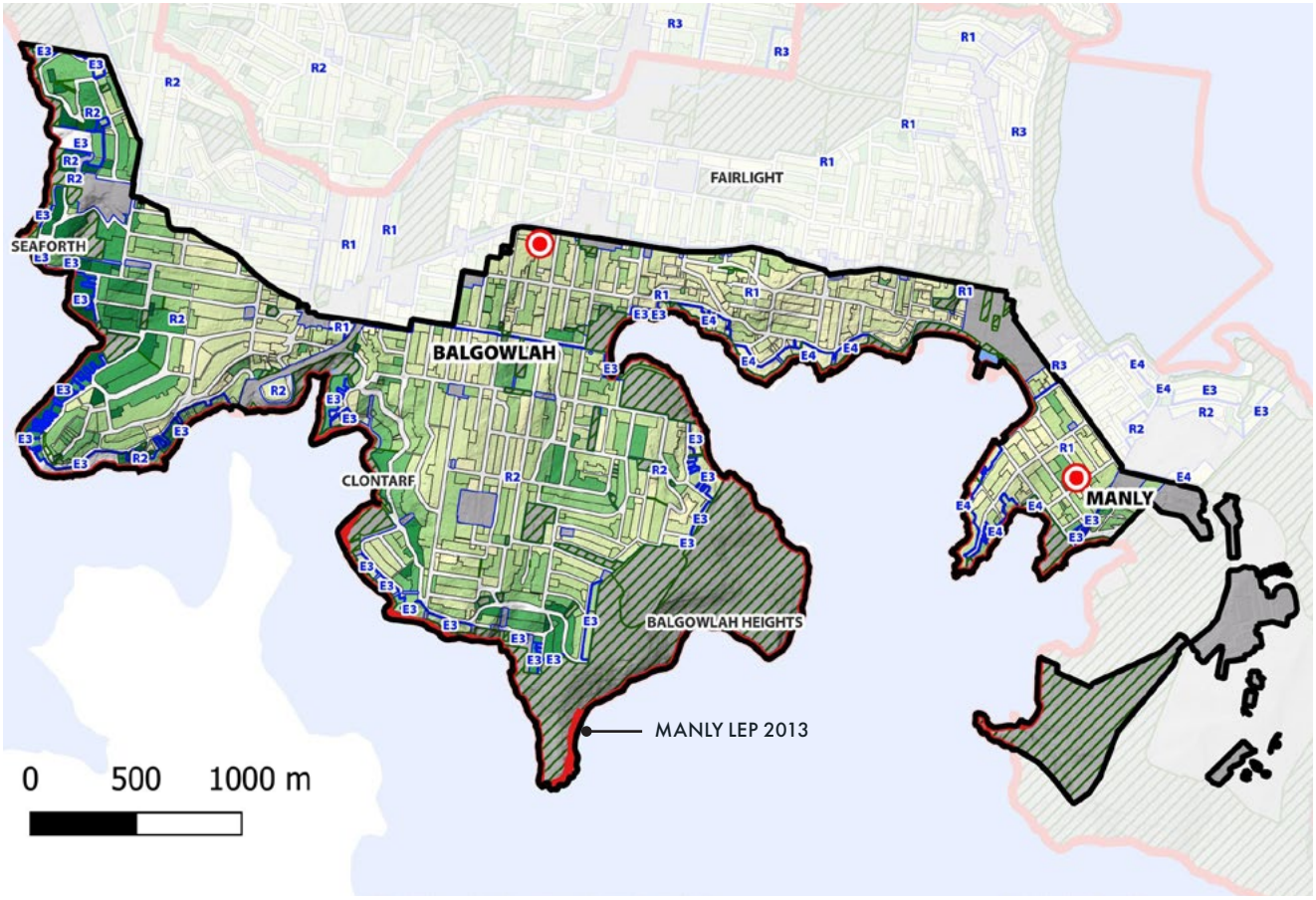


Figure 63. Tree Cover _ Harbour

8.5 Development Activity

8.5.1 Development Applications

Within the Harbour Character Zone, there is a smaller variety of development applications which ranges from subdivision, new development, demolition, change of use and alterations and additions. They have been categorised into the LEP zones which compares and demonstrates the number of development applications in the last 2 to 5 years. Some development may have been approved by CDCs and this has not been included as it would skew results.

The graph categories these primary categories into development application types within different LEP zones.

The new development category is in relation to the construction of new dwelling house/ commercial building/ industry building and/ or new dwelling house with an attached secondary dwelling or creating a secondary dwelling.

The greater number of development applications are in the higher density areas of Manly and Seaforth. The other areas have a low number of development applications which reflects less changes/development activities occurring in those areas.

It is indicated that the most applications are dwelling house and alterations and additions. This is reflected mostly in R2 zone of the Manly LEP 2013 followed by R1 zone.

The lowest number of application types are in strata, boarding house, ancillary structures, residential accommodation, change of use, torrens and swimming pools. This is demonstrated in the graph with low number of applications in R3, E3 and E4 zones.

The map of Development Application demonstrates spatially the different DA categories, DA determination periods and DA results.

The areas that have the most rejected development applications are in Manly under the E3 and E4 zones and Balgowlah Heights. It is also noted that applications submitted within the Fairlight area of the R1 zone are generally determined in greater than 6 months.

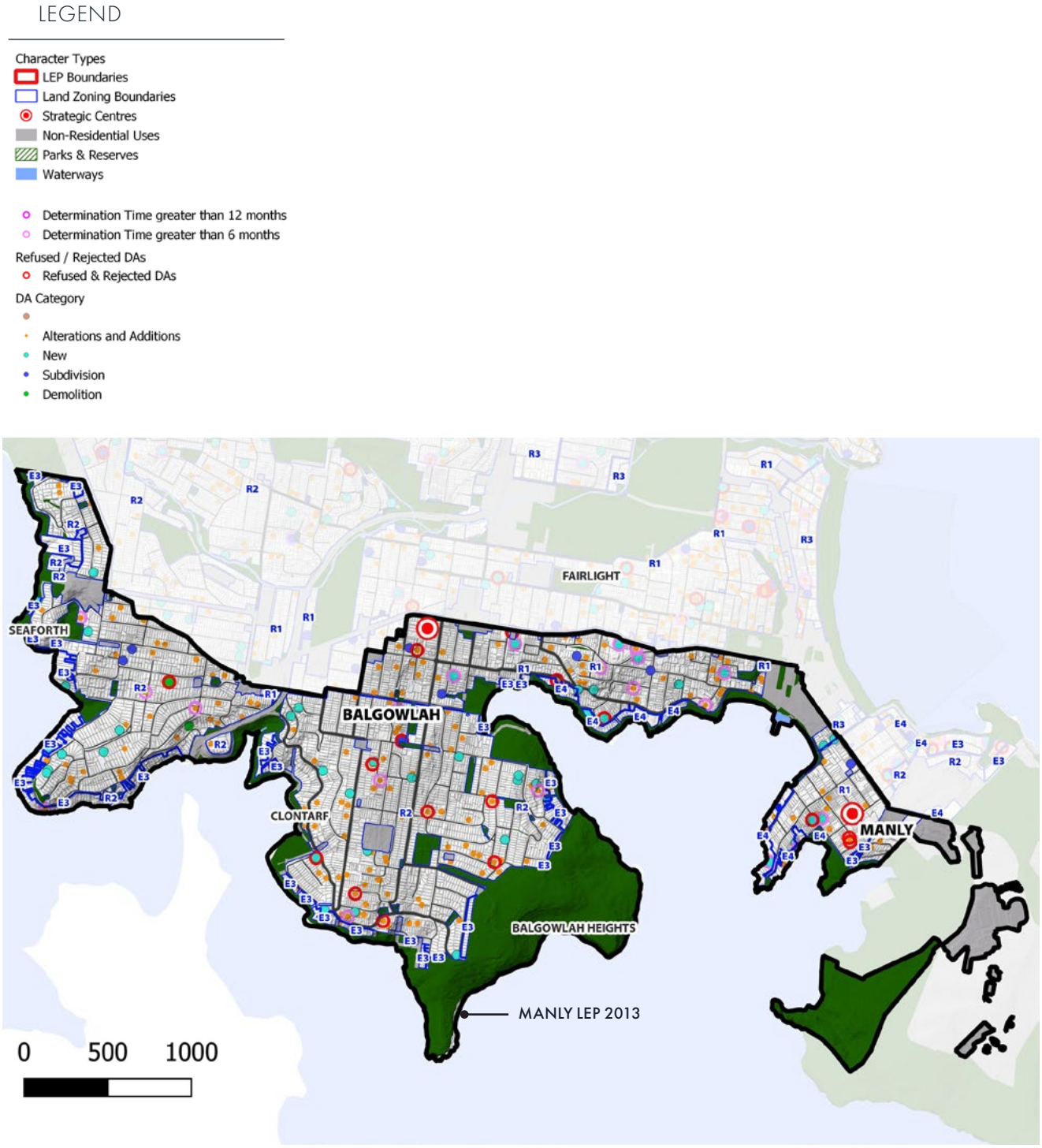


Figure 64. Development Applications _ Harbour

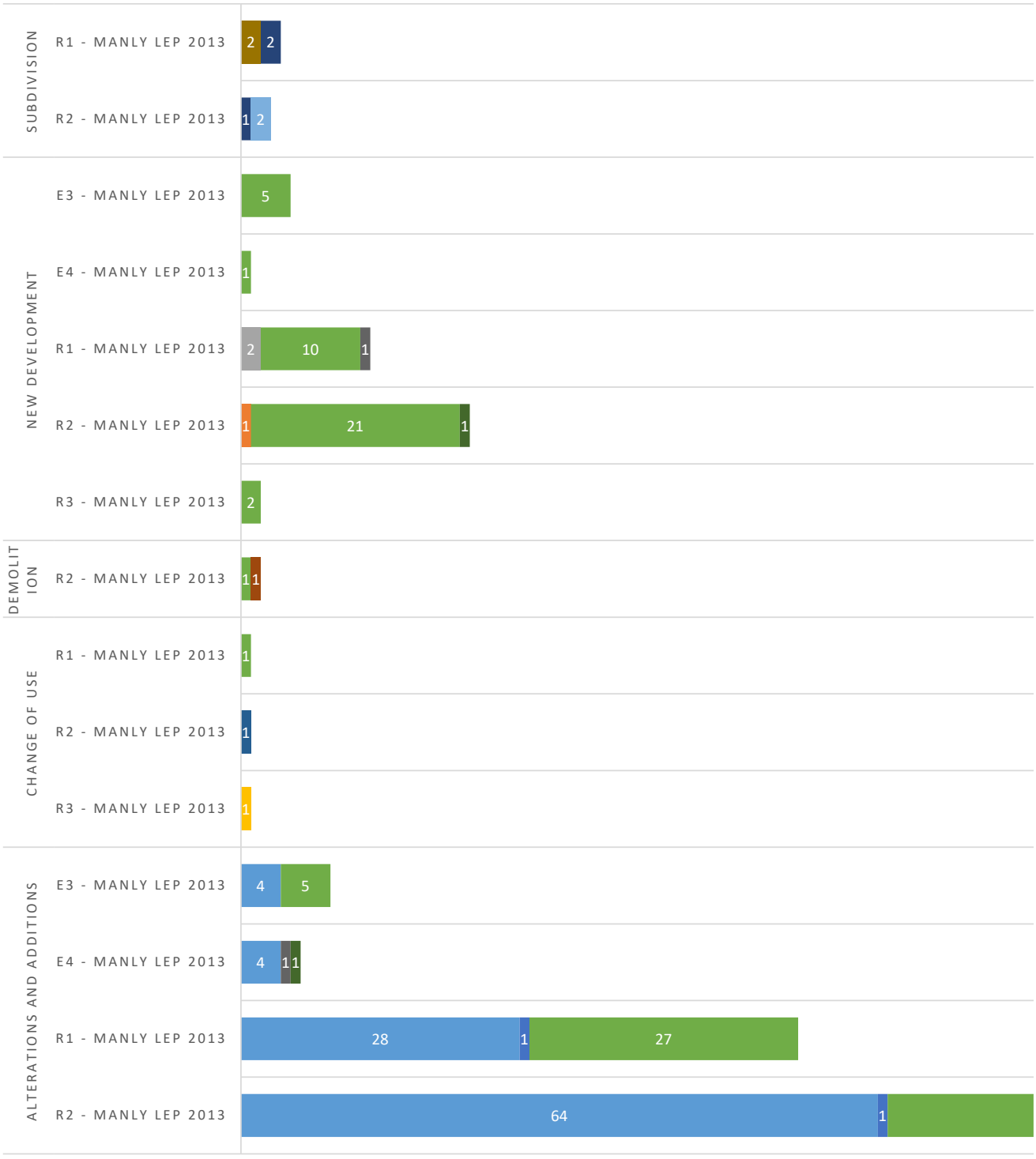
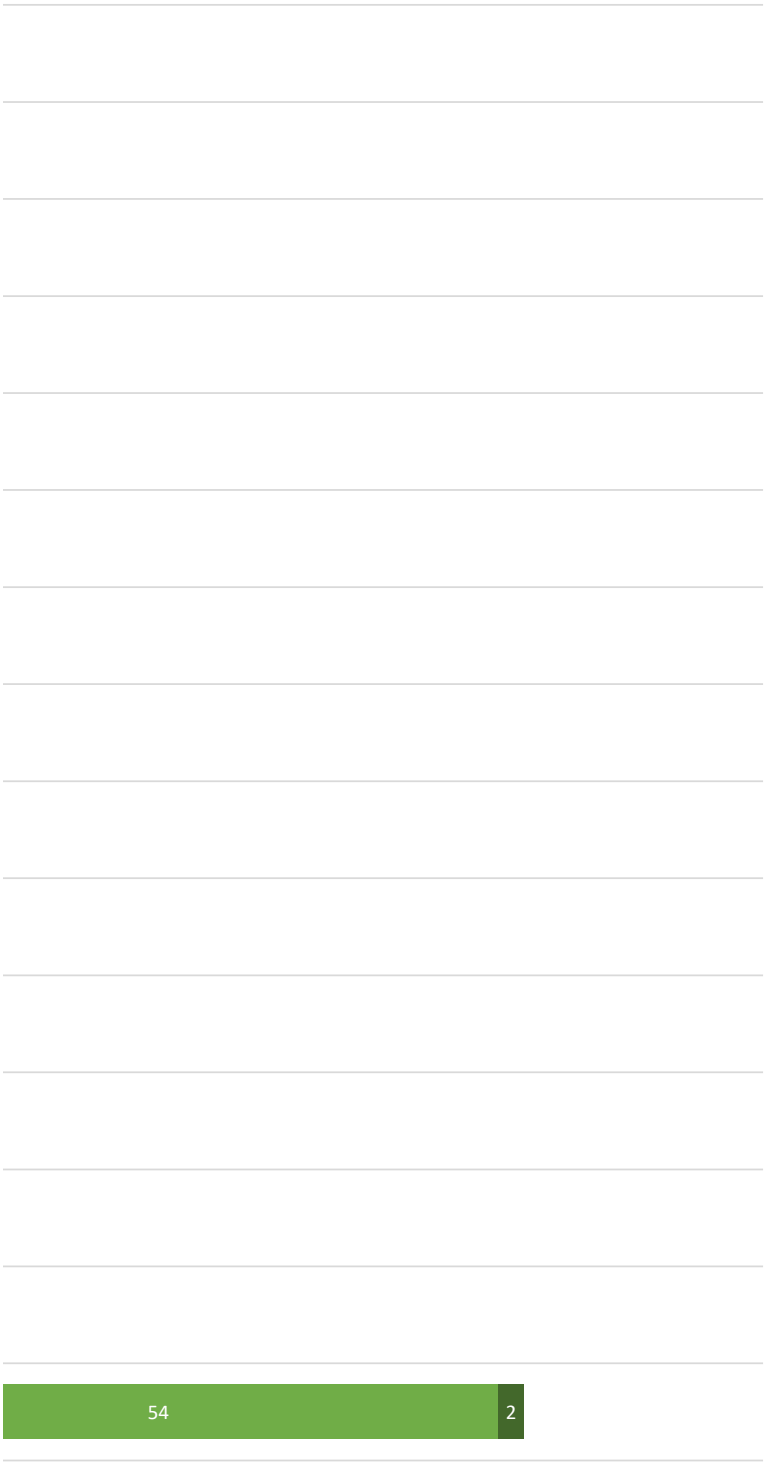


Figure 65. Development Activity Graph _ Harbour



LEGEND

- Alterations and Additions
- Ancillary Structures
- Boarding House
- Change of Use
- Dual Occupancy
- Dwelling House
- Home Business
- Residential Accommodation
- Residential Flat Building
- Strata
- Subdivision
- Swimming Pool
- Torrens

8.6 Summary

The following provides a summary of the key elements that will need to be considered when developing built form controls for the Harbour Character Zone.

Landform & Natural Features

- The topography is generally flat at inland areas and starts to increase in steepness closer to the foreshore edge. The steepest topography is at the western and southern end of the Harbour Zone, around Seaforth and Clontarf. Future built form controls on steeply sloping land may be needed to minimise cut and fill to reduce erosion risk and reduce the overall height of development.
- Bushfire risk exists at Wellings Reserve, Dobroyd Head and along parts of the western edge of Seaforth. *Planning for Bush Fire Protection and AS3959* to be complied. Regular maintenance of these areas are required to reduce bushfire risk.

Scenic Views

- There are a number of important public lookouts within the Harbour Zone. Careful consideration of built form particularly within the foreground of key views may be required.
- Protection of views from private land should be considered as part of development appropriate built form controls.

Urban Form

- Lot sizes and dimensions vary dramatically in response to the landform across all residential zones, i.e. E3, E4, R1, R2, R3 under Manly LEP 2013 within Harbour Character Zone.
- Street setbacks vary across the zone with a mix of larger and smaller setbacks, sometimes increasing due to steeper topography and/or decreasing to take advantage of the harbour foreshore views.
- These elements need further investigation to determine whether it makes a significant contribution to character in certain areas (e.g. foreshore edge) and requires further built form control.
- It is important to retain the foreshore building line and setbacks to the waterway.

Built Form

- Building height is generally greater in areas where there is steeper topography however it is also focused in the centres and major destinations, such as areas with potential for water views. Future controls may need to consider reducing the visual bulk of upper level elements particular in areas where water views are available to private land.

Tree Cover

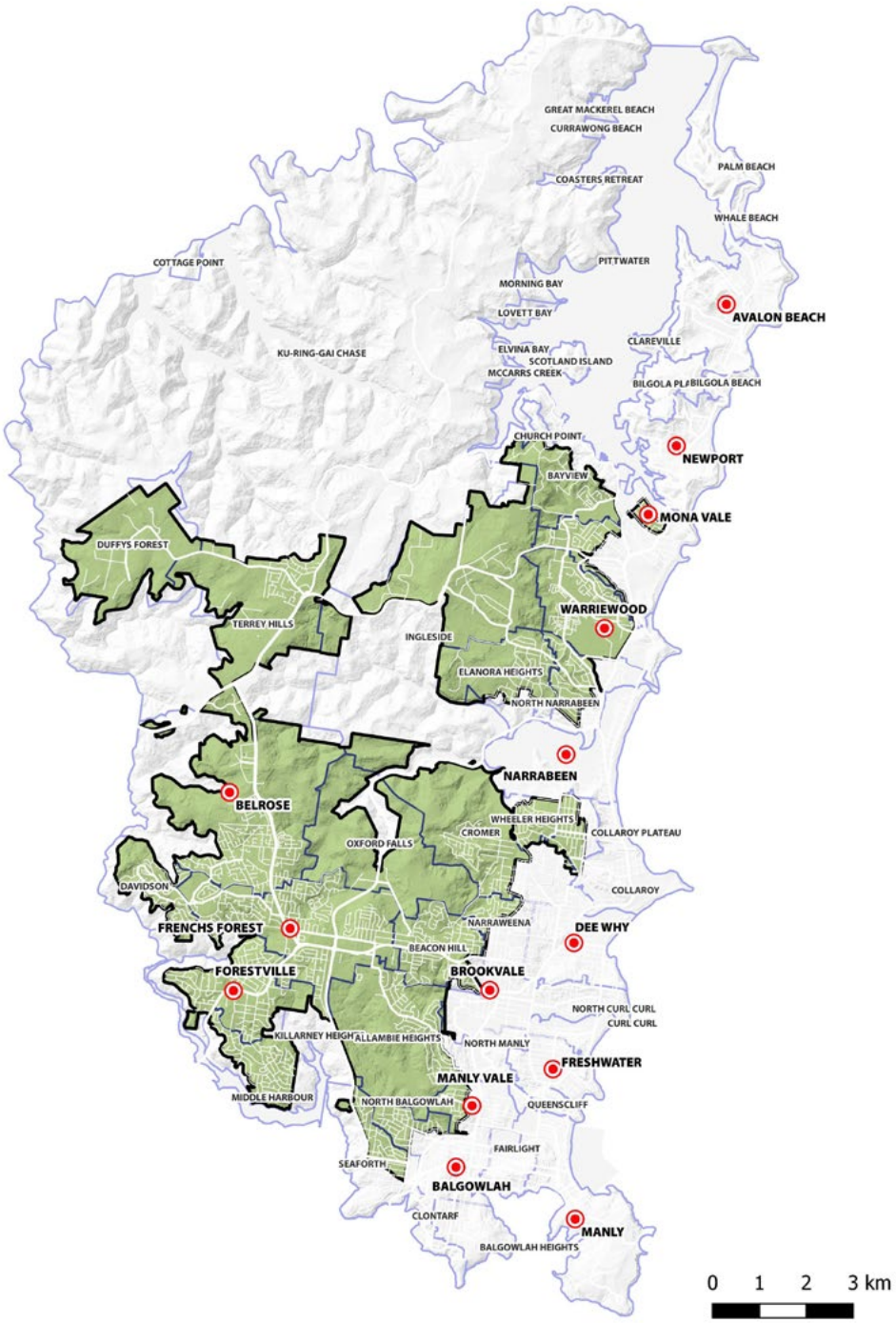
- Tree cover is moderate compared to other character zones however it is higher in areas west of Seaforth and the parklands at Balgowlah Heights and North Head. This may require additional setback, reduced site coverage and landscape open space to ensure the predominant tree canopy is retained and adequate space for the planting of new canopy trees is provided.

9 Bushland Character Zone

9.1 Overview

The bushland setting is a strong element of the natural character of the northern beaches and a key element that is valued by the community. This character refers to areas where a native canopy dominates the built setting, where the built form is set within the canopy rather than the canopy set out around the built form. Bushland settings are often steeper in slope with the built form responding to context enabling the bushland character to be preserved.

Source: Northern Beaches Local Character Study, Tract Consultants, 2020



9.2 Landform and Natural Features

9.2.1 Landform and Slope Analysis

The Bushland Zone includes a combination of landforms; plateau, valley and escarpment.

The topography is flatter than other character zones with a median slope of 7.5-10%. There is a major difference between the steepest and flattest areas with the steepest being 31.4% (E3 zone in Pittwater LEP 2014) and the flattest being 4.3% (R3 zone in Pittwater LEP 2014).

The steepest areas are at north of Oxford Falls in the Deferred Matter zone of Warringah LEP 2011. There are some pockets of steeper topography in Bayview, north Davidson residential area on the edge of the Garigal National Park, R5 zone of Pittwater LEP 2014 at west of Elanora Heights, Terrey Hills at the Resource Recovery Centre and the Cromer Golf Course.

The median slope decreases in the north towards Terry Hills and Duffys Forest and north of Ingelside. The greatest area of the flattest slope was in Warriewood in the R3 zone of Pittwater LEP 2014.

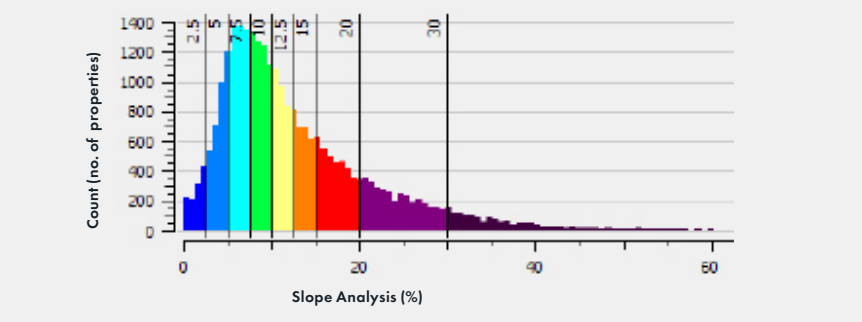


Figure 66. Distribution of Slope for the Bushland Character Zone

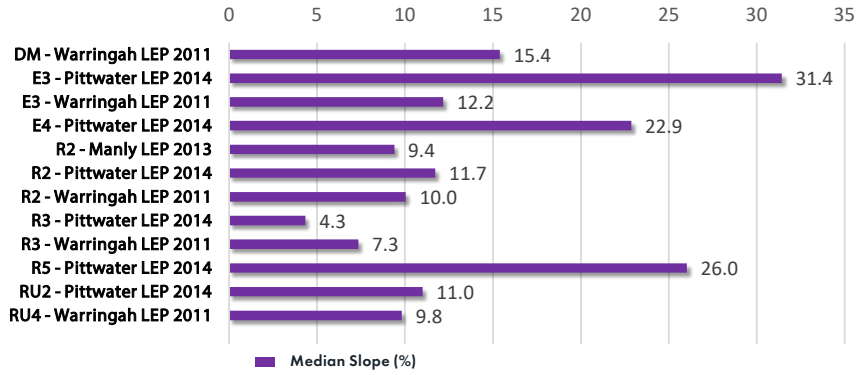


Figure 67. Median Slope Graph _ Bushland

9.2.2 Key Views

Bushland Zone has great scenic value within the LGA. It offers a variety of visually important localities, including

- Scenic arrival point, e.g. at Forestville, Ingleside, Warriewood, Mona Vale, Cromer, Beacon Hill, Frenchs Forest and North Balgowlah. There is also one on the outskirts of Killarney Heights towards Middle Harbour. These are highlighted on the major arterial roads;
- Scenic escarpment, e.g. on the edge of the character type boundary at Elanora Heights, North Narrabeen and on the edge is three positioned at Collaroy Plateau;
- Scenic landmark, e.g. Baha'i House of Worship at Ingleside; and
- Scenic lookout/viewpoint, e.g. Governor Phillip Lookout at Beacon Hill, Middle Creek Reserve at Cromer, Manly-Warringah War Memorial Park at North Balgowlah, Allambie Heights, and Killarney Point at Killarney Heights.

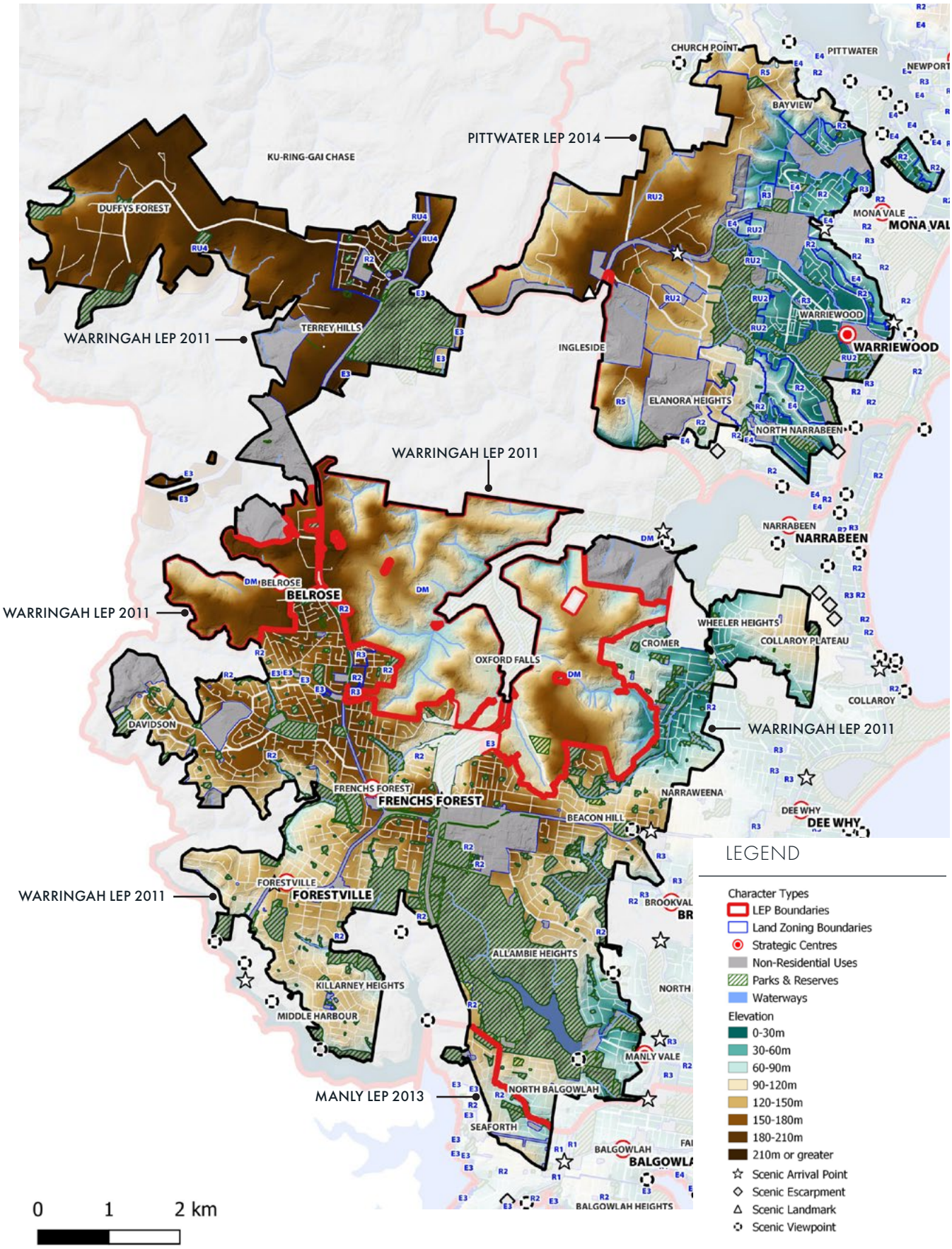


Figure 68. Landform and Views _Bushland

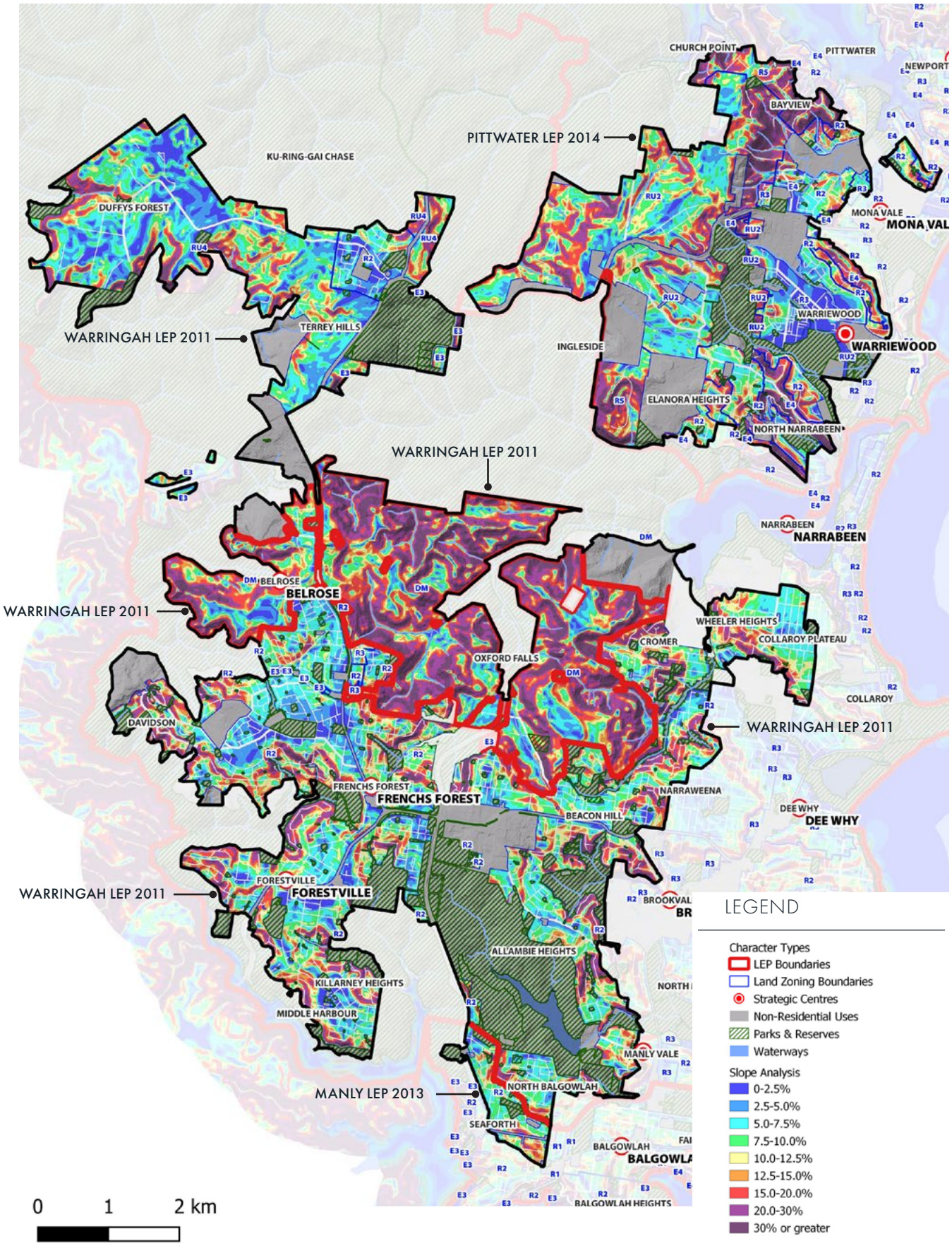


Figure 69. Slope analysis _ Bushland

9.3 Urban Form

9.3.1 Street Pattern

The NBLCS identifies 'grid', 'modified grid' and 'organic grid' street patterns across the LGA (see 7.3.1 for descriptions).

In the Bushland landscape character zone, the Modified Grid Pattern is the most commonly occurring street pattern in the Bushland Zone. The areas of Allambie Heights, Seaforth, North Balgowlah, Forestville, Frenchs Forest, Belrose, Terrey Hills, Duffys Forest, North Narrabeen, Narraweena, East Beacon Hill and Warriewood reflect this pattern. It is also identified further inland in new development areas.

The Grid Pattern occurs in North Balgowlah, parts of Beacon Hill, Cromer, Wheeler Heights and Collaroy Plateau.

The least frequently occurring pattern is the Organic Grid Pattern and is found in Killarney Heights, Davidson, Ingleside, Elanora Heights, Bayview and Church Point. These areas are located closer to the harbour and waterways which has an organic coastline and varying topography.

Figure 70. Grid Pattern, Collaroy Plateau (Source: NBLCS,Tract Consultants, 2020)

Figure 71. Modified Grid Pattern, Beacon Hill (Source: NBLCS,Tract Consultants, 2020)

Figure 72. Organic Pattern, Davidson (Source: NBLCS,Tract Consultants, 2020)

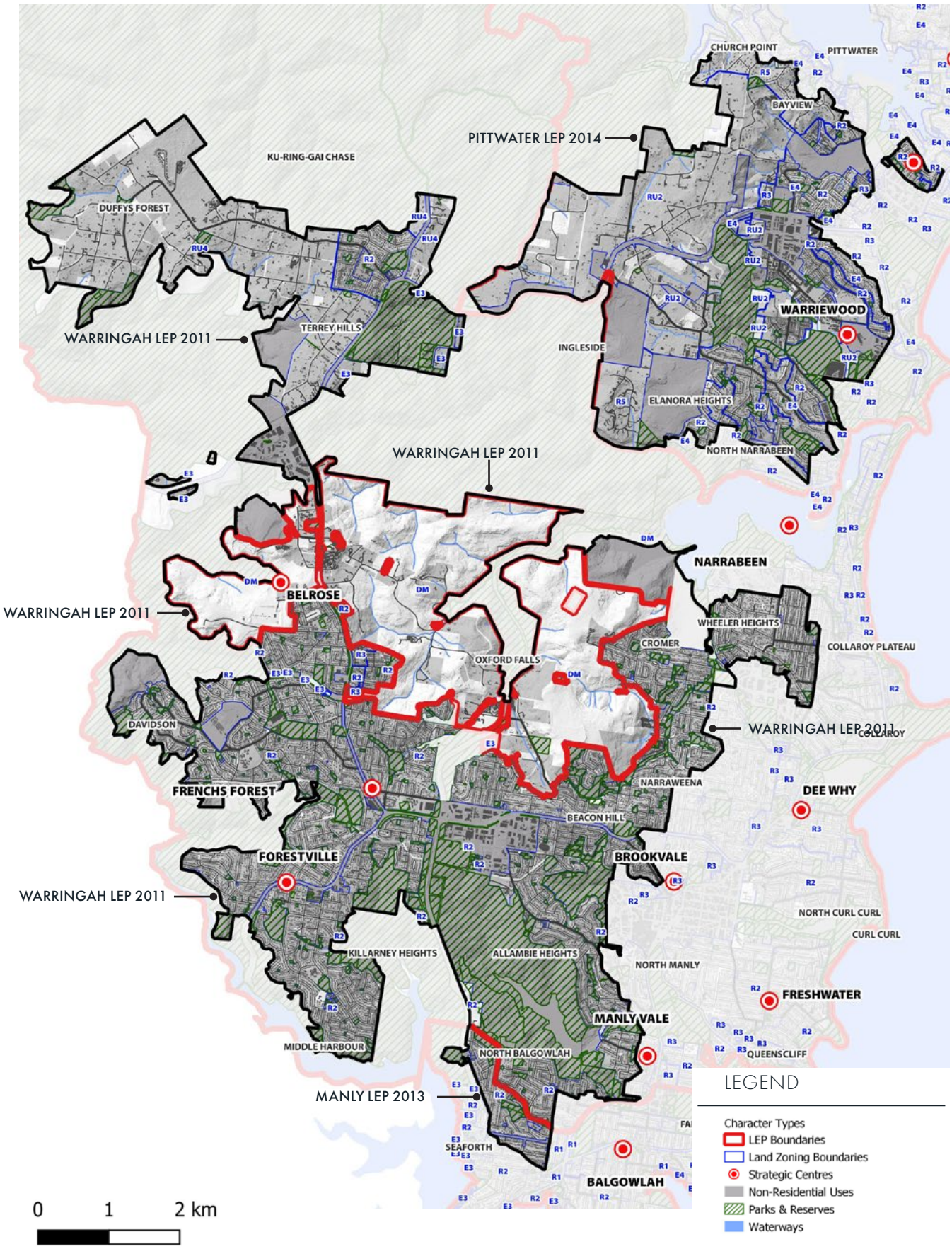


Figure 73. Street Pattern _ Bushland

9.3.2 Lot Size

The Bushland Character Zone has a vast difference in topography, proximity to scenic values and therefore, lot sizes vary dramatically. The lot size and lot shape generally reflect the street patterns however there are some lower density life style housing areas.

Most large lots (over 1000m²) occur at the central, North West and further North of the Bushland Character Zone, such as in Oxford Falls, Belrose, Duffy's Forest, Ingleside, Bayview and Terrey Hills. These areas are zoned DM, E3 and RU4 under Warringah LEP 2011; and R5 and RU2 under Pittwater LEP 2014. There are suburbs residential lots and large rural lots, which have very different characters.

Small to medium lots (400-900m²) with regular lots shapes are prominent in the majority of the suburban Bushland centres, such as Forestville, Frenchs Forest, Belrose.

Lots less than 400m² are generally found in Beacon Hill, Collaroy Plateau, North Narrabeen, Warriewood, Manly Vale and North Balgowlah. They are identified in the R3 zone of the Warringah LEP 2011.

The median lot depth increases toward further north and north west to Duffys Forest, Ingelside and Bayview. This is comparable with the greater median lot size and rural/large lot zoning. They are identified in DM, E4 and RU4 zone in Warringah LEP 2011; and R5 and RU2 Pittwater LEP 2014.

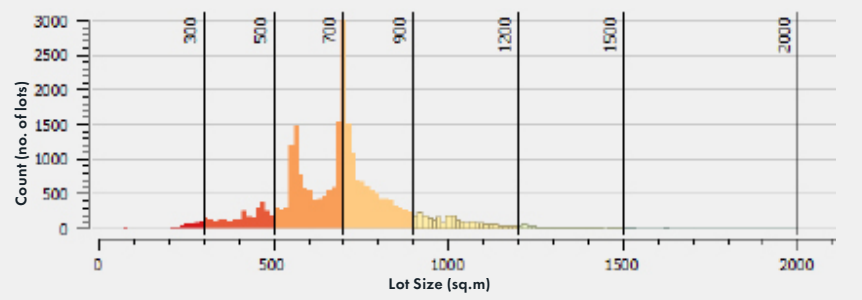


Figure 74. Distribution of lot sizes across the Bushland Character Zone

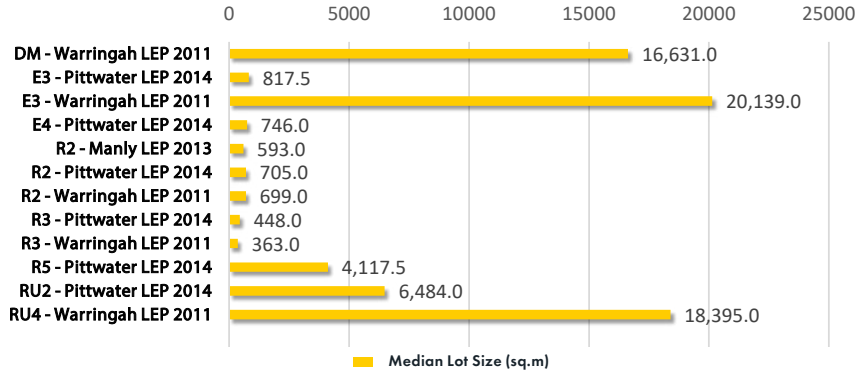


Figure 75. Median Lot Size by Land Zoning & LEP

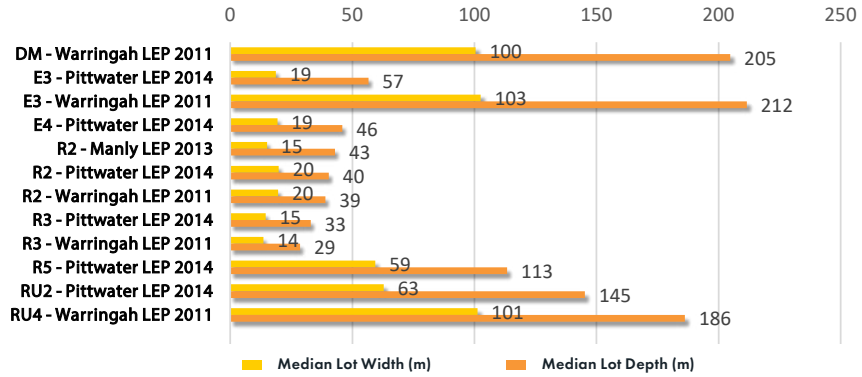


Figure 76. Median Lot Width and Depth by Land Zoning & LEP

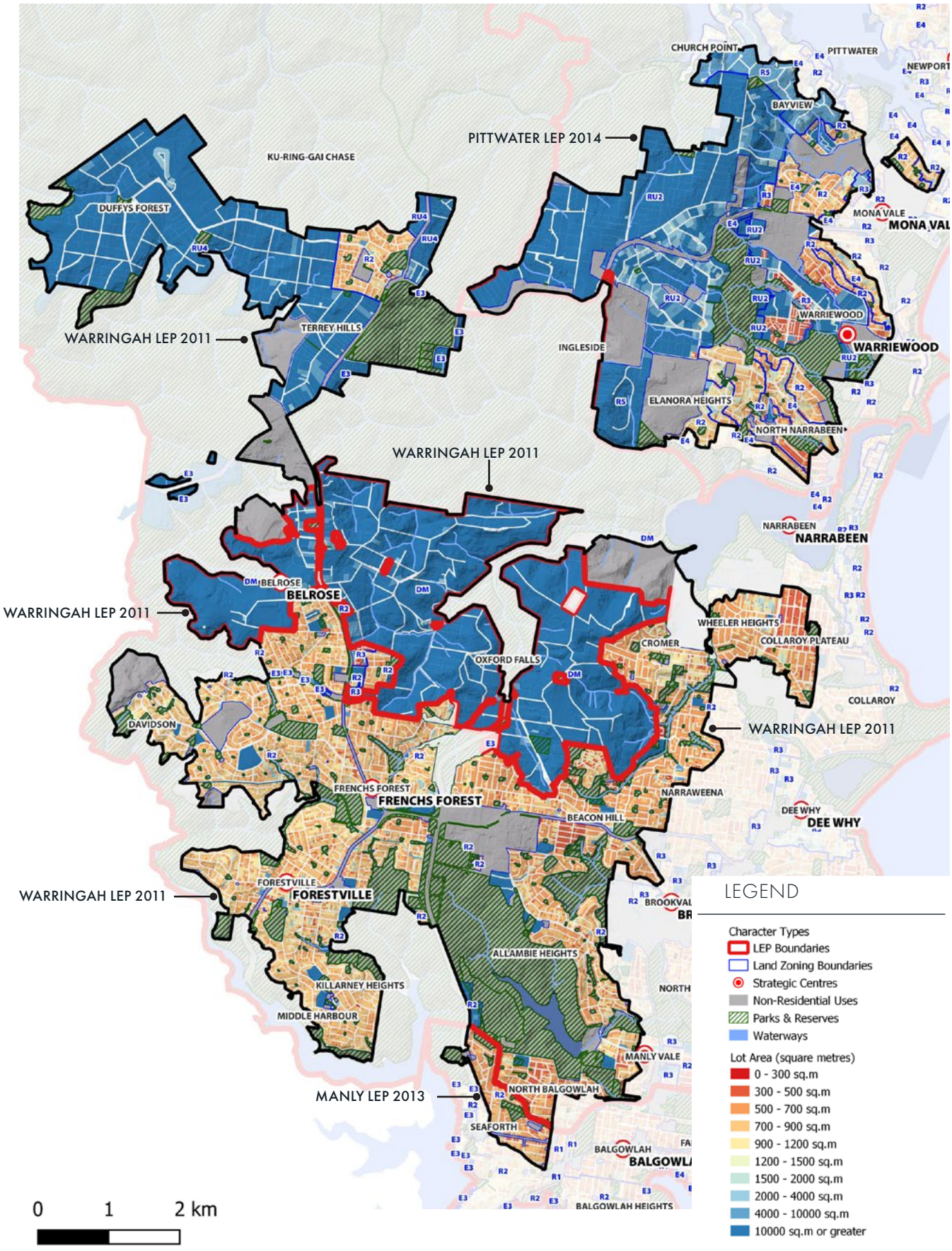


Figure 77. Lot Size _ Bushland

9.4 Built Form

9.4.1 Architectural Styles

NBLCS identifies the typical architectural types found within the urban and suburban residential areas within the LGA. The following are found within the Coastal Character Zone:

Pre- War and Inter-War Housing - This housing type is typically free standing or semi-detached housing although a range of moderate height apartment blocks are also evident from this era. Construction is masonry, predominantly brick construction, has maintained the natural slope of the land or controlled it through the use of retaining walls, and is dominated by housing from 1910- 1930's which is typified by the Californian Bungalow. The standard gabled tiled roof is a key element of both low- and high-rise structures from this time. The built forms have been modified and expanded to meet the needs of the changing society but still reflect these key attributes.

Post - War Housing – This housing type covers the period from 1940's to 1960's reflects the adaptation of modern technologies and architectural styles. Built forms were simpler and cladding technologies reflected the new era. Focus was on cheaper mass-produced forms of materials including Fibrous sheeting, brick veneer construction. It is this era in which the beach house and a new character began to develop. Roof form was either a skillion or pitched or a combination of the two. The architectural style that typified this period was the fibro/weatherboard bungalow.

Contemporary Housing – Covering from the 1960's to today there is a variety of styles. Construction is dominated by slab on ground in which the landform is modified to support the house. Modern construction techniques and materials are used including a combination of fibrous sheeting, brick veneer, and render. A range of architectural styles and forms have been adopted including Federation Revival, Pavilion Style, and Post Modernism.

Site Specific Housing – This architectural form is largely site driven. It occurs on steeper terrain where traditional construction techniques are not efficient. Built forms are predominantly light weight, suspended structures on piers with a range of cladding materials including metal, timber or fibrous cement or a combination. Examples of suburbs where this applies includes Bayview.

Source: Northern Beaches Local Character Study, Tract Consultants, 2020

Some Pre-War and Inter-War Housing is found in the Bushland Zone, with Post-War Housing scattered across this character zone.

Contemporary Housing is generally found closer to the centres, the scenic locations and the transport corridors where the offer of convenience, amenities and scenic views has led to housing gentrification.

For further analysis on building elements please refer to Part 3 of Place Based Analysis Report.

Contemporary Housing, Beacon Hill

Inter-War Housing, Frenchs Forest

Post-War Housing, Davidson

Contemporary Residential Apartment, Forestville

Contemporary Housing, Davidson

Post-War Housing, Forestville

9.4.2 Building Height

Building heights in bushland areas are concentrated at the centres which accommodate higher densities and offer more development opportunities, such as Bayview, Frenchs Forest, Belrose and north of Brookvale.

The tallest buildings with building heights over 10m are also identified in the organic hilly areas where built form needs to respond to the significant level changes, such as Bayview. This finding is supported by the median building height identified in R5 zone of Pittwater LEP 2014 of 9.6m.

The lowest building heights are found further inland at Ingleside and Duffys Forest in the RU2 zone of Pittwater LEP 2014. These rural areas have greater lot sizes and therefore, greater development area for habitable space across a single storey. These areas also have flatter topography resulting in relatively less constrained construction methodologies.

The highest distribution of building heights across the Bushland Character zone is 6.5m at approximately 1200 buildings and 8m in height for approximately 1100 buildings.

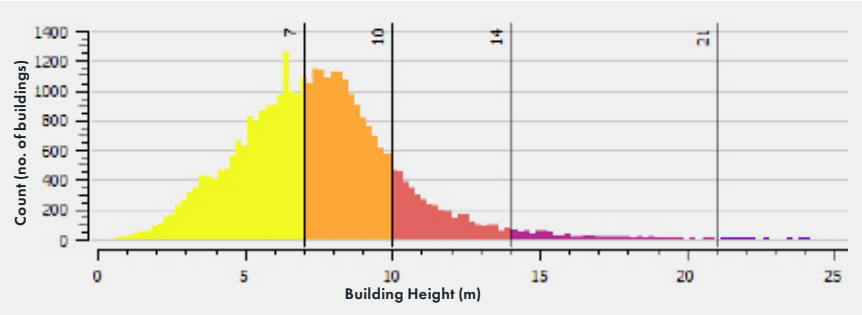


Figure 78. Distribution of Building Heights across the Bushland Character Zone

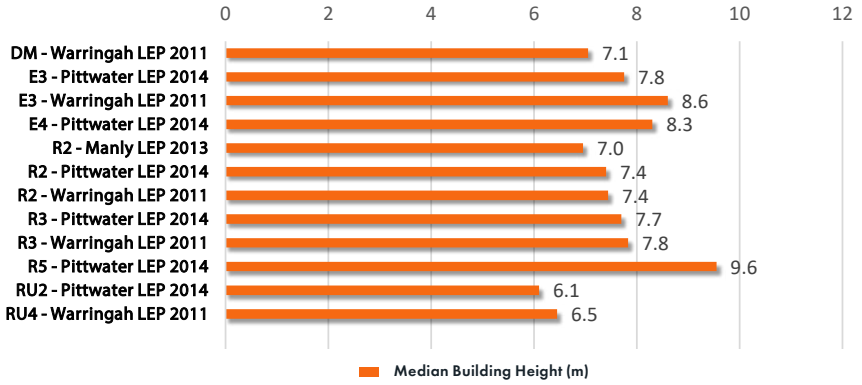


Figure 79. Median Building Height by Land Zoning & LEP

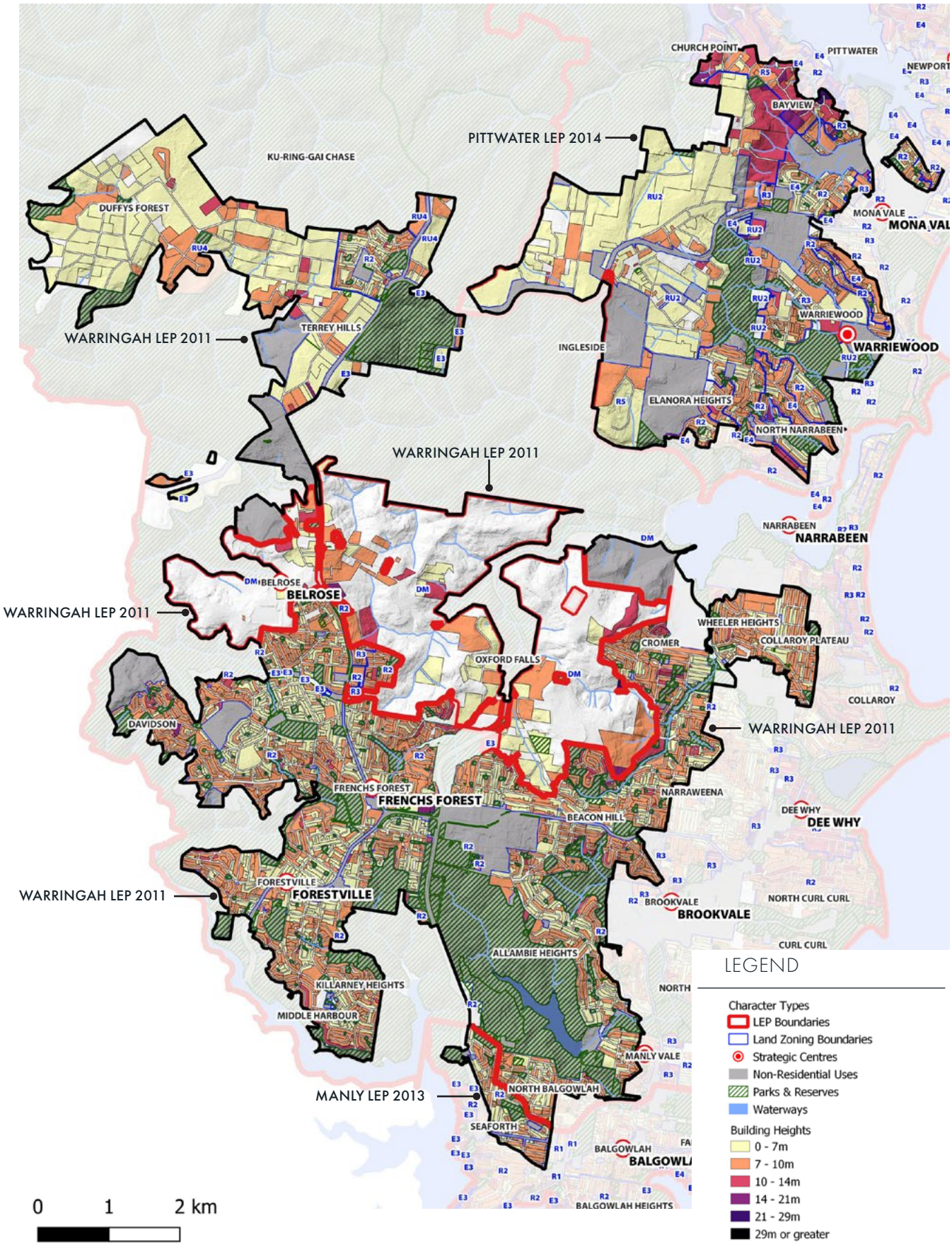


Figure 80. Building Height _ Bushland

9.4.3 Street Setbacks

The street setbacks are generally greater in inland and/or hilly areas in the north, such as Duffys Forest, Bayview, Elanora Heights, Terry Hills and Ingleside. These areas have predominately large rural lots for residential use.

One of the lowest median setback is identified in R3 zone under Pittwater LEP 2014, such as near Warriewood local centre.

The other area which exhibits a smaller setback is Belrose, zoned R3 under Warringah LEP 2011.

The setbacks increase to the west of the Warringah LEP 2011 area as seen in Davidson, Frenchs Forest, Forestville and Middle Harbour.

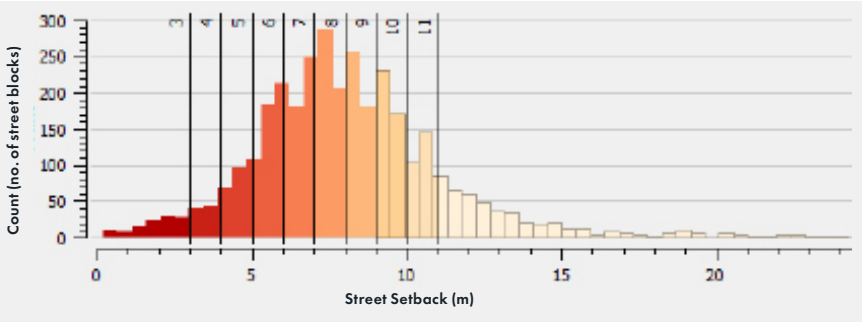


Figure 81. Distribution of Street Setback across the Bushland Character Zone

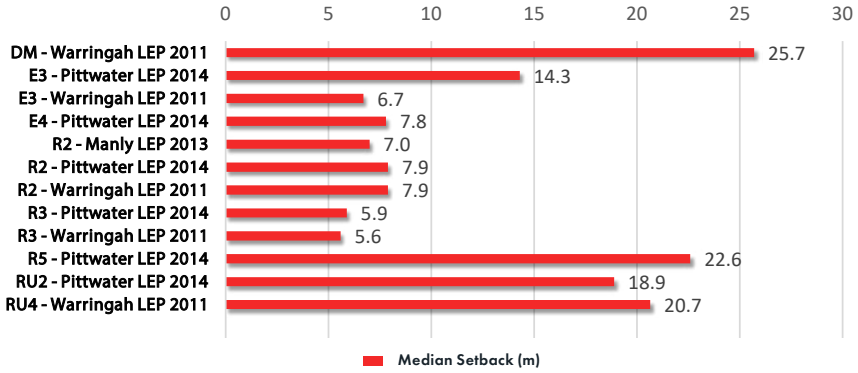


Figure 82. Median Setback by Land Zoning & LEP

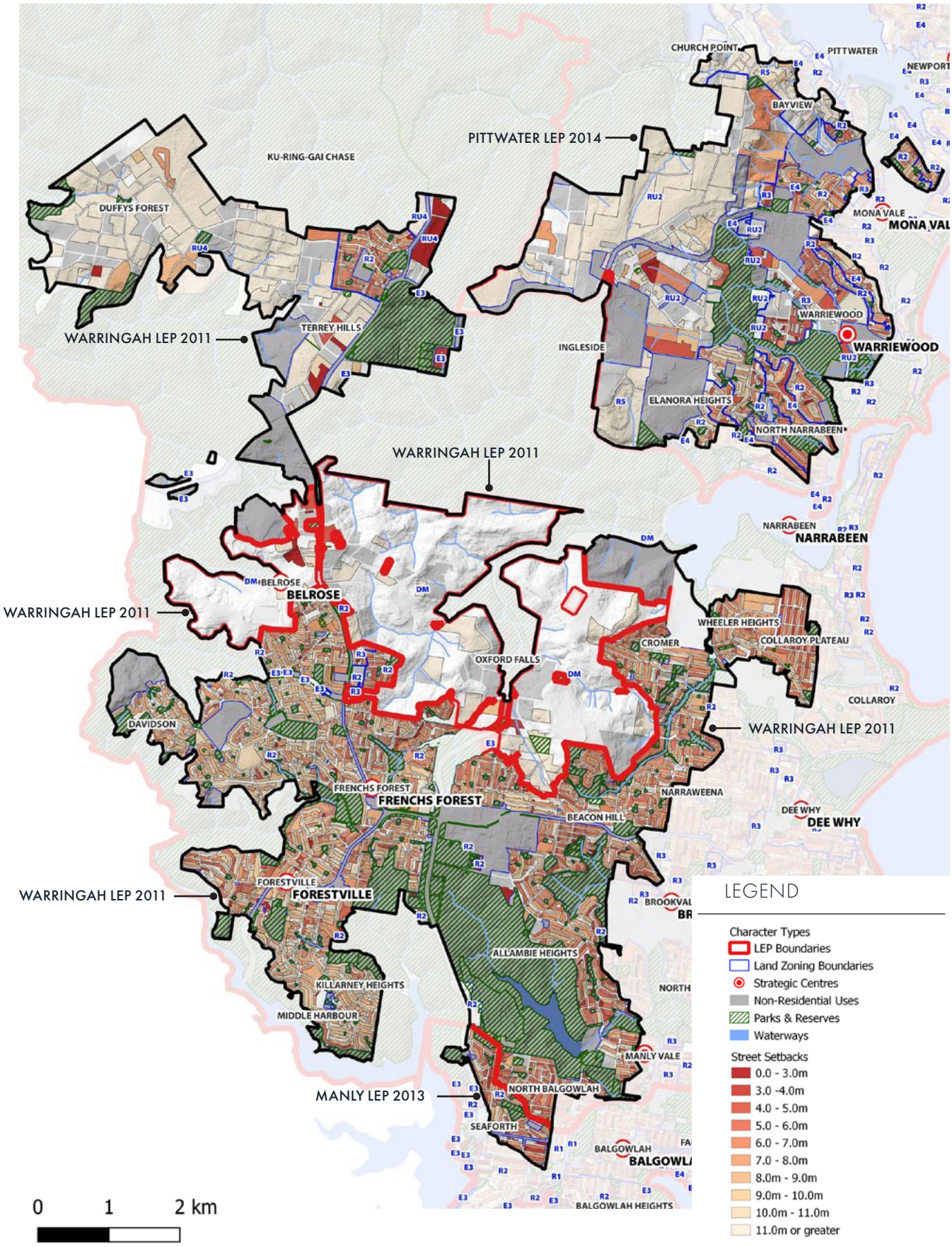


Figure 83. Street Setbacks _ Bushland

9.4.4 Building Site Coverage

The median building site coverage across the Bushland Character Zone is approximately 28-35% and reduces down to 5% further inland in rural-residential settings. Duffys Forest, Terrey Hills, Elanora Heights (R5 Zone) and Ingleside have the lowest building site coverage and have the highest permeable surfaces respectively, as seen in Pittwater LEP 2014 zones of RU2, R5 and E3 and E4 at Cottage Point, RU4 and DM zone of Warringah LEP 2011.

Bayview is another area with low building site coverage and a high permeable surface as identified in R5 zone of Pittwater LEP 2014. This area has one of the highest median slopes in Bushland Character Zone and also reflects large lot sizes.

The building site coverage is the greatest in Collaroy Plateau, Beacon Hill, North Balgowlah and Warriewood. These areas are physically closer to each other, and have similar median site coverage to the Harbour Character Zone. They also have a smaller median street setback. These locations are within R2 and R3 zones under Warringah LEP 2011; and R2 and R3 zones under Pittwater LEP 2014.

The median permeable surface in Bushland Character Zone between 32-50% is identified in R2 and R3 zones of all three existing LEPs. Whilst a higher median permeable surface between 60-90% is present in other zones, i.e. E3, E4, R5, RU2, RU4 and DM under the existing LEPs.

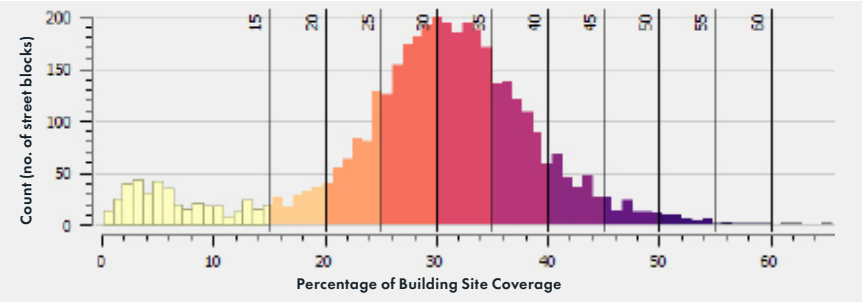


Figure 84. Distribution of Building Site Coverage (aggregated to street blocks) across the Bushland Character Zone

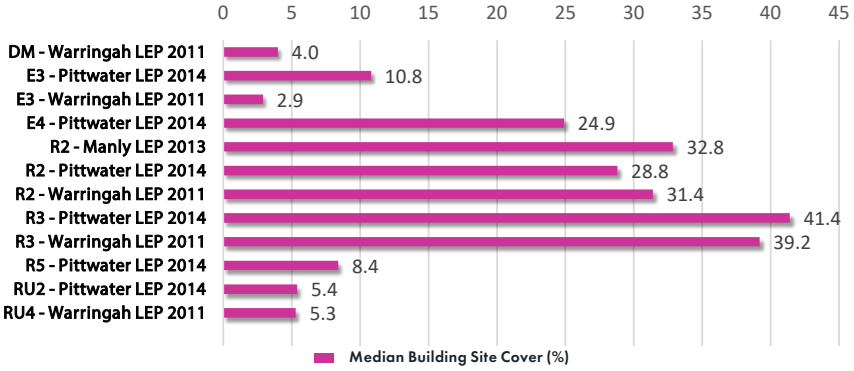


Figure 85. Median Building Site Coverage by Land Zoning & LEP

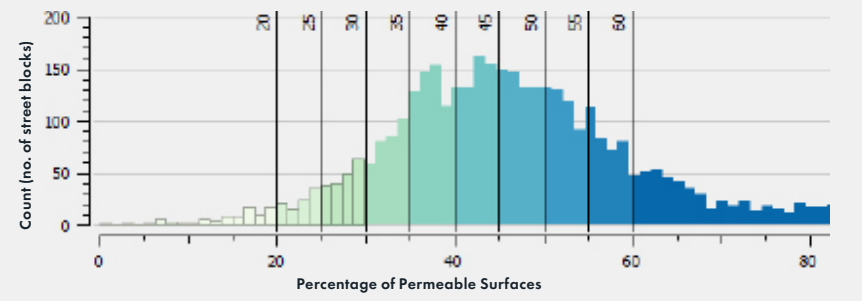


Figure 86. Distribution of Permeable Surface (aggregated to street blocks) across the Bushland Character Zone

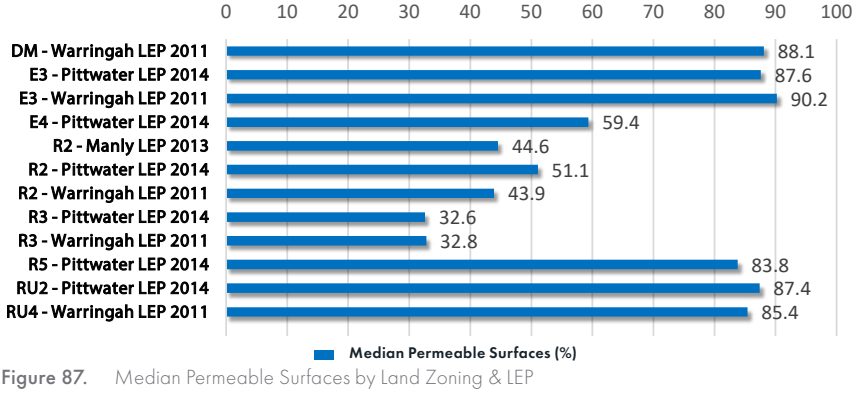


Figure 87. Median Permeable Surfaces by Land Zoning & LEP

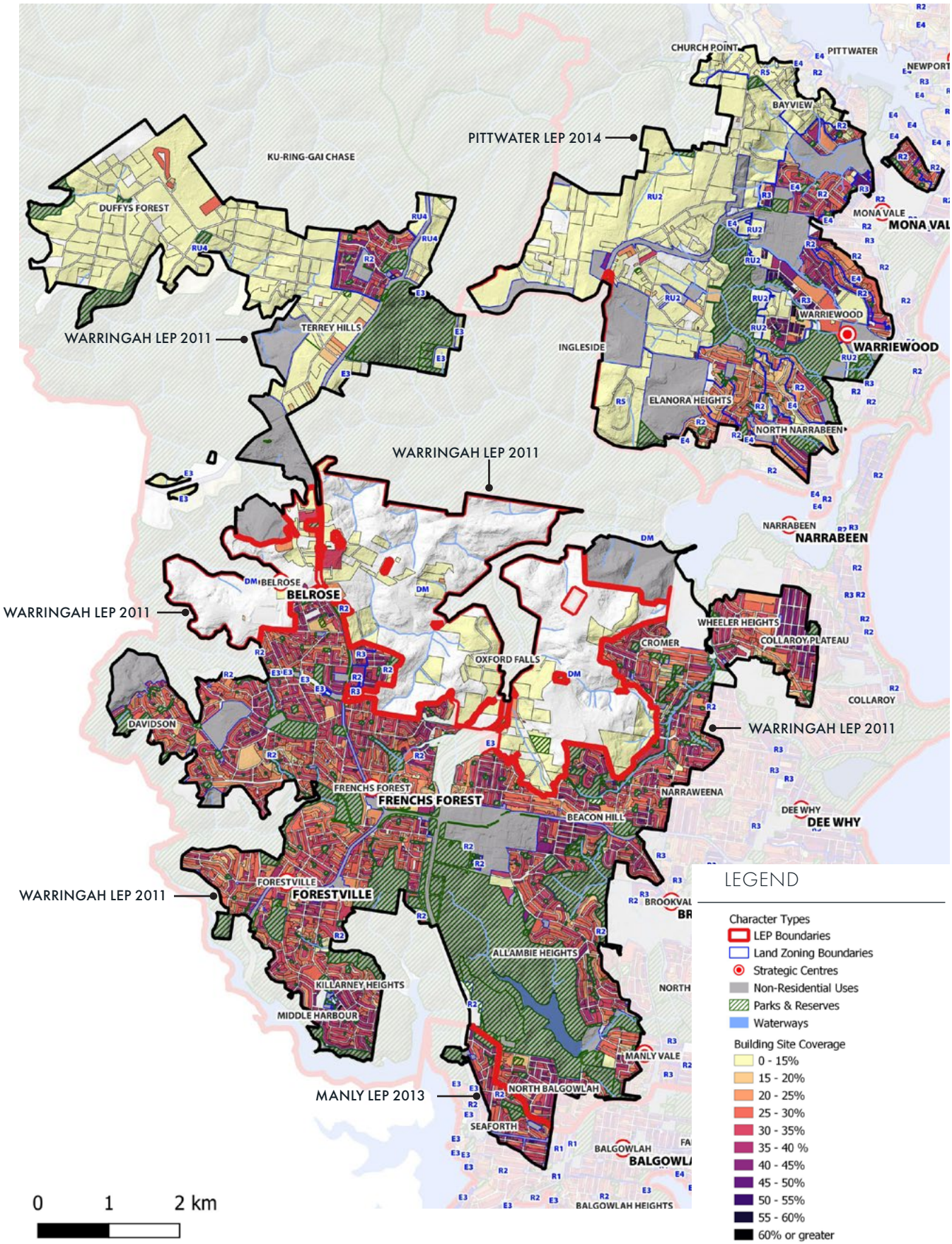


Figure 88. Building Site Coverage _ Bushland

9.4.5 Tree Cover

The tree cover is the highest in the northern portion of the Bushland Character Zone within E3 and R5 zones under Pittwater LEP 2014. For example, Bayview has the highest tree cover, followed by North Narrabeen, Ingleside and Duffys Forest.

This correlates with the higher permeable surface areas within Bushland Character Zone.

Seaforth, Belrose, North of Brookvale and Warriewood have the lowest median tree cover as identified in R2 and R3 zones under all three existing LEPs. However, this is not the lowest within the Northern Beaches LGA.

The rural/ large lot areas have a greater median tree coverage in comparison to suburban bushland character areas.

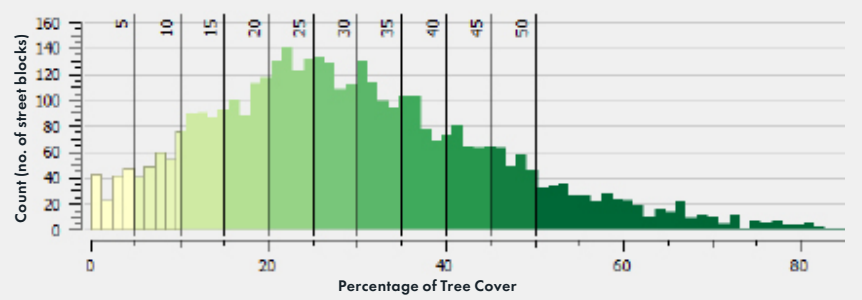


Figure 89. Distribution of Tree Coverage (aggregated to street blocks) across the Bushland Character Zone

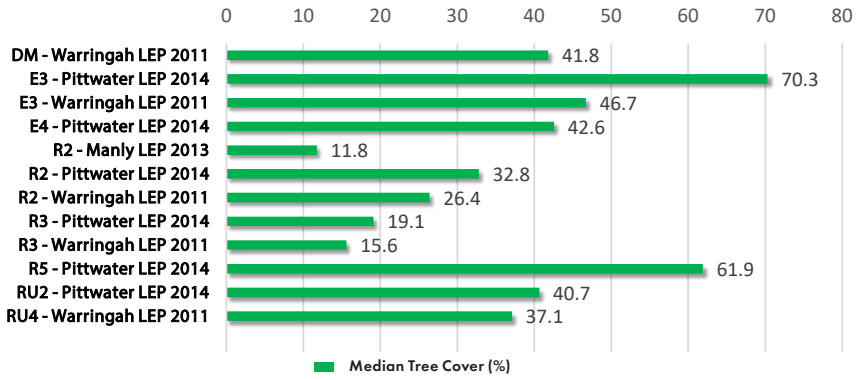


Figure 90. Median Tree Cover by Land Zoning & LEP

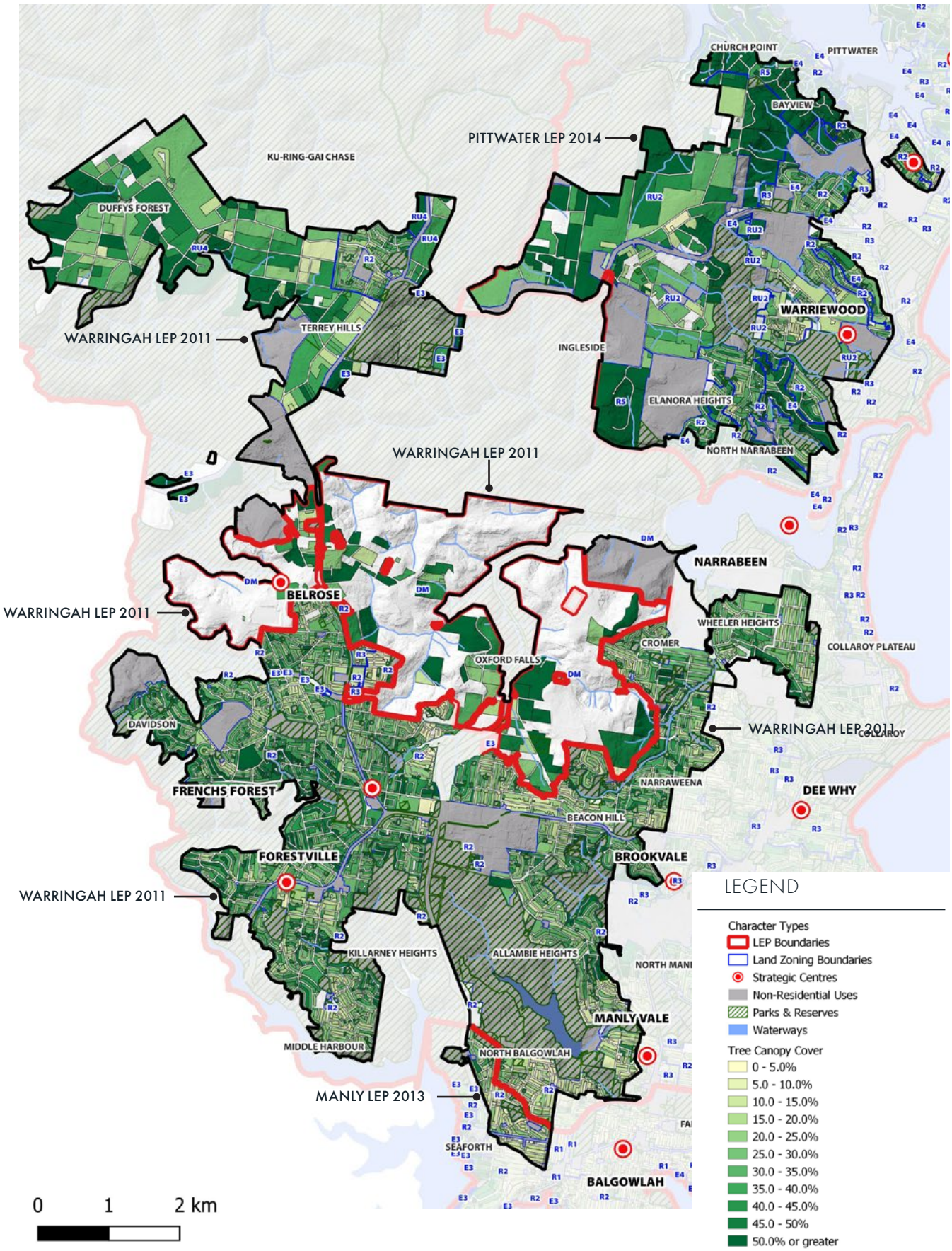


Figure 91. Tree Cover _ Bushland

9.5 Development Activity

9.5.1 Development Applications

Within the Bushland Character Zone, there are a large variety of development applications ranging from subdivision, new use, new development, demolition, change of use and alterations and additions. They have been categorised into the LEP zones which compares and demonstrates the number of applications in the last 2 to 5 years. Some development may have been approved by CDCs and this has not been included as it would skew results.

The new development category is in relation to the construction of new dwelling house/ commercial building/ industry building and/ or new dwelling house with an attached secondary dwelling or creating a secondary dwelling.

The greater number of development applications are in Warriewood with 40+ applications submitted under the Pittwater LEP 2014, as well as in Frenchs Forest and Forestville under the Warringah LEP 2011. These areas, zoned R2 under Warringah LEP 2011 followed by R2 zone of Pittwater LEP 2014, are developing rapidly, especially with alterations and additions in relation to dwelling house.

The most number of applications are for dwelling house and alterations and additions. This is reflected in the graph which also illustrates that other categories have a lower and similar number of applications.

The development activity type in the bushland zone varies to other zones. The predominant application types within the bushland zone are community, boarding house, business premises, industry, mixed use, child care centres and educational establishments.

Within RU2, RU4 and DM zones, it shows to have development applications of new development, including dwelling houses, new uses within business premises, change of use; and numerous applications under alterations and additions.

The map of Development Application demonstrates spatially the different DA categories, DA determination periods and DA results.

There are more applications associated with new development types within the bushland areas of Frenchs Forest, Forestville, and Warriewood. Alterations and additions appear to be spread out evenly across the zone but more so under R2 zone of Warringah LEP 2011.

The areas that have the most rejected development applications are Frenchs Forest and Davidson.

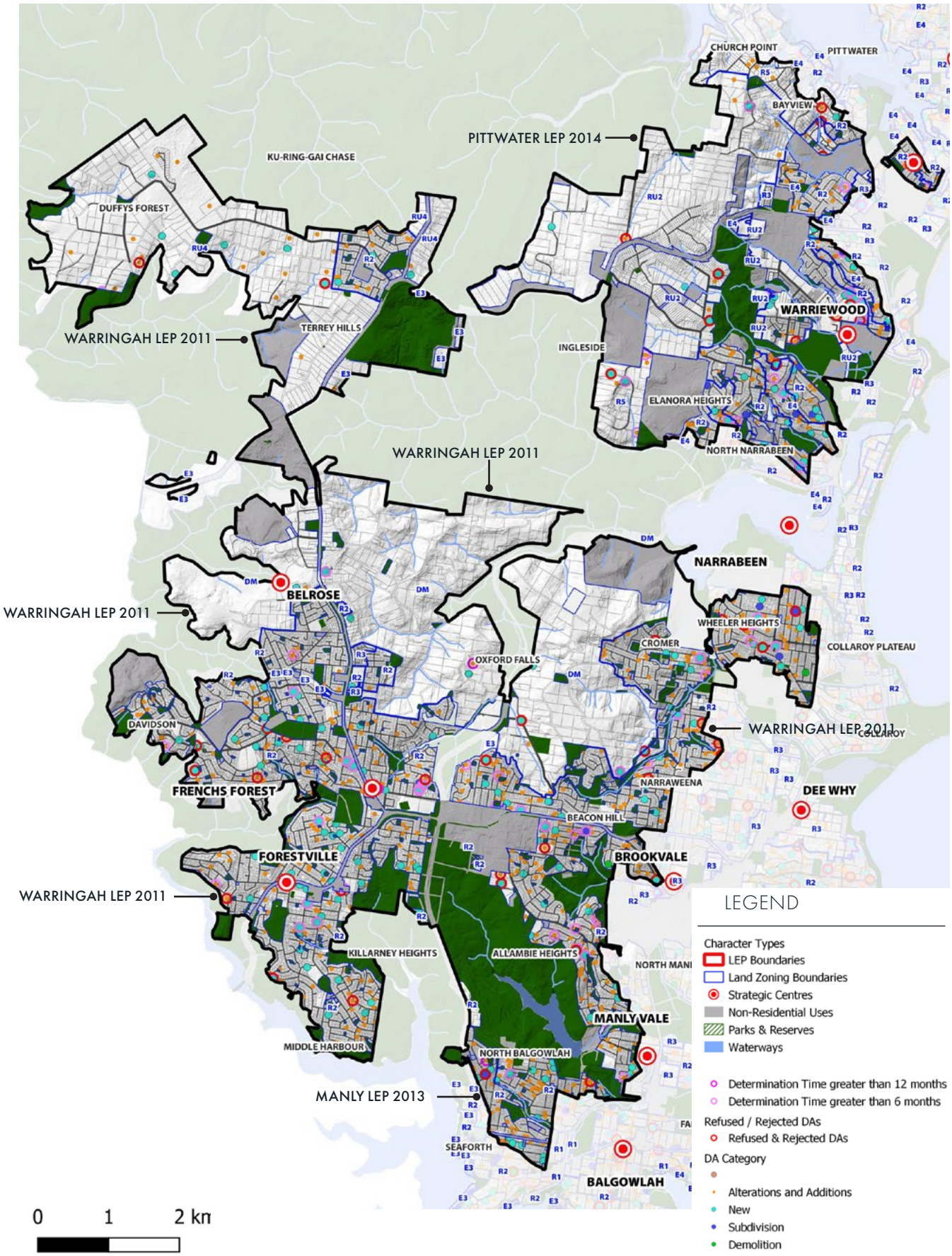


Figure 92. Development Applications _ Bushland

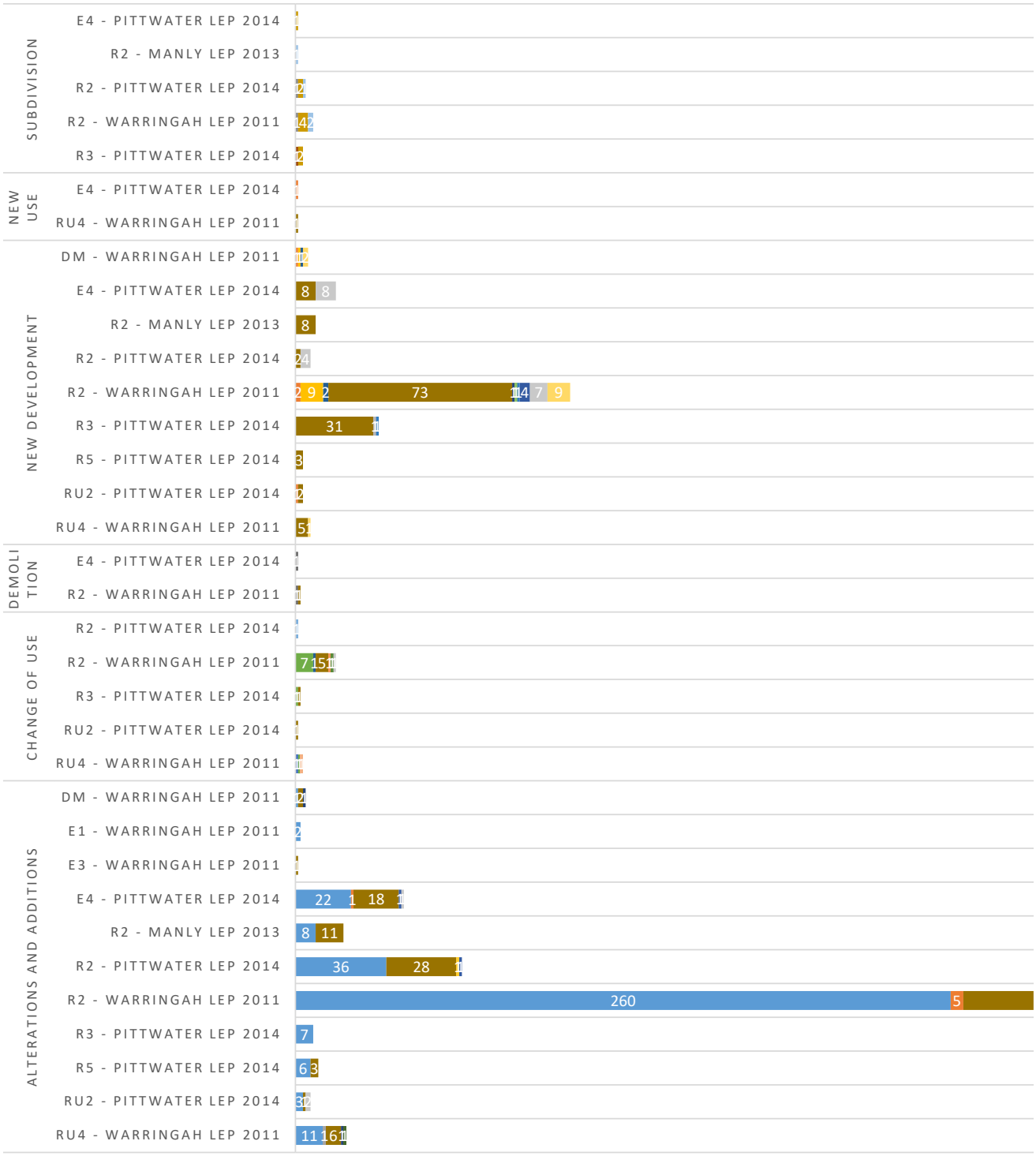


Figure 93. Development Activity Graph _ Bushland

LEGEND

- Alterations and Additions
- Ancillary Structures
- AniBoaTra
- Boarding House
- Business Premises
- Change of Use
- Child Care Centre
- Community
- Demolition
- Dwelling House
- Educational Establishment
- FunCen
- Group Home
- Medical Centre
- Mixed Use Development
- New Development
- Place of Public Worship
- Residential Accommodation
- Residential Flat Building
- School
- Strata
- Subdivision
- Swimming Pool
- Take Away Food
- Torrens
- Veterinary Hospital
- Secondary Dwelling
- Seniors Housing

9.6 Summary

The following summary outlines key elements to be considered when developing built form controls for the Bushland Character Zone.

Landform & Natural Features

- The topography is generally hilly with dramatic differences between the steepest and flattest areas within the Bushland Zone. Future built form controls on steeply sloping land may be needed to minimise cut and fill to reduce erosion and landslip risk and reduce the overall height of development.
- Bushfire is another dominant natural hazard within Bushland Character Zone. *Planning for Bush Fire Protection and AS3959* to be complied. Regular maintenance of bushland areas are required to reduce bushfire risk.

Scenic Views

- Bushland Zone offers a variety of visually important localities, such as scenic arrival point, scenic escarpment, scenic landmark and scenic lookout/viewpoints. Careful consideration of built form particularly within the foreground of key views may be required, as well as to enhance the scenic arrival experience.

Urban Form & Built Form

- Lot sizes, street setbacks and building site coverage vary dramatically across the zone ,with small to medium lots, smaller setbacks and higher site coverage at urban/suburban areas and large lots, larger setbacks and lower site coverage at rural areas. These elements make a significant contribution to character especially in rural areas and requires further built form control to protect and enhance the rural character.
- Building height is generally lower in rural areas but greater around the centres, however taller buildings are also identified in areas where there is steeper topography. Future controls should seek to maintain the rural character as well as reducing the visual bulk particularly in areas where there are scenic views from private land.

Tree Cover

- Bushland areas demonstrate the highest level of tree coverage when compared to other character zones. This may require consistency in controls of landscape open space requirements to ensure the strong tree canopy is retained.

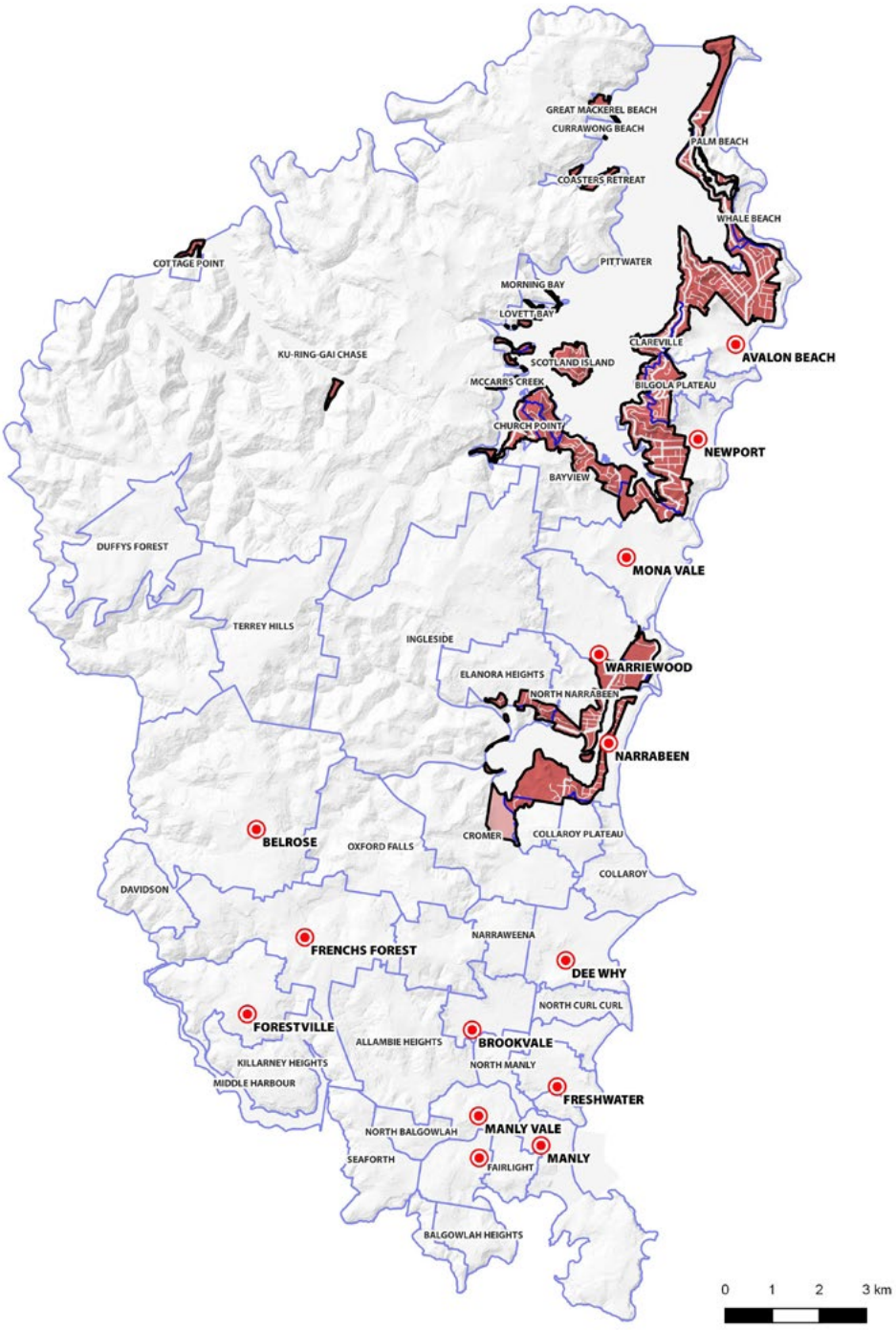
<blank>

10 Waterway Character Zone

10.1 Overview

This zone includes areas with a relationship to the closed waters and no coastal connection. These areas are generally highly vegetated contributing to the unique character. Housing varies between smaller, subtle dwellings set in natural bushland through to larger dwellings with landscaped gardens. Dwellings are generally orientated towards the water capturing spectacular views.

Source: Northern Beaches Local Character Study, Tract Consultants, 2020



10.2 Landform and Natural Features

10.2.1 Landform and Slope Analysis

The Waterway Character Zone includes a combination of headlands, escarpment and plateau.

The topography includes steep hills with a median slope of 18%. This zone is the steepest in comparison to the other character areas.

The steepest topography occurs on offshore communities of Scotland Island, Church Point and Cottage Point; and suburban areas of Narrabeen, Whale Beach and Lovett Bay. These areas reveal the biggest level change in the topography, with slopes between 28% to 38%. These areas have great views due to their elevation and proximity to waterways. This is reflected in Pittwater LEP 2014 in zones of R5, E3 and E4.

The landform becomes flatter in the south at Narrabeen. The median slope is between 6-11% as identified in Warringah LEP 2011 zone of R2 and R3. Central Avalon Beach, Warriewood, and North Narrabeen is also flatter as identified in R2 and R3 zones of Pittwater LEP 2014.

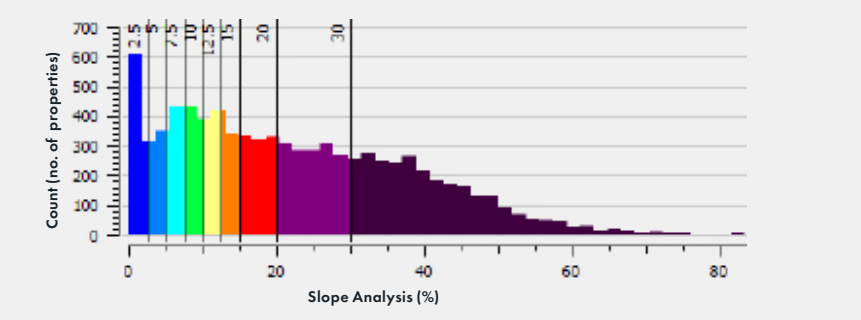


Figure 94. Distribution of Slope for the Waterway Character Zone

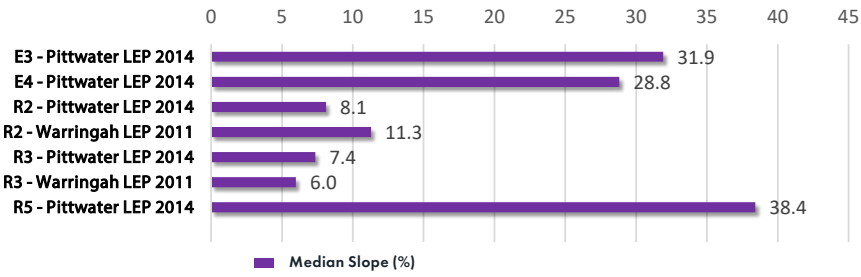
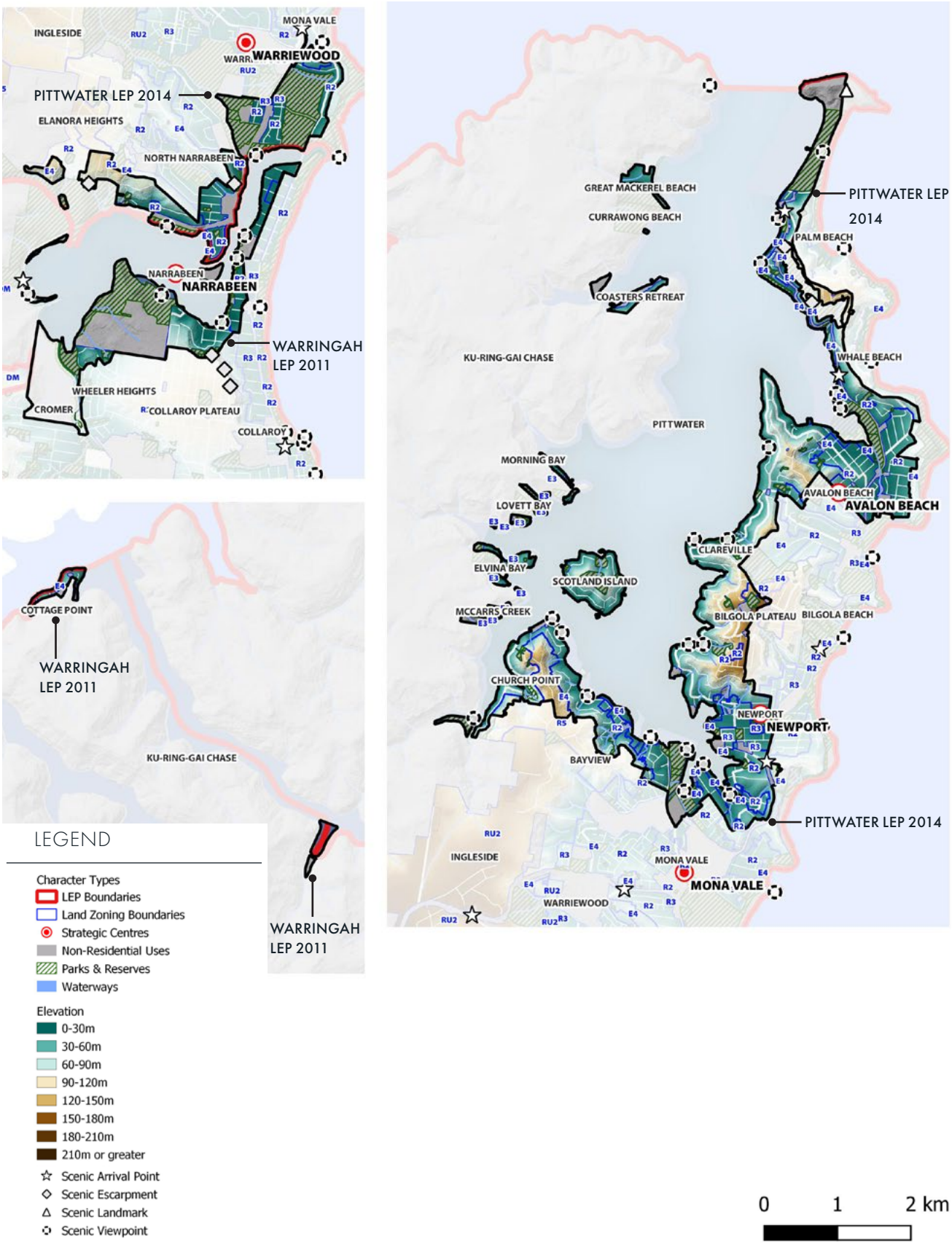


Figure 95. Median Slope Graph _ Waterway

10.2.2 Key Views

Waterway Zone has great scenic value due to it's proximity to waterways and destinations. There are a variety of important localities, including

- Scenic arrival point, e.g. at Newport, Whale Beach and Palm Beach along Barrenjoey Road; Warriewood and Cromer along Wakehurst Pkwy;
- Scenic escarpment, e.g. at Palm Beach, North Narrabeen and Collaroy Plateau;
- Scenic landmark, e.g. at Palm Beach Barrenjoey Lighthouse; and
- Scenic lookout/viewpoint, e.g. at Palm Beach (Sand and Observation Point and Palm Beach), Whale Beach, Avalon Beach, Clareville (Long Beach and Taylors Point), Bilgola Plateau (Florence Park and Salt Pan Cove Regatta Reserve), Newport, Mona Vale (Winnererremy Bay, Winji Jimmi Reserve), Bayview (Marina Bayview, Bayview Dog Park), Church Point, Warriewood, Narrabeen (Berry Reserve, Narrabeen Lagoon Trail), North Narrabeen (Bilarong Reserve), and Wheeler Heights.


INGLESIDE
MONA VALE
WARRIEWOOD
PITTWATER LEP 2014
ELANORA HEIGHTS
NORTH NARRABEEN
NARRABEEN
WARRINGAH LEP 2011
WHEELER HEIGHTS
CROMER
COLLAROY PLATEAU
COLLAROY
GREAT MACKEREL BEACH
CURRAWONG BEACH
PITTWATER LEP 2014
PALM BEACH
COASTERS RETREAT
KU-RING-GAI CHASE
WHALE BEACH
PITTWATER
MORNING BAY
LOVETT BAY
AVALON BEACH
CLAREVILLE
ELVINA BAY
SCOTLAND ISLAND
MCCARRS CREEK
BILGOLA PLATEAU
BILGOLA BEACH
CHURCH POINT
NEWPORT
BAYVIEW
PITTWATER LEP 2014
INGLESIDE
MONA VALE
WARRIEWOOD
MONA VALE
COTTAGE POINT
WARRINGAH LEP 2011
KU-RING-GAI CHASE
WARRINGAH LEP 2011
LEGEND
Character Types
LEP Boundaries
Land Zoning Boundaries
Strategic Centres
Non-Residential Uses
Parks & Reserves
Waterways
Elevation
0-30m
30-60m
60-90m
90-120m
120-150m
150-180m
180-210m
210m or greater
Scenic Arrival Point
Scenic Escarpment
Scenic Landmark
Scenic Viewpoint
0
1
2 km

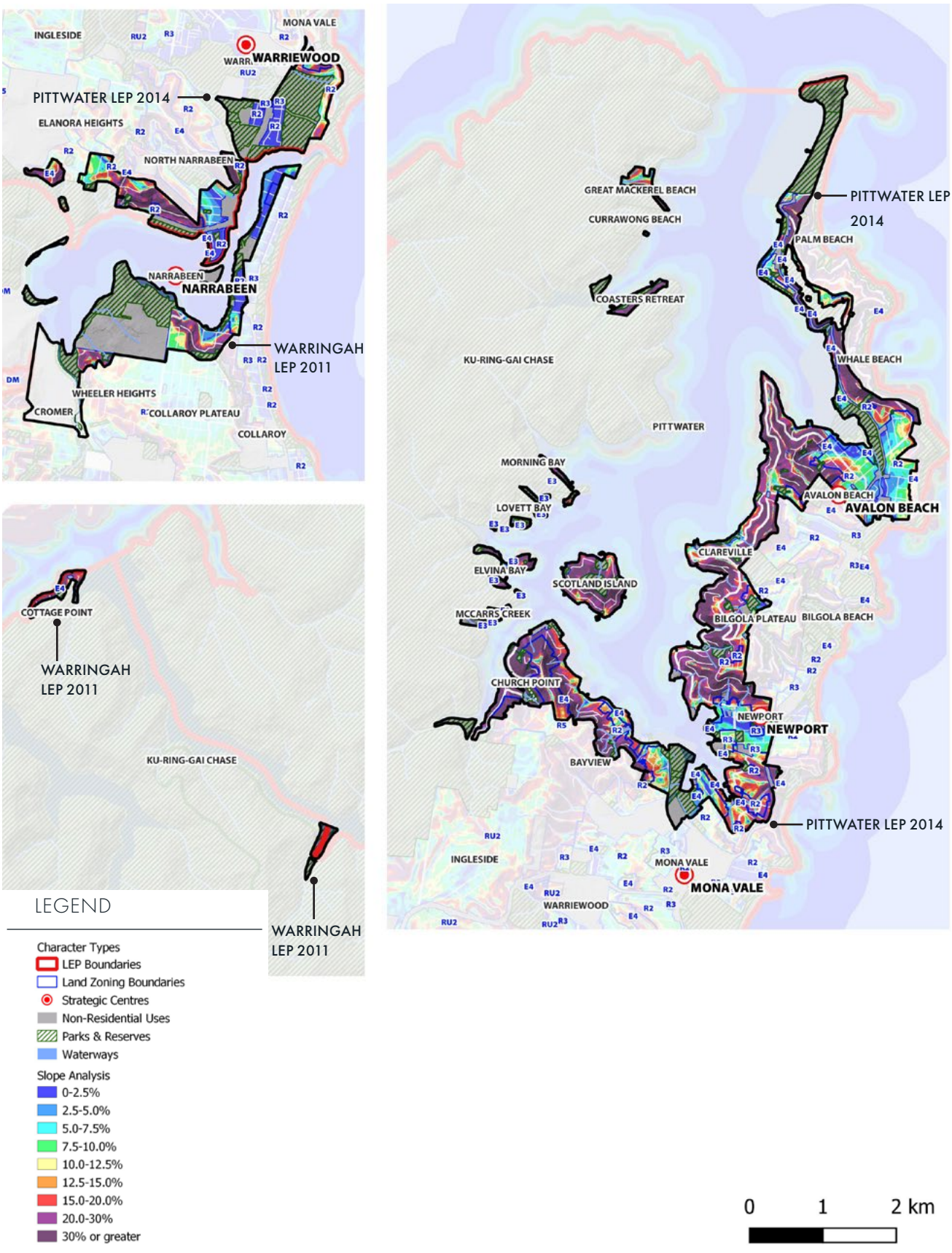


Figure 96. Slope analysis _ Waterway

10.3 Urban Form

10.3.1 Street Pattern

The NBLCS identifies 'grid', 'modified grid' and 'organic grid' street patterns across the LGA (see 7.3.1 for descriptions).

In the Waterway landscape character zone, the Organic Pattern is the predominant pattern and can be identified in the following areas: Church Point, Bayview, Bilgola Plateau, Clareville, Whale Beach, Palm Beach, Great Mackerel Beach, Coasters Retreat, Scotland Island, Warriewood, Wheeler Heights, Lovett Bay, and Cottage Point. The organic pattern responds to the changing coastline and topography. The use of cul-de-sacs is also dominant in the steeper areas.

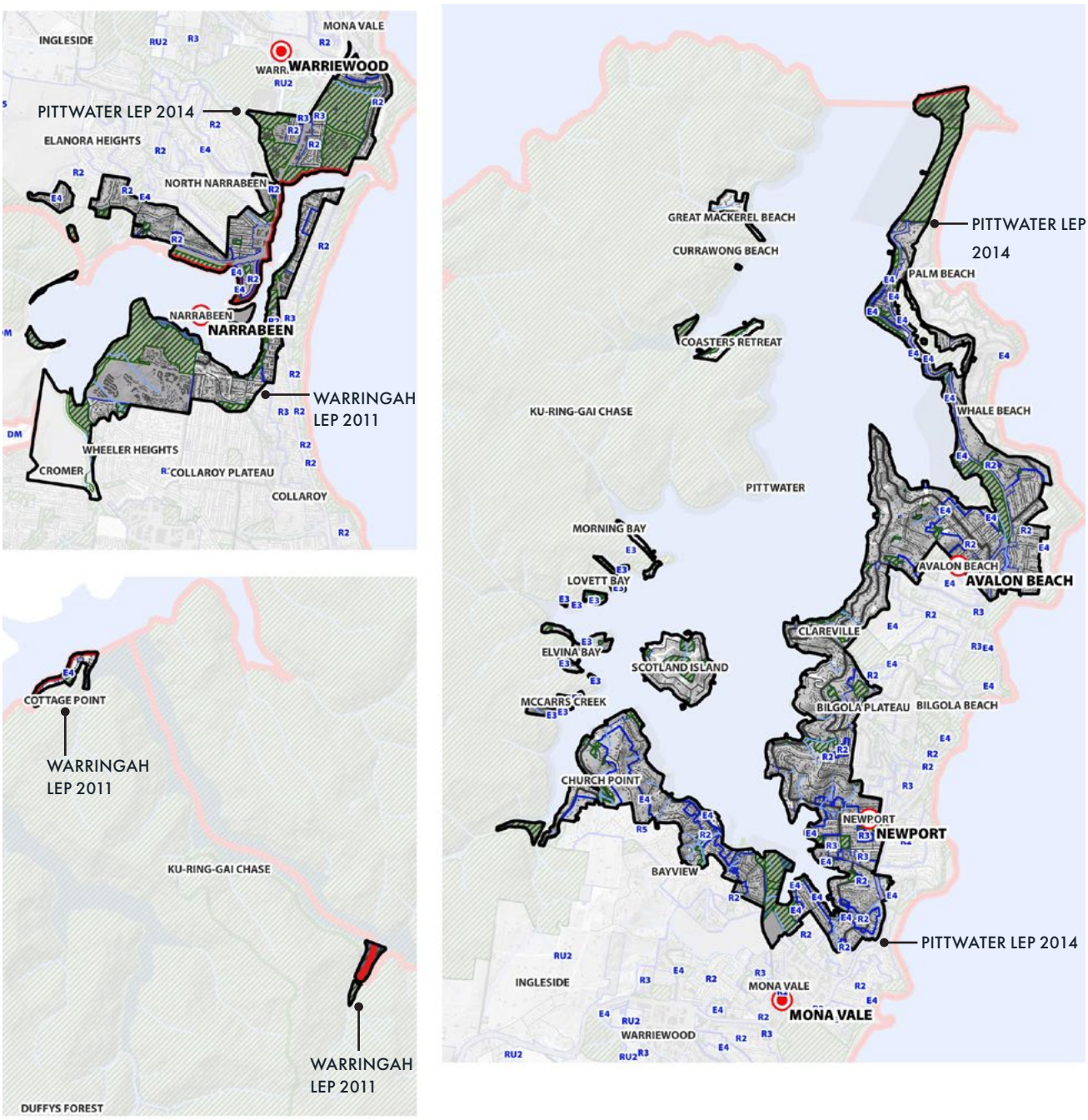
The Modified Grid Pattern can be seen also in the centre areas of Newport, Mona Vale and parts of Avalon Beach and North Narrabeen.

The Grid Pattern is least prominent in this character zone due to the steep topography and organic waterway landforms. However, there are some areas that exhibit the grid pattern. This occurs in North Narrabeen, Narrabeen and parts of Avalon Beach.

Figure 98. Grid Pattern, Narrabeen (Source: NBLCS,Tract Consultants, 2020)

Figure 99. Modified Grid Pattern, Newport (Source: NBLCS,Tract Consultants, 2020)

Figure 100. Organic Pattern, Church Point (Source: NBLCS,Tract Consultants, 2020)



LEGEND

Character Types
LEP Boundaries
Land Zoning Boundaries
Strategic Centres
Non-Residential Uses
Parks & Reserves
Waterways

0 1 2 km

Figure 101. Street Pattern _ Waterway

10.3.2 Lot Size

The Waterway Character Zone is relatively hilly and on top of the escarpment and has median lot size generally around 700m². The hilly nature and modified and organic grid patterns generally result in bigger lots.

Most large lots (over 1000m²) occur in the steeper areas. This is in areas such as Church Point, Bayview, Coasters Retreat, Cottage Point, Narrabeen, Lovett Bay, Scotland Island and Whale Beach. Church Point and Bayview is the identified area under R5 zoning of Pittwater LEP 2014, which has the highest median lot size of the character zone.

Small to medium lots (400-900m²) with standard lot configurations are predominant in North Narrabeen, Warriewood, Avalon Beach and Great Mackeral Beach. These areas are zoned E3, E4, R2 and R3 under Pittwater LEP 2014. The zones of R2 and R3 under Warringah LEP 2011 also exhibit small to medium lots.

Lots less than 400m² are only found in North Narrabeen on flat topography with a grid pattern.

The median lot depth does increase to the western side near the offshore communities, where the areas become more isolated and further away from popular scenic areas.

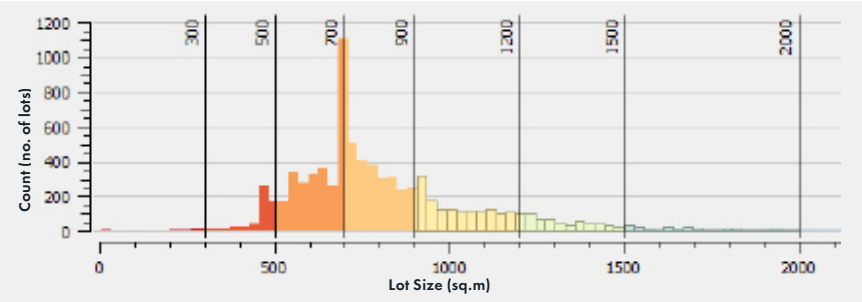


Figure 102. Distribution of lot sizes across the Waterway Character Zone

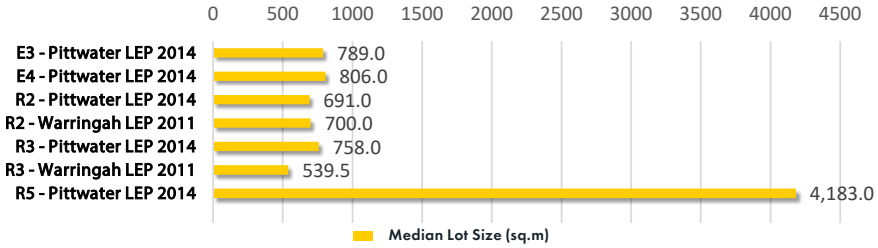


Figure 103. Median Lot Size by Land Zoning & LEP

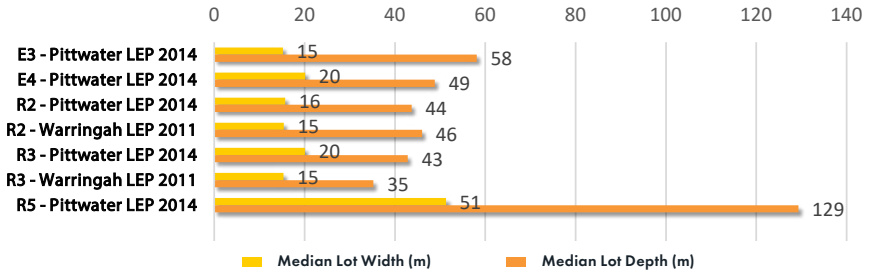


Figure 104. Median Lot Width and Depth by Land Zoning & LEP

This is most evident in offshore communities, like Coasters Retreat and Lovett Bay, with a median lot depth of 58m in E3 zone.

The largest median depth lot in the Waterway Character Zone is 129m in R5 zone under Pittwater LEP 2014 in Church Point and Bayview.

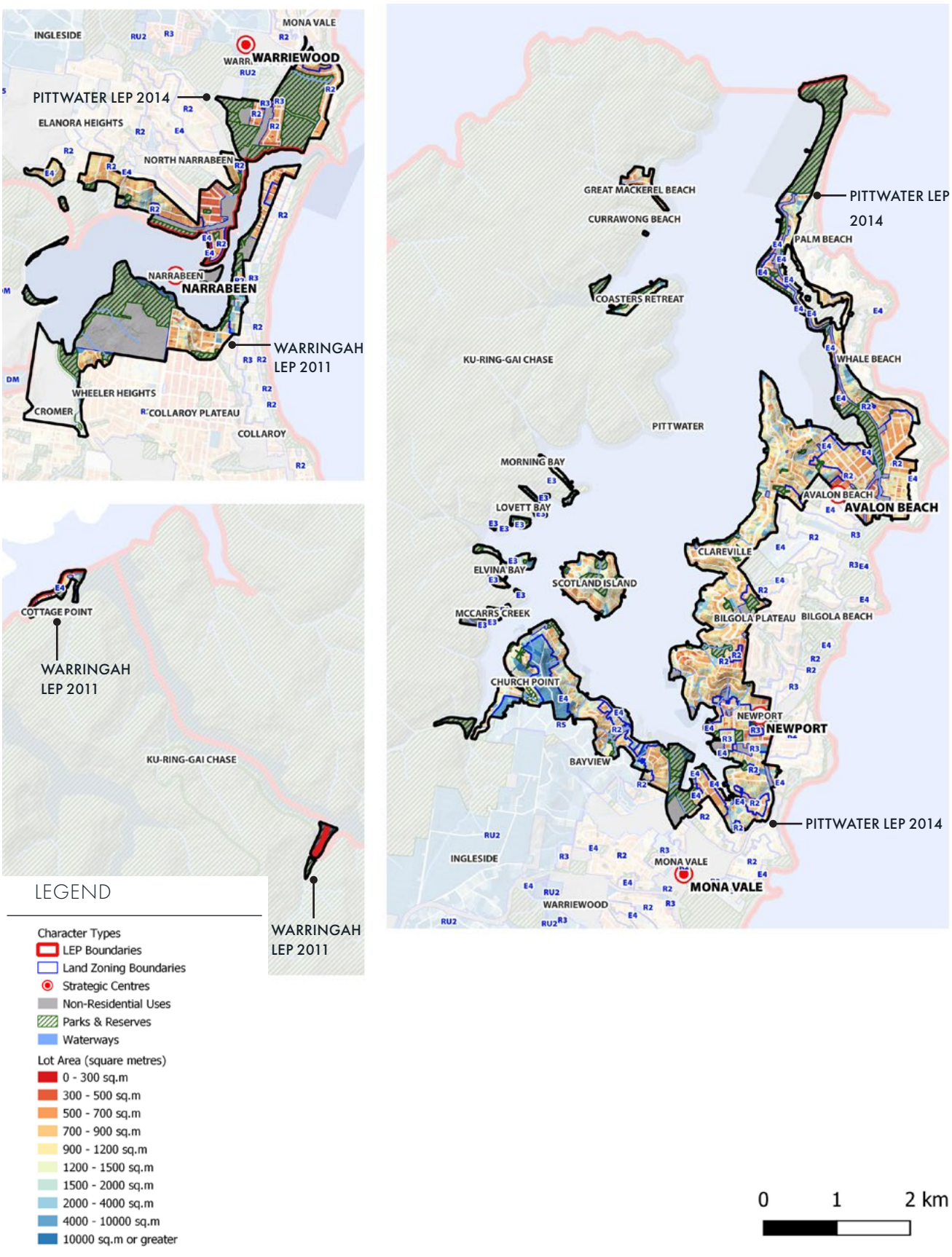


Figure 105. Lot Size _ Waterway

10.4 Built Form

10.4.1 Architectural Styles

NBLCS identifies the typical built form types found within the urban and suburban residential areas within the LGA. The following are found within the Coastal Character Zone:

Pre- War and Inter-War Housing - This housing type is typically free standing or semi-detached housing although a range of moderate height apartment blocks are also evident from this era. Construction is masonry, predominantly brick construction, has maintained the natural slope of the land or controlled it through the use of retaining walls, and is dominated by housing from 1910- 1930's which is typified by the Californian Bungalow. The standard gabled tiled roof is a key element of both low- and high-rise structures from this time. The built forms have been modified and expanded to meet the needs of the changing society but still reflect these key attributes.

Post - War Housing – This housing type covers the period from 1940's to 1960's reflects the adaptation of modern technologies and architectural styles. Built forms were simpler and cladding technologies reflected the new era. Focus was on cheaper mass-produced forms of materials including Fibrous sheeting, brick veneer construction. It is this era in which the beach house and a new character began to develop. Roof form was either a skillion or pitched or a combination of the two. The architectural style that typified this period was the fibro/weatherboard bungalow.

Contemporary Housing – There are a variety of styles dating from the 1960's to the present day. Construction is predominantly slab on ground requiring modifications to the landform providing platforms to support buildings. Modern construction techniques and materials are used including a combination of fibrous sheeting, brick veneer, and render. A range of architectural styles and forms have been adopted including Federation Revival, Pavilion Style, and Post Modernism.

Site Specific Housing – This architectural type is largely site driven. It occurs on steeper terrain where traditional construction techniques are not efficient. Built forms are predominantly light weight, suspended structures on piers with a range of cladding materials including metal, timber or fibrous cement or a combination. Examples of suburbs where this applies includes Bayview.

Source: Northern Beaches Local Character Study, Tract Consultants, 2020

Contemporary Housing and Site Specific Housing are predominant in the Waterway Zone. This is due to its steep and challenging landform but also the significant scenic views and amenities it offers, which has led to housing gentrification.

For further analysis on building elements please refer to Part 3 of Place Based Analysis Report.

Contemporary Housing, Bayview

Post-War Housing, Bayview

Contemporary Residential Apartment, Narrabeen

Contemporary Housing, Church Point

Contemporary Residential Apartment, Narrabeen Lagoon

Contemporary Residential Apartment, Narrabeen Lagoon

10.4.2 Building Height

The Waterway Character Zone has the highest median building heights within the Northern Beaches. This is due to the escarpment and steep landform. Church Point, Bilgola Plateau, Clareville and Bayview have the highest median building heights which are in R5, E4, and E3 zones under Pittwater LEP 2014.

Greater median building heights of 7-10m are concentrated in the centres which accommodate greater population density and offer more development opportunities. This is identified in Whale Beach, Avalon Beach, North Narrabeen and Newport. These areas are popular with great scenic values and opportunities. Some of these zones are R2 and R3 of Pittwater LEP 2014.

The flatter areas exhibit the lowest median building heights as identified at Avalon Beach in R2 zone of Pittwater LEP 2014.

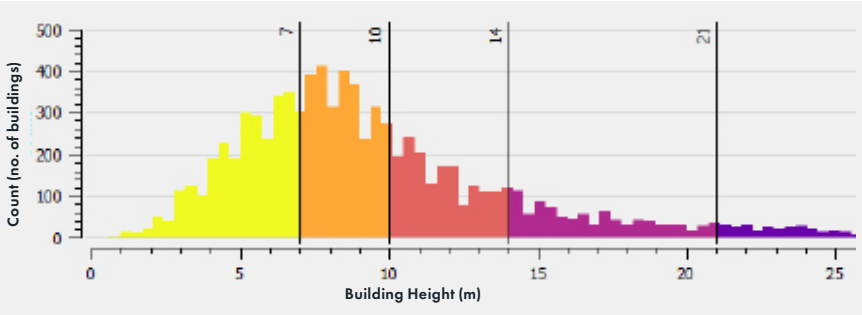


Figure 106. Distribution of Building Heights across the Waterway Character Zone

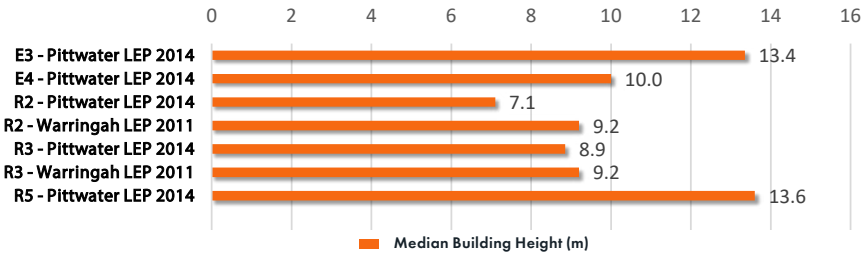


Figure 107. Median Building Height by Land Zoning & LEP

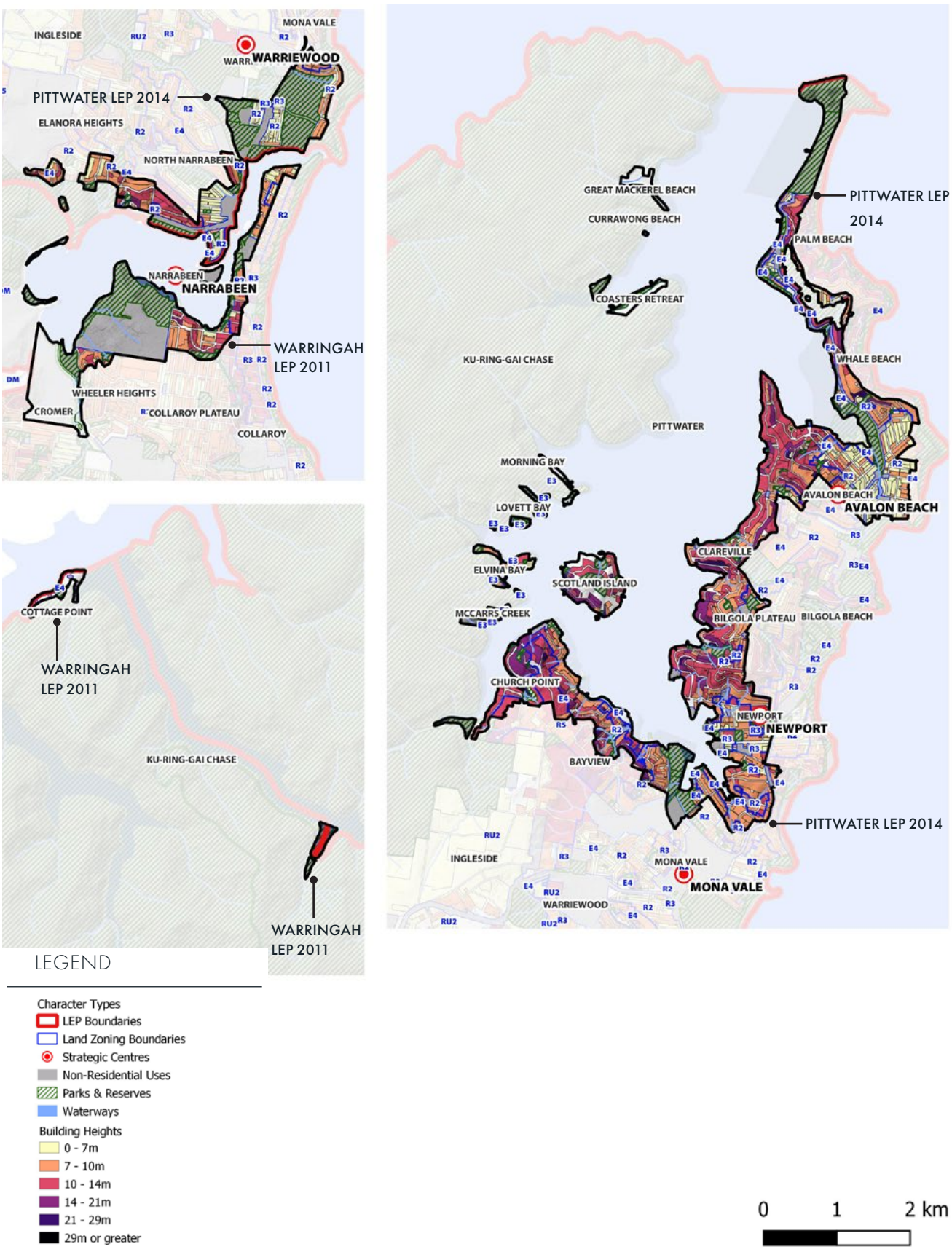


Figure 108. Building Height _ Waterway

10.4.3 Street Setbacks

The largest median street setback in Waterway Character Zone is found in Church Point within R5 and E3 zones under Pittwater LEP 2014. This is due to the dense vegetation and steep landform which is seen in the majority of the area.

The smallest median street setbacks occur in the southern areas of Narrabeen and Wheeler Heights within R2 and R3 zones under Warringah LEP 2011. The other area which demonstrates a smaller street setback is Palm Beach in the north, zoned E3 and E4 under Pittwater LEP 2014. This also reflects the offshore communities.

The highest distribution of street setback in Waterway Character Zone is 7-8m with more than 250 street blocks identified.

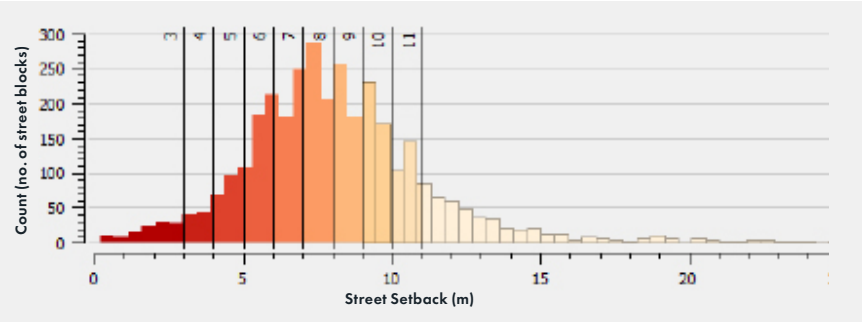


Figure 109. Distribution of Street Setback across the Waterway Character Zone

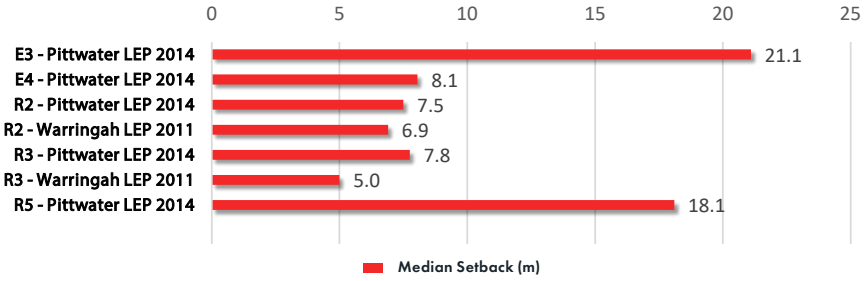


Figure 110. Median Setback by Land Zoning & LEP

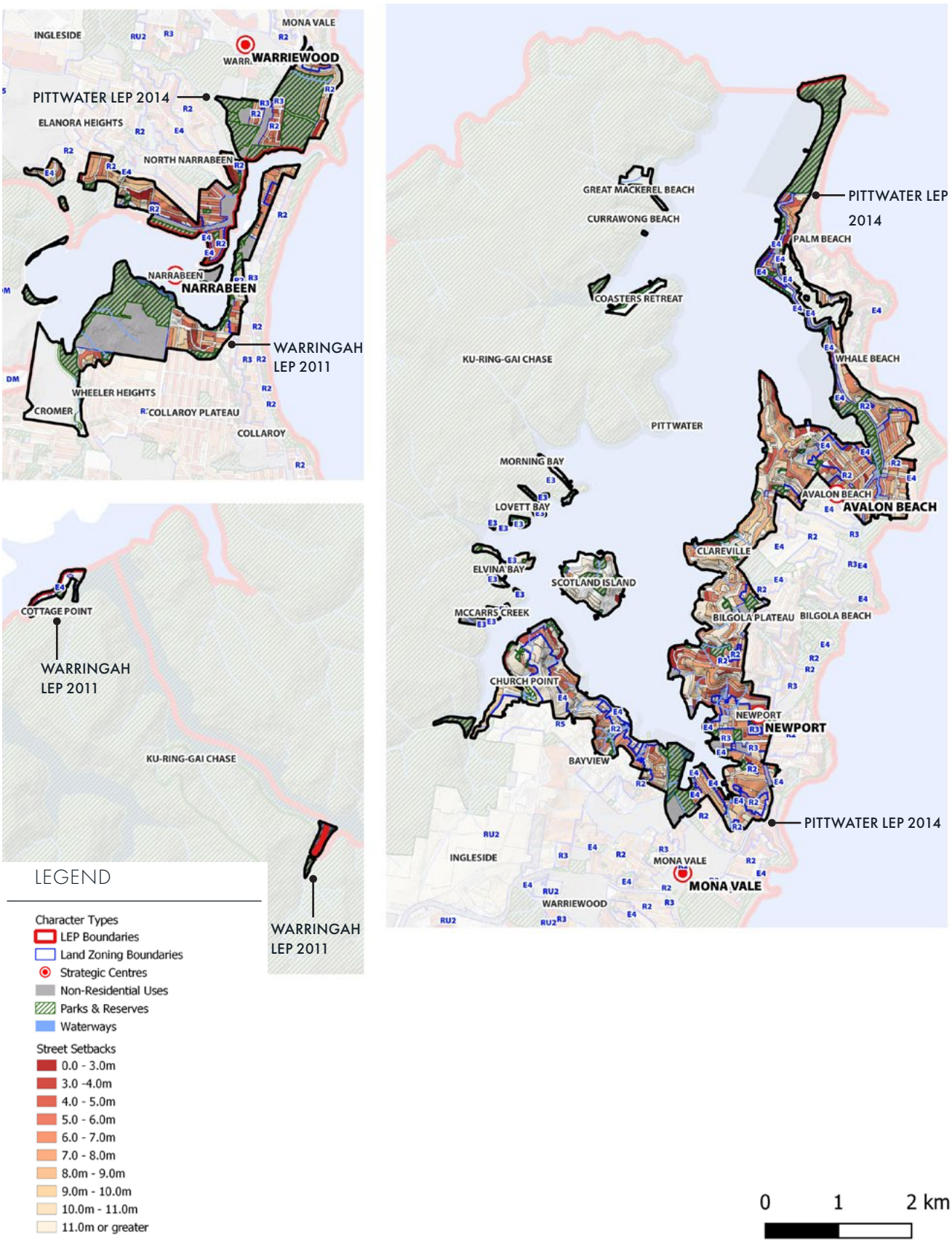


Figure 111. Street Setbacks_ Waterway

10.4.4 Building Site Coverage

The building site coverage within this character zone is distributed evenly across the area with a high percentage of distribution being between 20-32%. Whilst the permeable surfaces is highest at 40-45% over approximately 45 street blocks.

The areas with the highest building site cover are Narrabeen, North Narrabeen, Collaroy Plateau and Warriewood, which within R2 and R3 zones of Warringah LEP 2011 and R3 zone of Pittwater LEP 2014.

As the areas progress further north the building site cover decreases and the permeable surfaces increase as reflected in Whale Beach and Scotland Island. This is reflected in E3 and R5 zones under Pittwater LEP 2014.

Areas such as Avalon Beach, Bayview, Bilgola Plateau, Church Point and Clareville, are all very similar with a moderate building site coverage range of 20-28% and higher percentage range of permeable surfaces at 53-67%. These areas are located further north in R2 and E4 zones under Pittwater LEP 2014 and are situated on escarpments and steeper landform.

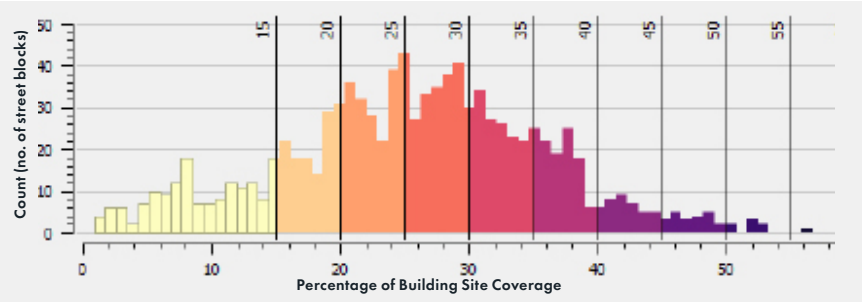


Figure 112. Distribution of Building Site Coverage (aggregated to street blocks) across the Waterway Character Zone

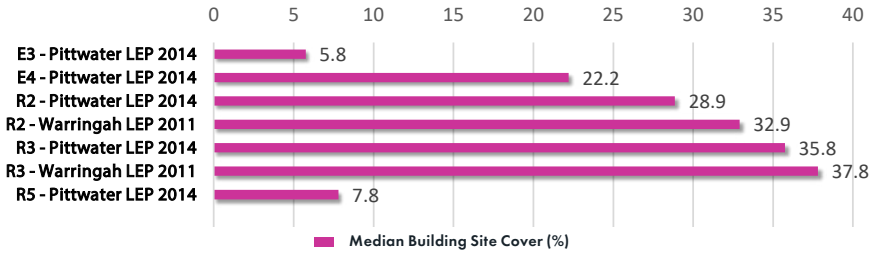


Figure 113. Median Building Site Coverage by Land Zoning & LEP

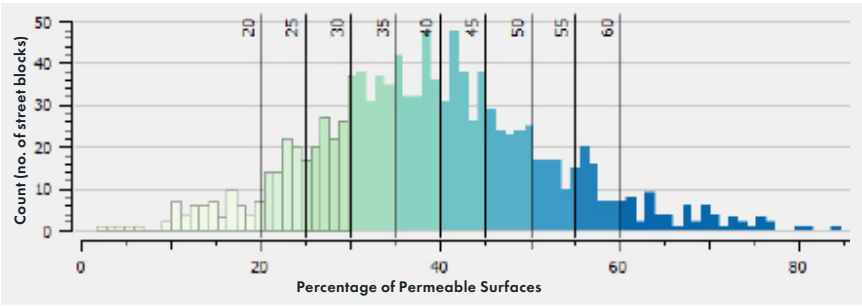


Figure 114. Distribution of Permeable Surface (aggregated to street blocks) across the Waterway Character Zone

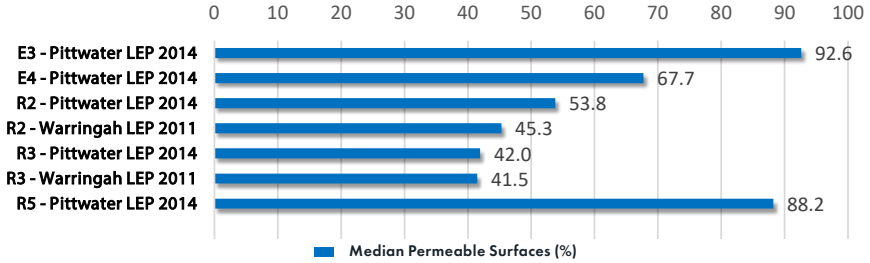


Figure 115. Median Permeable Surfaces by Land Zoning & LEP

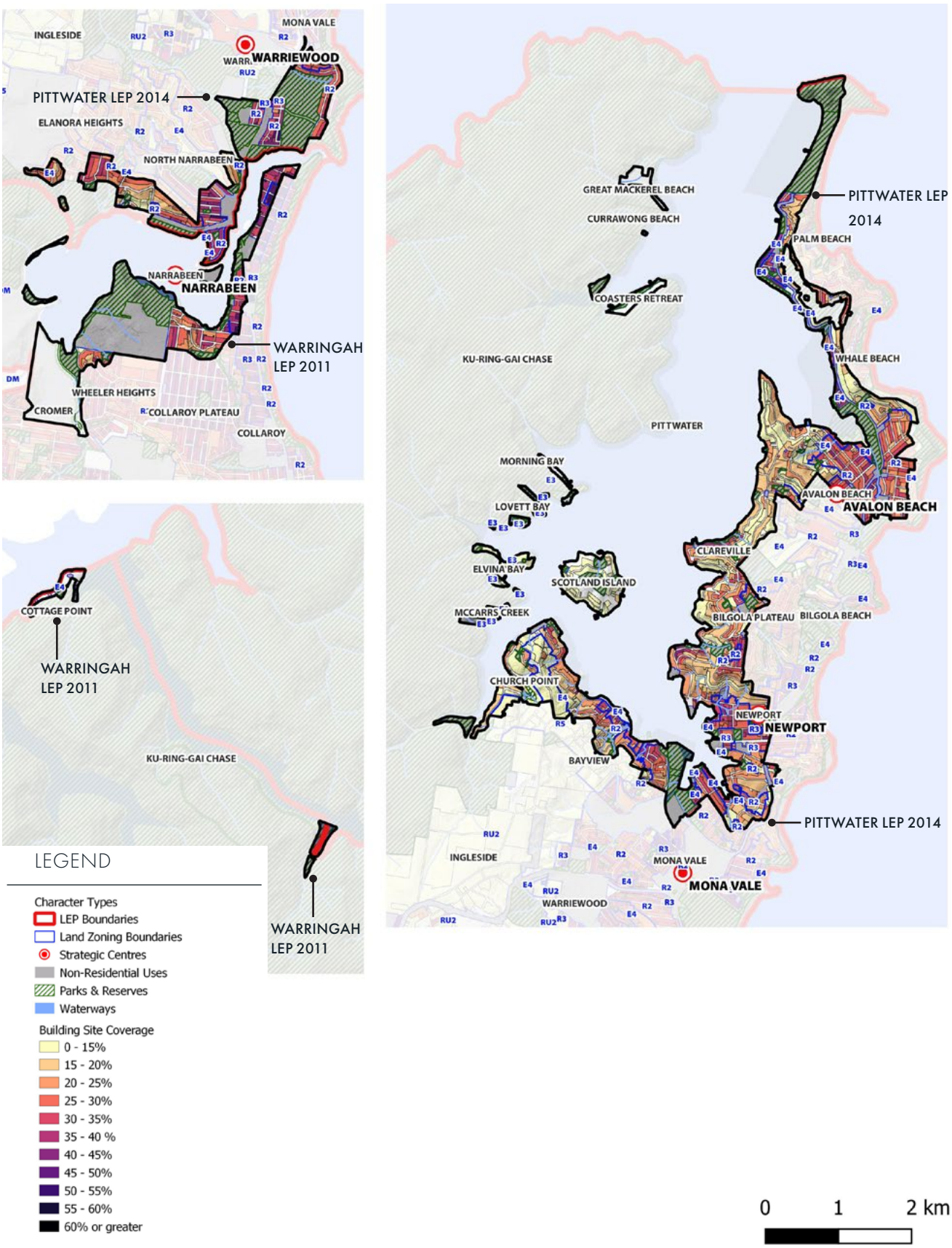


Figure 116. Building Site Coverage_ Waterway

10.4.5 Tree Cover

Waterway Character Zone has the greatest tree cover in Northern Beaches LGA. The most distribution of tree cover is 45% with a steady rate of 50-60% across the character zone.

The highest median areas include some offshore communities like Scotland Island and Elvina Bay; and some suburbs like Whale Beach. This has a strong relationship to building site coverage. These areas are also surrounded by natural bushland which permeates into the residential areas. This is reflected in E3 and R5 zones of the Pittwater LEP 2014.

The lowest tree cover areas are in the southern sections of Waterway Character Zone, such as Warriewood and North Narrabeen. These areas are zoned R2 and R3 under Pittwater LEP 2014, and have tree cover ranging between 27% and 34%.

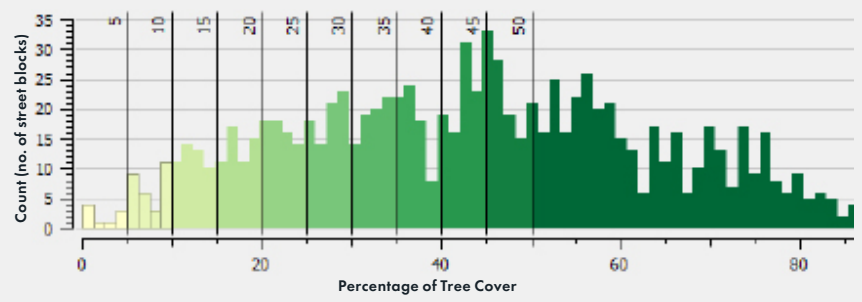


Figure 117. Distribution of Tree Coverage (aggregated to street blocks) across the Waterway Character Zone

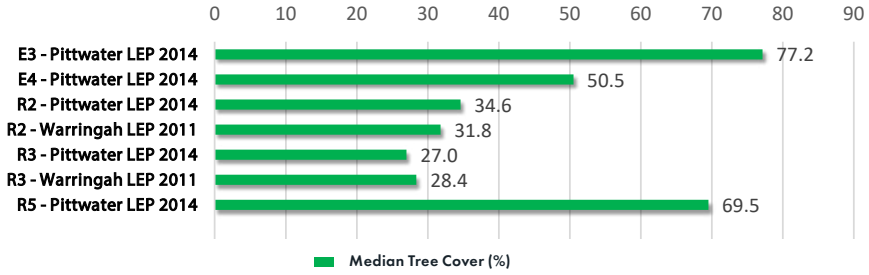


Figure 118. Median Tree Cover by Land Zoning & LEP

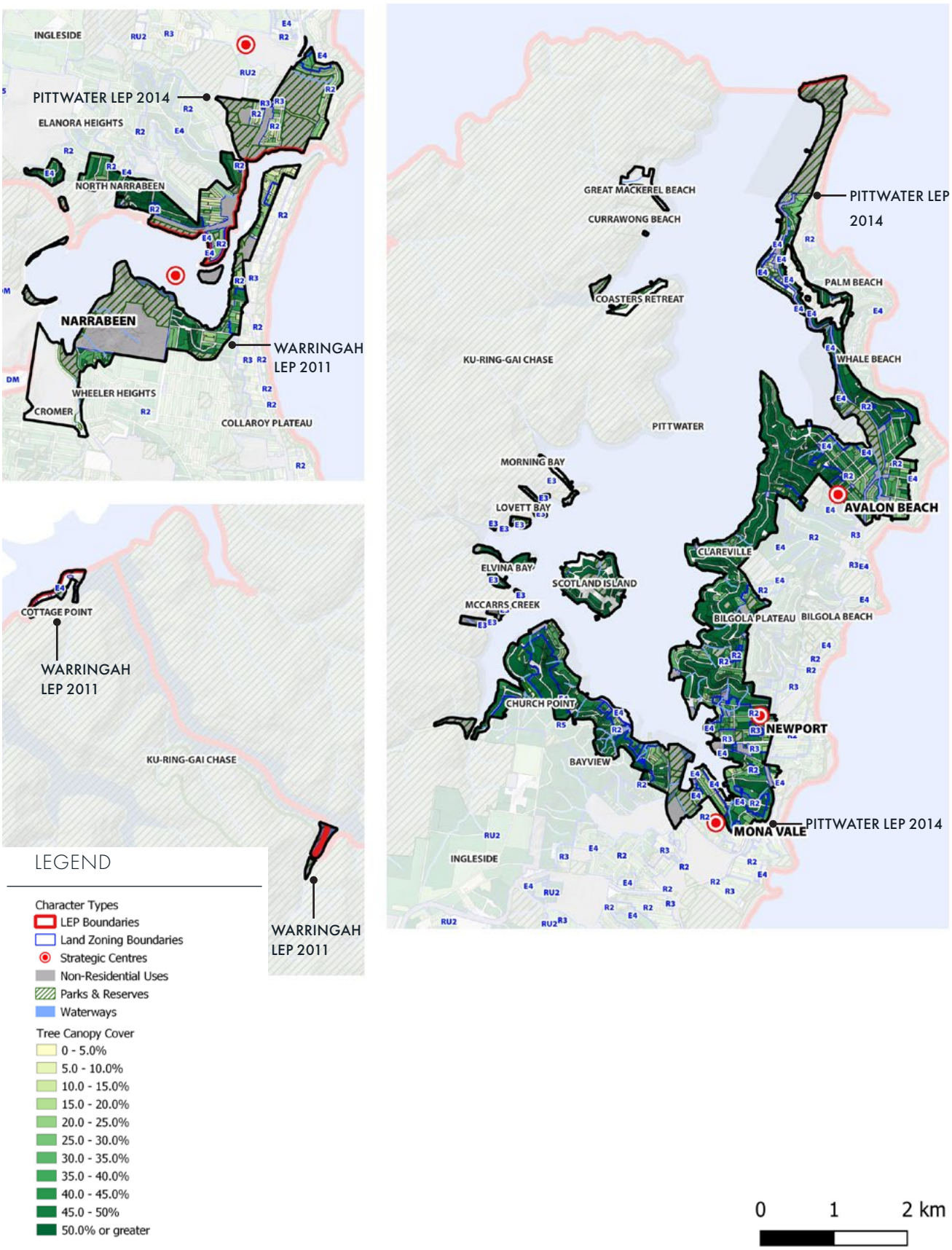


Figure 119. Tree Cover_ Waterway

10.5 Development Activity

10.5.1 Development Applications

The Waterway Character Zone has a limited variety of development applications ranging from subdivision, new use, new development, change of use and alterations and additions. The development application types are also limited including dwelling house, new development, torrens/ community, jetty, multi dwelling house and ancillary structures. They have been categorised into the LEP zones which compares and demonstrates the number of applications in the last 2 to 5 years. Some development may have been approved by CDCs and this has not been included as it would skew results.

The new development category is in relation to the construction of new dwelling house/ commercial building/ industry building and/ or new dwelling house with an attached secondary dwelling or creating a secondary dwelling.

The greatest number of development applications is in Avalon Beach with 25+ applications submitted, followed by Newport and Palm Beach under the Pittwater LEP 2014. The majority of applications are within E3, E4 and R2 zones under Pittwater LEP 2014.

The development application categories that have the most applications are alterations and additions, secondary dwelling and dwelling house. This is reflected in the graph.

The map of Development Application demonstrates spatially the different DA categories, DA determination periods and DA results.

There are more applications associated with new category within the waterway areas of Church Point, Avalon Beach and Newport. The alterations and additions seems to be spread out evenly across the zone but higher within Pittwater LEP 2014.

The least number of development applications types are subdivision, new use, ancillary structures and jetty.

The areas that have the most rejected development applications are in North Narrabeen within the R2 zone of Pittwater LEP 2014 and Whale Beach in the E4 zone of Pittwater LEP 2014.

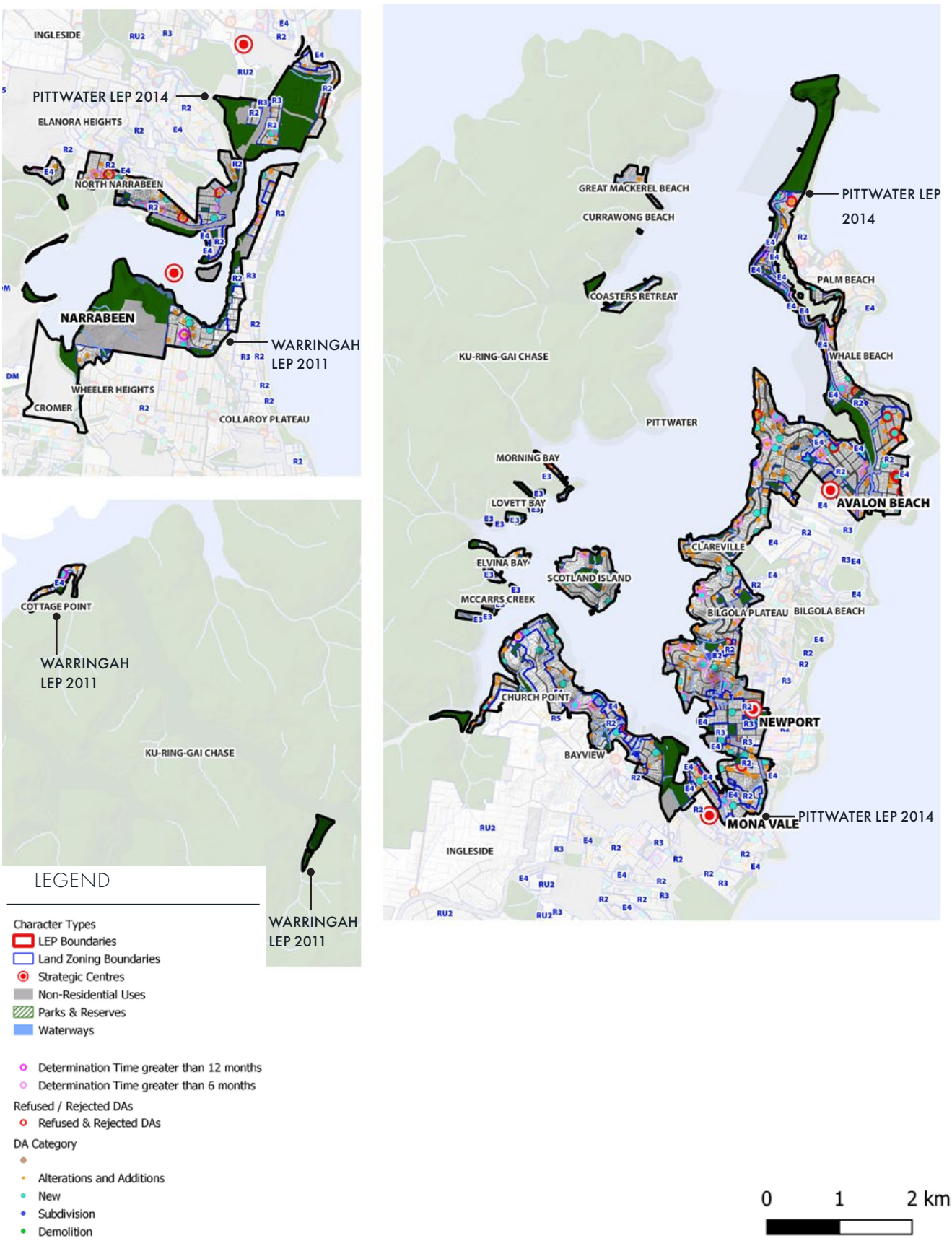


Figure 120. Development Applications _ Waterway

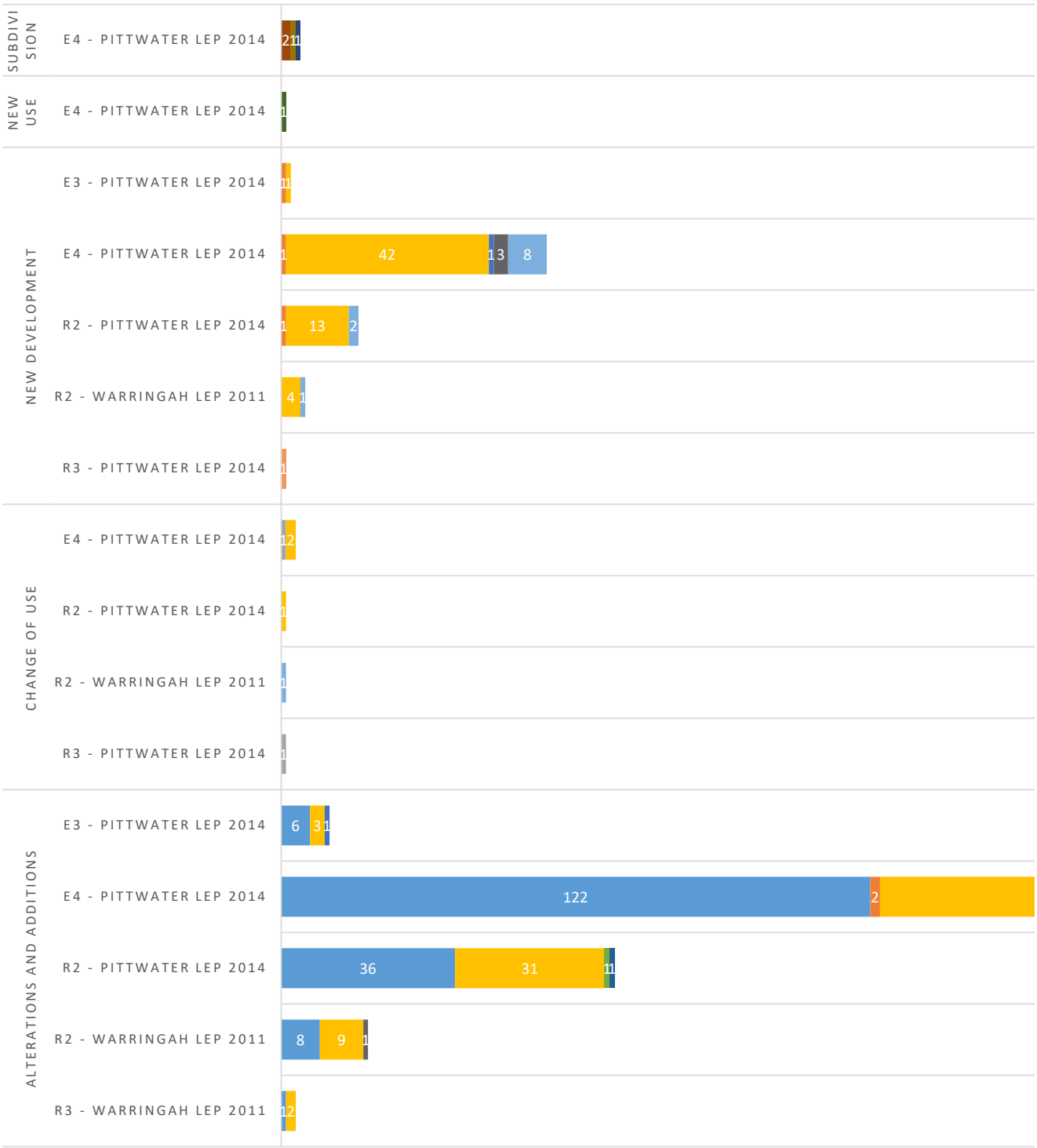


Figure 121. Development Activity Graph _ Waterway

LEGEND

- Alterations and Additions
- Ancillary Structures
- Change of Use
- Dwelling House
- Jetty
- Residential Accommodation
- Restaurant
- Subdivision
- Swimming Pool
- Torrens
- Torrens/Community
- Use DA
- Secondary Dwelling
- Multi Dwelling House

10.6 Summary

The following provides a summary of the key elements that will need to be considered when developing built form controls for the Waterway Character Zone.

Landform & Natural Features

- Waterway Zone has the steepest topography compared with other zones. Future built form controls on the steeply sloping land may be needed to minimise cut and fill to reduce erosion and landslip risk and reduce the overall height of development.
- Flooding and bushfire are the other two natural hazards prevalent in Water Character Zone. Built form controls need to respond to the natural hazards for effective risk mitigation, meanwhile to consider minimising the negative impact on the urban design, e.g. street level accessibility and activation.

Scenic Views

- There are a number of public scenic lookouts and scenic escarpments within the Waterway Zone. Careful consideration of built form particularly within the foreground of key views may be required.

Urban Form & Built Form

- Lot sizes, street setbacks and building site coverage vary across the zone ,with large lots, large setbacks and low site coverage occurring on steeply sloping land. These elements need further investigation to determine whether they make a significant contribution to character and require further built form control.
- Building height is generally greater in areas where there is steeper topography. Future controls need to enable view aspects and a reduction in visual bulk particularly in areas where there are water views from private land.
- Offshore communities should be given separate consideration as they are often accessed only by water as well as unsewered. They are more environmentally sensitive. Therefore requirement of permeable surfaces may be more significant.
- It also need to consider structures on or near the waterway and/or within offshore communities, including jetties, boat sheds as well as larger development such as marinas/commercial boating facilities. They need to have regard to public access along the waterfront. Similar issues for harbour foreshore properties in Harbour Zone.
- It is important to retain the foreshore building line and setbacks to the waterway.

Tree Cover

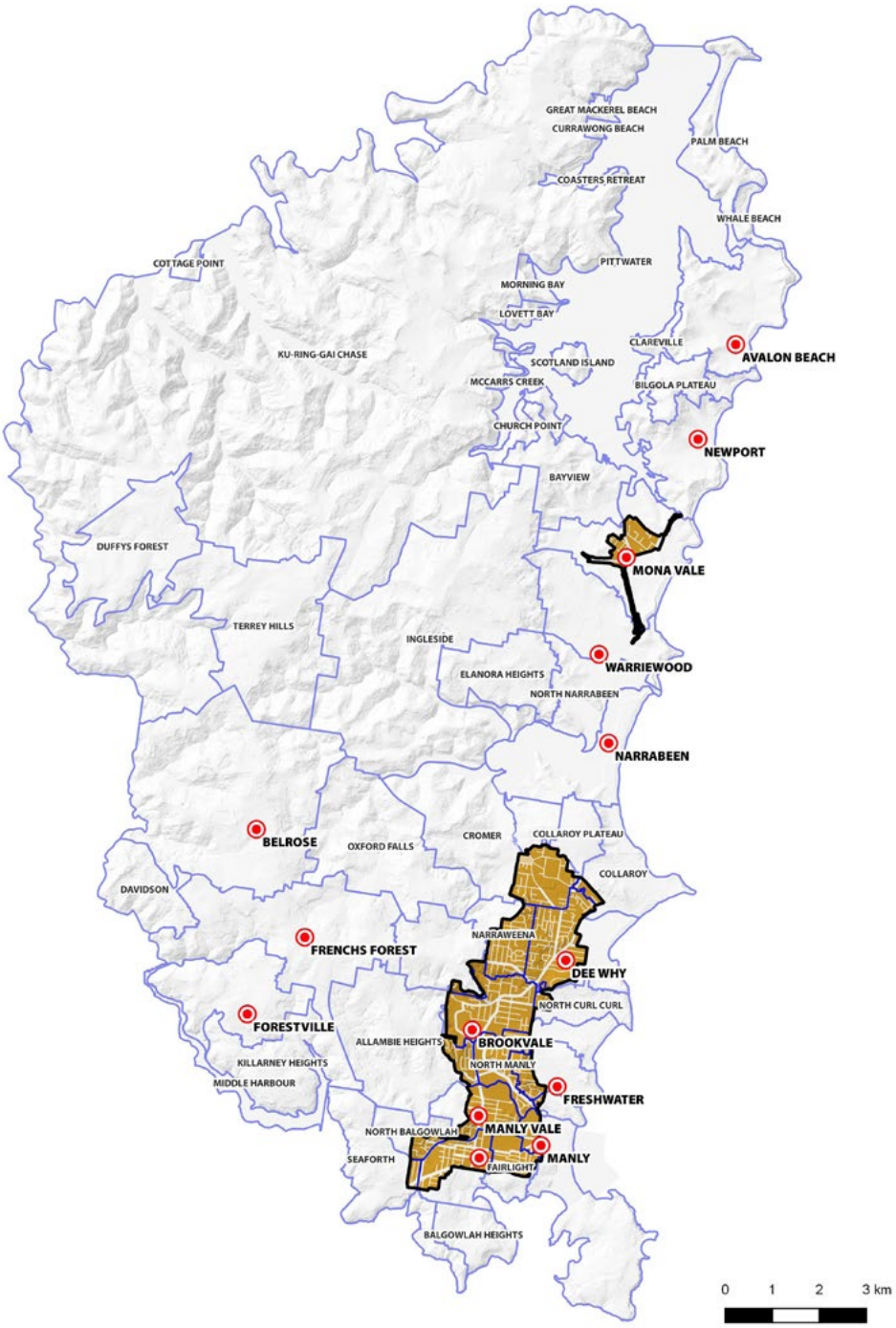
- Tree cover is more predominant when compared to other character zones. This will require consistency in controls of landscape open space requirements to ensure the strong tree canopy is retained.

11 Inland Character Zone

11.1 Overview

The Inland Character Zones includes residential areas that lack a distinctive underlying natural characteristic. These zones are typically flat to undulating and suited to more suburban and urban development typologies.

Source: Northern Beaches Local Character Study, Tract Consultants, 2020



11.2 Landform and Natural Features

11.2.1 Landform and Slope Analysis

The Inland Character Zone includes a combination of plateau and escarpment landforms.

The topography is generally flat with median slope of approximately 5-8%.

The steepest topography in Inland Character Zone is north of Brookvale, where it accommodates the escarpment changes.

The landform is generally flat with a median slope ranging from 6 to15%. This includes the locations of Brookvale, Mona Vale, Manly Vale, Seaforth, Cromer and South Collaroy and Narraweena. These areas are within R1, R2 and R3 zones under the existing LEPs.

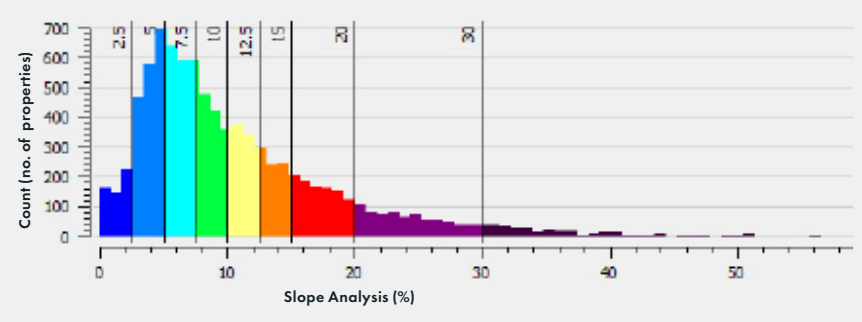


Figure 122. Distribution of Slope for the Inland Character Zone

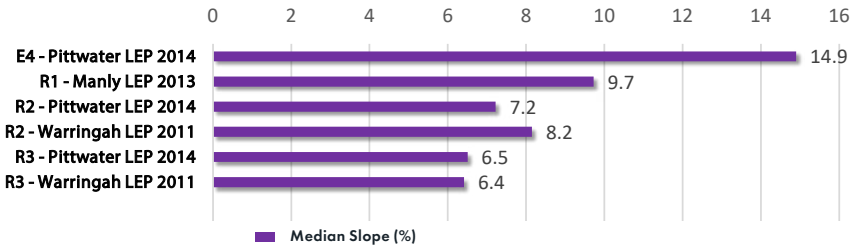


Figure 123. Median Slope Graph _ Inland

11.2.2 Key Views

Inland Zone is situated further inland and offers the least scenic value within the LGA. The variety of visually important localities, include

- Scenic arrival point, e.g. at Seaforth, Manly Vale, Dee Why along Pittwater Road, Beacon Hill, Queenscliff at Manly Creek and Mona Vale along Pittwater Road; and
- Scenic lookout/viewpoint, e.g. at Allambie Heights.

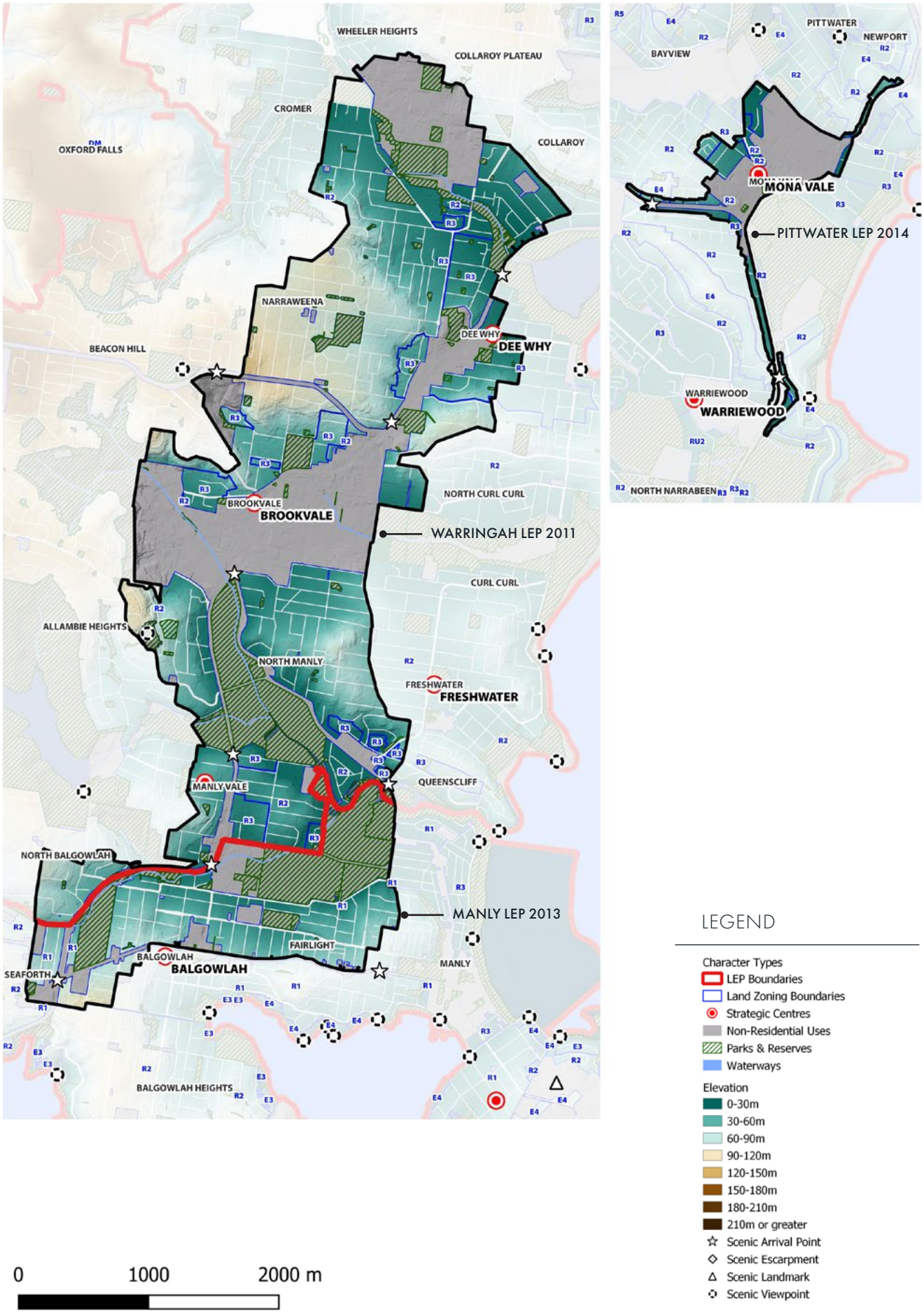


Figure 124. Landform and Views _Inland

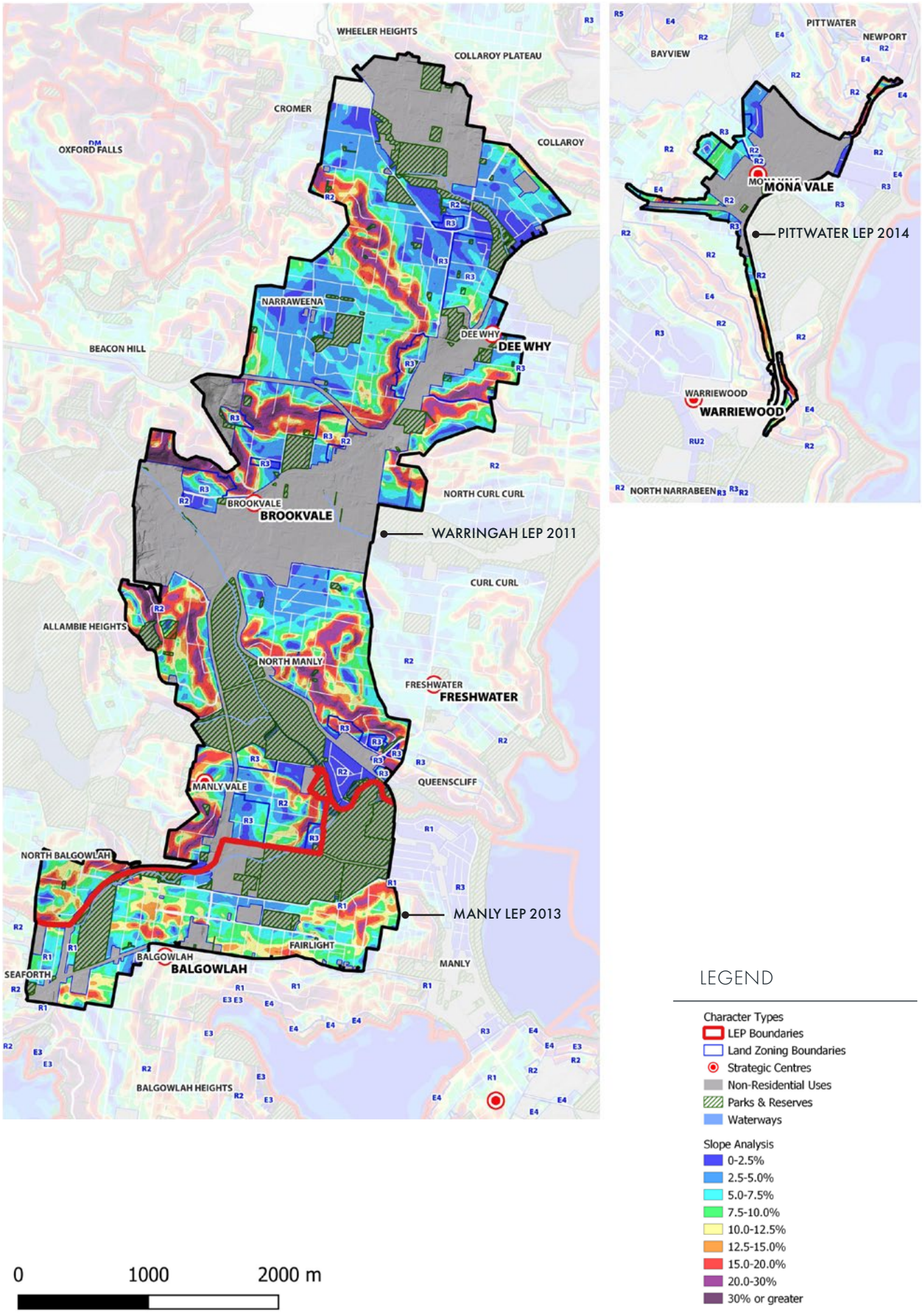


Figure 125. Slope analysis _ Inland

11.3 Urban Form

11.3.1 Street Pattern

The NBLCS identifies 'grid', 'modified grid' and 'organic grid' street patterns across the LGA (see 7.3.1 for descriptions).

In the Inland landscape character zone, the Grid Pattern occurs in the following areas: Balgowlah, Manly Vale, Brookvale, North Manly, Fairlight, Seaforth and West Freshwater.

The Modified Grid Pattern occurs in Mona Vale, Dee Why, some parts of North Manly, Cromer, Narraweena, North Curl Curl and West Manly Vale. These grids respond to the topography.

The Organic Pattern is more prominent in this character zone with areas of North Balgowlah, North Queenscliff, Allambie Heights, Collaroy and Warriewood exhibiting forms of organic formation. The street pattern responds to the large amount of open space and waterways within this zone.

Figure 126. Grid Pattern, Brookvale (Source: Google Earth Pro, 2020)

Figure 127. Modified Grid Pattern, Dee Why (Source: Google Earth Pro, 2020)

Figure 128. Organic Pattern, Queenscliff (Source: Google Earth Pro, 2020)

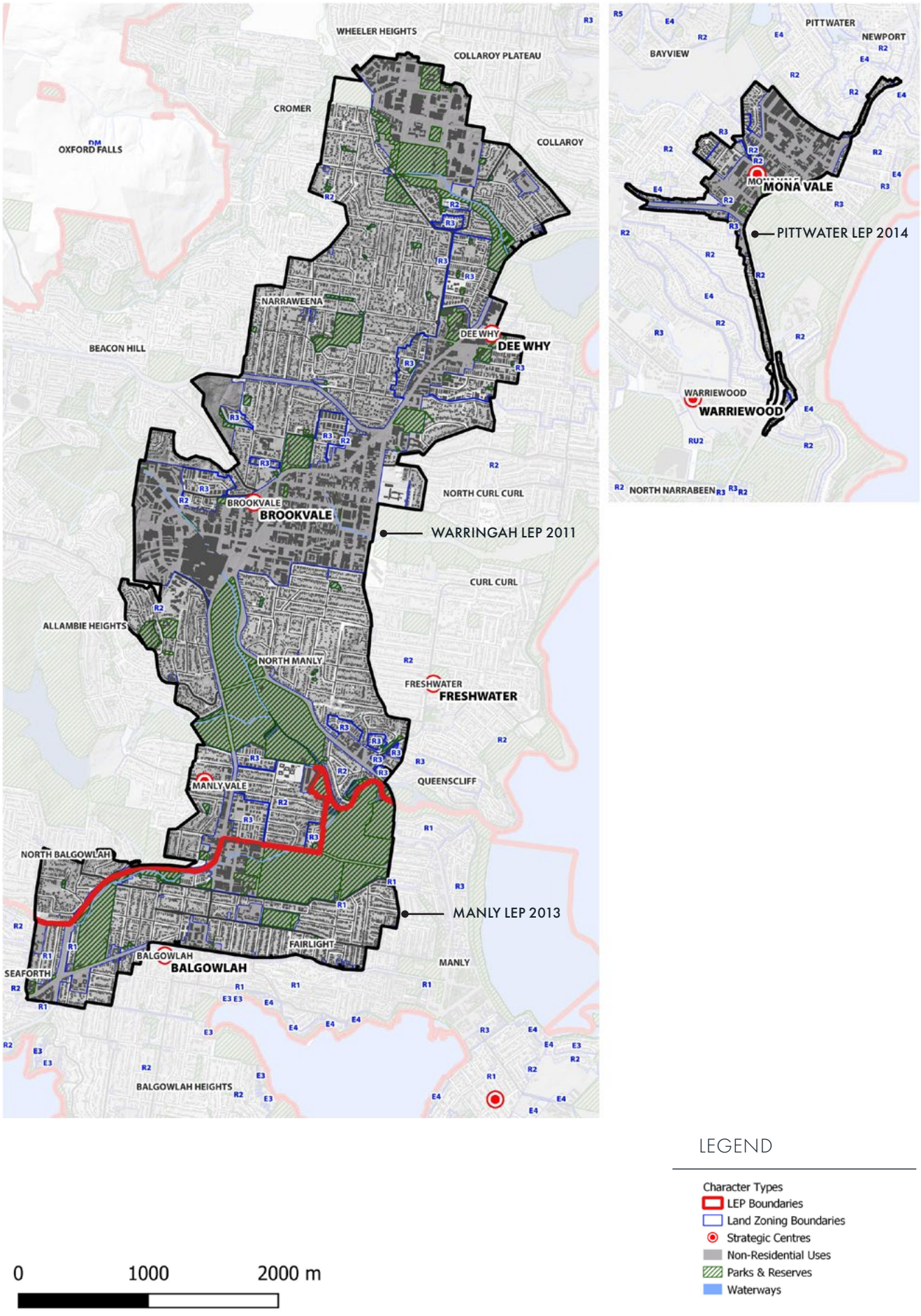


Figure 129. Street Pattern _ Inland

11.3.2 Lot Size

This Inland Character Zone is relatively flat which results in relatively consistent lot sizes, lot width and lot depth.

The largest (over 1000m²) occur in the central sections of Inland Character Zone on the flat topography. This includes locations such as Brookvale and Collaroy. They are identified in pockets of R3 zones of the Warringah LEP 2011 and R2 zone of Pittwater LEP 2014.

Small to medium lots (400-900m²) with standard lots shapes become predominant in Narraweena, Cromer, Collaroy, Brookvale and North Balgowlah. This is reflected in all the zones except R3 zone of the Pittwater LEP 2014, which is situated around the Mona Vale centre.

Lots less than 400m² are predominantly located in Balgowlah and Fairlight due to their proximity to the major destinations within Northern Beaches. The lowest median lot size is in Fairlight zoned R1 under Manly LEP 2013, with one of the smallest median lot width in Inland Character Zone which is closest to Manly and on generally flat topography.

The southern areas, closest to North Harbour, has the smallest lot widths and smallest lot depths.

The highest distribution of lot size in Inland Character Zone is approximately 600m² and reflected across 750 lots.

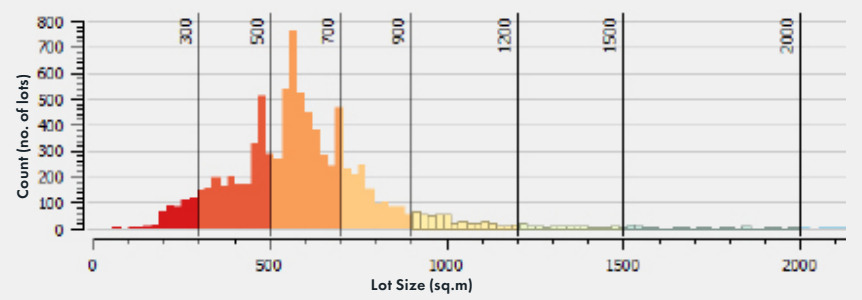


Figure 130. Distribution of lot sizes across the Inland Character Zone

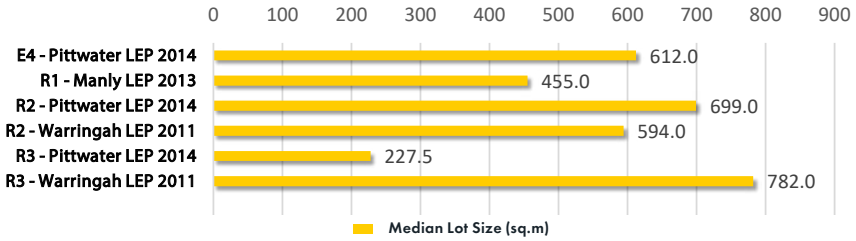


Figure 131. Median Lot Size by Land Zoning & LEP

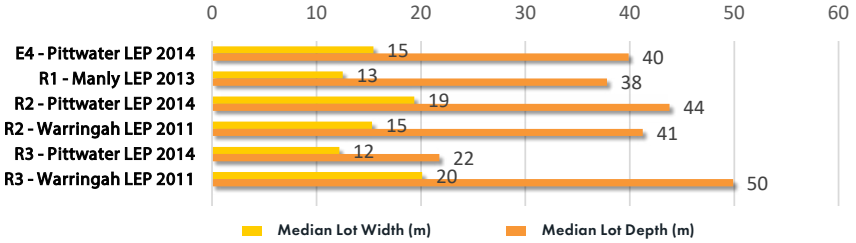


Figure 132. Median Lot Width and Depth by Land Zoning & LEP

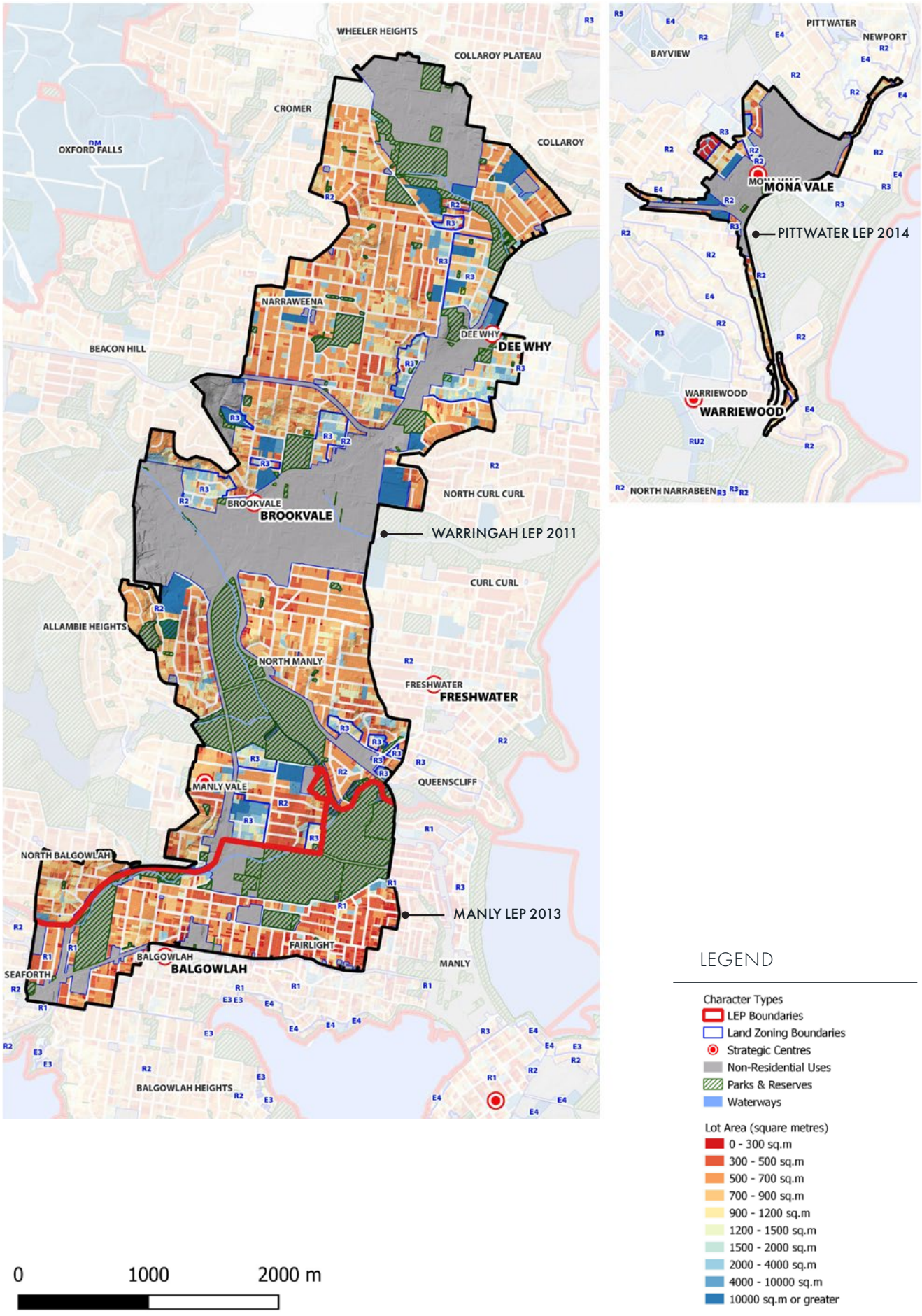


Figure 133. Lot Size _ Inland

11.4 Built Form

11.4.1 Architectural Styles

NBLCS identifies the typical architectural types found within the urban and suburban residential areas within the LGA. The following are found within the Coastal Character Zone:

Pre- War and Inter-War Housing - This housing type is typically free standing or semi-detached housing although a range of moderate height apartment blocks are also evident from this era. Construction is masonry, predominantly brick construction, has maintained the natural slope of the land or controlled it through the use of retaining walls, and is dominated by housing from 1910- 1930's which is typified by the Californian Bungalow. The standard gabled tiled roof is a key element of both low- and high-rise structures from this time. The built forms have been modified and expanded to meet the needs of the changing society but still reflect these key attributes.

Post - War Housing – This housing type covers the period from 1940's to 1960's reflects the adaptation of modern technologies and architectural styles. Built forms were simpler and cladding technologies reflected the new era. Focus was on cheaper mass-produced forms of materials including Fibrous sheeting, brick veneer construction. It is this era in which the beach house and a new character began to develop. Roof form was either a skillion or pitched or a combination of the two. The architectural style that typified this period was the fibro/weatherboard bungalow.

Contemporary Housing – Covering from the 1960's to today there is a variety of styles. Construction is dominated by slab on ground in which the landform is modified to support the house. Modern construction techniques and materials are used including a combination of fibrous sheeting, brick veneer, and render. A range of architectural styles and forms have been adopted including Federation Revival, Pavilion Style, and Post Modernism.

Site Specific Housing – This architectural form is largely site driven. It occurs on steeper terrain where traditional construction techniques are not efficient. Built forms are predominantly light weight, suspended structures on piers with a range of cladding materials including metal, timber or fibrous cement or a combination. Examples of suburbs where this applies includes Bayview.

Source: Northern Beaches Local Character Study, Tract Consultants, 2020

Some Pre-War and Inter-War Housing is found in the Inland Zone, with Post-War Housing scattered across this character zone.

Contemporary Housing is generally found closer to the centres and the transport corridors where the offer of convenience and amenities has led to housing gentrification.

For further analysis on building elements please refer to Part 3 of Place Based Analysis Report.

Contemporary Housing, Manly Vale

Contemporary Housing, Cromer

Post-War Housing, Balgowlah

Post-War Residential Apartment, Dee Why West

Contemporary Housing, Balgowlah

Post-War Housing, Narrewanna

11.4.2 Building Height

The median building height for the Inland Character Zone is the second lowest across the all of the character zones at just over 7m. This reflects the relatively flat topography and a greater distance from the water.

The greatest median building heights are concentrated around the centres including Dee Why, Mona Vale, Manly Vale and Balgowlah. The highest median building height is within the R3 zone of Warringah LEP 2011 at 11.4m whilst the rest in Inland Character Zone range from 6.9m to 7.7m.

The greatest building heights (over 10m) are also identified in the organic steeper areas.

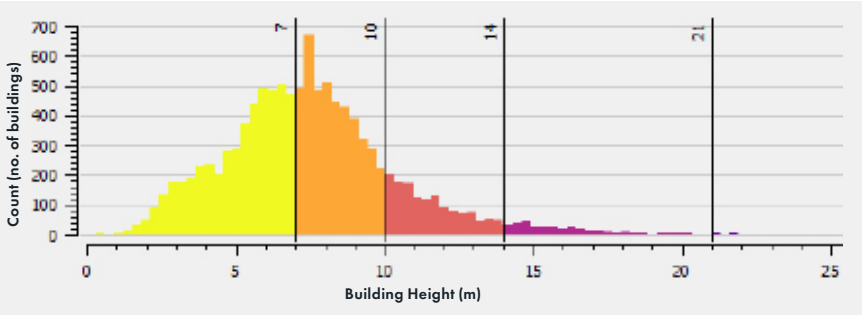


Figure 134. Distribution of Building Heights across the Inland Character Zone

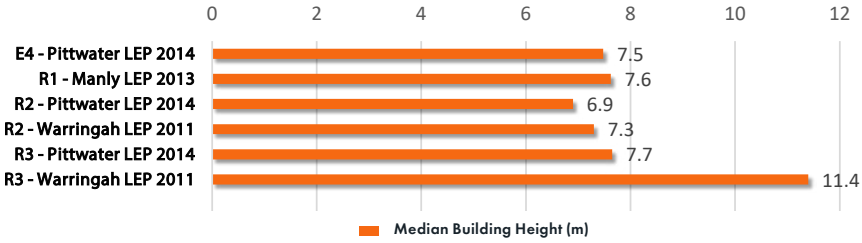


Figure 135. Median Building Height by Land Zoning & LEP

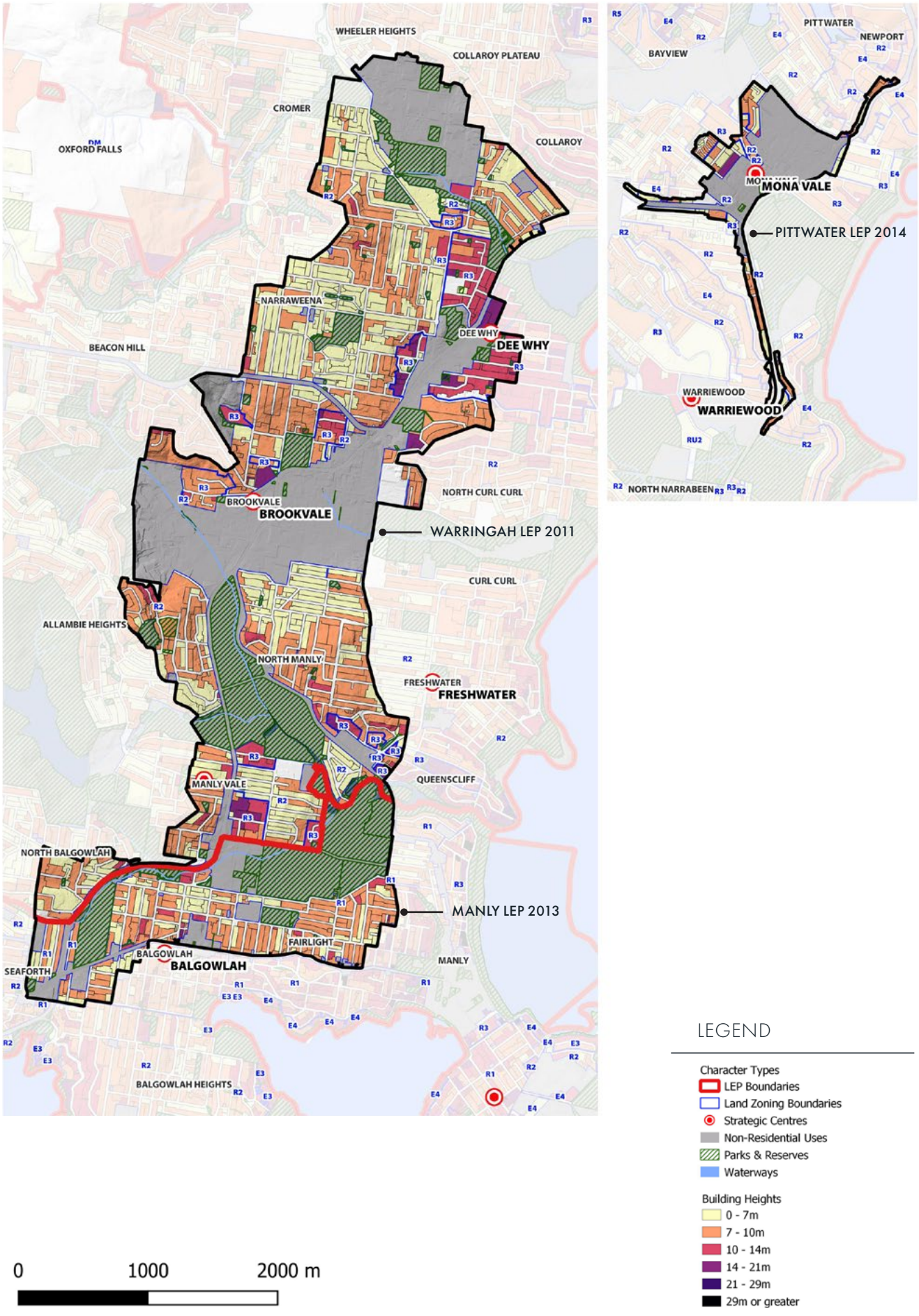


Figure 136. Building Height _ Inland

11.4.3 Street Setbacks

Within the Inland Zone the median setbacks vary between 5.5 - 8.4m. In comparison to other zones this median is relatively consistent across the whole character zone. This is due to the flatter topography and the suburban development typologies.

The street setbacks generally increases further north in Warriewood and Mona Vale. This is reflected in the R2 zone of Pittwater LEP 2014 with the highest median of 8.4m.

The lowest median setbacks are within Manly and Fairlight where provide a greater amount of medium and high density housing, as seen in the R1 zone of Manly LEP 2013.

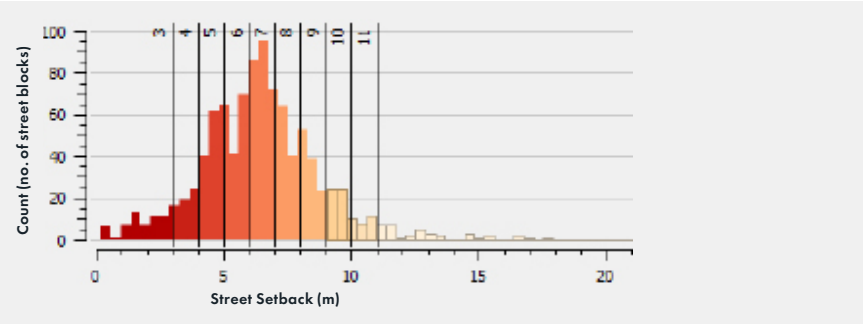


Figure 137. Distribution of Street Setback across the Inland Character Zone

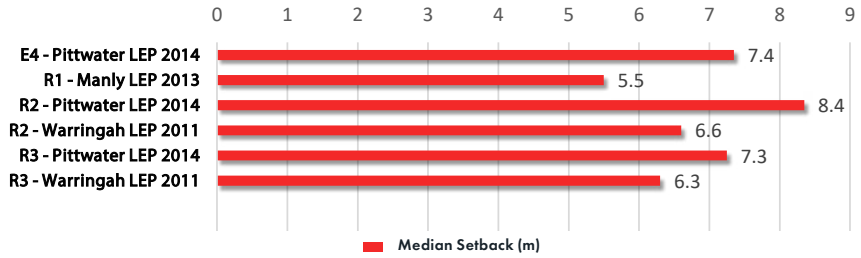


Figure 138. Median Setback by Land Zoning & LEP

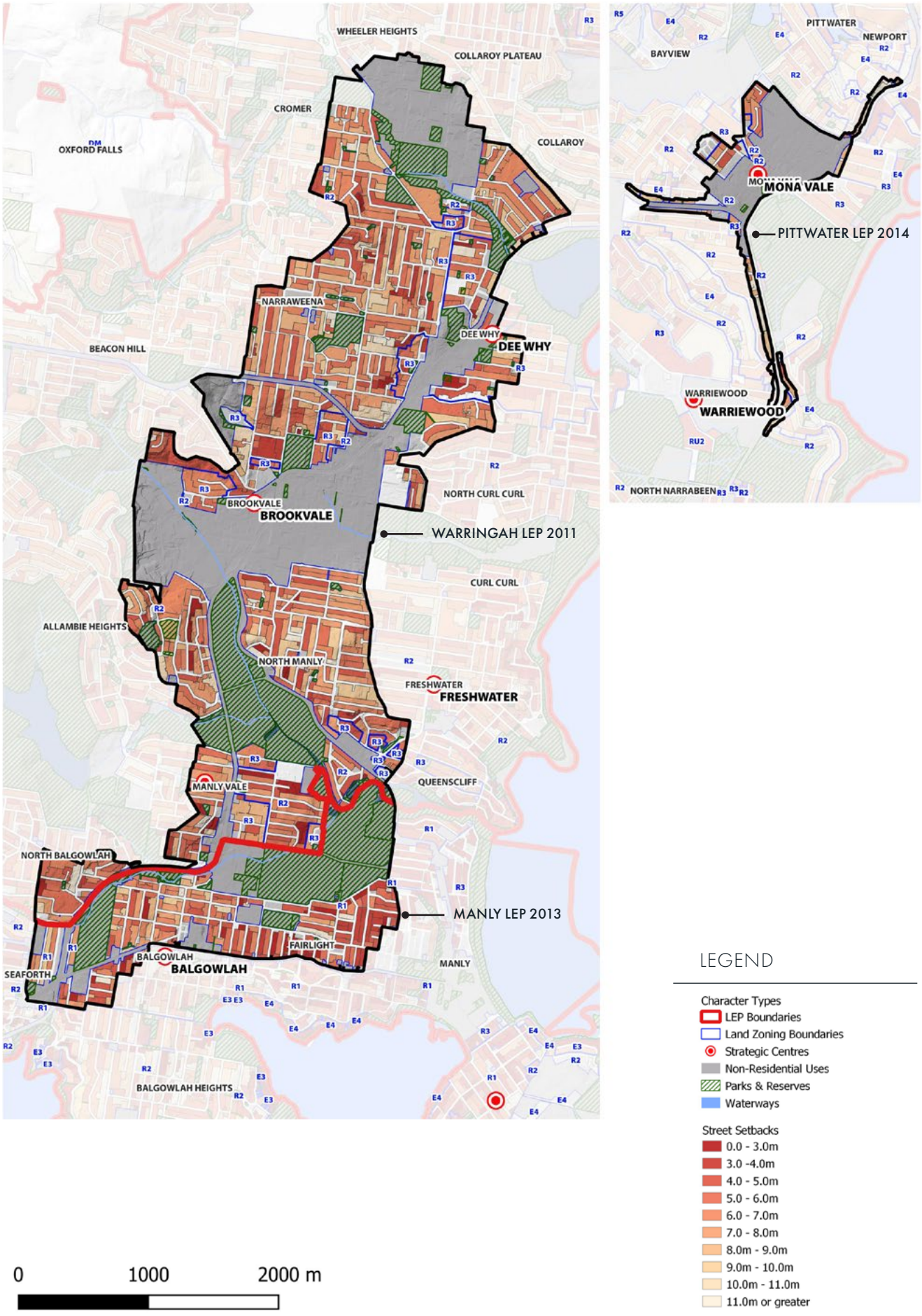


Figure 139. Street Setbacks _ Inland

11.4.4 Building Site Coverage

The Inland Character Zone has the highest median building site coverage across the Northern Beaches LGA. The highest distribution of building site coverage is between 28-38% with the highest building site coverage identified in R3 zone of Pittwater LEP 2014 near Mona Vale and R3 zone of Warringah LEP 2011 near Queenscliff.

The other high site coverage areas at Fairlight, Manly, Balgowlah and Seaforth have a median of approximately 40%. Other centres of Brookvale, Manly Vale, Mona Vale and Dee Why also exhibit a high building site coverage.

The highest permeable surface areas are found in E4 and R2 zones under Pittwater LEP 2014, and R2 zone under Warringah LEP 2011, such as North Balgowlah, which in turn have a lower building site coverage.

The highest distribution of permeable surface within the Inland Character Zone is between 38% and 42%.

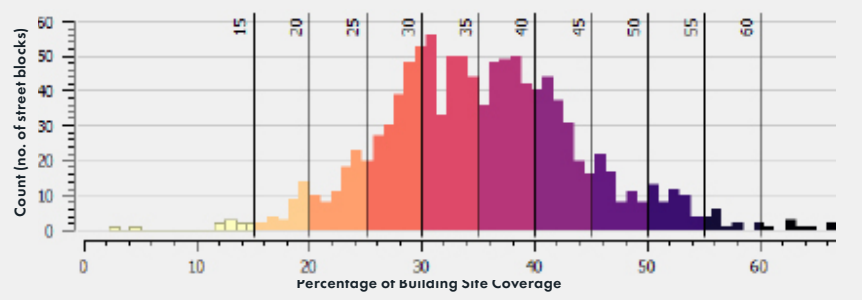


Figure 140. Distribution of Building Site Coverage (aggregated to street blocks) across the Inland Character Zone

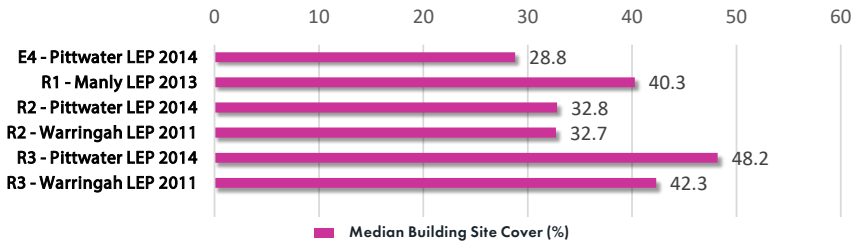


Figure 141. Median Building Site Coverage by Land Zoning & LEP

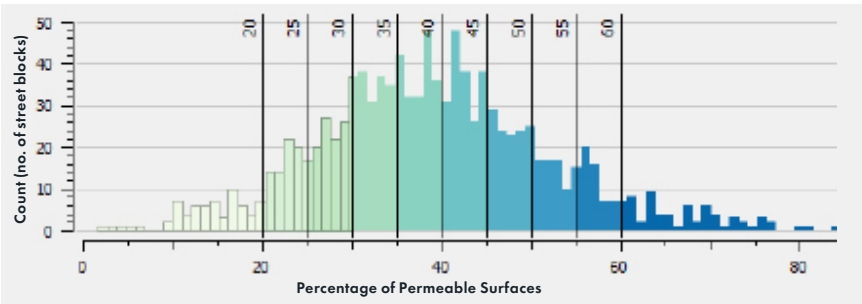


Figure 142. Distribution of Permeable Surface (aggregated to street blocks) across the Inland Character Zone

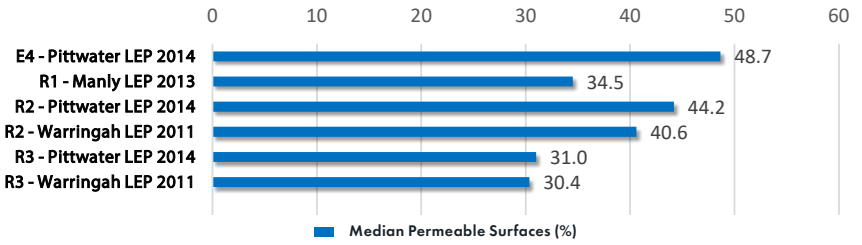


Figure 143. Median Permeable Surfaces by Land Zoning & LEP

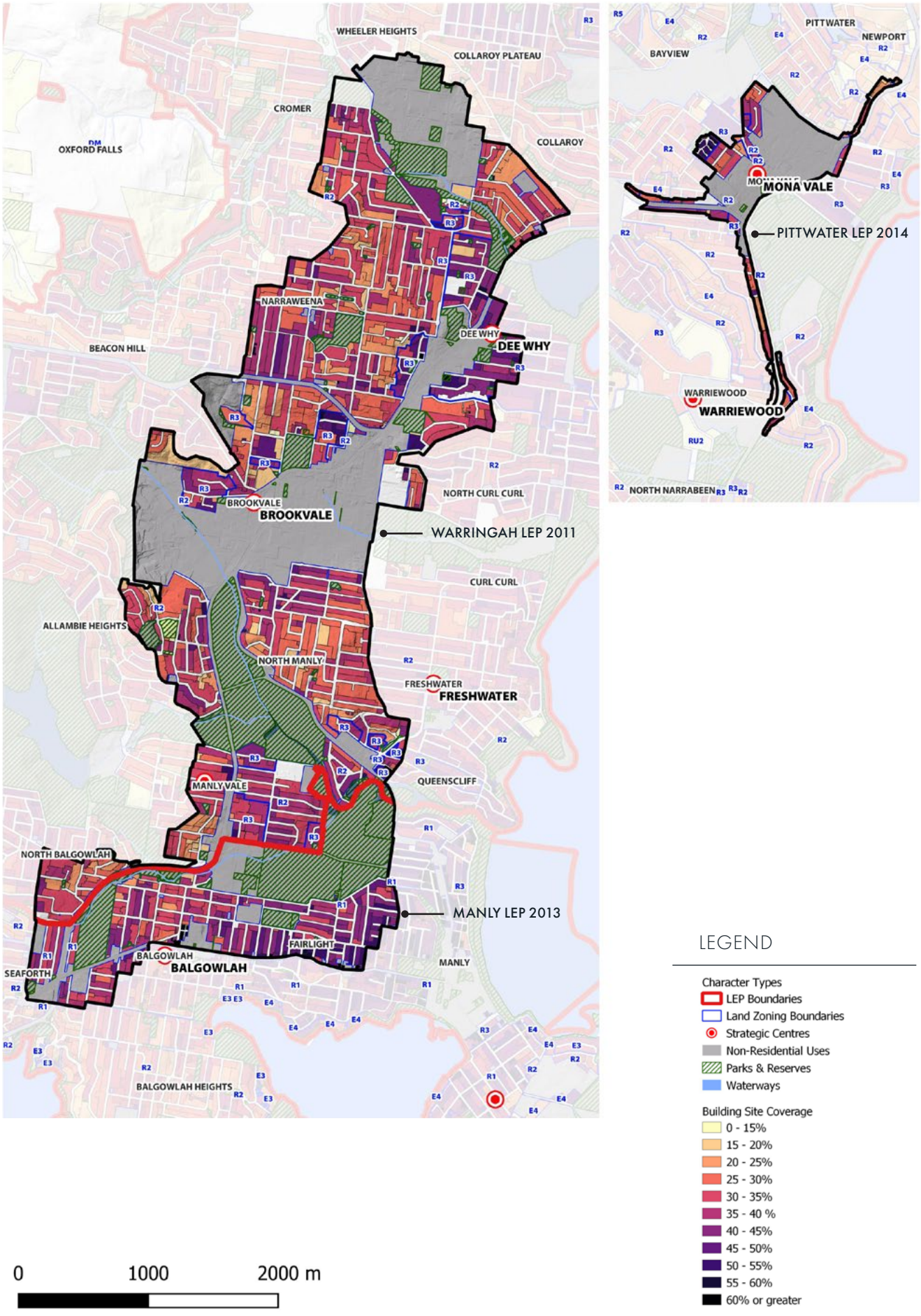


Figure 144. Building Site Coverage _ Inland

11.4.5 Tree Cover

The tree cover is relatively spread out across the Inland Character Zone. The highest tree cover (50% or greater) is located in Beacon Hill (North of Brookvale) and Allambie Heights.

North Manly also has a great distribution of greater than 30% of tree canopy cover adjacent to the Golf Club and surrounding reserves. This is also reflected in pockets west of Dee Why. These areas are within the R2 and R3 zones of Warringah LEP 2011.

Pittwater LEP 2014 region has the highest median tree cover in the Inland Character Zone, being R2 zone has the highest followed by R3 and E4.

The lowest rate of tree cover is in Manly Vale, Fairlight, Mona Vale and Narraweena, with greatest number of pockets of 0-5% tree canopy cover.

The lowest median tree cover is within the R1 zone of Manly LEP 2013 at 10%.

The distribution of tree cover is relatively low in comparison to other character zones. The highest tree cover percentage fluctuates from 2%, 6%, 10% and 12% across approximately 30-35 street blocks.

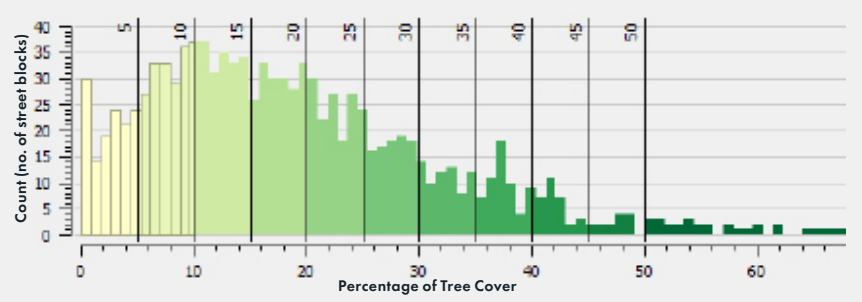


Figure 145. Distribution of Tree Coverage (aggregated to street blocks) across the Inland Character Zone

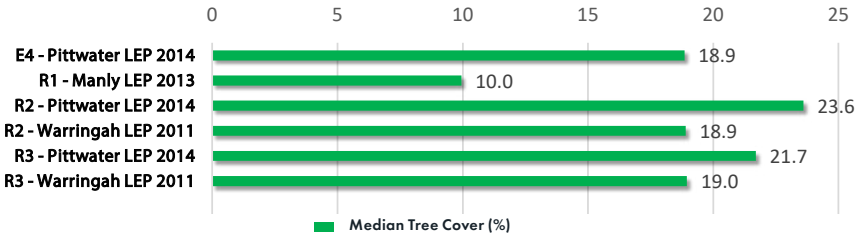


Figure 146. Median Tree Cover by Land Zoning & LEP

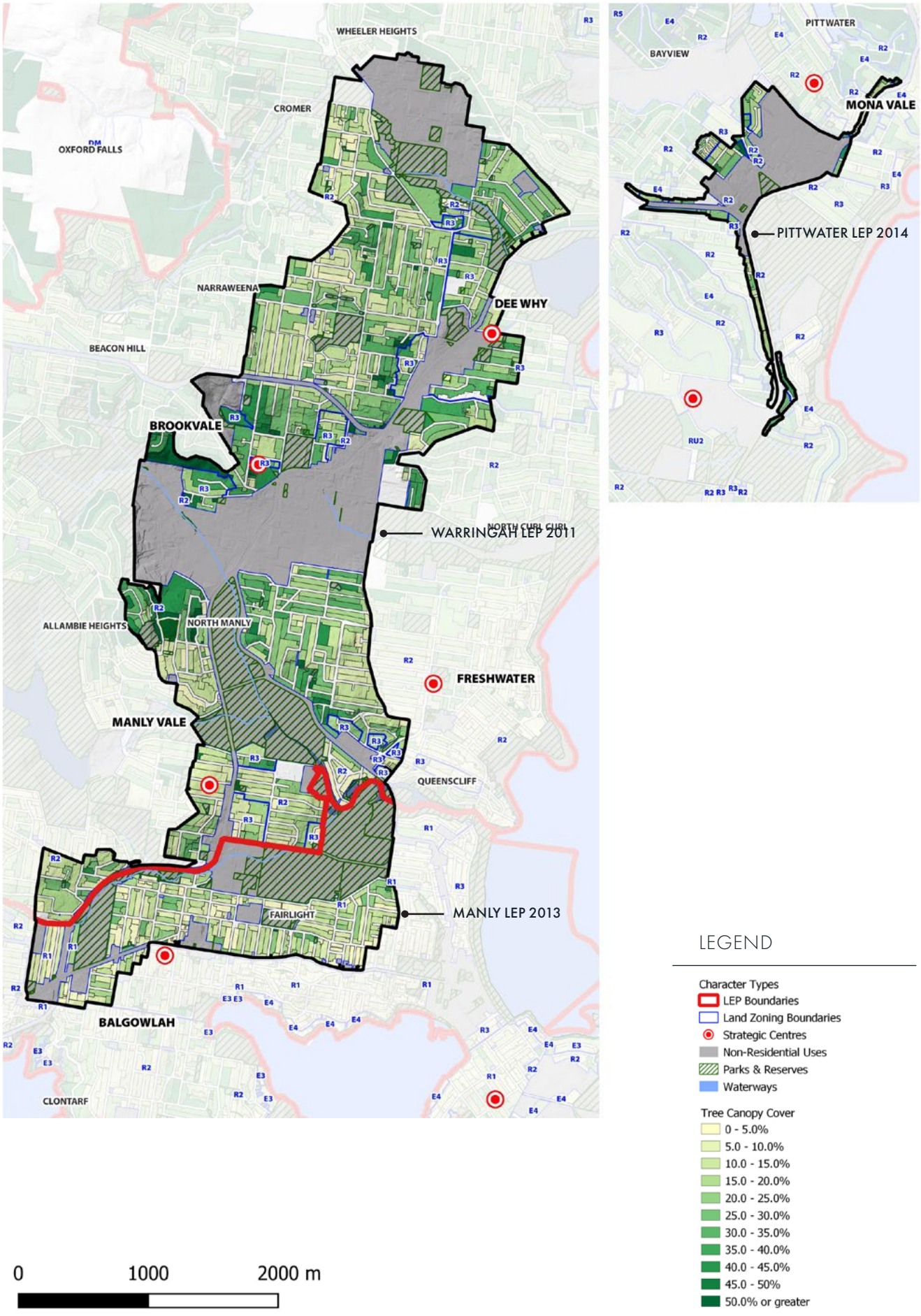


Figure 147. Tree Cover _ Inland

11.5 Development Activity

11.5.1 Development Applications

The Inland Character Zone has a large variety of development application types ranging from alterations and additions, dwelling house, educational establishment, residential flat building, senior housing and dual occupancy. Some of these development types are unique to this character area.

For this assessment, they have been categorised into the LEP zones which compares and demonstrates the number of applications in the last 2 to 5 years. Some development may have been approved by CDCs and this has not been included as it would skew results.

The new development category is in relation to the construction of new dwelling house/ commercial building/ industry building and/ or new dwelling house with an attached secondary dwelling or creating a secondary dwelling.

The greater number of development applications are in Dee Why, Balgowlah, Brookvale and Narraweena which are currently governed by Manly LEP 2013 and Warringah LEP 2011.

The development application categories that have the most applications are alterations and additions followed by new development. This is reflected in the graph and reveals new categories not identified in other character zones, such as dual occupancy, use DA and residential flat building. The most development application types are within the R2 zone of Warringah LEP 2011 and R1 zone of Manly LEP 2013.

The map of Development Application demonstrates spatially the different DA categories, DA determination periods and DA results.

There are more applications associated with new category within Dee Why and Narraweena. The alterations and additions are higher in Fairlight, Manly Vale, and Narraweena.

The areas that have the most rejected development applications is within Dee Why within the residential zones under Warringah LEP 2011.

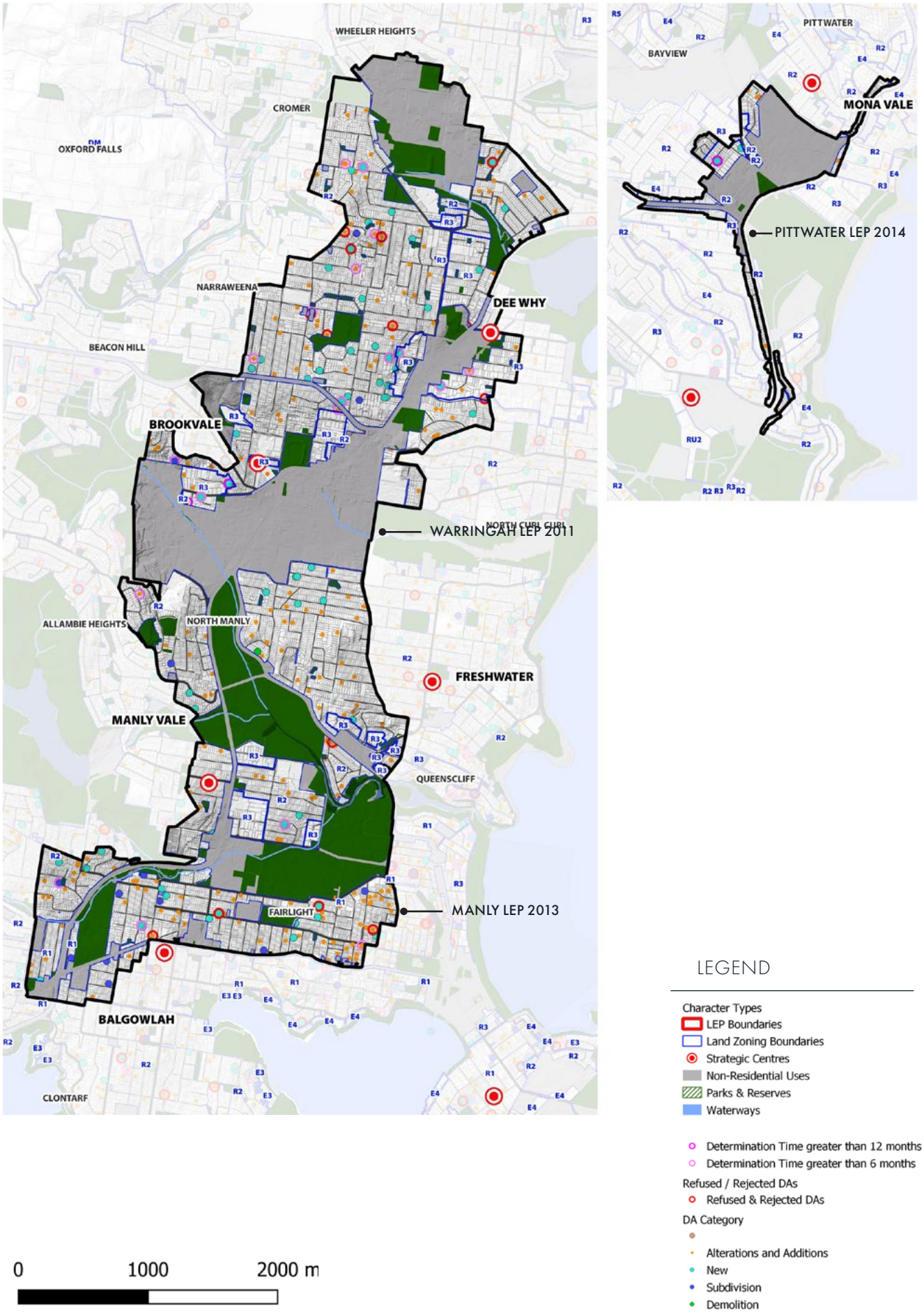


Figure 148. Development Applications _ Inland

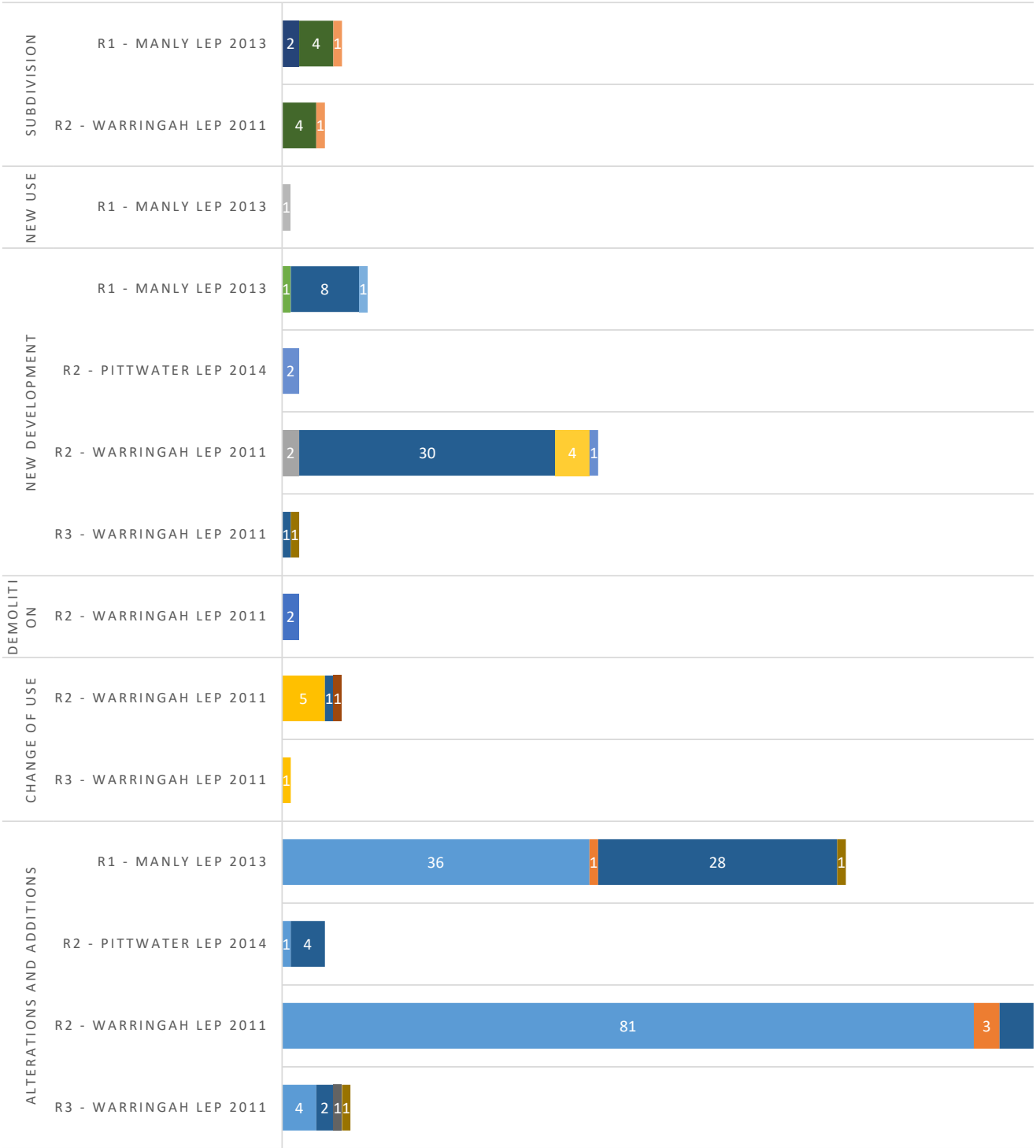


Figure 149. Development Activity Graph _ Inland

LEGEND

- Alterations and Additions
- Ancillary Structures
- Boarding House
- Change of Use
- Demolition
- Dual Occupancy
- Dwelling House
- Educational Establishment
- Registered Club
- Residential Flat Building
- Strata
- Subdivision
- Swimming Pool
- Torrens
- Use DA
- Secondary Dwelling
- Seniors Housing

11.6 Summary

The following provides a summary of the key elements to be considered when developing built form controls for the Inland Character Zone.

Landform & Natural Features

- Landform is generally flat throughout the Inland Character Zone with the least natural environment constraints, such as flooding, bushfire and landslip risk.

Scenic Views

- Inland Zone offers limited scenic value compared with other zones, however a few scenic arrival points are identified along the major traffic corridors. Careful consideration of built form control to enhance the scenic arrival experience may be required.

Urban Form & Built Form

- Lot sizes, street setbacks and building site coverage vary across the zone ,with larger lots, minimum setbacks and high site coverage occurring around the centres and industrial/business land. These elements need further investigation to determine whether they make a significant contribution to character and may require further built form control.
- Building height is generally focused in the centres. Future controls need to consider the transition in built form and scale from the centres and industrial/commercial land to the neighbouring residential areas.

Tree Cover

- Tree cover is relatively low compared to other character zones. There may be additional setback, site coverage and lot size requirements to ensure adequate tree canopy is retained and space for the planting of new canopy trees is provided.

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Industrial Areas

This section analyses industrial zoned land across the Northern Beaches LGA.

12 Industrial Areas

12.1 Overview

Industrial areas have been zoned under the existing LEPs of former council wards, including:

- IN2 - Light Industrial and IN4 - Working Waterfront under PittWater LEP 2014;
- IN1 - General Industrial and IN2 - Light Industrial under Warringah LEP 2011; and
- Nil under Manly LEP 2013.

Refer figure 150 for the industrial areas located across Northern Beaches LGA.

The place based analysis of the industrial areas is undertaken, using the similar mapping and statistical approach as for the residential areas, to cover the following attributes that specifically affect built forms:

- Landform and Views;
- Urban Structure, i.e. lot size;
- Built Form, i.e. building height, Street setbacks, building site coverage; and
- Tree cover.

Industrial areas only count minor portion across the LGA. The analysis uses LGA-wide mapping datasets without further breaking down to the five character zones to simplify the analysing process.

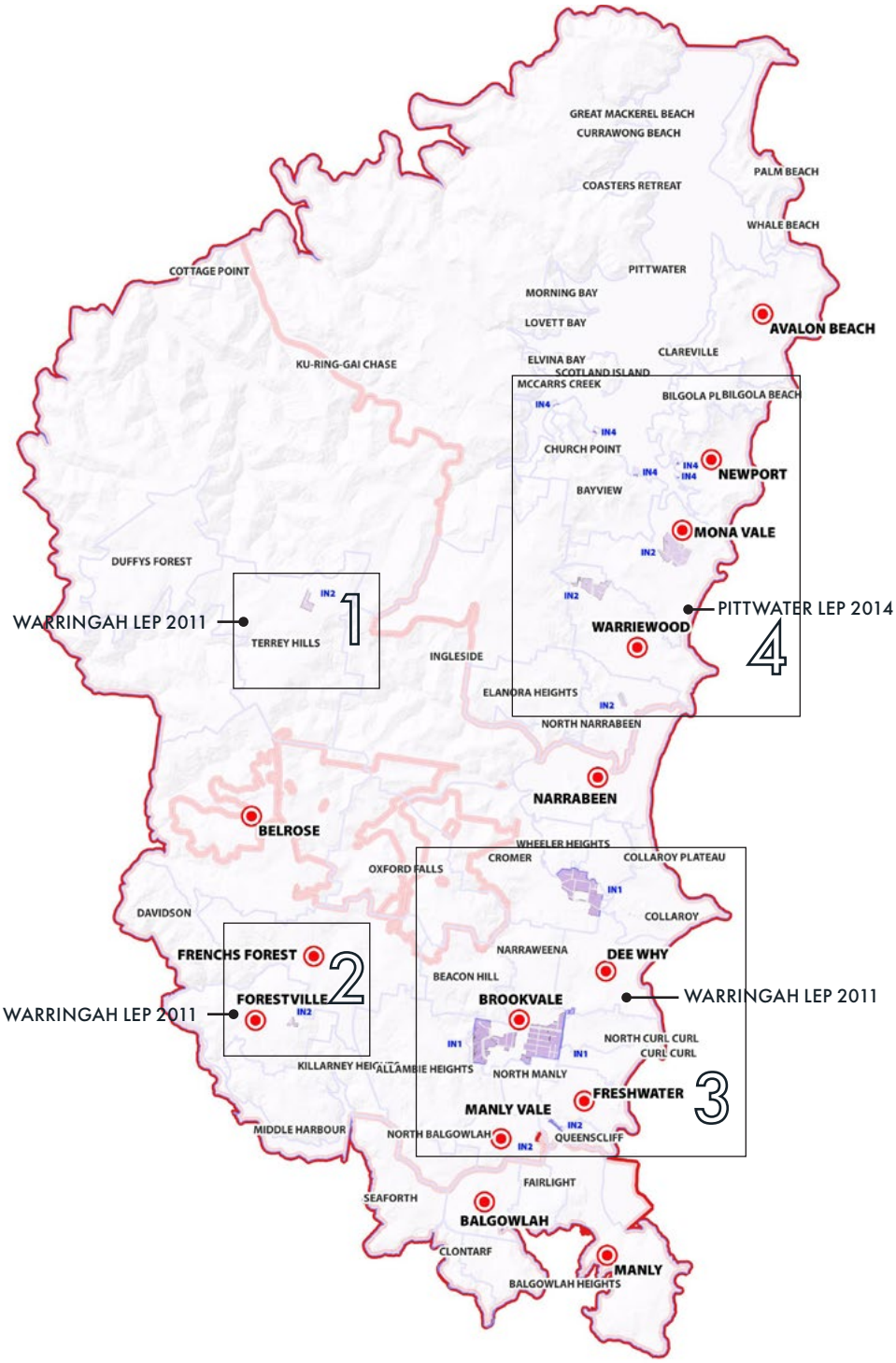


Figure 150. Northern Beaches LGA - Industrial Zoning Land

12.2.1 Landform and Slope Analysis

The Industrial Zones are mostly located in the valleys, such as

- IN2 zones under Pittwater LEP 2014, in Mona Vale, Warriewood, North Narrabeen; and
- IN1 and IN2 zones under Warringah LEP 2011, in Cromer, Brookvale, Freshwater and Manly Vale.

The topography of Industrial zones is generally flat with median slope of less than 1.5%.

A few small IN2 lots under Warringah LEP 2011 are located on the elevated land in Terry Hills and Forestville. The topography of these industrial lots is relatively flat with median slope of 3% or less.

There are some IN4 lots under Pittwater LEP 2014, which are located at the waterways in Church Point, Bayview and Newport. The topography of these industrial zones is flat with median slope between 0-2.5%.

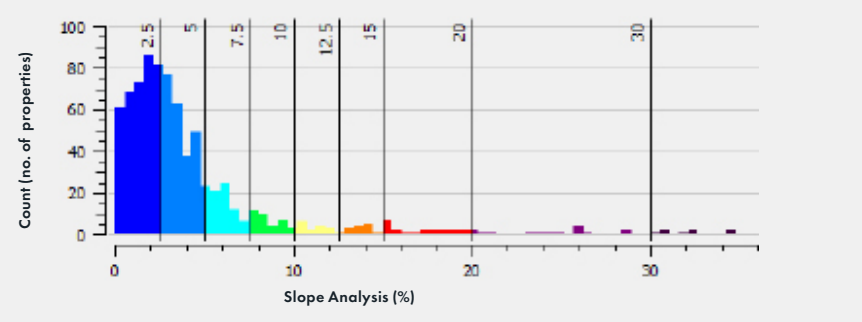


Figure 152. Distribution of Slope for the Industrial Zones

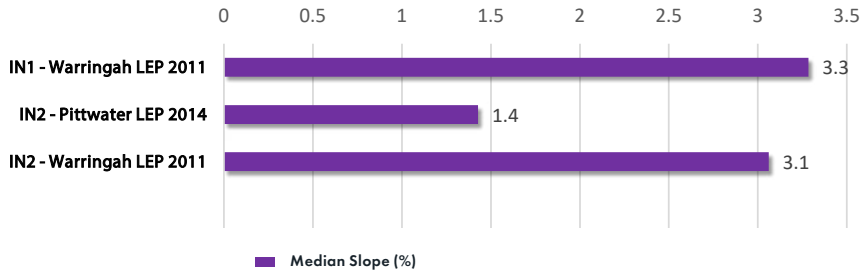


Figure 153. Median Slope Graph _ Industrial Zones

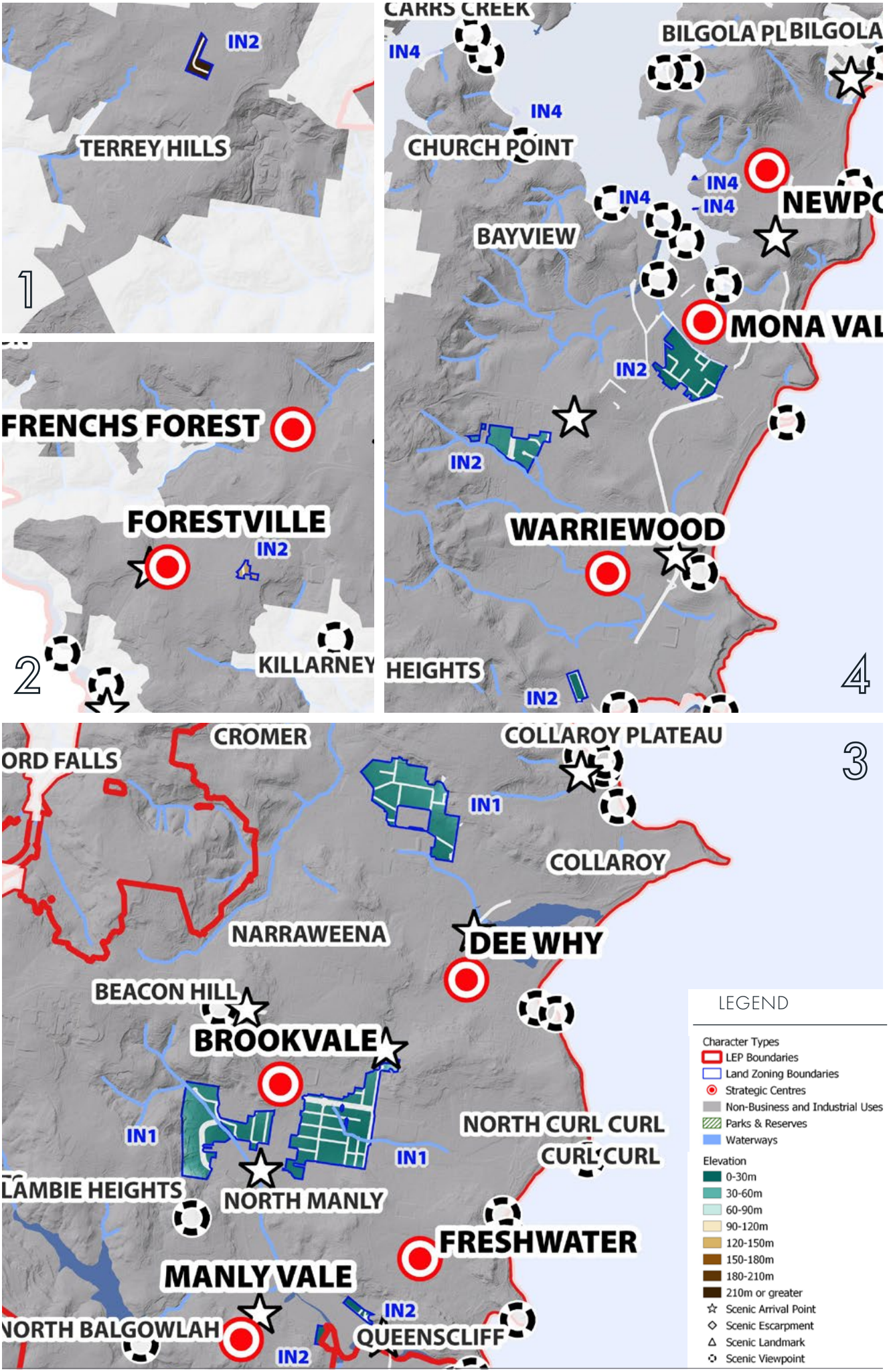
12.2.2 Key Views

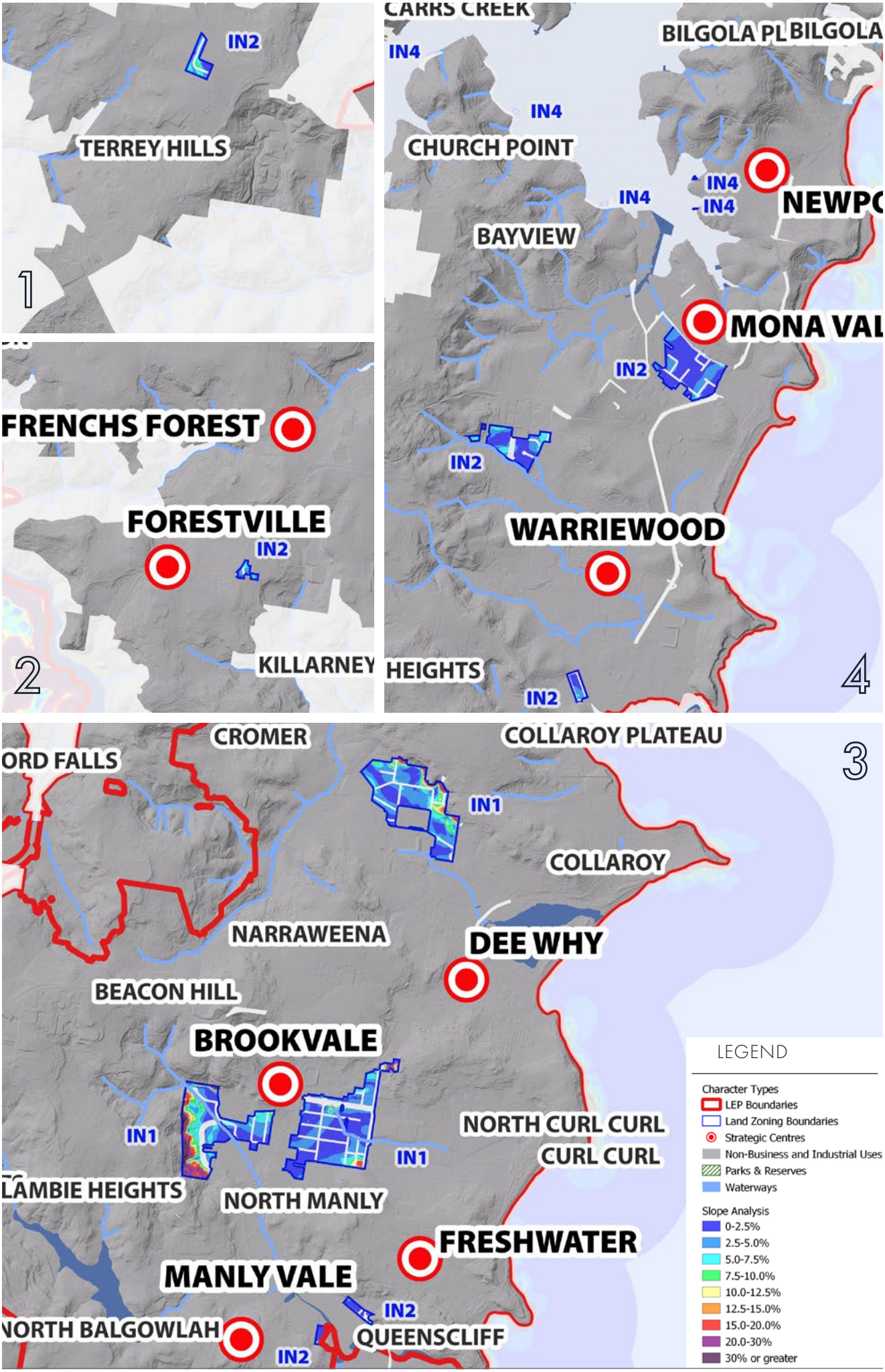
Industrial zones are mostly situated further inland and offers the least scenic value within the LGA.

The variety of visually important localities, include:

- Scenic arrival points along Pittwater Road at Brookvale and Mona Vale; and
- Scenic viewpoints at working waterfronts located in Church Point, Bayview and Newport.

Figure 151. Scenic view point at working waterfront in Bayview (Source: Google Street View)


IN2
TERREY HILLS
1
FRENCHS FOREST
FORESTVILLE
IN2
KILLARNEY
2
CARRS CREEK
IN4
BILGOLA PL
BILGOLA
IN4
CHURCH POINT
IN4
IN4
IN4
NEWPO
BAYVIEW
MONA VAL
IN2
IN2
WARRIEWOOD
HEIGHTS
IN2
4
CROMER
ORD FALLS
COLLAROY PLATEAU
3
IN1
COLLAROY
NARRAWEENA
DEE WHY
BEACON HILL
BROOKVALE
IN1
IN1
NORTH CURL CURL
CURL CURL
LAMBIE HEIGHTS
NORTH MANLY
FRESHWATER
MANLY VALE
IN2
NORTH BALGOWLAH
IN2
QUEENSCLIFF
IN2
LEGEND
Character Types
LEP Boundaries
Land Zoning Boundaries
Strategic Centres
Non-Business and Industrial Uses
Parks & Reserves
Waterways
Elevation
0-30m
30-60m
60-90m
90-120m
120-150m
150-180m
180-210m
210m or greater
Scenic Arrival Point
Scenic Escarpment
Scenic Landmark
Scenic Viewpoint


IN2
TERREY HILLS
1
CARRS CREEK
BILGOLA PL
BILGOLA
IN4
IN4
CHURCH POINT
IN4
IN4
IN4
NEWPO
BAYVIEW
MONA VAL
IN2
IN2
FRENCHS FOREST
FORESTVILLE
IN2
WARRIEWOOD
2
KILLARNEY
HEIGHTS
IN2
4
CROMER
COLLAROY PLATEAU
ORD FALLS
IN1
COLLAROY
NARRAWEENA
DEE WHY
BEACON HILL
BROOKVALE
IN1
IN1
NORTH CURL CURL
CURL CURL
LAMBIE HEIGHTS
NORTH MANLY
FRESHWATER
MANLY VALE
IN2
NORTH BALGOWLAH
IN2
QUEENSCLIFF
3
LEGEND
Character Types
LEP Boundaries
Land Zoning Boundaries
Strategic Centres
Non-Business and Industrial Uses
Parks & Reserves
Waterways
Slope Analysis
0-2.5%
2.5-5.0%
5.0-7.5%
7.5-10.0%
10.0-12.5%
12.5-15.0%
15.0-20.0%
20.0-30%
30% or greater

12.3 Urban Form

12.3.1 Lot Size

Industrial zoning land generally occupies large lot and is mostly in a regular shape, which reflect the nature of the land use.

The median lot sizes of IN1 and IN2 under Pittwater LEP 2014 and Warringah LEP 2011 range between 1,005m2 and 1,100m2, with an actual mix of fine grain smaller lots (less than 1,500m2) and larger land holdings (more than 2,000m2). For example, IN1 zone in Brookvale East of Pittwater Road comprises mostly of the fine grain lots for the old fashion industrial uses, whilst IN1 zone in Brookvale West of Pittwater Road contains more large land holdings for the modern industrial developments.

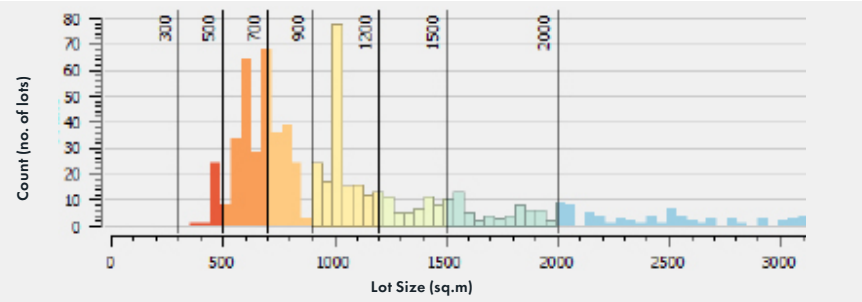


Figure 154. Distribution of lot sizes across the Industrial Zones

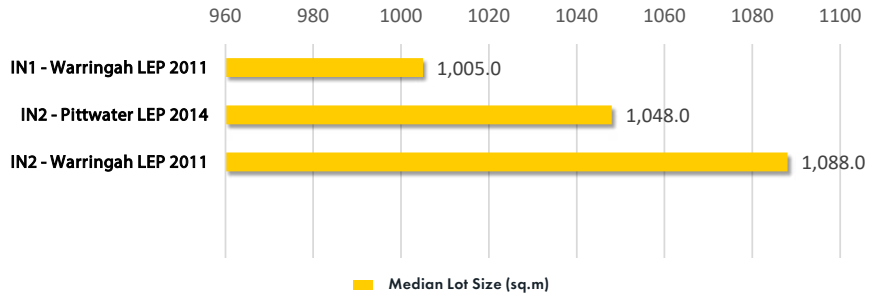
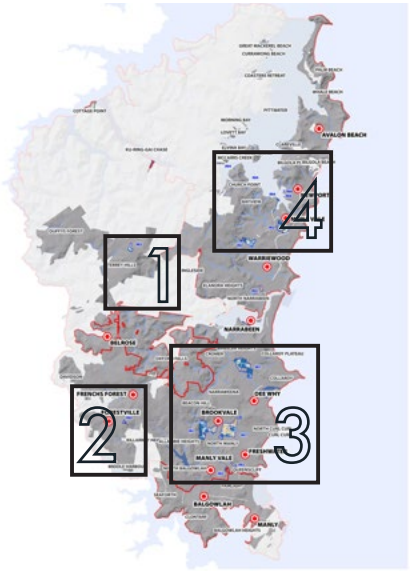


Figure 155. Median Lot Size by Land Zoning & LEP



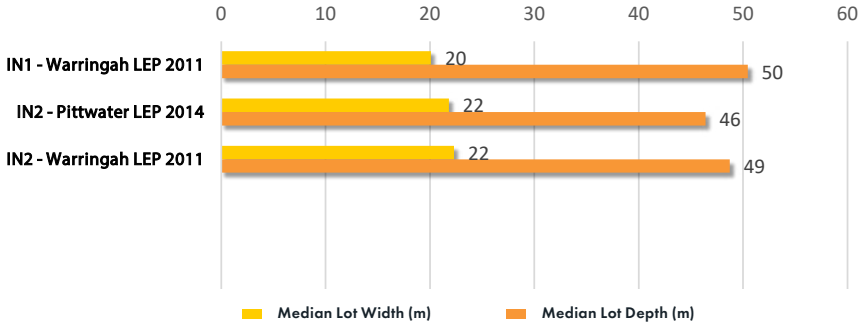
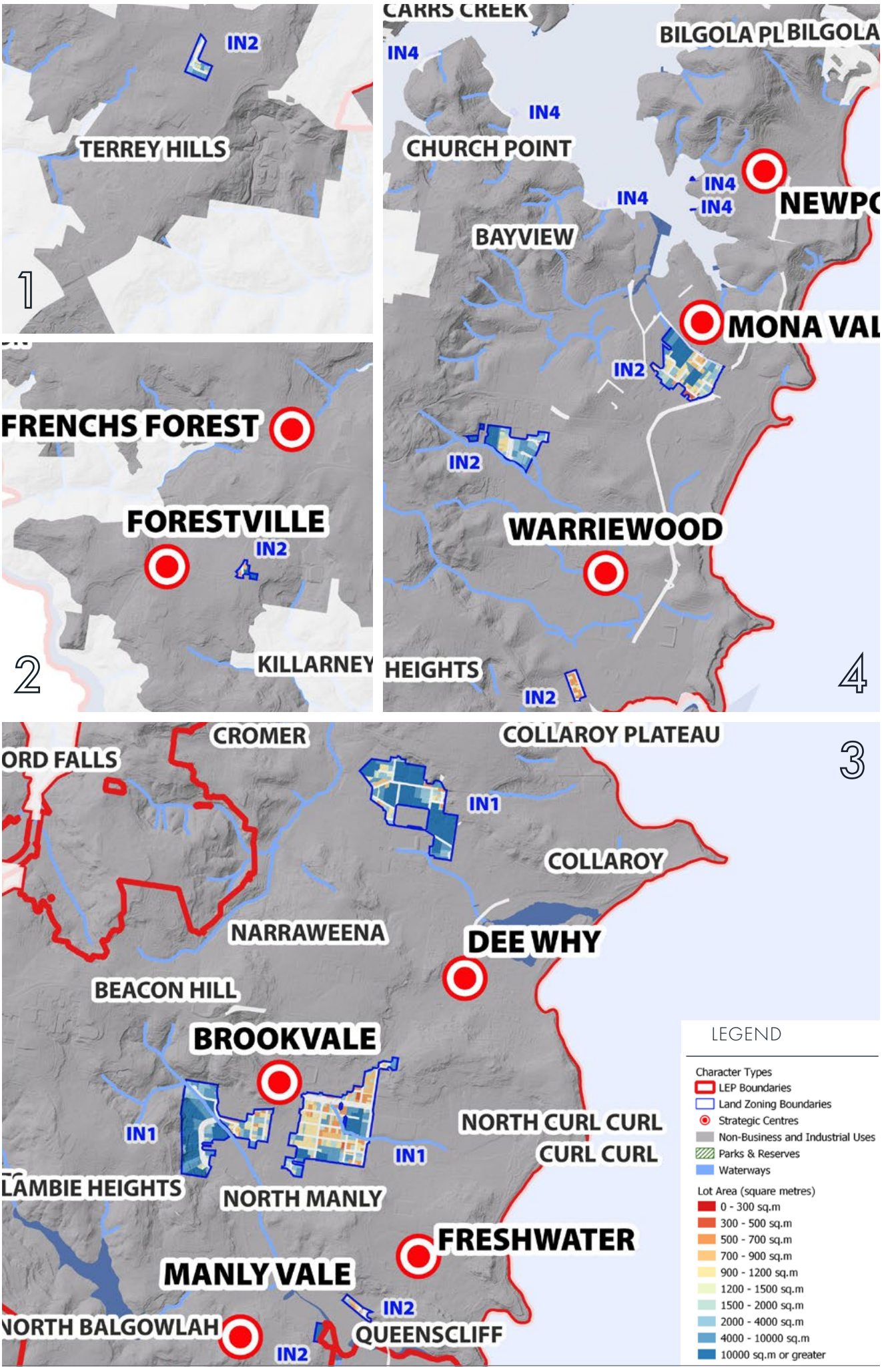


Figure 156. Median Lot Width and Depth by Land Zoning & LEP


IN2
TERREY HILLS
1
CARRS CREEK
BILGOLA PL
BILGOLA
IN4
IN4
CHURCH POINT
IN4
IN4
IN4
NEWPO
BAYVIEW
MONA VAL
IN2
IN2
FRENCHS FOREST
FORESTVILLE
IN2
WARRIEWOOD
2
KILLARNEY
HEIGHTS
IN2
4
CROMER
COLLAROY PLATEAU
ORD FALLS
3
IN1
COLLAROY
NARRAWEENA
DEE WHY
BEACON HILL
BROOKVALE
IN1
IN1
NORTH CURL CURL
CURL CURL
LAMBIE HEIGHTS
NORTH MANLY
FRESHWATER
MANLY VALE
IN2
NORTH BALGOWLAH
IN2
QUEENSCLIFF
LEGEND
Character Types
LEP Boundaries
Land Zoning Boundaries
Strategic Centres
Non-Business and Industrial Uses
Parks & Reserves
Waterways
Lot Area (square metres)
0 - 300 sq.m
300 - 500 sq.m
500 - 700 sq.m
700 - 900 sq.m
900 - 1200 sq.m
1200 - 1500 sq.m
1500 - 2000 sq.m
2000 - 4000 sq.m
4000 - 10000 sq.m
10000 sq.m or greater

12.4 Built Form

12.4.1 Building Height

The median building heights for Industrial Zones across the Northern Beaches LGA range between 8.3m and 9.4m, with the highest building heights focused in IN1 zone under Warringah LEP 2011, such as in Brookvale and Cromer. IN2 zone in Mona Vale also contains tall industrial buildings with individual building height over 10m.

Relatively low building heights under 10m mostly happen within IN2 zones under Pittwater LEP 2014 and Warringah LEP 2011, such as in North Narrabeen, Terry Hills, Forestville and Manly Vale.

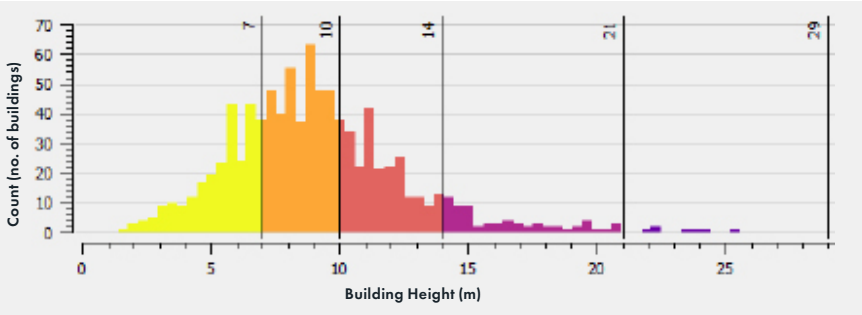


Figure 157. Distribution of Building Heights across the Industrial Zones

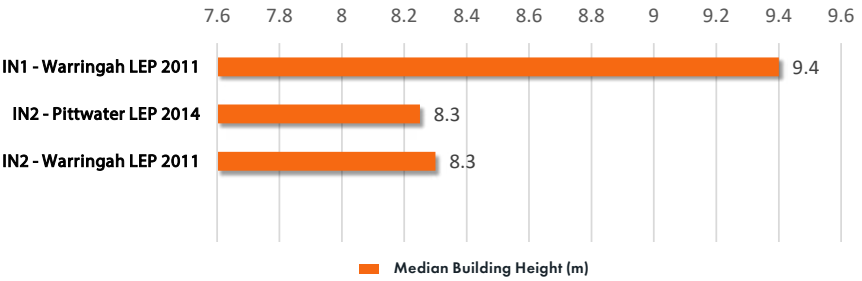
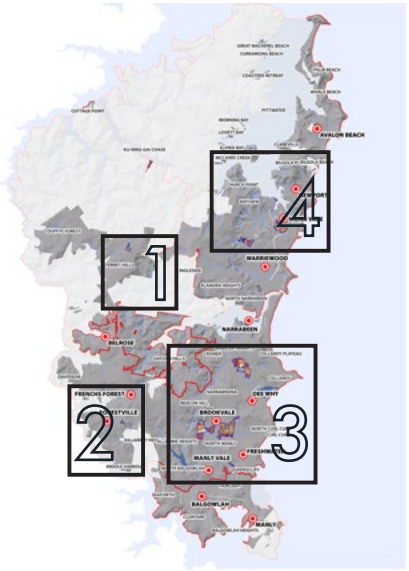
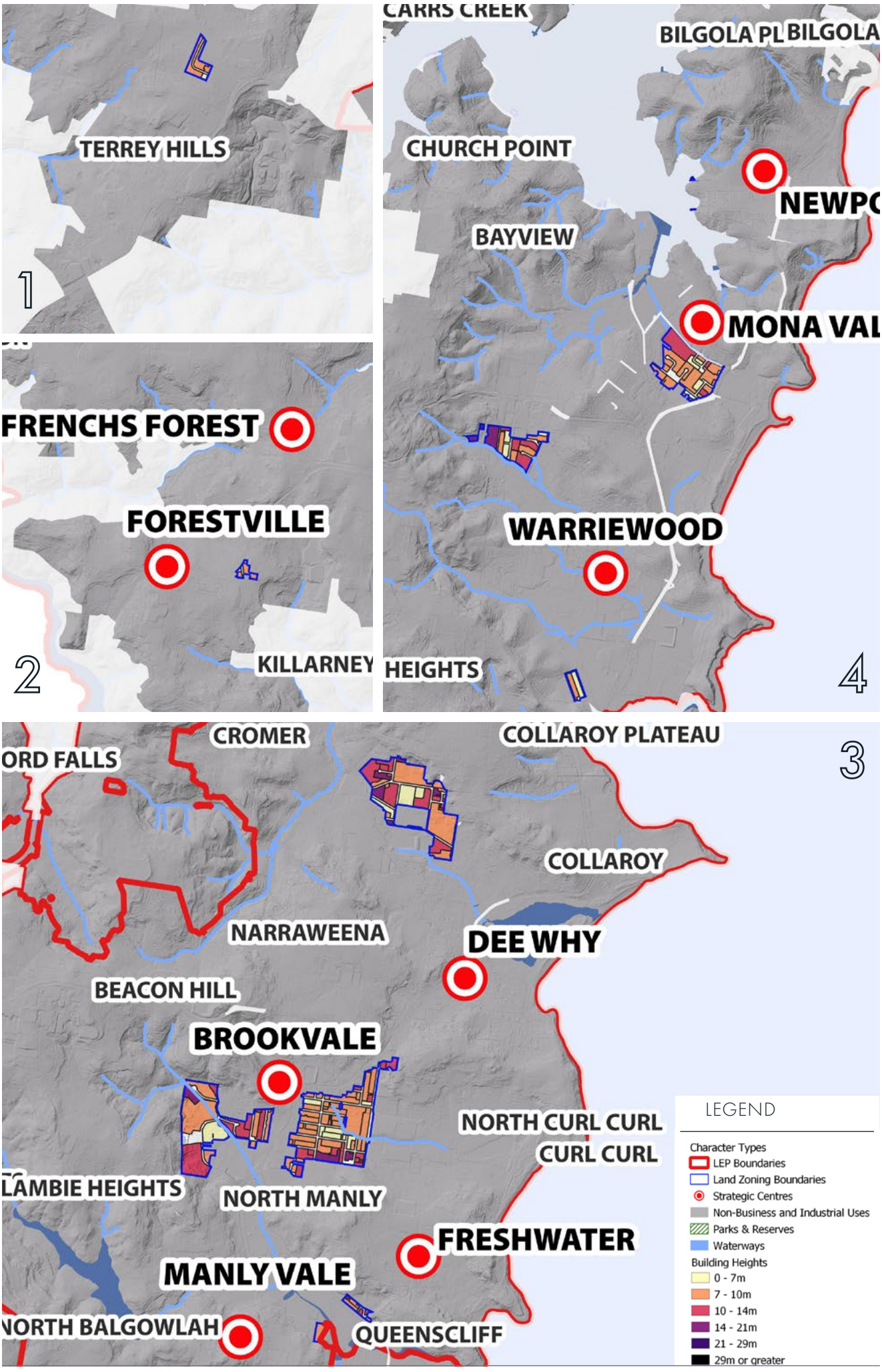


Figure 158. Median Building Height by Land Zoning & LEP




TERREY HILLS
1
CARRS CREEK
BILGOLA PL
BILGOLA
CHURCH POINT
NEWPO
BAYVIEW
MONA VAL
FRENCHS FOREST
FORESTVILLE
2
KILLARNEY
WARRIEWOOD
HEIGHTS
4
3
CROMER
COLLAROY PLATEAU
ORD FALLS
COLLAROY
NARRAWEENA
DEE WHY
BEACON HILL
BROOKVALE
NORTH CURL CURL
CURL CURL
LAMBIE HEIGHTS
NORTH MANLY
FRESHWATER
MANLY VALE
NORTH BALGOWLAH
QUEENSCLIFF
LEGEND
Character Types
LEP Boundaries
Land Zoning Boundaries
Strategic Centres
Non-Business and Industrial Uses
Parks & Reserves
Waterways
Building Heights
0 - 7m
7 - 10m
10 - 14m
14 - 21m
21 - 29m
29m or greater

12.4.2 Street Setbacks

The median street setbacks within Industrial Zones across the Northern Beaches LGA vary between 4.3m and 5.7m, with smaller street setbacks (under 5m) happen in IN1 and IN2 zones under Warringah LEP 2011, whilst bigger street setbacks (above 5m) appear in IN2 zone under Pittwater LEP 2014.

For example, the street setbacks within IN1 zone in Brookvale East of Pittwater Road and IN2 zones in Terry Hills and Forestville are mostly under 5m, where the small land holding/fine grain developments and old fashion industrial uses are prevalent.

Whilst where the modern industrial developments and big land holdings are predominant, such as in Mona Vale, IN2 zone under Pittwater LEP 2014, the street setbacks become bigger, i.e. above 5m.

The existing street setbacks don't reflect much transition between industrial use and other land uses, e.g. residential use. For example, small street setback (under 5m) appear in North Narrabeen, Terry Hills, Forestville and Freshwater, where industrial zoning lands join against residential uses.

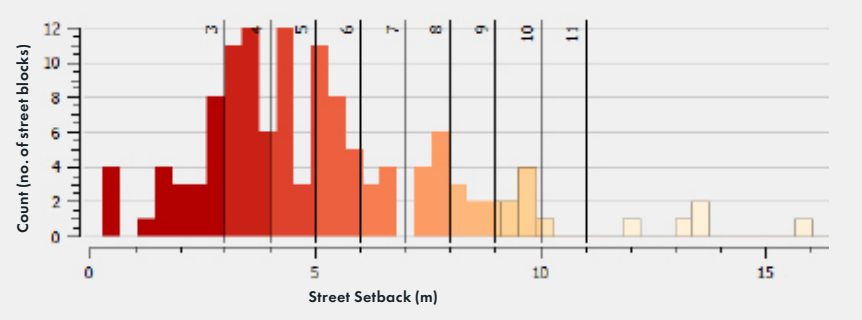


Figure 159. Distribution of Street Setback across the Business Zoning

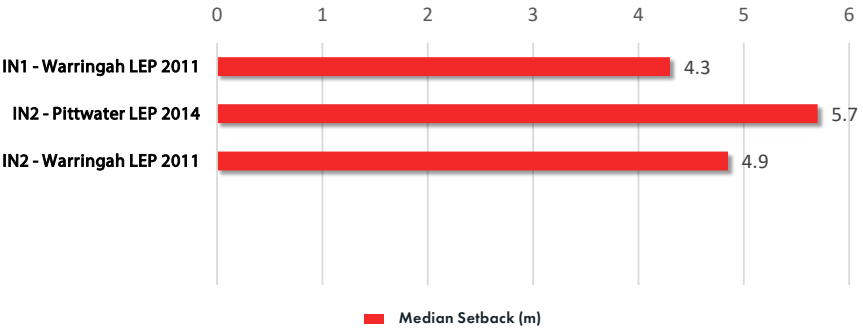
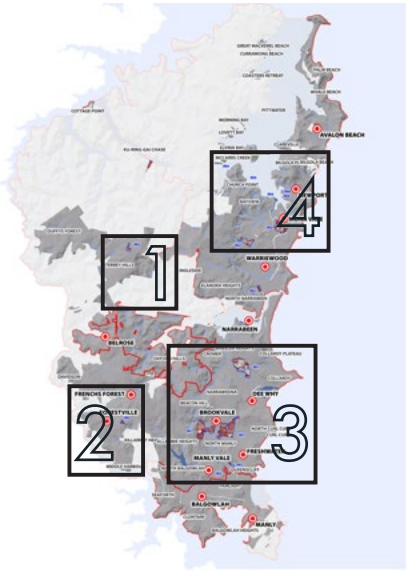
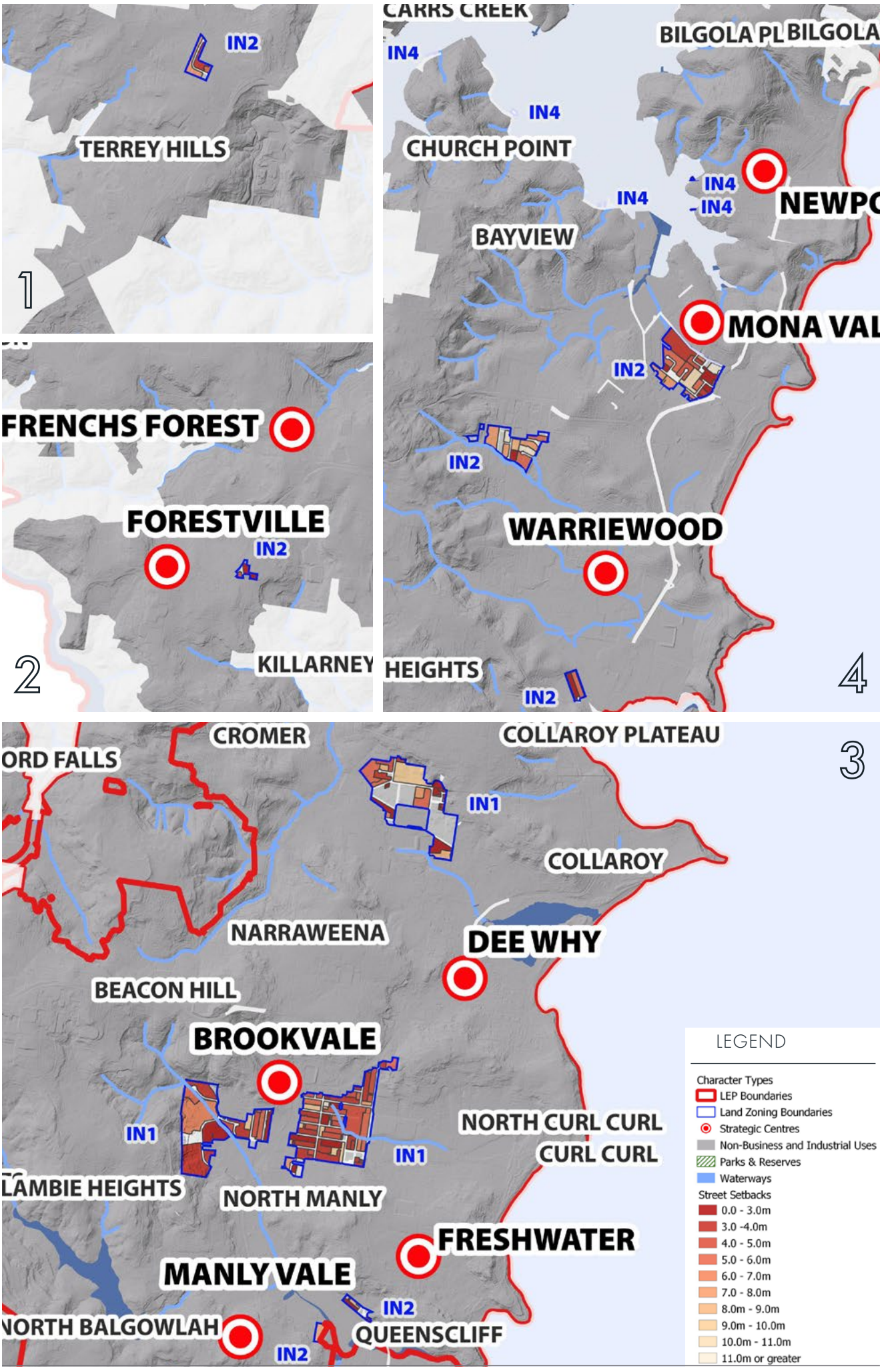


Figure 160. Median Setback by Land Zoning & LEP

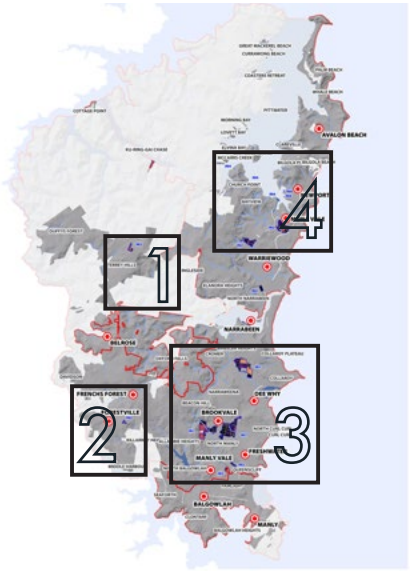



IN2
TERREY HILLS
1
FRENCHS FOREST
FORESTVILLE
IN2
2
KILLARNEY
CARRS CREEK
BILGOLA PL
BILGOLA
IN4
IN4
CHURCH POINT
IN4
IN4
IN4
NEWPO
BAYVIEW
MONA VAL
IN2
IN2
WARRIEWOOD
HEIGHTS
IN2
4
CROMER
COLLAROY PLATEAU
ORD FALLS
IN1
COLLAROY
NARRAWEENA
DEE WHY
BEACON HILL
BROOKVALE
IN1
IN1
NORTH CURL CURL
CURL CURL
LAMBIE HEIGHTS
NORTH MANLY
FRESHWATER
MANLY VALE
IN2
NORTH BALGOWLAH
IN2
QUEENSCLIFF
3
LEGEND
Character Types
LEP Boundaries
Land Zoning Boundaries
Strategic Centres
Non-Business and Industrial Uses
Parks & Reserves
Waterways
Street Setbacks
0.0 - 3.0m
3.0 -4.0m
4.0 - 5.0m
5.0 - 6.0m
6.0 - 7.0m
7.0 - 8.0m
8.0m - 9.0m
9.0m - 10.0m
10.0m - 11.0m
11.0m or greater

12.4.3 Building Site Coverage

Industrial zoning lands have relatively higher building site coverage in comparison with other land uses such as residential. The median building site coverage for Industrial Zones varies across the Northern Beaches LGA, with the highest of 56.7% identified in IN1 zone under Warringah LEP 2011 such as in Brookvale, and the lowest of 48.5% in IN2 zone under Warringah LEP 2011, such as in Terry Hills and Forestville.

The permeable surface within industrial lands is consequently low, with the lowest of 3.7% identified in IN1 zone under Warringah LEP 2011 such as in Brookvale, and the highest of 17.7% in IN2 zone under Warringah LEP 2011, such as in Terry Hills and Forestville.



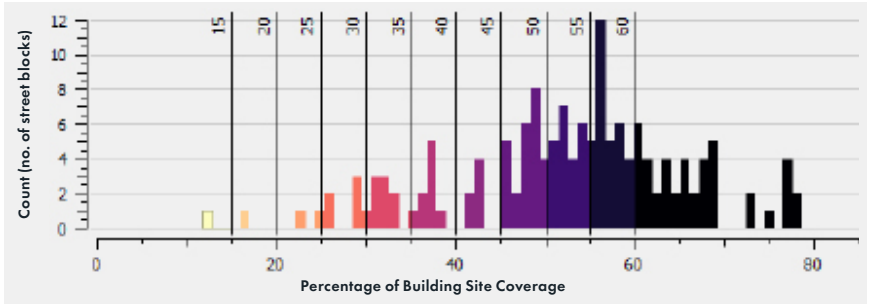


Figure 162. Distribution of Building Site Coverage (aggregated to street blocks) across the Industrial Zones

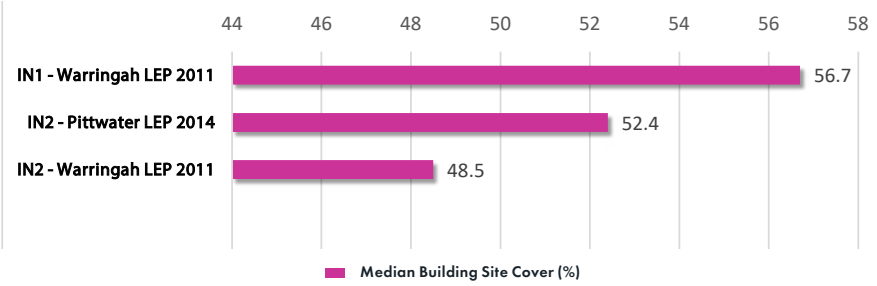


Figure 161. Median Building Site Coverage by Land Zoning & LEP

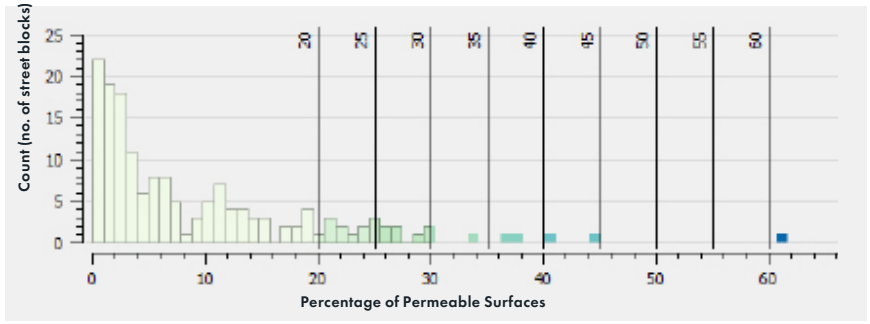


Figure 163. Distribution of Permeable Surface (aggregated to street blocks) across the Industrial Zones

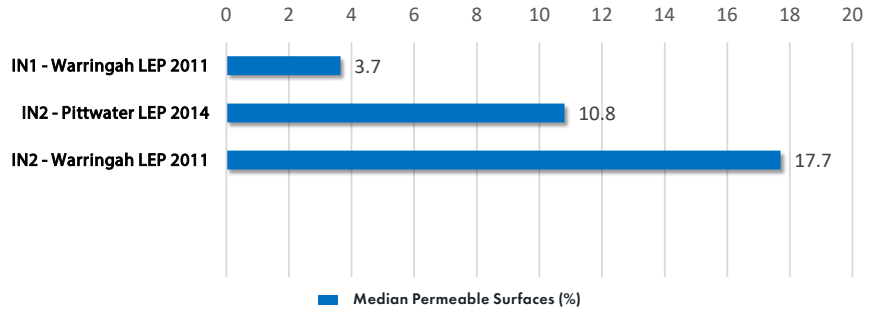
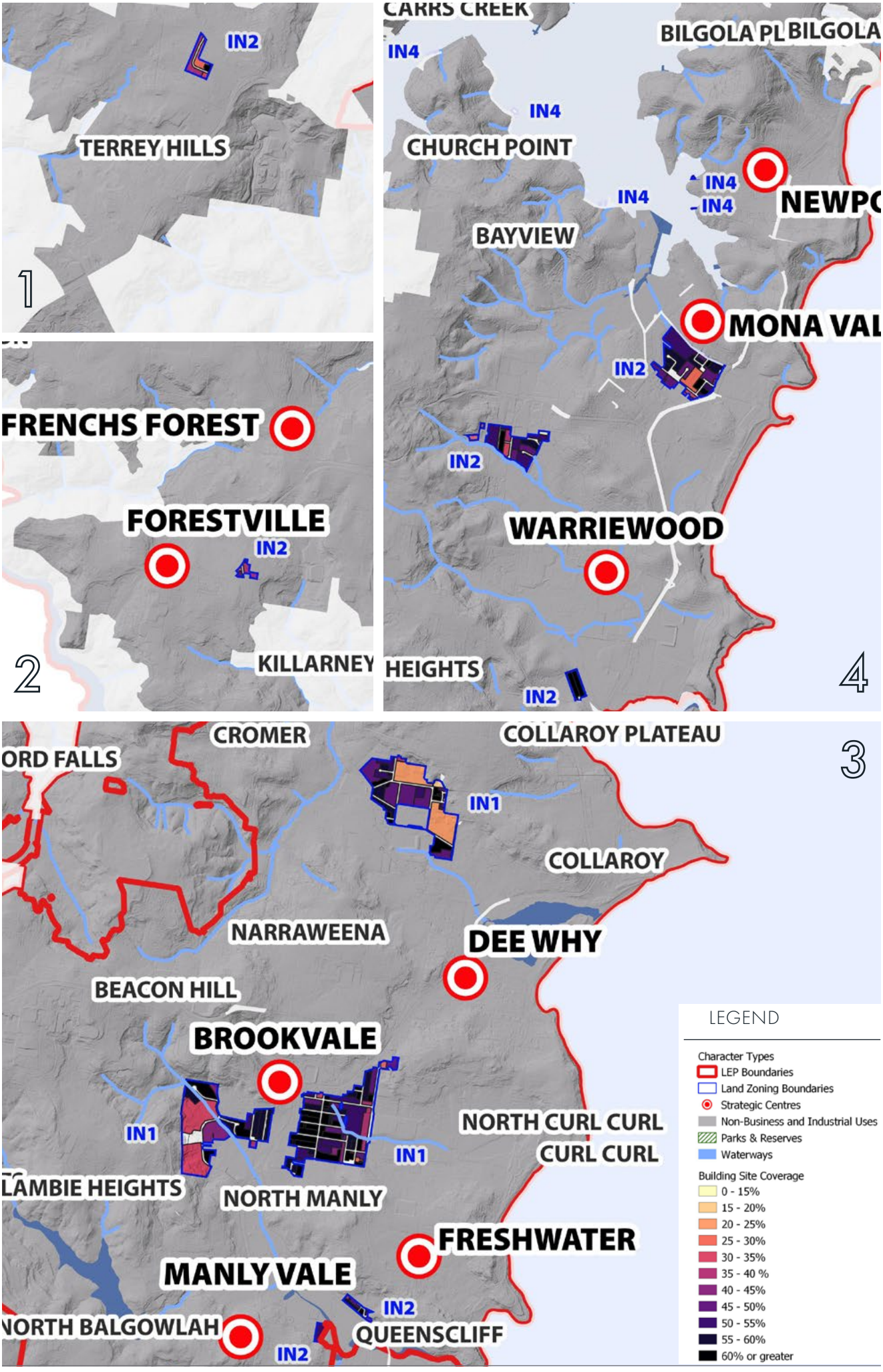


Figure 164. Median Permeable Surfaces by Land Zoning & LEP


1
IN2
TERREY HILLS
2
FRENCHS FOREST
FORESTVILLE
IN2
KILLARNEY
4
CARRS CREEK
BILGOLA PL
BILGOLA
IN4
IN4
CHURCH POINT
IN4
IN4
IN4
NEWPO
BAYVIEW
MONA VAL
IN2
IN2
WARRIEWOOD
HEIGHTS
IN2
3
CROMER
COLLAROY PLATEAU
ORD FALLS
IN1
COLLAROY
NARRAWEENA
DEE WHY
BEACON HILL
BROOKVALE
IN1
IN1
NORTH CURL CURL
CURL CURL
LAMBIE HEIGHTS
NORTH MANLY
FRESHWATER
MANLY VALE
IN2
NORTH BALGOWLAH
IN2
QUEENSCLIFF
LEGEND
Character Types
LEP Boundaries
Land Zoning Boundaries
Strategic Centres
Non-Business and Industrial Uses
Parks & Reserves
Waterways
Building Site Coverage
0 - 15%
15 - 20%
20 - 25%
25 - 30%
30 - 35%
35 - 40 %
40 - 45%
45 - 50%
50 - 55%
55 - 60%
60% or greater

12.4.4 Tree Cover

Tree cover within industrial zoning lands is very low across the Northern Beaches LGA. The median tree cover for Industrial Zones does not vary much, with the lowest of 1.6% identified in IN1 zone under Warringah LEP 2011, such as in Brookvale, and the highest of 2.3% in IN2 zone under Warringah LEP 2011, such as in Terry Hills and Forestville. This further reflects the similar result of permeable surface of the industrial lands.

An exceptional case of high tree cover in industrial land is found in Cromer IN1 zone under Warringah LEP 2011, where the industrial land is directly bounded by residential uses. The high tree cover provides a good transition from industrial to residential uses.

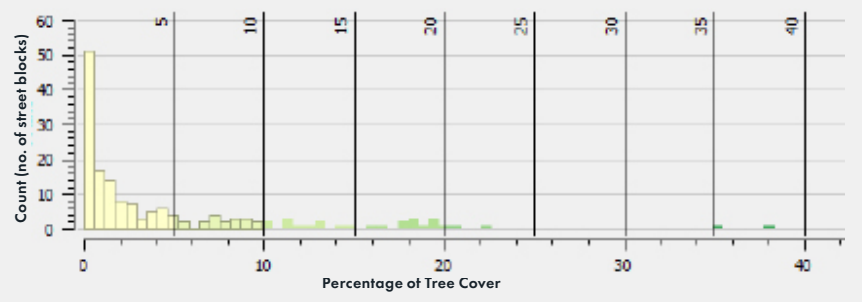


Figure 165. Distribution of Tree Coverage (aggregated to street blocks) across the Industrial Zones

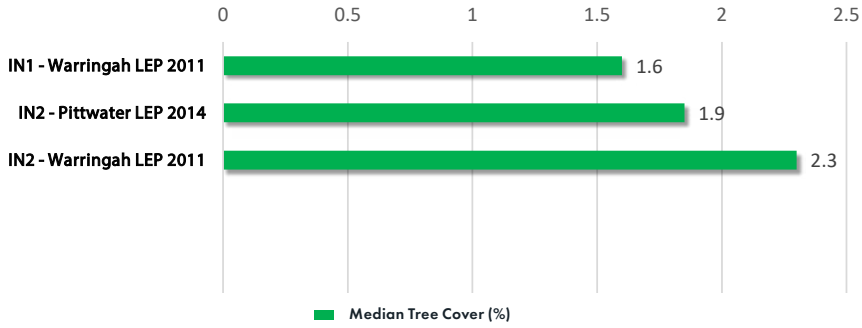
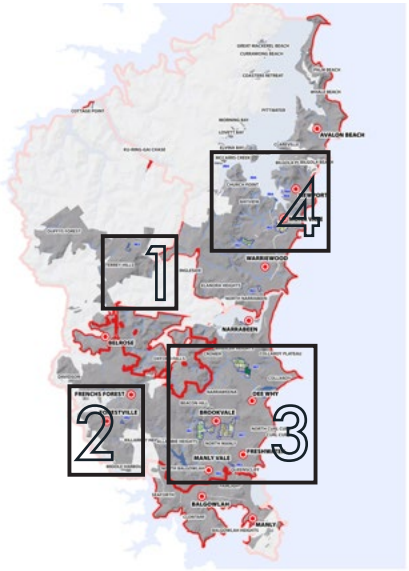
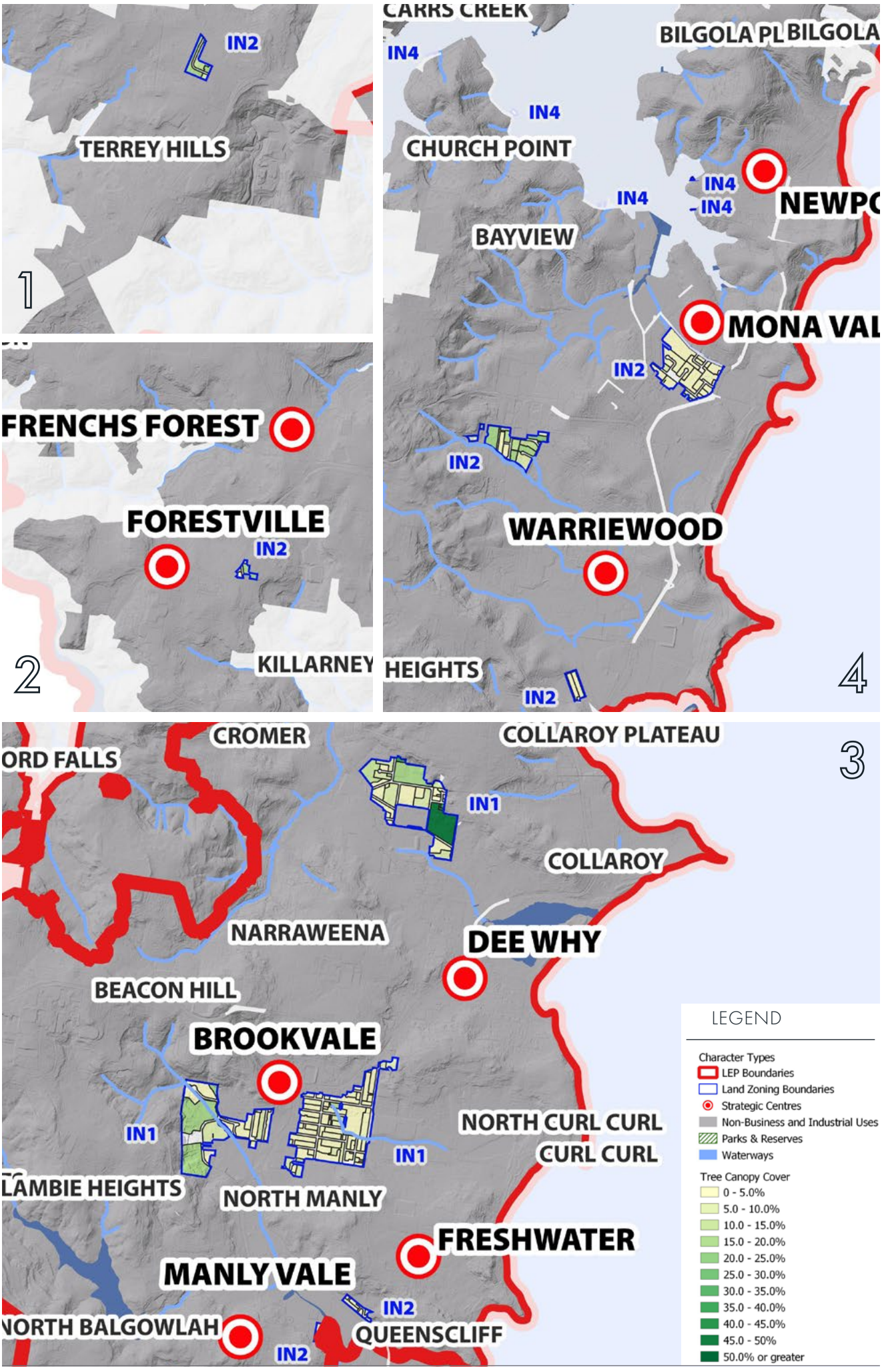


Figure 166. Median Tree Cover by Land Zoning & LEP




IN2
TERREY HILLS
1
FRENCHS FOREST
FORESTVILLE
IN2
2
KILLARNEY
CARRS CREEK
BILGOLA PL
BILGOLA
IN4
IN4
CHURCH POINT
IN4
IN4
IN4
NEWPO
BAYVIEW
MONA VAL
IN2
IN2
WARRIEWOOD
HEIGHTS
IN2
4
ORD FALLS
CROMER
COLLAROY PLATEAU
3
IN1
COLLAROY
NARRAWEENA
DEE WHY
BEACON HILL
BROOKVALE
IN1
IN1
NORTH CURL CURL
CURL CURL
LAMBIE HEIGHTS
NORTH MANLY
FRESHWATER
MANLY VALE
IN2
NORTH BALGOWLAH
IN2
QUEENSCLIFF
LEGEND
Character Types
LEP Boundaries
Land Zoning Boundaries
Strategic Centres
Non-Business and Industrial Uses
Parks & Reserves
Waterways
Tree Canopy Cover
0 - 5.0%
5.0 - 10.0%
10.0 - 15.0%
15.0 - 20.0%
20.0 - 25.0%
25.0 - 30.0%
30.0 - 35.0%
35.0 - 40.0%
40.0 - 45.0%
45.0 - 50%
50.0% or greater

12.5 Summary

The following provides a summary of the key elements to be considered when developing built form controls for the Industrial Zone.

Landform & Natural Features

- The Industrial Zones are mostly located in the valleys with a few exceptional cases on the elevated land in Terry Hills and Forestville and at the Pittwater waterways.
- Landform is generally flat throughout the Industrial zones.
- The most natural environment constraint for industrial zones is flooding due to their geographic locations, whilst the bushfire and landslip risks are minor.

Scenic Views

- Industrial zones offer the least scenic value within the LGA.
- There are a few scenic arrival points identified along the major traffic corridors, e.g. the Pittwater Road. Careful consideration of built form control to enhance the scenic arrival experience may be required.
- Scenic viewpoints at working waterfronts located in Church Point, Bayview and New Port require careful built form controls to maintain the water views.

Urban Form & Built Form

- Industrial land generally occupies large lot and is mostly in a regular shape, which reflect the nature of the land use. There are mix of fine grain smaller industrial lots and large land holding industrial developments across the LGA. Careful consideration of built form controls are required in response to the different typologies so as to enhance the local character.
- Industrial building heights are generally focused near the centres, such as Brookvale and Mona Vale, where have easy access. Future controls need to consider the transition in built form and scale from industrial zones to the neighbouring residential areas.
- Small street setbacks happen where the fine grain smaller industrial lots are prevalent, whilst large street setbacks appear where large land holding industrial developments are predominant.
- The existing street setbacks don't reflect much transition, e.g. big setbacks between industrial use and its surrounding residential use. This need further investigation to determine whether it would make a significant contribution to character and may require further built form control.
- The building site coverage is high across the industrial zones while the permeable surface is consequently low. This in turn provides limit areas for trees and landscapes.

Tree Cover

- Tree cover within industrial zones is very low across the Northern Beaches LGA. This further reflects the similar result of permeable surface of the industrial lands. There may be additional setback, building site coverage and lot size requirements to ensure adequate tree cover within Industrial zones, to provide a more shaded, relaxed environment as well as to reduce the urban heat island effect.

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Business Areas

This section analyses the Business Areas across the Northern Beaches LGA, including specific focus on the strategic and local centres called out in the GSC North District Plan and the NBC LSPS.

13 Business Areas

12.6 Overview

Business areas have been zoned under the existing LEPs of former council wards, including:

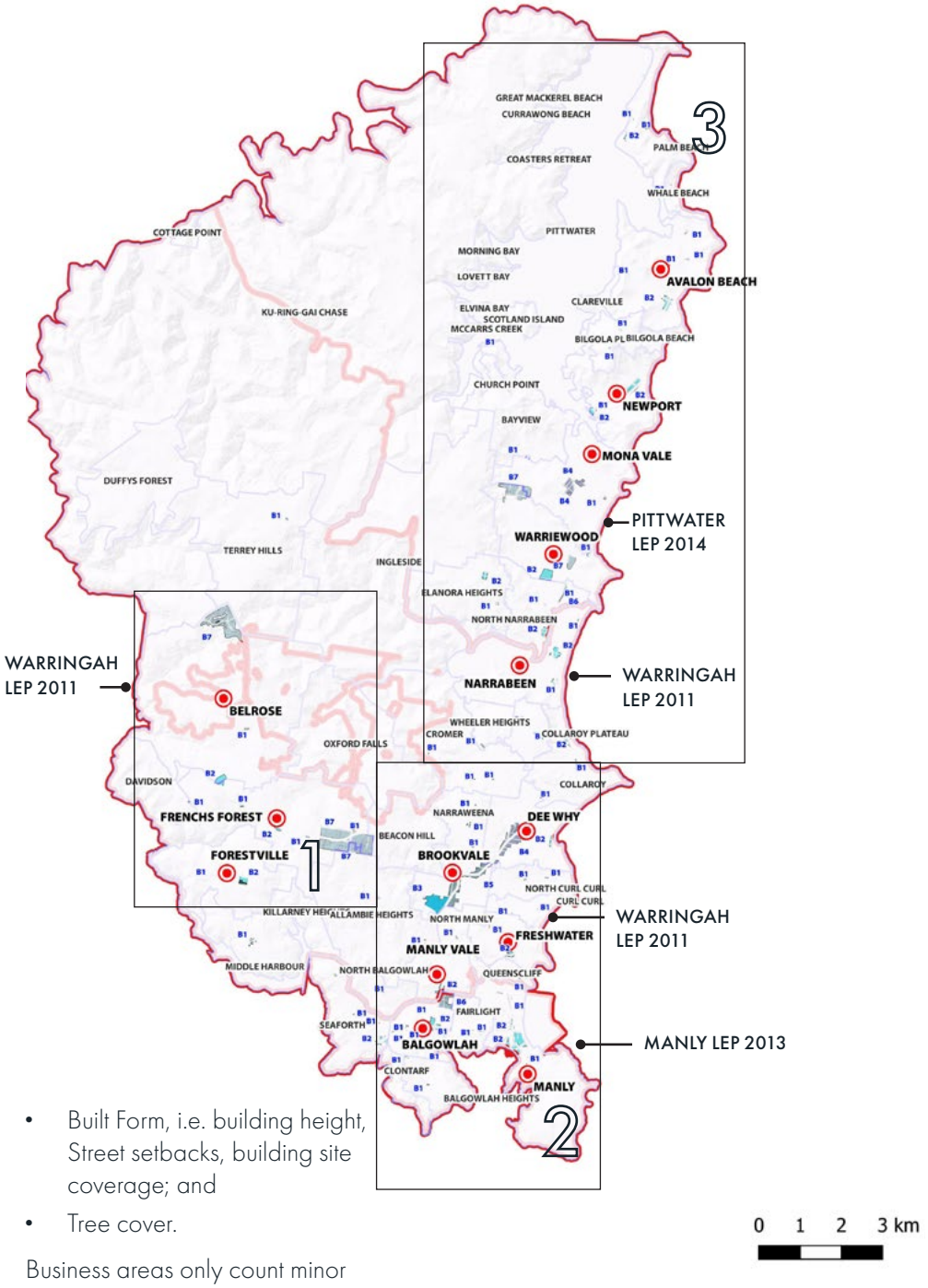
- B1 Neighbourhood Centre (small scale retail, business and community uses);
- B2 Local Centre (retail, business, entertainment and community uses);
- B3 Commercial Core (retail, business, office, entertainment, community and other suitable land uses that serves the needs of the community);
- B4 Mixed Use (mixture of compatible land uses);
- B5 Business Development (mix of business and warehouse uses and specialised retail premises that require a large floor area);
- B6 Enterprise Corridor (promoting businesses along main roads and mix of compatible uses); and
- B7 Business Park (office and light industrial uses).

Refer to the plan for the business areas located across Northern Beaches LGA.

The place based analysis of the business areas is undertaken, using the similar mapping and statistical approach as for the residential areas, to cover the following attributes that specifically affect built forms:

- Landform and Views;
- Urban Form, i.e. lot size;
- Built Form, i.e. building height, Street setbacks, building site coverage; and
- Tree cover.

Business areas only count minor portion across the LGA. The analysis uses LGA-wide mapping datasets without further breaking down to the five character zones to simplify the analysing process.



13.1 Landform and Natural Features

13.1.1 Landform and Slope Analysis

Business areas are widely spread through out the Northern Beaches LGA and cover a combination of different landforms, comprising of escarpment, plateau and valleys.

The topography of business zones is generally flat with the median slopes mostly varying between1.4% and 5.8% across the Northern Beaches LGA.

The steepest topography is found in B7 zone under Warringah LEP 2011, such as in Belrose. This topography accommodates the surrounding escarpment changes.

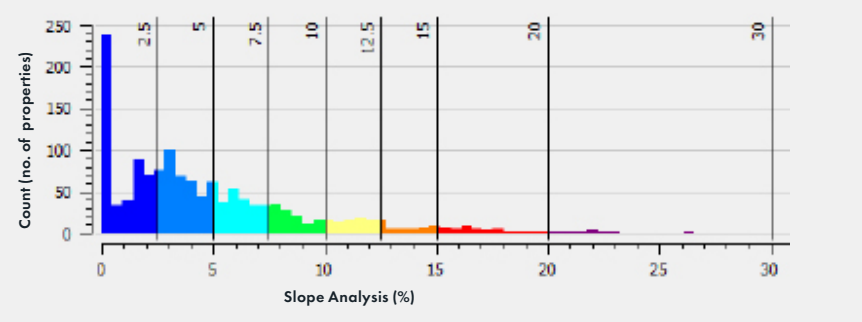


Figure 167. Distribution of Slope for the Business Zoning

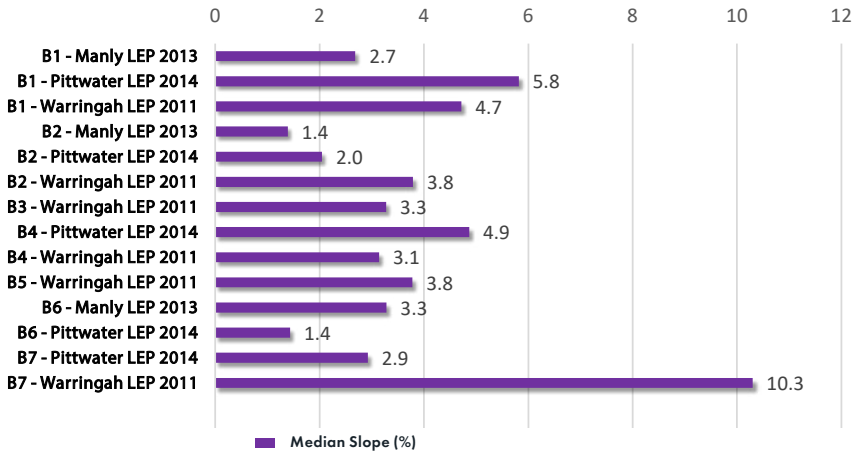
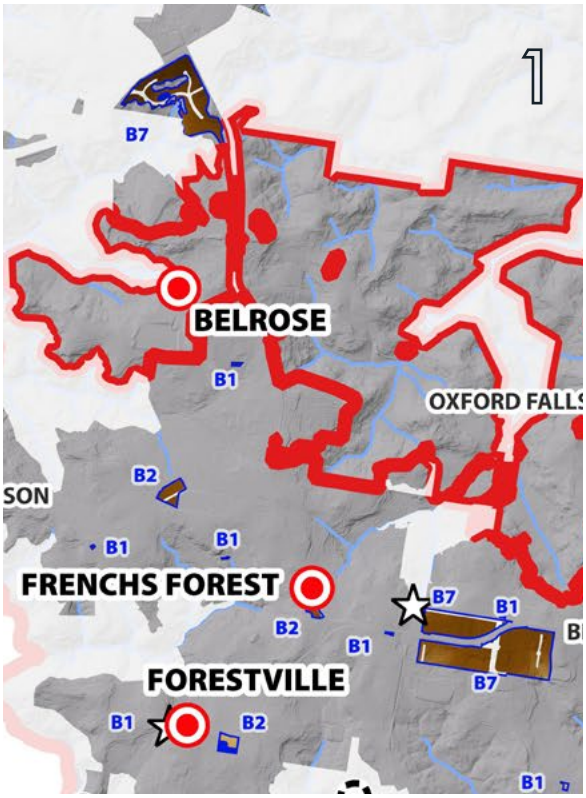


Figure 168. Median Slope Graph _ Business

13.1.2 Key Views

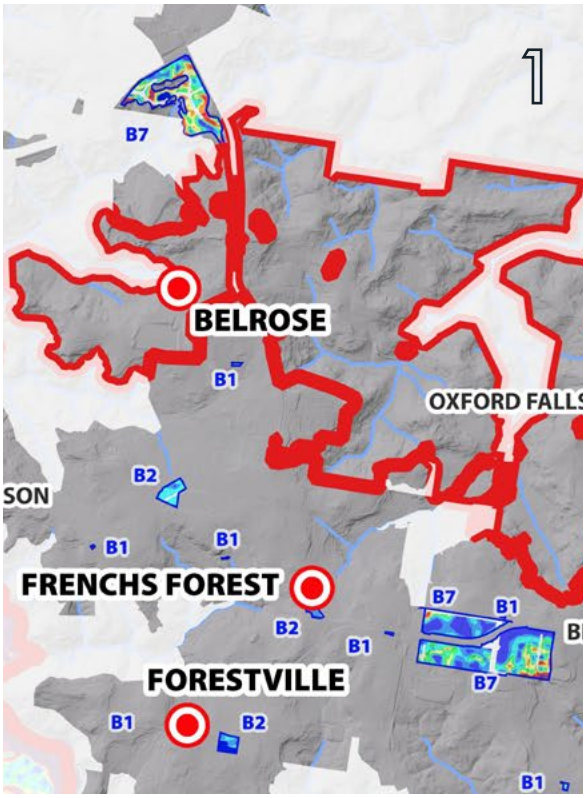
Business areas are situated further inland and offers the least scenic value within the LGA. The variety of visually important localities, include

- Scenic arrival points, e.g. along Warringah Road near B7 at Frenchs Forest; along Pittwater Road near the strategic centres, such as B3 and B5 in Brookvale, B4 in Dee Why; and along Balgowlah Road near B1 in Fairlight;
- Scenic Escarpment, e.g. at B1 neighbourhood centres and B2 local centres in Palm Beach and North Narrabeen; and
- Scenic lookout/viewpoint, e.g. at B1 neighbourhood centres and B2 local centres in Palm Beach, Avalon Beach, near Warriewood Beach, Narrabeen overlooking South Creek, Collaroy Plateau along Collaroy Beach, Queenscliff Beach, Queenscliff Head, Manly Beach, Manly Cove, Cabbage Tree Bay and Balgowlah.


1
BELROSE
FRENCHS FOREST
FORESTVILLE
OXFORD FALLS


2
COLLAROY
NARRAWEENA
DEE WHY
BEACON HILL
BROOKVALE
NORTH CURL CURL
CURL CURL
NORTH MANLY
FRESHWATER
MANLY VALE
QUEENSCLIFF
FAIRLIGHT
BALGOWLAH
CLONTARF
MANLY
BALGOWLAH HEIGHTS


3
GREAT MACKEREL BEACH
CURRAWONG BEACH
PALM BEACH
COASTERS RETREAT
WHALE BEACH
PITTWATER
MORNING BAY
LOVETT BAY
AVALON
CLAREVILLE
ELVINA BAY
SCOTLAND ISLAND
MCCARRS CREEK
BILGOLA PL
BILGOLA BEACH
CHURCH POINT
NEWPORT
BAYVIEW
MONA VALE
WARRIEWOOD
NORTH NARRABEEN
NARRABEEN
WHEELER HEIGHTS
COLLAROY PL
LEGEND
Character Types
LEP Boundaries
Land Zoning Boundaries
Strategic Centres
Non-Business and Industrial Uses
Parks & Reserves
Waterways
Elevation
0-30m
30-60m
60-90m
90-120m
120-150m
150-180m
180-210m
210m or greater
Scenic Arrival Point
Scenic Escarpment
Scenic Landmark
Scenic Viewpoint


1
BELROSE
FRENCHS FOREST
FORESTVILLE
OXFORD FALLS


2
COLLAROY
NARRAWEENA
DEE WHY
BEACON HILL
BROOKVALE
NORTH CURL CURL
CURL CURL
NORTH MANLY
FRESHWATER
MANLY VALE
QUEENSCLIFF
FAIRLIGHT
BALGOWLAH
CLONTARF
MANLY
BALGOWLAH HEIGHTS


3
GREAT MACKEREL BEACH
CURRAWONG BEACH
PALM BEACH
COASTERS RETREAT
WHALE BEACH
PITTWATER
MORNING BAY
LOVETT BAY
AVALON
CLAREVILLE
ELVINA BAY
SCOTLAND ISLAND
MCCARRS CREEK
BILGOLA PL
BILGOLA BEACH
CHURCH POINT
NEWPORT
BAYVIEW
MONA VALE
WARRIEWOOD
NORTH NARRABEEN
NARRABEEN
WHEELER HEIGHTS
COLLAROY PL
LEGEND
Character Types
LEP Boundaries
Land Zoning Boundaries
Strategic Centres
Non-Business and Industrial Uses
Parks & Reserves
Waterways
Slope Analysis
0-2.5%
2.5-5.0%
5.0-7.5%
7.5-10.0%
10.0-12.5%
12.5-15.0%
15.0-20.0%
20.0-30%
30% or greater

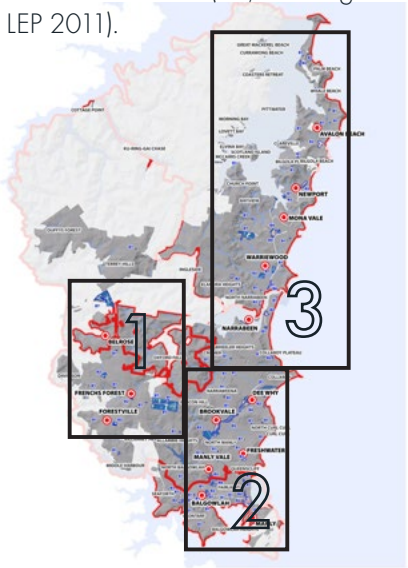
13.2 Urban Form

13.2.1 Lot Size

The Business zones are positioned in flat areas and vary in lot sizes, widths and depths. The histogram indicates the distribution of lot sizes varying between 0 - 90,000m². For better legibility, the histogram only shows up to 2,100m². It reveals a high portion of lots below 300m².

The narrow lots are within the B1 and B2 zone of Manly LEP 2013 where the median lot sizes are below 350m². While the same zones within the Pittwater LEP 2014 and Warringah LEP 2011 are in the range of 500-770m² which are small to medium lots. The lot depths and widths are relatively the same.

The large lots over 1000m² occur in Belrose (B7, Warringah LEP 2011), Warriewood (B7, Pittwater LEP 2014) and Balgowlah (B6, Manly LEP 2013), with the largest lot of over 170,000m² located at Warringah Mall in Brookvale (B3, Warringah LEP 2011).



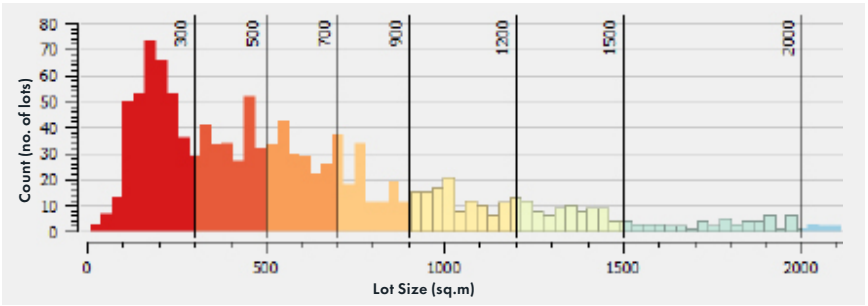


Figure 169. Distribution of lot sizes across the Business Zoning

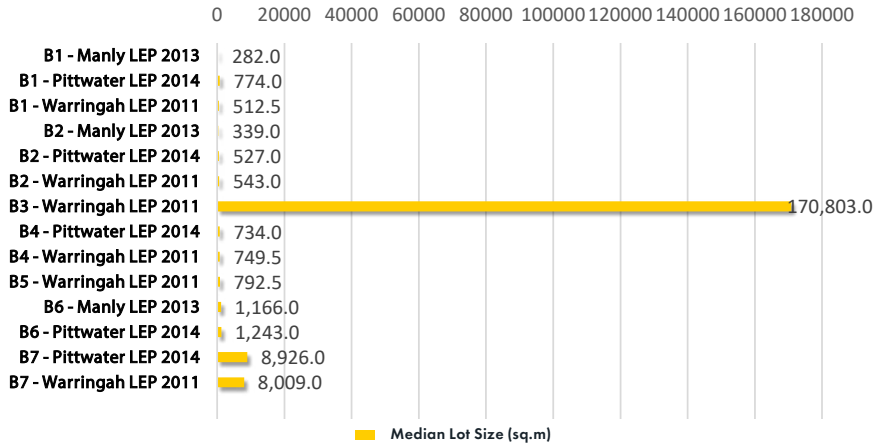


Figure 170. Median Lot Size by Land Zoning & LEP

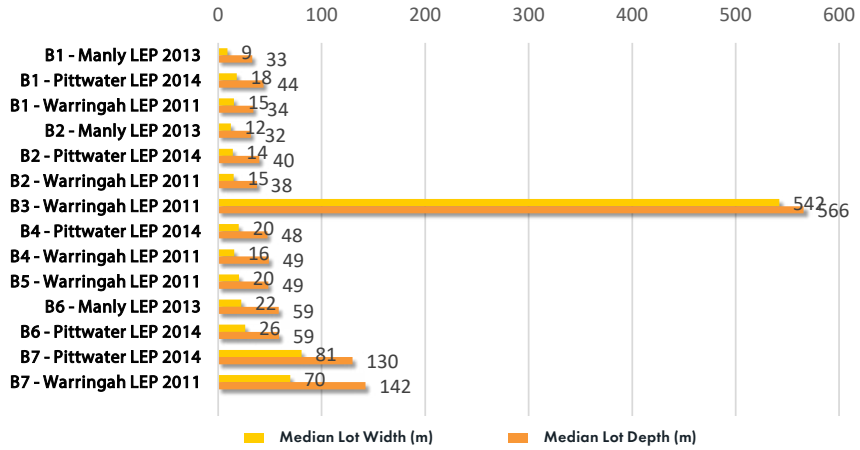
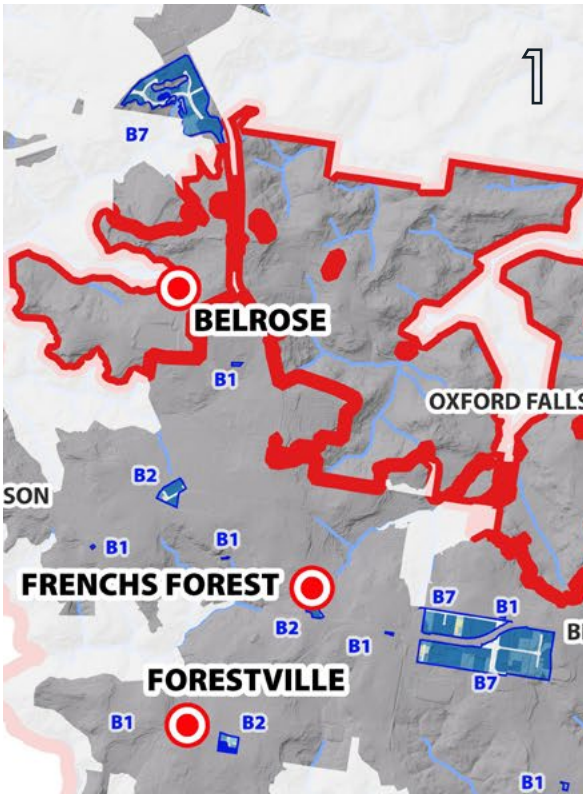


Figure 171. Median Lot Width and Depth by Land Zoning & LEP


1
BELROSE
FRENCHS FOREST
FORESTVILLE
OXFORD FALLS
B1
B2
B7


2
COLLAROY
NARRAWEENA
DEE WHY
BEACON HILL
BROOKVALE
NORTH CURL CURL
CURL CURL
HEIGHTS
NORTH MANLY
FRESHWATER
MANLY VALE
BALGOWLAH
QUEENSCLIFF
FAIRLIGHT
BALGOWLAH
CLONTARF
MANLY
BALGOWLAH HEIGHTS
B1
B2
B3
B4
B5
B6


3
GREAT MACKEREL BEACH
CURRAWONG BEACH
COASTERS RETREAT
PALM BEACH
WHALE BEACH
PITTWATER
MORNING BAY
LOVETT BAY
AVALON
CLAREVILLE
ELVINA BAY
SCOTLAND ISLAND
MCCARRS CREEK
BILGOLA PL
BILGOLA BEACH
CHURCH POINT
NEWPORT
BAYVIEW
MONA VALE
WARRIEWOOD
NORTH NARRABEEN
NARRABEEN
WHEELER HEIGHTS
COLLAROY PL
B1
B2
B4
B6
B7
LEGEND
Character Types
LEP Boundaries
Land Zoning Boundaries
Strategic Centres
Non-Business and Industrial Uses
Parks & Reserves
Waterways
Lot Area (square metres)
0 - 300 sq.m
300 - 500 sq.m
500 - 700 sq.m
700 - 900 sq.m
900 - 1200 sq.m
1200 - 1500 sq.m
1500 - 2000 sq.m
2000 - 4000 sq.m
4000 - 10000 sq.m
10000 sq.m or greater

13.3 Built Form

13.3.1 Building Height

The median building heights within Business Areas across the LGA are generally over 8m, which are in reflection of the land use purpose.

The majority of the business zoned buildings have the building heights between 8-12m.

The greatest median building heights are concentrated at Manly Town Centre (B2, Manly LEP 2013), Dee Why Town Centre (B4, Warringah LEP 2011), Warriewood Business Park (B7, Pittwater LEP 2014) and the Business Parks in Belrose and Frenchs Forest (B7, Warringah LEP 2011).

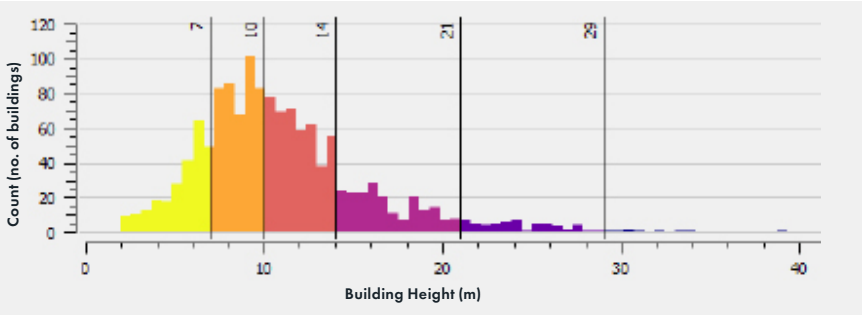


Figure 172. Distribution of Building Heights across the Business Zoning

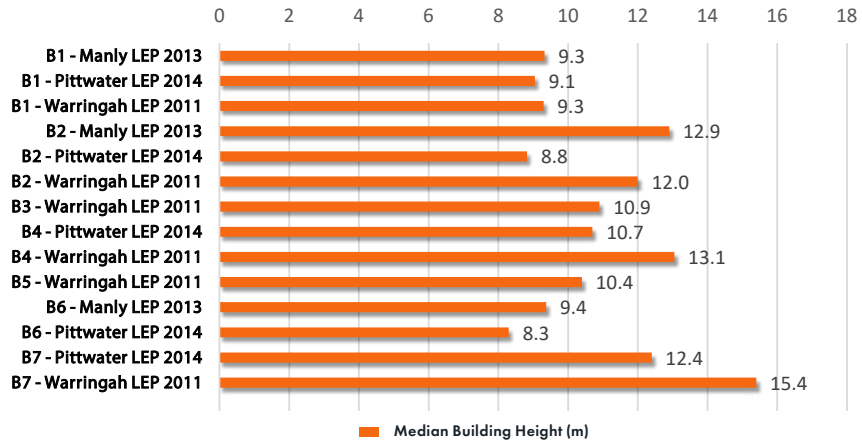
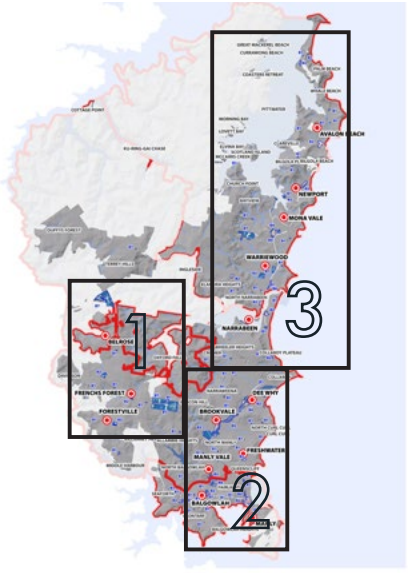
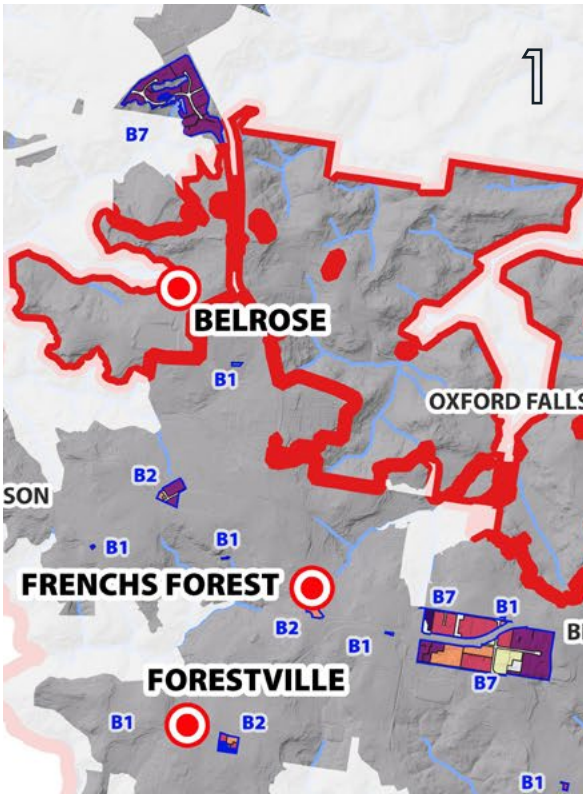


Figure 173. Median Building Height by Land Zoning & LEP




1
BELROSE
FRENCHS FOREST
FORESTVILLE
OXFORD FALLS


2
COLLAROY
NARRAWEENA
DEE WHY
BEACON HILL
BROOKVALE
NORTH CURL CURL
CURL CURL
NORTH MANLY
FRESHWATER
MANLY VALE
QUEENSCLIFF
FAIRLIGHT
BALGOWLAH
CLONTARF
MANLY
BALGOWLAH HEIGHTS


3
GREAT MACKEREL BEACH
CURRAWONG BEACH
PALM BEACH
COASTERS RETREAT
WHALE BEACH
PITTWATER
MORNING BAY
LOVETT BAY
AVALON
CLAREVILLE
ELVINA BAY
SCOTLAND ISLAND
MCCARRS CREEK
BILGOLA PL
BILGOLA BEACH
CHURCH POINT
NEWPORT
BAYVIEW
MONA VALE
WARRIEWOOD
NORTH NARRABEEN
NARRABEEN
WHEELER HEIGHTS
COLLAROY
LEGEND
Character Types
LEP Boundaries
Land Zoning Boundaries
Strategic Centres
Non-Business and Industrial Uses
Parks & Reserves
Waterways
Building Heights
0 - 7m
7 - 10m
10 - 14m
14 - 21m
21 - 29m
29m or greater

13.3.2 Street Setbacks

The median street setbacks within the Business Areas vary mostly between 1.5m and 5.3m, with the extreme large median setback of 17.8m. This is to due to the different land use purposes.

The majority of the street setbacks are between 0-3m, which are focused in B1, B2 and B4 zones across the LGA, i.e. the neighbourhood centres, local centres and mixed uses within the strategic centres, such as in Manly, Dee Why, Balgowlah, Newport, and Warriewood etc. The small street setbacks are to enable easy and convenient access, active street frontages, as well as to create either the intimate scale within the neighbourhood/local centres or the urban environment within the strategic centres.

The B7 zones of Warringah LEP 2011 and Pittwater LEP 2014 have large median setbacks above 9m and 17m. These are the business parks located in Belrose, Frenchs Forest and Warriewood. They are self contained on large lots/ landholdings and have big built forms, which require bigger building setbacks.

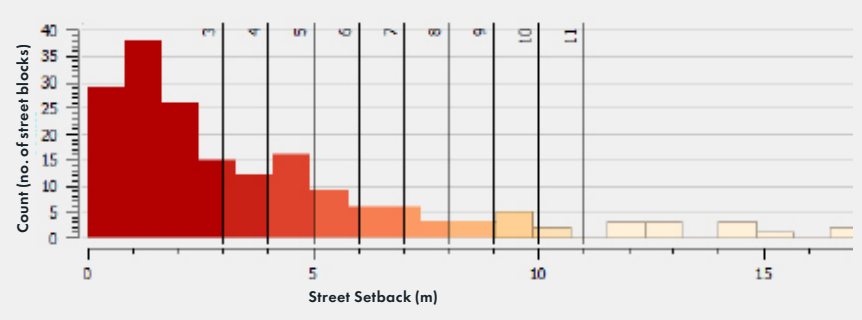


Figure 174. Distribution of Street Setback across the Business Zoning

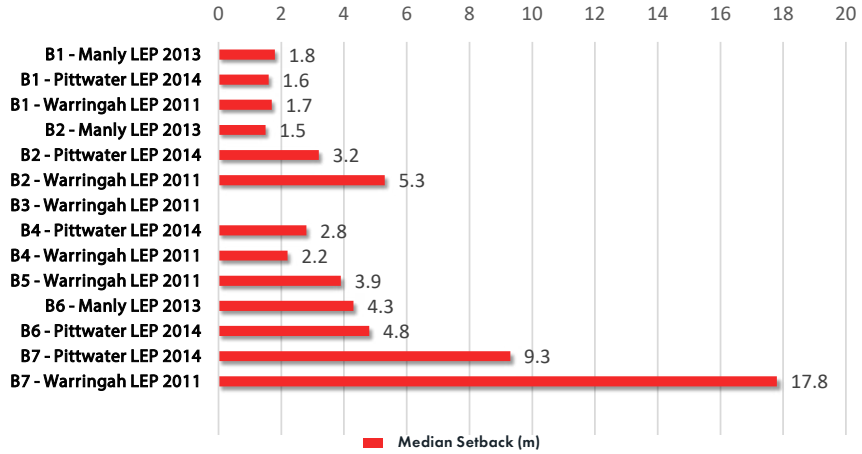
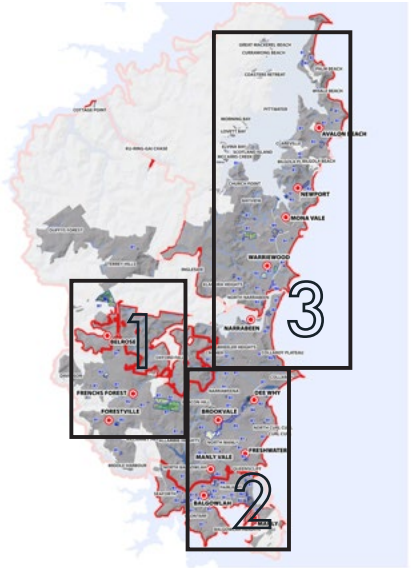
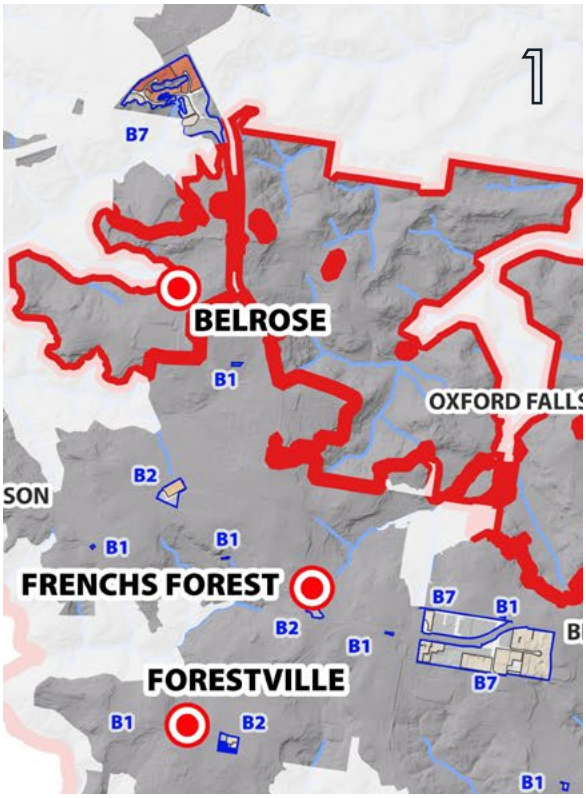


Figure 175. Median Setback by Land Zoning & LEP




1
BELROSE
FRENCHS FOREST
FORESTVILLE
OXFORD FALLS
B1
B2
B7

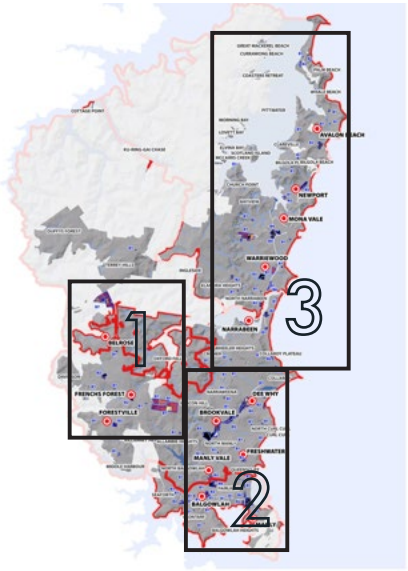

2
COLLAROY
NARRAWEENA
DEE WHY
BEACON HILL
BROOKVALE
NORTH CURL CURL
CURL CURL
NORTH MANLY
FRESHWATER
MANLY VALE
QUEENSCLIFF
FAIRLIGHT
BALGOWLAH
CLONTARF
MANLY
BALGOWLAH HEIGHTS
B1
B2
B3
B4
B5
B6


3
GREAT MACKEREL BEACH
CURRAWONG BEACH
COASTERS RETREAT
PALM BEACH
WHALE BEACH
PITTWATER
MORNING BAY
LOVETT BAY
AVALON
CLAREVILLE
ELVINA BAY
SCOTLAND ISLAND
MCCARRS CREEK
BILGOLA PL
BILGOLA BEACH
CHURCH POINT
NEWPORT
BAYVIEW
MONA VALE
WARRIEWOOD
NORTH NARRABEEN
NARRABEEN
WHEELER HEIGHTS
COLLAROY
B1
B2
B4
B6
B7
LEGEND
Character Types
LEP Boundaries
Land Zoning Boundaries
Strategic Centres
Non-Business and Industrial Uses
Parks & Reserves
Waterways
Street Setbacks
0.0 - 3.0m
3.0 -4.0m
4.0 - 5.0m
5.0 - 6.0m
6.0 - 7.0m
7.0 - 8.0m
8.0m - 9.0m
9.0m - 10.0m
10.0m - 11.0m
11.0m or greater

13.3.3 Building Site Coverage

The business areas have the highest percentage of building site coverage in the Northern Beaches LGA. The highest distribution of building site coverage focuses on 50% and above. This is being identified in all the B1, B2, B3, B4 and B5 zones under the existing three LEPs. B6 zone of Manly LEP 2013 in Balgowlah also has high median building site coverage of 58.4%. This means the permeable surface will be consequently low. This is reflected in the chart and graphs to the right of the page.

The business areas with the highest median permeable surface are found in B7 zone of Pittwater LEP 2014 and Warringah LEP 2011, i.e. the business parks at Belrose and Frenchs Forest.



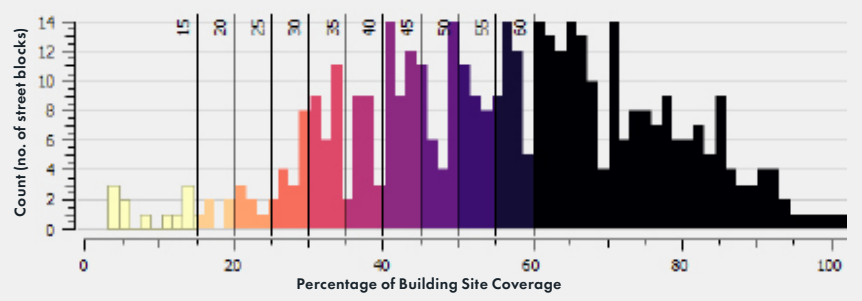


Figure 176. Distribution of Building Site Coverage (aggregated to street blocks) across the Business Zoning

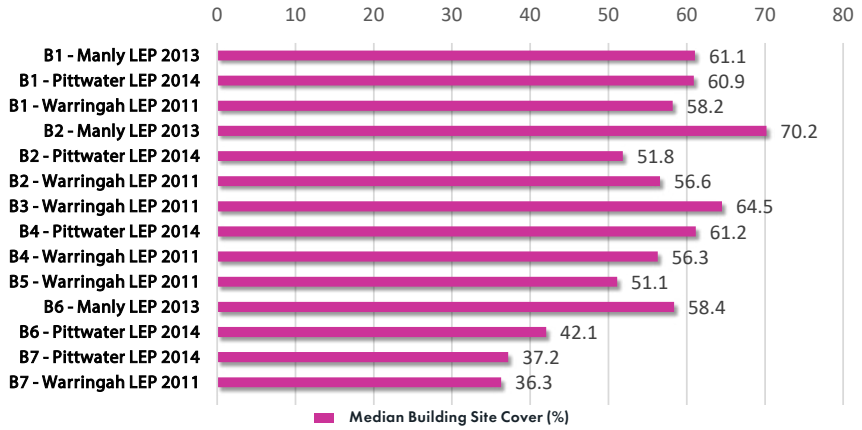


Figure 177. Median Building Site Coverage by Land Zoning & LEP

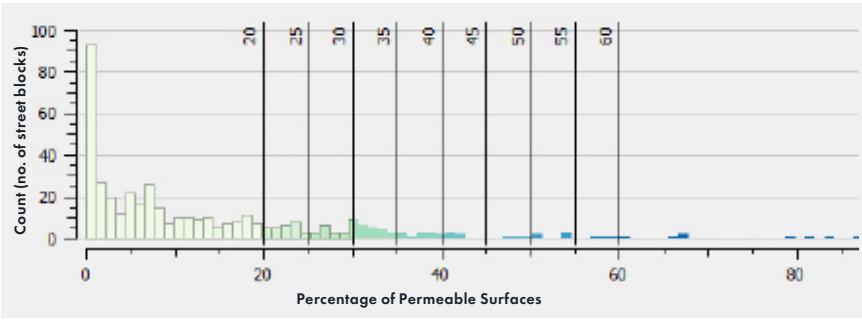


Figure 178. Distribution of Permeable Surface (aggregated to street blocks) across the Business Zoning

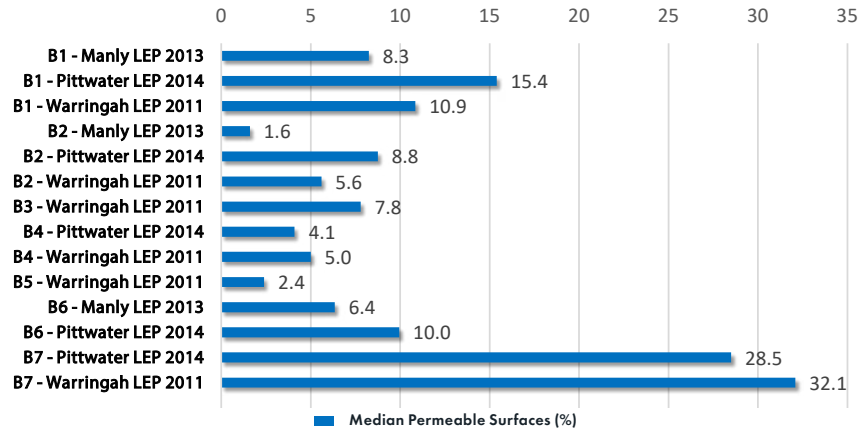
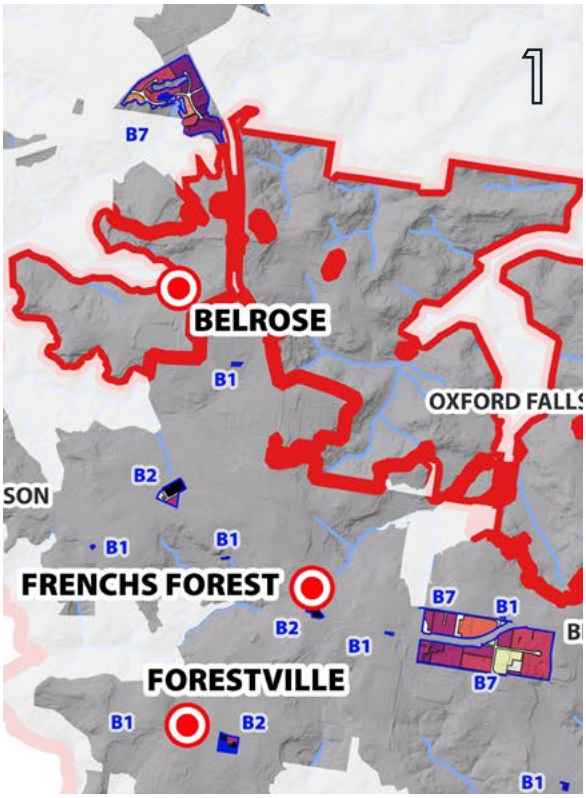


Figure 179. Median Permeable Surfaces by Land Zoning & LEP


1
BELROSE
FRENCHS FOREST
FORESTVILLE
OXFORD FALLS


2
COLLAROY
NARRAWEENA
DEE WHY
BEACON HILL
BROOKVALE
NORTH CURL CURL
CURL CURL
NORTH MANLY
FRESHWATER
MANLY VALE
QUEENSCLIFF
FAIRLIGHT
BALGOWLAH
CLONTARF
MANLY
BALGOWLAH HEIGHTS


3
GREAT MACKEREL BEACH
CURRAWONG BEACH
PALM BEACH
COASTERS RETREAT
WHALE BEACH
PITTWATER
MORNING BAY
LOVETT BAY
AVALON
CLAREVILLE
ELVINA BAY
SCOTLAND ISLAND
MCCARRS CREEK
BILGOLA PL
BILGOLA BEACH
CHURCH POINT
NEWPORT
BAYVIEW
MONA VALE
WARRIEWOOD
NORTH NARRABEEN
NARRABEEN
WHEELER HEIGHTS
COLLAROY PL
LEGEND
Character Types
LEP Boundaries
Land Zoning Boundaries
Strategic Centres
Non-Business and Industrial Uses
Parks & Reserves
Waterways
Building Site Coverage
0 - 15%
15 - 20%
20 - 25%
25 - 30%
30 - 35%
35 - 40 %
40 - 45%
45 - 50%
50 - 55%
55 - 60%
60% or greater

13.3.4 Tree Cover

The Business Areas have the lowest tree cover across the Northern Beaches LGA in comparison with other land uses. This further reflects the similar result of permeable surface of the business zones.

The lowest median tree cover of 0% is identified within B1, B2 and B6 zones of Manly LEP 2013, such as the neighbourhood and local centres in Manly, Seaforth, Fairlight and Balgowlah.

The business areas within Brookvale and Dee why also have a low tree coverage which is within B1, B2, B4, B5 zones of Warringah LEP 2011.

B7 zones under Pittwater LEP 2014 and Warringah LEP 2011, i.e. the business parks at Belrose and Frenchs Forest, have the highest median tree cover percentages of 14.5% and 17.8%.

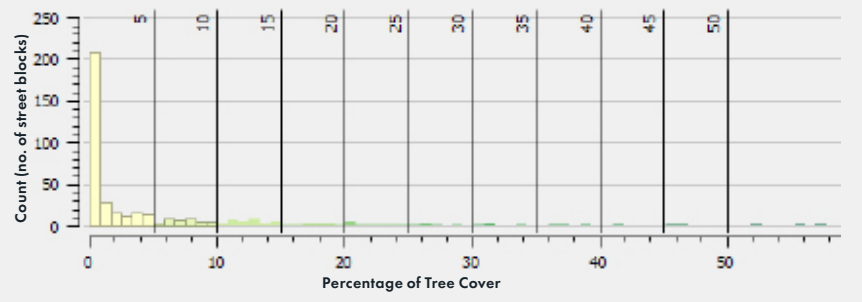


Figure 180. Distribution of Tree Coverage (aggregated to street blocks) across the Business Zoning

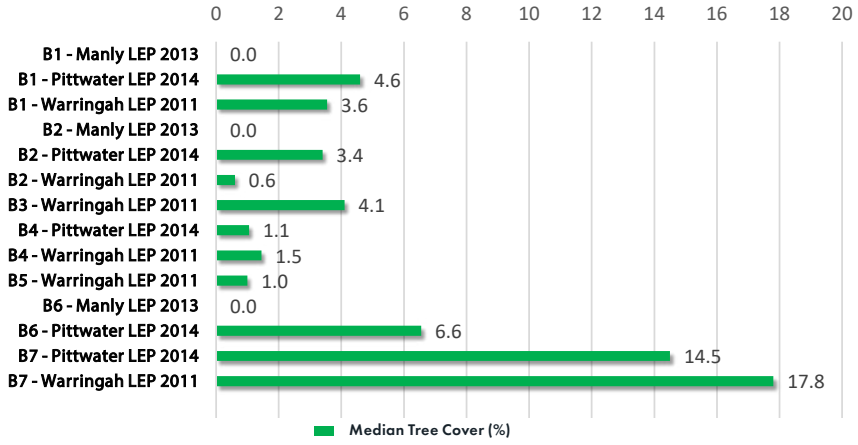
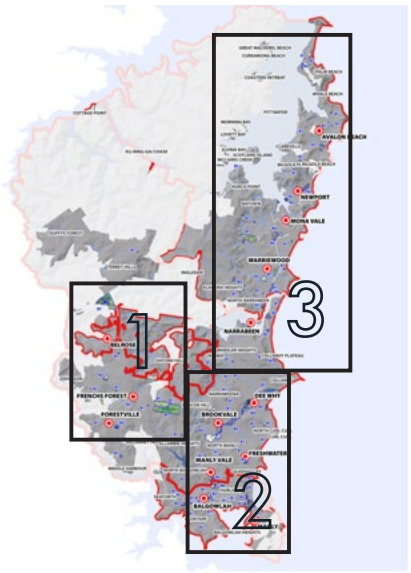
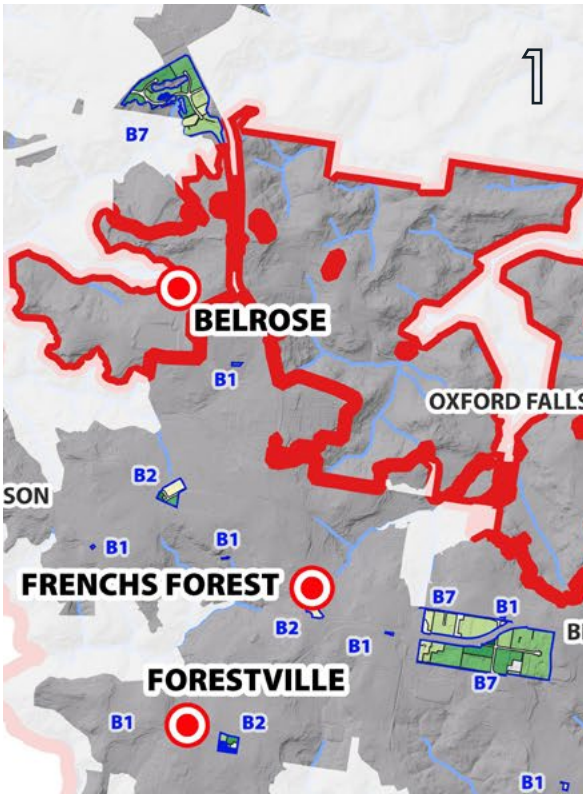


Figure 181. Median Tree Cover by Land Zoning & LEP




1
BELROSE
FRENCHS FOREST
FORESTVILLE
OXFORD FALLS


2
COLLAROY
NARRAWEENA
DEE WHY
BEACON HILL
BROOKVALE
NORTH CURL CURL
CURL CURL
NORTH MANLY
FRESHWATER
MANLY VALE
QUEENSCLIFF
FAIRLIGHT
BALGOWLAH
CLONTARF
MANLY
BALGOWLAH HEIGHTS


3
GREAT MACKEREL BEACH
CURRAWONG BEACH
COASTERS RETREAT
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WHALE BEACH
PITTWATER
MORNING BAY
LOVETT BAY
AVALON
CLAREVILLE
ELVINA BAY
SCOTLAND ISLAND
MCCARRS CREEK
BILGOLA PL
BILGOLA BEACH
CHURCH POINT
NEWPORT
BAYVIEW
MONA VALE
WARRIEWOOD
NORTH NARRABEEN
NARRABEEN
WHEELER HEIGHTS
COLLAROY PL
LEGEND
Character Types
LEP Boundaries
Land Zoning Boundaries
Strategic Centres
Non-Business and Industrial Uses
Parks & Reserves
Waterways
Tree Canopy Cover
0 - 5.0%
5.0 - 10.0%
10.0 - 15.0%
15.0 - 20.0%
20.0 - 25.0%
25.0 - 30.0%
30.0 - 35.0%
35.0 - 40.0%
40.0 - 45.0%
45.0 - 50%
50.0% or greater

13.4 Summary

The following provides a summary of the key elements to be considered when developing built form controls for the Business Zone.

Landform & Natural Features

- Business areas are widely spread throughout the Northern Beaches LGA and cover a combination of different landforms, comprising of escarpment, plateau and valleys.
- Landform is generally flat throughout the Business Areas with less natural environment constraints, e.g. bushfire and landslip risk, in comparison with other land uses.
- There are many centres in Northern Beaches LGA which are flood affected e.g Avalon, Newport and North Narrabeen.

Scenic Views

- Business areas are situated further inland, and are normally located in the easily accessed places, such as along and/or close to the transport corridors. They therefore offer less scenic value within the LGA compared with the other land uses such as residential. There are scenic arrival points identified along the major traffic corridors. Careful consideration of built form control to enhance the scenic arrival experience may be required.

Urban Form & Built Form

- Lot size in Business areas varies depending on the purpose of land uses, e.g. small to medium lot sizes are prevalent in B1 and B2 zones, i.e. neighbourhood and local centres; whilst the large lots are more predominant in B6 and B7 zones to accommodate the permitted uses, such as large footprint business developments.
- Building height is generally focused in the neighbourhood and local centres, mixed use and some business parks. Future controls need to consider the transition in built form and scale from business areas to the neighbouring residential areas.
- The street setbacks in Business areas are generally between 0-3m, which are focused in B1, B2 and B4 zones across the LGA; whilst B7 zone that accommodates business park have large setbacks. Careful consideration of street setback controls to either maintain or enhance the existing characters.
- The building site coverage is high across the business areas whilst the permeable surface is consequently low. This in turn provides limited areas for trees and therefore the tree cover is low.

Tree Cover

- Tree cover is very low compared with other land uses within the LGA. This further reflects the similar result of permeable surface of the business areas. There may be additional consideration/built form controls on setback, site coverage and lot size to ensure adequate tree canopy is provided within business areas, to provide a more shaded, relaxed environment as well as to reduce the urban heat island effect.

14 Centres

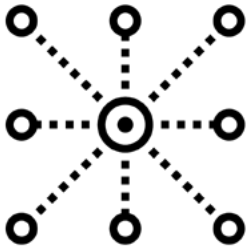
Key centres within the Business Zones were designated either Strategic or Local Centres by the GSC in the North District Plan. Most of these Centres were also confirmed within the LSPS, with the main changes to identify the local centre of Glenrose (the name of a shopping centre) as Belrose (the suburb name) and to split Dee Why-Brookvale into two separate strategic centres of Dee Why and Brookvale.

The main non-residential uses across the LGA such as retail, office, community, and industrial as well as higher-density residential buildings are largely clustered in these areas, which are outlined in further detail in the pages that follow.

Following issue of the Phase 1B Report, NBC selected a number of the local centres listed here, as well as several other lower order local centres, to progress through to Phase 2B2 Business Built Form Controls:

- Avalon
- Balgowlah
- Collaroy
- Forestville
- Freshwater
- Manly Vale
- Narrabeen
- Newport
- North Narrabeen
- Seaforth
- The Deewhy Strand

These can be viewed in the Phase 2 Chapters of the Built Form Study.



Strategic Centres

Dee Why
Brookvale
Mona Vale
Manly
Frenchs Forest

Local Centres

Avalon
Newport
Warriewood
Narrabeen
Belrose
Forestville
Manly Vale
Balgowlah
Freshwater

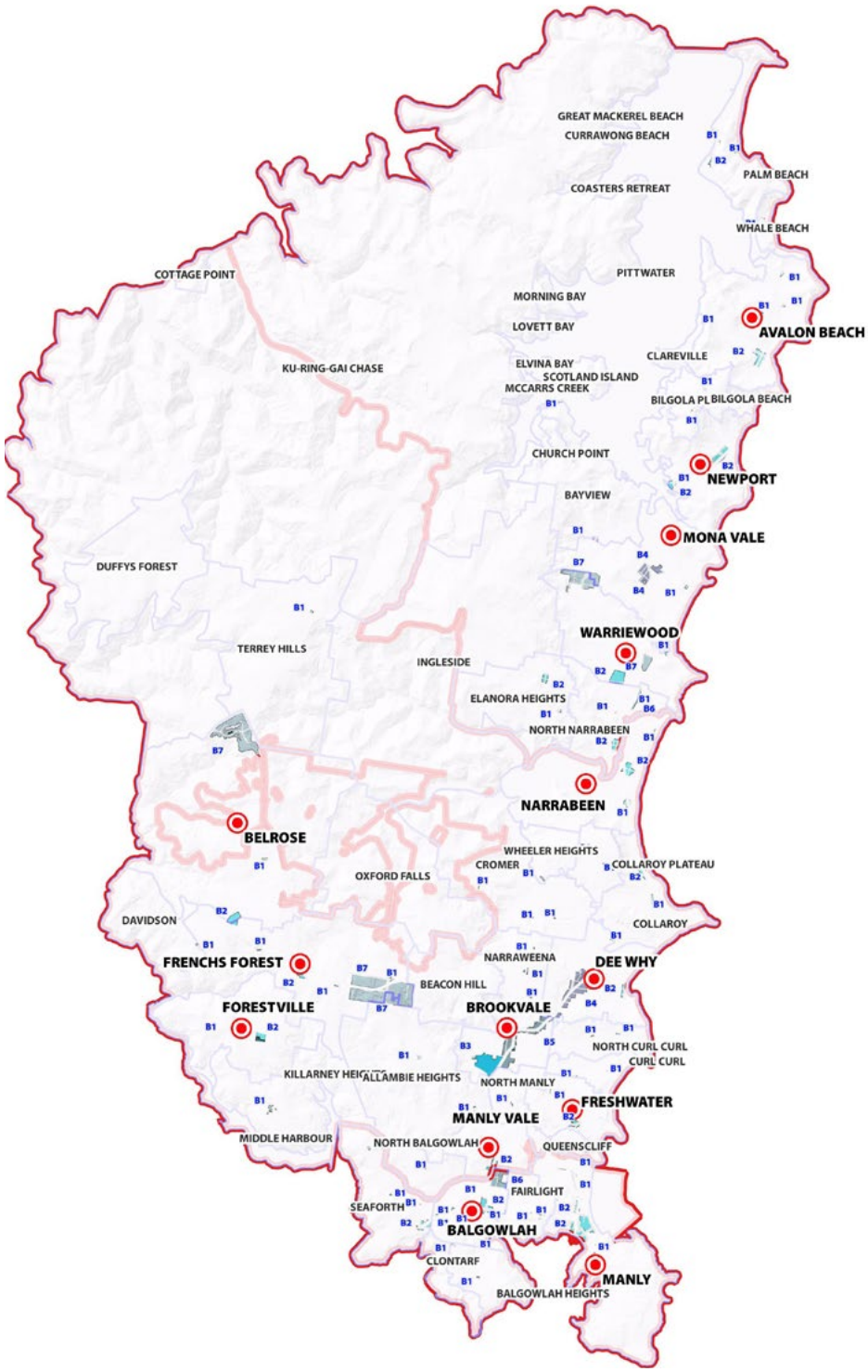
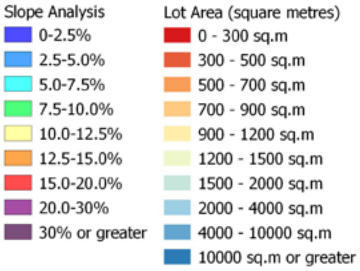


Figure 182. Northern Beaches LGA - Local & Strategic Centre Locations within Business zoned land highlighted

14.1.1 Overview

Dee Why is identified as a Strategic Centre in the LSPS, reflecting a diversity of uses and significant increase in density compared with adjoining areas. As a strategic centre it plays an important role in the provision of services within the Northern Beaches LGA.



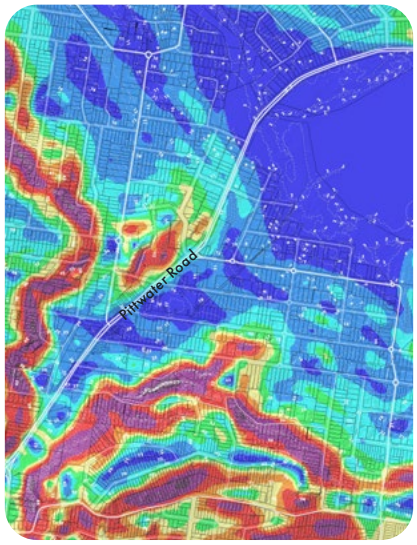


Figure 183. Dee Why Slope

Figure 184. Dee Why Lot Size

14.1.2 Landform and Natural Features

Dee Why is located within two Landscape Character Zones, i.e. Coastal Zone to the east and General Zone to the west.

The natural landform on the west of Pittwater Road is not conducive to extensive urban development as it rises steeply from the urban centre, limiting accessibility. Whilst on the east of Pittwater Road, the landform provides the opportunity for urbanisation to occur. This has however resulted in a disconnection from the natural landscape character – defined by vegetation type and landform that was once established prior to urbanisation.

Source: Northern Beaches Local Character Study, Tract Consultants, 2020

14.1.3 Urban Form and Built Form

Street Pattern: Grid Development Pattern with coarse grain providing limited north-south movement

Streetscape: Standard street width, comprising road with kerb, parallel parking and verge with street tree planting and footpath

Density: Predominantly Urban, comprising a mix of high-rise development (up to 15 storeys) focused along Pittwater Road and medium density comprising 3-4 storey walk up development between the coast line and Pittwater Road.

The urban density rapidly transitions to suburban west of Pittwater Road and South of Delmar Parade / The Crescent / Banksia Street and is constrained to the north by Dee Why Lagoon Wildlife Refuge.

Architectural Styles

General Character Area - Currently experiencing a gentrification process resulting in a combination of Post-War and Contemporary building types

Coastal Character Area - Predominantly Post-War building types dominated by walk-ups from the 1970's

Source: Northern Beaches Local Character Study, Tract Consultants, 2020

Figure 185. Dee Why Built Form Site Photos

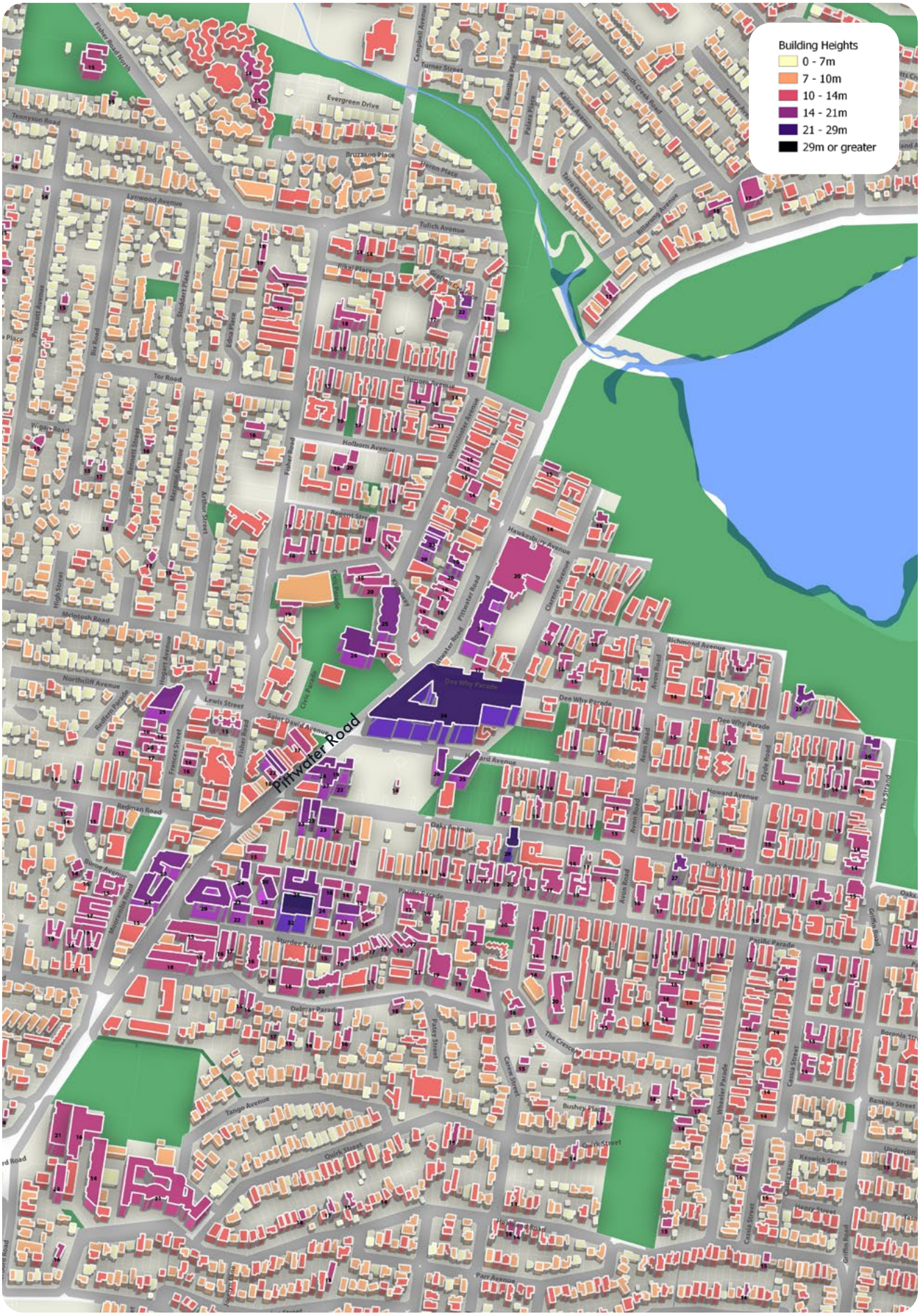
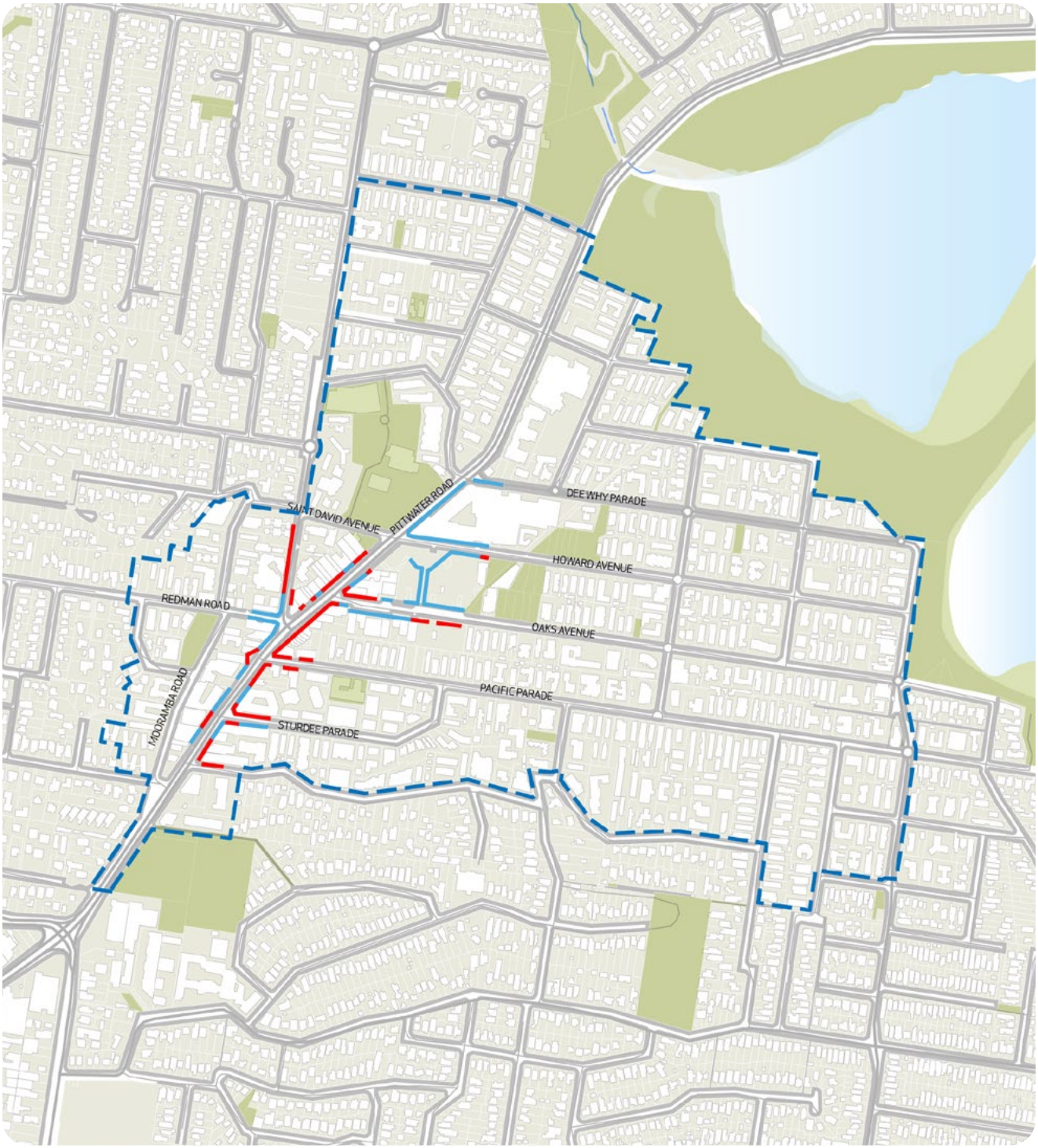


Figure 186. Dee Why Building Height

- Dee Why Strategic Centre Boundary Proposed In NBLCS
- Mixed Use Boundary
- Pittwater Road
- Local Street / Grid Pattern
- Pedestrian/Cycle Through Site Link
- Active Street Frontage & Awnings
- Key walking route
- Key Corner
- Gateway
- Bus Stop
- Major Developments

Figure 187. Dee Why Strategic Centre Urban and Built Form Analysis



Centre Boundary Proposed In NBLCS

Contributory Awning

Non-Contributory Awning

Main Street

Local Street

Open Space

Beach

Figure 188. Dee Why Awning Character

14.2 Brookvale Strategic Centre

14.2.1 Overview

Brookvale is identified as an employment and innovation based Strategic Centre, supporting one-third of the LGA's employment. This reflects the economic importance of the precinct in respect to the broader LGA.

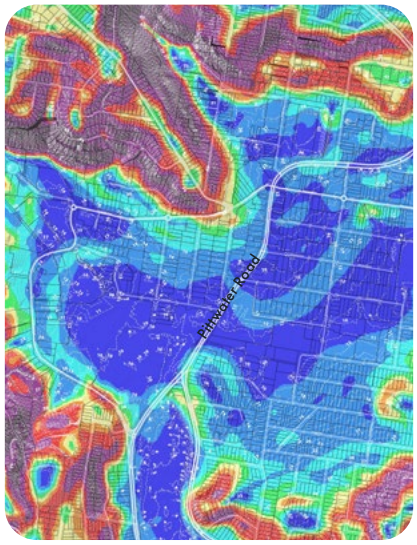


Figure 189. Brookvale Slope

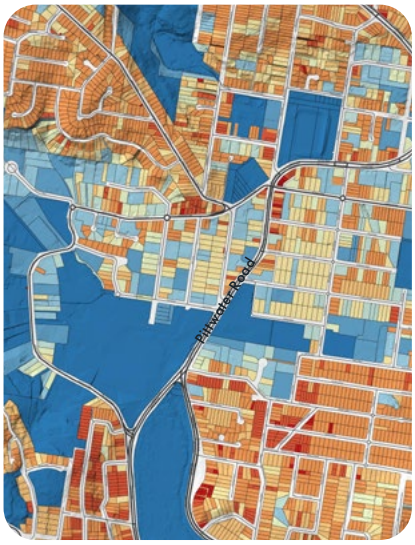


Figure 190. Brookvale Lot Size

Slope Analysis
- 0-2.5%
- 2.5-5.0%
- 5.0-7.5%
- 7.5-10.0%
- 10.0-12.5%
- 12.5-15.0%
- 15.0-20.0%
- 20.0-30%
- 30% or greater

Lot Area (square metres)
- 0 - 300 sq.m
- 300 - 500 sq.m
- 500 - 700 sq.m
- 700 - 900 sq.m
- 900 - 1200 sq.m
- 1200 - 1500 sq.m
- 1500 - 2000 sq.m
- 2000 - 4000 sq.m
- 4000 - 10000 sq.m
- 10000 sq.m or greater

14.2.2 Landform and Natural Features

Brookvale Strategic Centre is within the General Landscape Character Zone which has no strong defining elements.

The Centre is located at the base of a valley with very little topographical variation which restricts the opportunity to obtain desirable views of natural assets such as the coast or bushland.

The natural landform in association with lack of views provided the ideal opportunity for broad scale industrialisation to occur, resulting in the loss of and disconnection of the natural landscape.

Source: Northern Beaches Local Character Study, Tract Consultants, 2020

14.2.3 Urban Form and Built Form

Street Pattern: Grid Development Pattern with large impermeable blocks resulting in a coarse grain of disconnected streets providing limited north-south movement to the east and limited east-west movement to the west

Streetscape: Wide street width comprising road with kerb, parallel parking and verge with footpath and limited street tree planting

Density: Predominantly 2 storey urban development throughout the Local Character Precinct Strategic Centre with localised 3-5 storey urban development to the north and south of the precinct.

The Local Character Precinct Strategic Centre is predominantly urban and constrained by; suburban residential / urban recreational open space (Brookvale Oval) to the north, old industrial to the east, new industrial to the west and urban retail / suburban residential to the south.

Architectural Styles: Predominately 2 storey Post-War Shop Top Commercial along Pittwater Road and large/small format Post-War warehouse/workshops ranging from 1-4 storey within the industrial area. Residential area comprises 1 to 2 storey Post-War single dwellings.

Source: Northern Beaches Local Character Study, Tract Consultants, 2020

Figure 191. Brookvale Built Form Site Photos

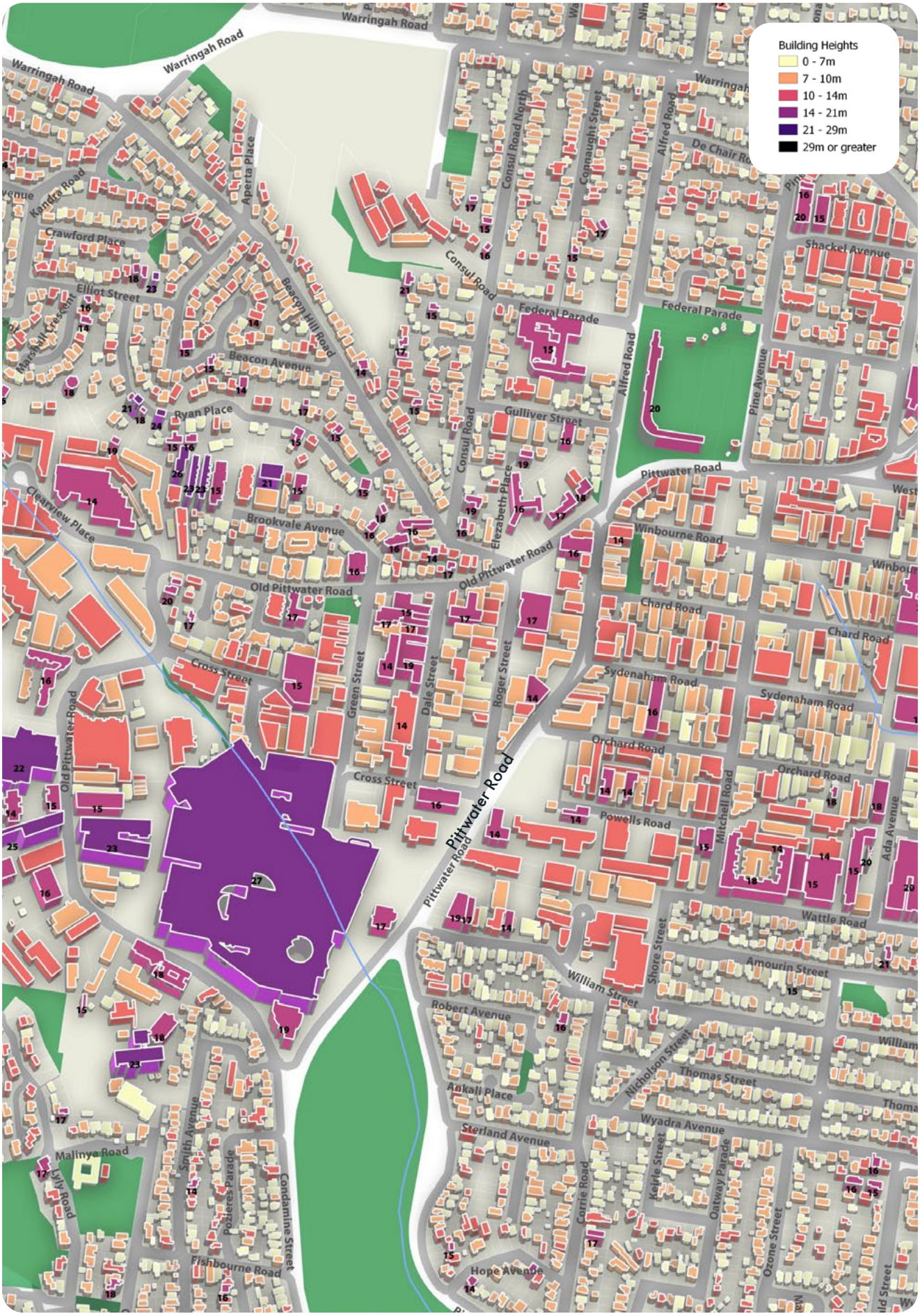


Figure 192. Brookvale Building Height

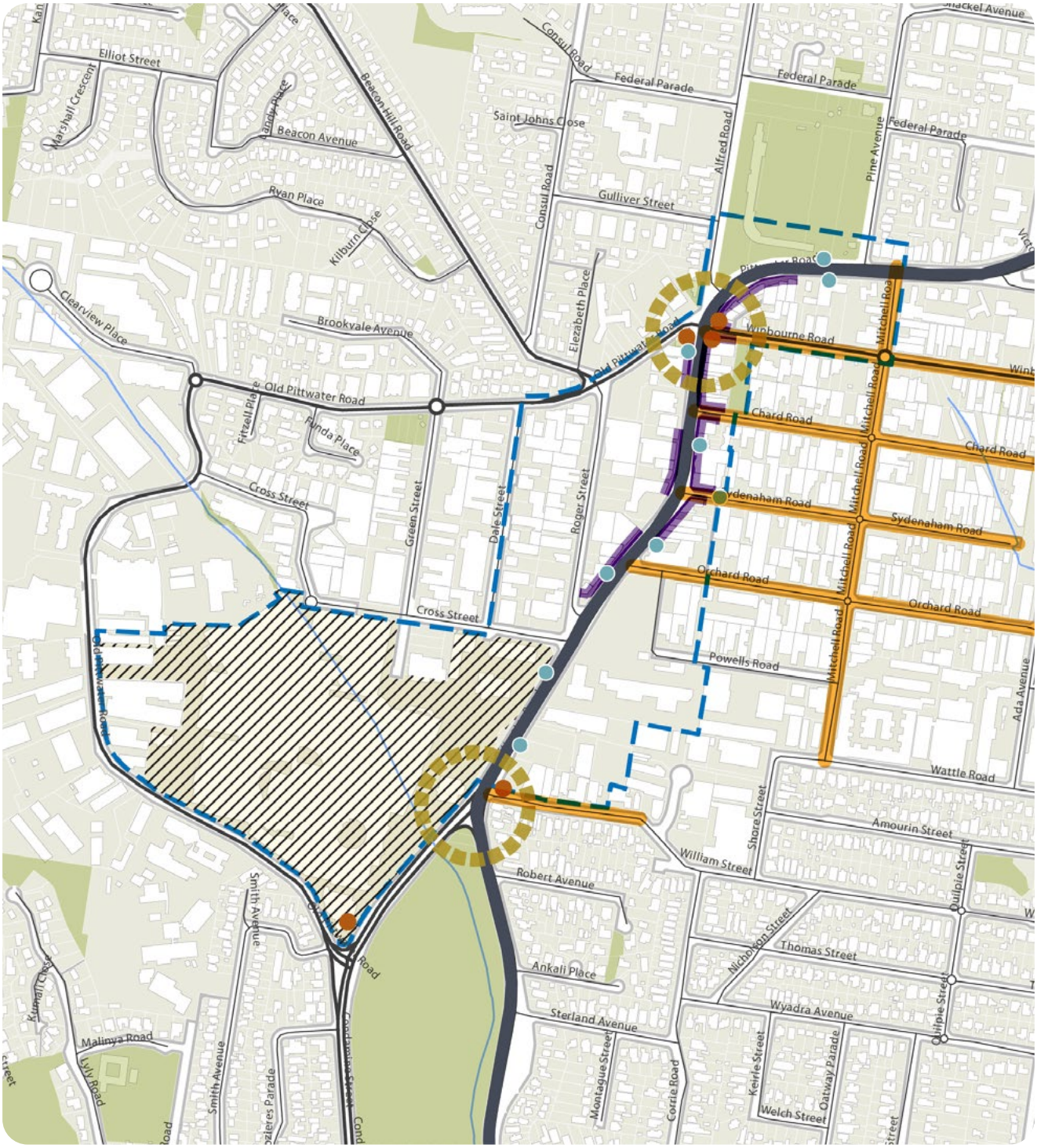
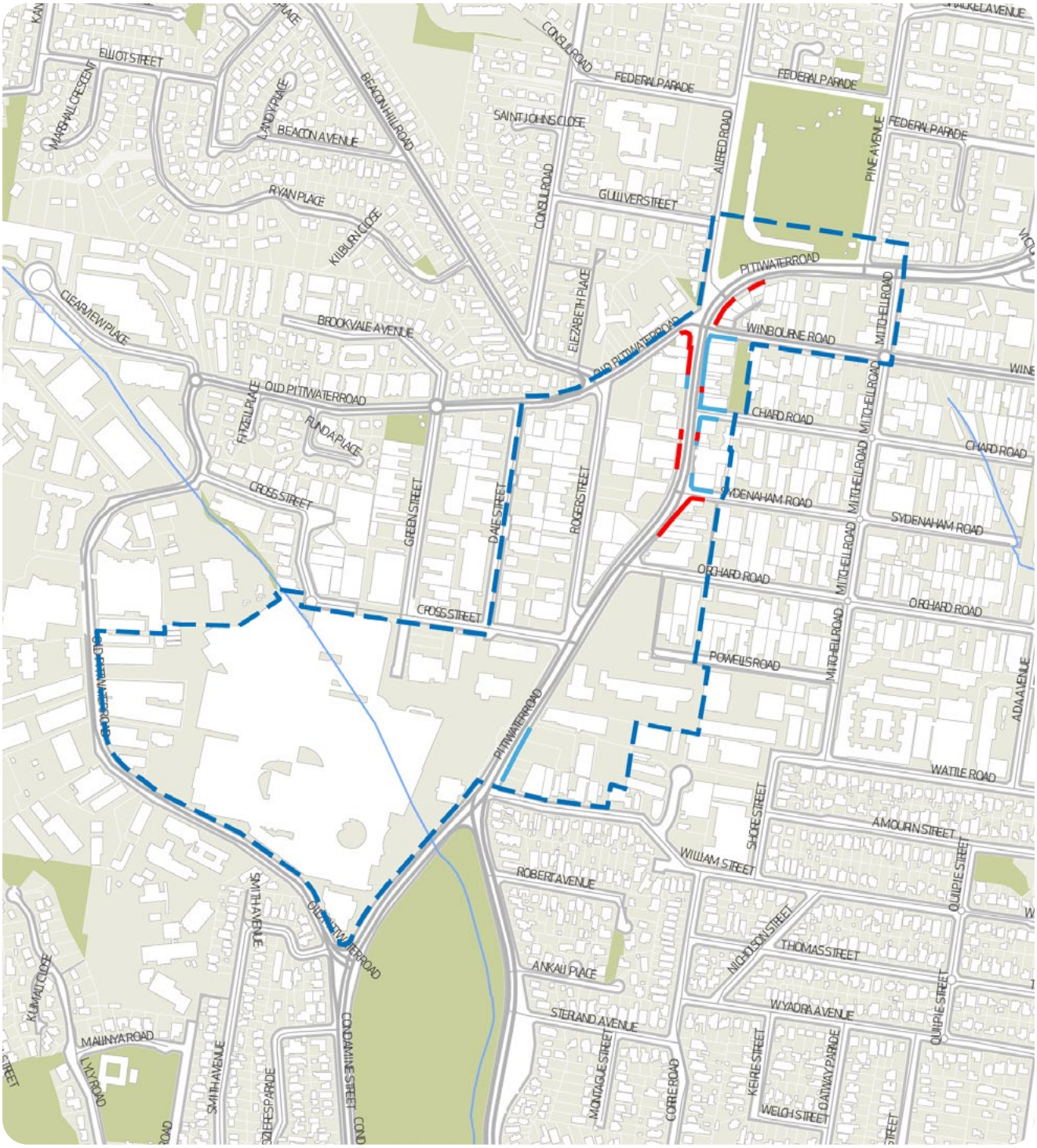


Figure 193. Brookvale Strategic Centre Urban and Built Form Analysis



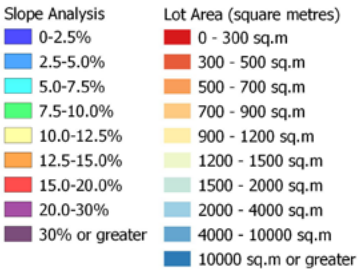
- Centre Boundary Proposed In NBLCS
- Contributory Awning
- Non-Contributory Awning
- Main Street
- Local Street
- Open Space
- Beach

Figure 194. Brookvale Awning Character

14.3 Mona Vale Strategic Centre

14.3.1 Overview

Mona Vale is identified as a Strategic Centre. It plays an important role in the provision of services within the Northern Beaches Precinct.



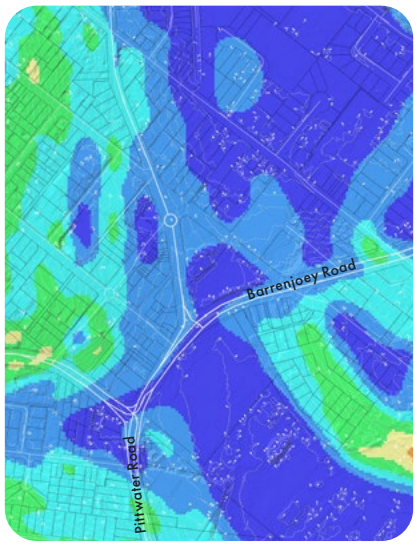


Figure 195. Mona Vale Slope

Figure 196. Mona Vale Lot Size

14.3.2 Landform and Natural Features

The strategic centre is within the General Character Zone which has no strong defining elements.

However, the broader suburb of Mona Vale is distinctive in that it's geographically and functionally located at a junction – which is surrounded by four-landscape character zones; General, Coastal, Bushland and Waterway.

There is an opportunity for Mona Vale to respond to all or one of these zones.

Source: Northern Beaches Local Character Study, Tract Consultants, 2020

14.3.3 Urban Form and Built Form

Street Pattern: Grid Development Pattern with fine grain providing movement with asymmetrical junction of major arterial roads; Mona Vale Road, Pittwater Road and Barrenjoey Road.

Streetscape: Wide street width comprising road with kerb, parallel parking and paved verge with street tree planting.

Density: The Strategic Centre is predominantly Urban and typically comprised of 2-3 storey mixed use development (up to 6 storeys at corner of Mona Vale Road and Bungan Street) of retail to the ground floor and predominantly commercial above.

Architectural Styles: General Character Area - Diverse mix of established Post-War building types interspersed with contemporary developments result in a wide range of built form outcomes of conflicting characteristics.

Source: Northern Beaches Local Character Study, Tract Consultants, 2020

Figure 197. Mona Vale Built Form Site Photos

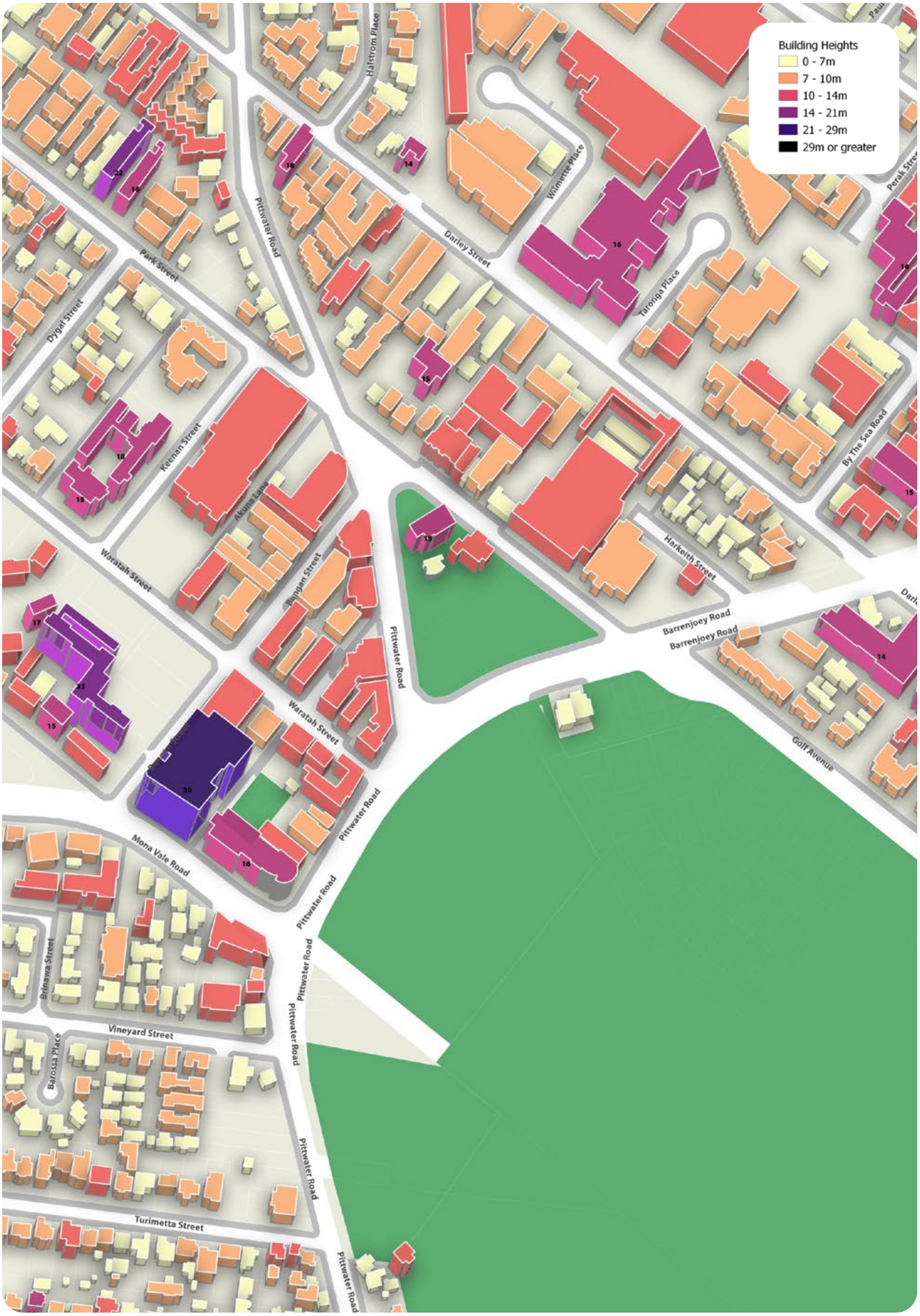


Figure 198. Mona Vale Building Height

Figure 199. Mona Vale Strategic Centre Urban and Built Form Analysis

Centre Boundary Proposed In NBLCS

Contributory Awning

Non-Contributory Awning

Main Street

Local Street

Open Space

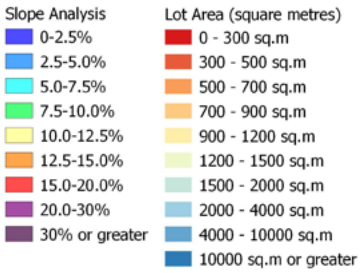
Beach

Figure 200. Mona Vale Awning Character

14.4 Manly Strategic Centre

14.4.3 Overview

Manly is identified as a Strategic Centre and forms both a social hub for locals and tourists alike providing a diverse range of activities and functions.



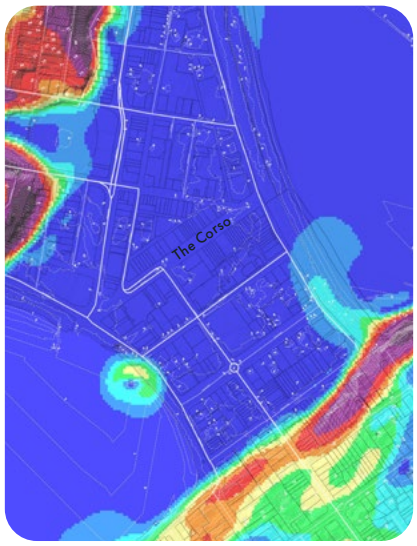


Figure 201. Manly Slope

Figure 202. Manly Lot Size

14.4.1 Landform and Natural Features

Manly Local Character Precinct Strategic Centre is comprised of two landscape character zones; Harbour to the west of Darley Road and Coastal to the east of Darley Road.

Manly Local Character Precinct Strategic Centre is located on an isthmus, which is a low-lying landform (similar to 'valley' as referred within this report) but is narrow and connects two larger areas across an expanse of water.

Source: Northern Beaches Local Character Study, Tract Consultants, 2020

14.4.2 Urban Form and Built Form

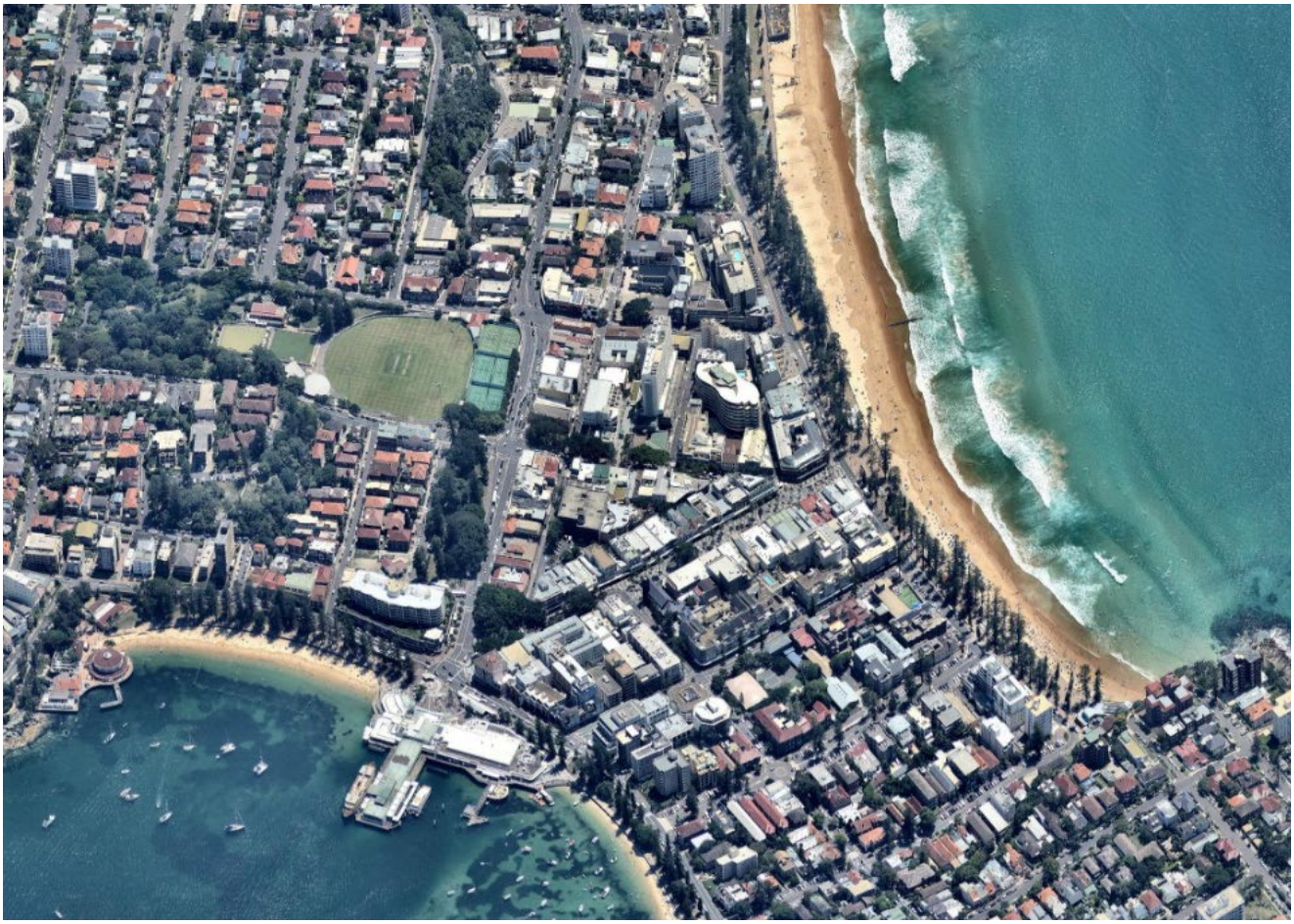
Street Pattern: Grid Development Pattern with Pittwater Road/Belgrave Street & Sydney Road are the two main roads providing vehicular access to the edge of the Strategic Centre Place Boundary. Generally collector streets run north south and local street run east west.

Streetscape: Wide street width comprising road with kerb, parallel or perpendicular parking, large street trees (i.e. Norfolk Island Pine or Fig Trees) in parking bays or within wide paved verge.

Density: Predominantly Urban and comprises a varied mix of low, medium and high-rise development (up to 17 storeys) throughout the Manly Local Character Precinct Strategic Centre. This is due to the heritage listed cottages competing with contemporary developments. However, majority of the urban core is characterised as medium density comprising 2-4 storey mixed use development.

Architectural Styles: Limited redevelopment opportunities due to the layered history of the established built forms ranging from Pre- War, Post-War, and Contemporary building types.

Source: Northern Beaches Local Character Study, Tract Consultants, 2020



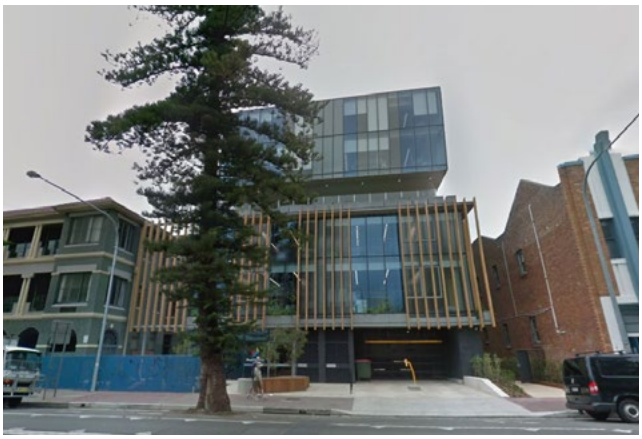


Figure 203. Manly Built Form Site Photos

Figure 204. Manly Building Height

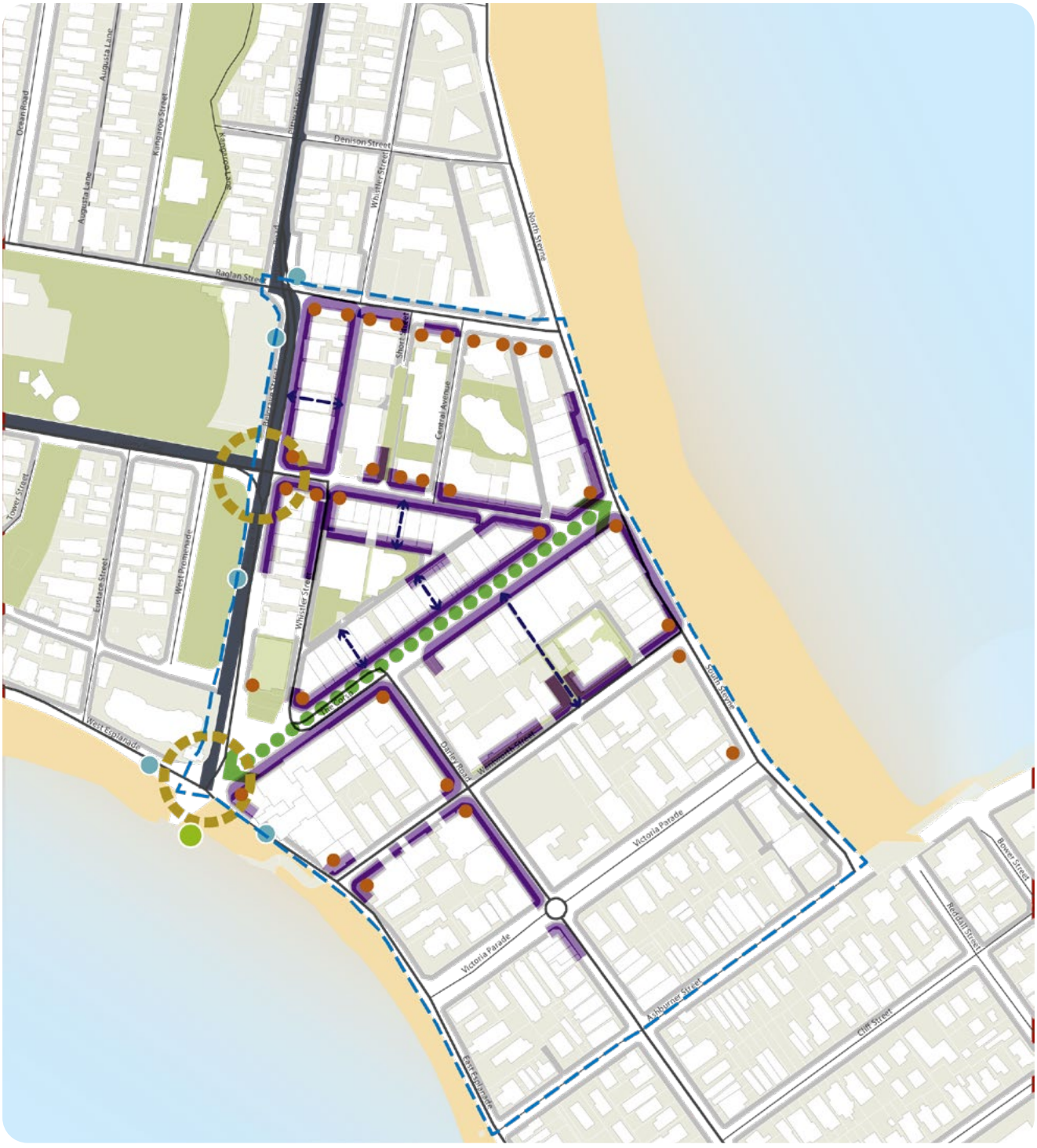


Figure 205. Manly Strategic Centre Urban and Built Form Analysis

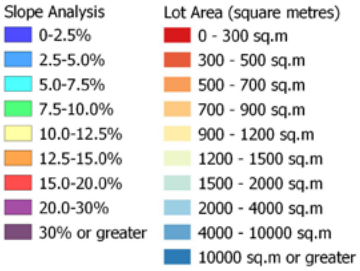
- Centre Boundary Proposed In NBLCS
- Contributory Awning
- Non-Contributory Awning
- Main Street
- Local Street
- Open Space
- Beach

Figure 206. Manly Awning Character

14.5 Frenchs Forest Strategic Centre

14.5.1 Overview

Frenchs Forest is a place undergoing significant change, transitioning into a health and education precinct supporting the population growth across the LGA through an integrated housing, employment, social infrastructure and transport development.



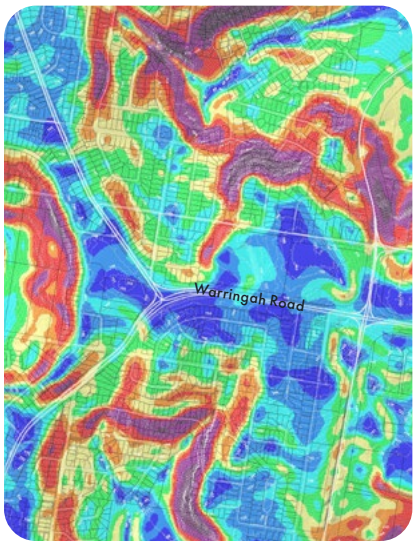


Figure 207. Frenchs Forest Slope

Figure 208. Frenchs Forest Lot Size

14.5.2 Landform and Natural Features

Frenchs Forest Strategic Centre is within the Bushland Character Zone - a location where the remnant vegetation character plays the primary role in the locations identity.

Located on the plateau on a sandstone ridge line area which runs east west. The land falls both to the north and south into incised valleys to either side of the relatively level ridge top defined by Warringah Road.

Landform and the natural environment contribute significantly to the character.

Source: Northern Beaches Local Character Study, Tract Consultants, 2020

14.5.3 Urban Form and Built Form

Street Pattern: Standard street width comprising road with kerb, parallel parking and verge with street tree planting and footpath.

Streetscape: Grid Development Pattern with connections limited by topography. Warringah Road, the major arterial, constructed partially in trench and forms a significant division between the southern and northern sides. Noise walls line frontage of residential properties to the south increasing this division.

Density: The density of the area is predominantly suburban residential which becomes the only land use as you move from the ridge and into the steeper more undulating terrain of the adjoining valleys and spur lines.

Architectural Styles: Bushland Character Area - Currently experiencing significant change as a result of the establishment of the new Northern Beaches Hospital and the impacts of the Warringah Road upgrade.

A Structure Plan has been established which indicates further change is anticipated to take advantage of this new infrastructure increasing density and providing an urban precinct.

Source: Northern Beaches Local Character Study, Tract Consultants, 2020

Figure 209. Frenchs Forest Built Form Site Photos

Figure 210. Frenchs Forest Building Height

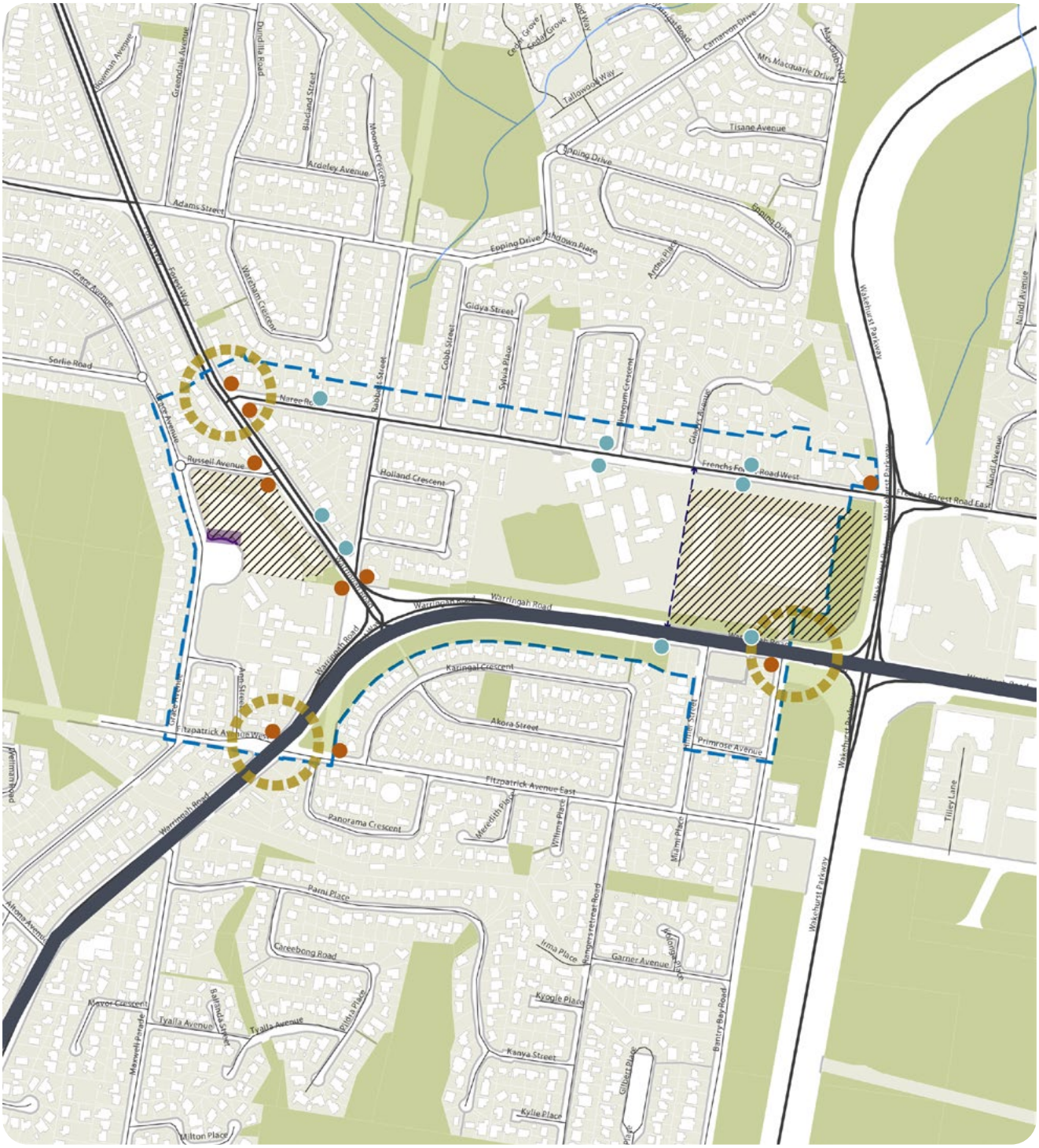
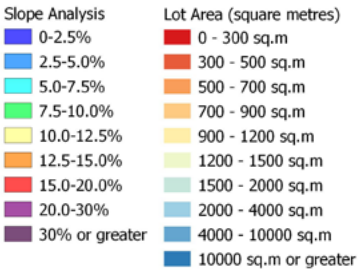


Figure 211. Frenchs Forest Strategic Centre Urban and Built Form Analysis

14.6 Avalon Local Centre

Avalon is a Local Centre which provides day to-day access to goods and services for the local community and offers greater diversity of use and density than smaller neighbourhood centres.



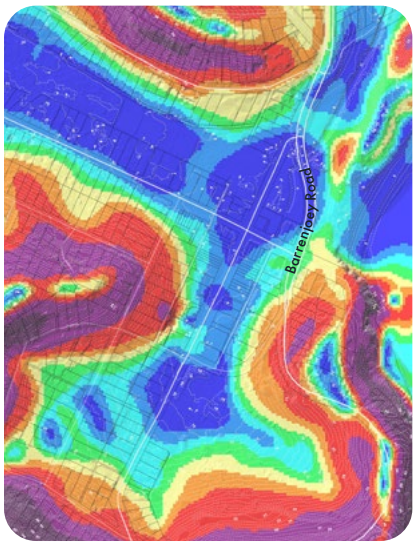


Figure 212. Avalon Slope

Figure 213. Avalon Lot Size

14.6.1 Landform and Natural Features

Avalon Local Centre is within the Coastal Landscape Character Zone.

The Local Centre is nestled within a valley behind the tail of Bilgola Headland to the east and surrounding escarpment to the north, south and west. It is characterised by a unique village lifestyle with a small urban centre predominant tree canopy cover to most of the area.

The opportunity to obtain desirable views of the coastline is limited due to its location within a valley relative to the surrounding topography and permissible building heights.

Source: Northern Beaches Local Character Study, Tract Consultants, 2020

14.6.2 Urban Form and Built Form

Street Pattern: Grid Development Pattern with Barrenjoey Road acting as the major arterial road which runs parallel with Old Barrenjoey Road

Streetscape: Standard width comprising road with kerb, parallel parking and verge with street tree planting and footpath

Density: Avalon Local Centre is currently transitioning from predominantly suburban to urban scale as demonstrated by several 3-storey mixed-use developments located to the south of Simmonds Lane along Old Barrenjoey Road.

Avalon Local Centre has a highly desirable variation in built form limited between 1-3 storeys. This reflects the mix of styles, forms and functions that are representative of varying time periods. It contributes to a rich and layered built context which reinforces its strong coastal village character.

Architectural Styles: Coastal Character Area - Combination of Pre-War, Post-War and Contemporary building types.

Source: Northern Beaches Local Character Study, Tract Consultants, 2020

Figure 214. Avalon Built Form Site Photos

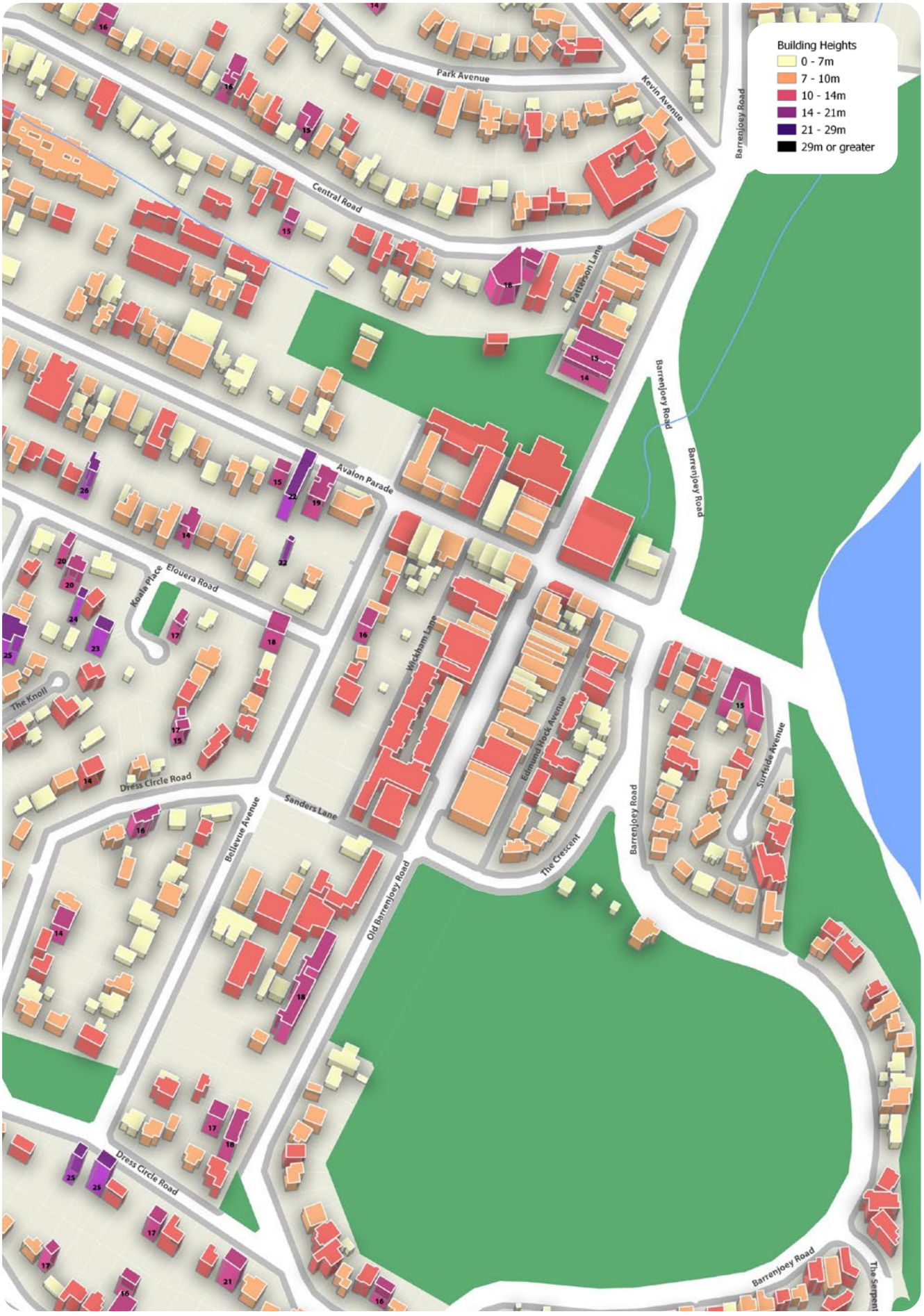


Figure 215. Avalon Building Height

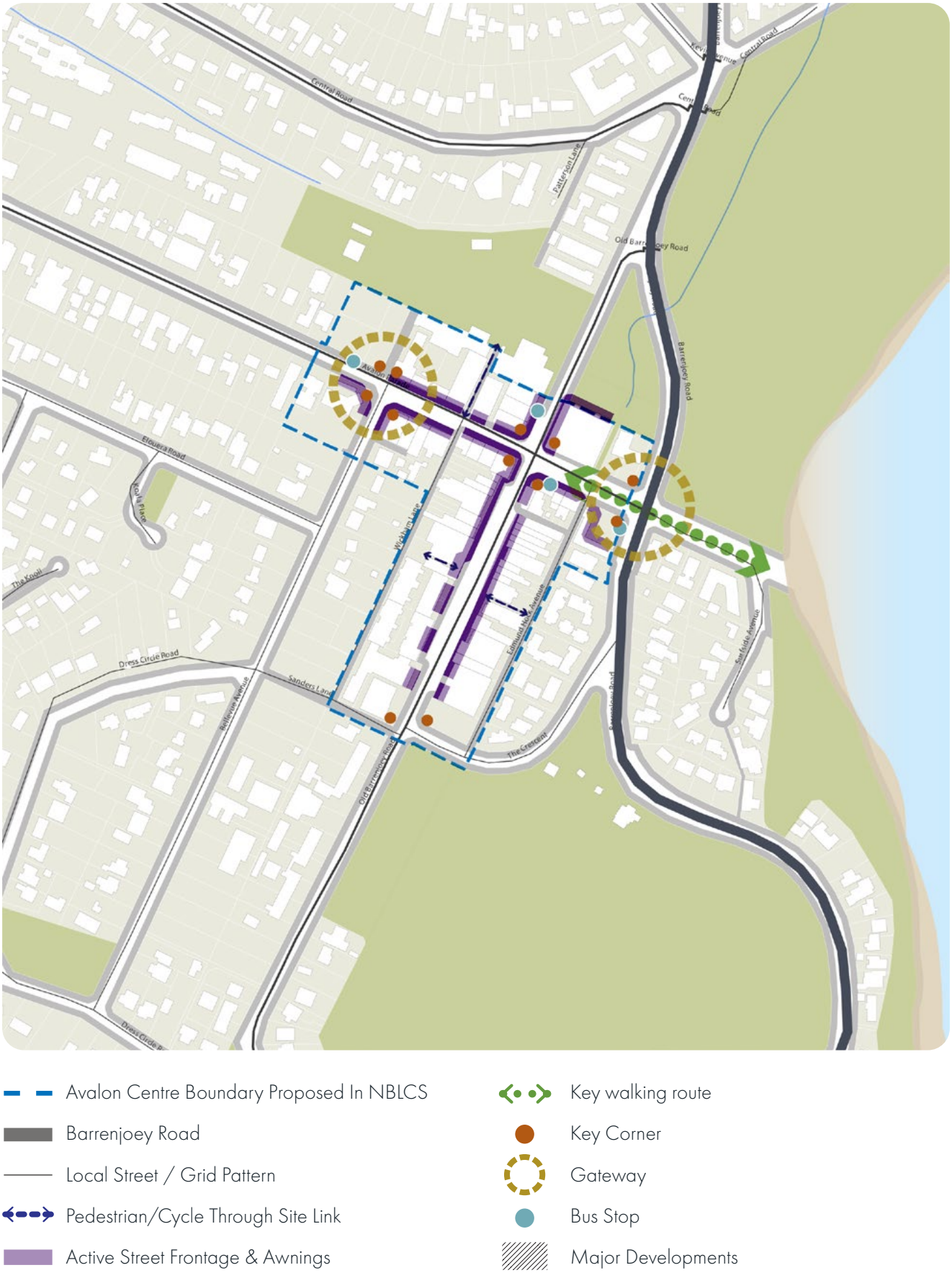
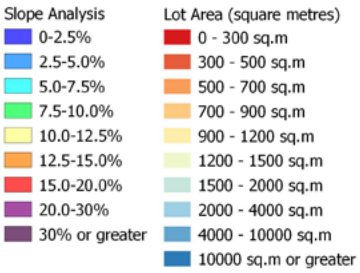


Figure 216. Avalon Local Centre Urban and Built Form Analysis

14.7 Newport Local Centre

Newport is identified as a Local Centre which provides day to-day access to goods and services for the local community and offers greater diversity of use and density than smaller neighbourhood centres. Newport is the target of an NBC-run activation plan to establish partnerships with businesses.



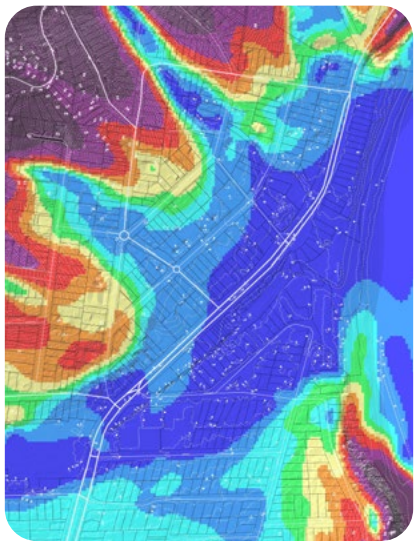


Figure 217. Newport Slope

Figure 218. Newport Lot Size

14.7.1 Landform and Natural Features

Newport Local Centre is within the Coastal Landscape Character Zone.

Newport Local Centre Place Boundary is located at the base of converging valleys from the north, south and west and positioned behind Newport Beach to the East.

The local centre is constrained to the west by the escarpment and has subsequently been developed in response to Barrenjoey Road.

Source: Northern Beaches Local Character Study, Tract Consultants, 2020

14.7.2 Urban Form and Built Form

Street Pattern: Grid Development Pattern with Barrenjoey Road serving as the major arterial road which runs through the middle of the local centre/retail strip.

Streetscape: Standard width comprising road with kerb, planting within the central median, parallel parking and verge with street tree planting and footpath.

Density: Newport Local Centre is continuing to transition from suburban to predominantly urban scale as demonstrated by the many 3-storey shop-top mixed-use developments located to the east and west of the strip.

Newport Local Centre has variation in built form which is limited between 1-4 storeys and reflects a mix of styles and functions that are representative of a predominantly post-war period reinforcing a strong coastal character.

Architectural Styles: Coastal Character Area - Combination of predominantly 1-2 storey Post-War buildings with Contemporary 3-4 storey shop-top buildings

Source: Northern Beaches Local Character Study, Tract Consultants, 2020

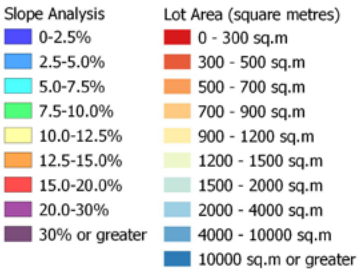
Figure 219. Newport Built Form Site Photos

Figure 220. Newport Building Height

Figure 221. Newport Local Centre Urban and Built Form Analysis

14.8 Warriewood Local Centre

Warriewood is a Local Centre. Warriewood Square has been identified as the centre due to its scale and services offered to support the requirements of a local centre.



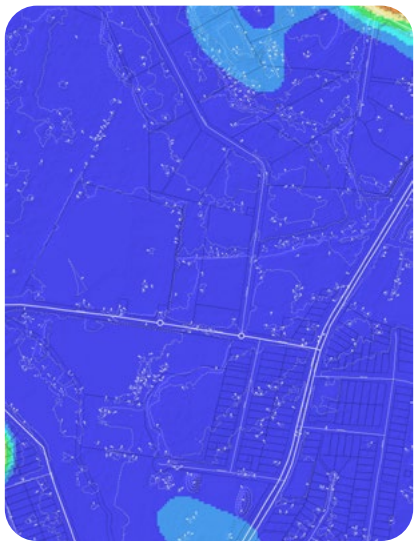


Figure 222. Warriewood Slope

Figure 223. Warriewood Lot Size

14.8.1 Landform and Natural Features

Warriewood Local Centre is within two natural character zones: Waterway and Bushland.

The Local Centre is located within a valley (reclaimed wetlands) with very little topographical variation. The opportunity to obtain desirable views of natural assets such as the lagoon or coast is inhibited due to the centre's location, surrounding landform and built environment.

Source: Northern Beaches Local Character Study, Tract Consultants, 2020

14.8.2 Urban Form and Built Form

Street Pattern: Grid Development Pattern with high pedestrian permeability as local centre remains undeveloped.

Streetscape: Jackson Road has a wide width comprising kerb, limited parallel parking and verge with street tree planting and footpath. Boondah Road has a wide width with perpendicular parking and no formal edge condition.

Density: Warriewood Local Centre is comprised of urban scale retail, residential community services and recreational open space.

The local centre is surrounded by suburban residential comprising 1-2 storey single dwellings and recreational open space to the east and south, wetlands to the west and some rural residential lands / council depot to the north.

Architectural Styles: Bushland / Waterway Character Area - Major retail offers contemporary shopping centre with post-war community service buildings.

Source: Northern Beaches Local Character Study, Tract Consultants, 2020

Figure 224. Warriewood Built Form Site Photos

Figure 225. Warriewood Building Height

Warriewood Centre Boundary Proposed In NBLCS

Pittwater Road

Local Street / Grid Pattern

Pedestrian/Cycle Through Site Link

Active Street Frontage & Awnings

Key walking route

Key Corner

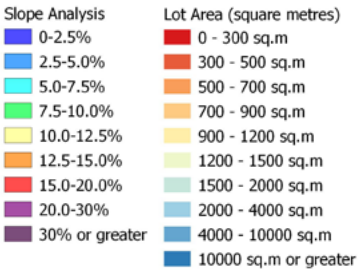
Bus Stop

Major Developments

Figure 226. Warriewood Local Centre Urban and Built Form Analysis

14.9 Narrabeen Local Centre

Narrabeen is a Local Centre off Waterloo Street and Pittwater Road. The centre consists of five B2 zoned blocks. Waterloo Street and Pittwater Road include a variety of mixed uses offering goods and services for the local community to meet their day-to-day needs.



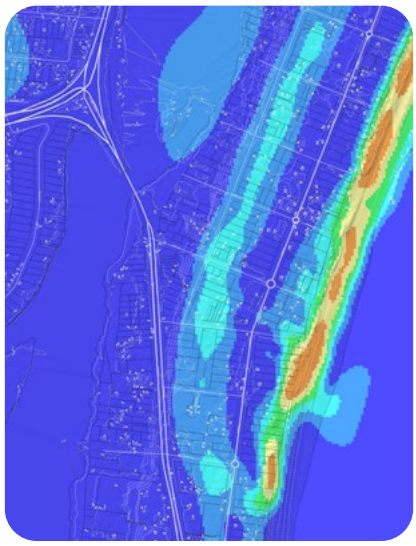


Figure 227. Narrabeen Slope

Figure 228. Narrabeen Lot Size

14.9.1 Landform and Natural Features

Narrabeen Local Centre is within the Waterway Character Zone to the west and the Coastal Character Zone to the east of Lagoon Street and Pittwater Road (south of Albert Street).

The Local Centre is located on a peninsula between Narrabeen Beach to the east, Narrabeen Lagoon to the west, Wellington Street to the north and Albert Street to the south. The local centre has a westerly aspect and obtains highly desirable 180° view across the lagoon towards the bushland escarpment beyond.

Source: Northern Beaches Local Character Study, Tract Consultants, 2020

14.9.2 Urban Form and Built Form

Street Pattern: Grid Development Pattern with Pittwater Road serving as the major arterial road which runs through the western side of the local centre.

Streetscape: Standard width comprising road with kerb, parallel parking and verge with limited street tree planting and either footpath or paved verge.

Density: Narrabeen Local Centre is predominantly low density 1-2 storey urban mixed-use terraces with a variety of 2-3 storey urban mixed-use shop-top multi-dwelling unit blocks.

Narrabeen Local Centre has a variety of built forms between 1-3 storeys and reflects a mix of styles and functions that are representative of a predominantly post-war period.

The local centre is surrounded by a mix of urban residential 2-3 storey multi-dwelling unit blocks and suburban1-2 storey single dwellings to the north, east and south.

Architectural Styles: Combination of Pre-War (incl. Heritage listings at 65 & 67 Waterloo Street), Post-War and Contemporary building types.

Source: Northern Beaches Local Character Study, Tract Consultants, 2020

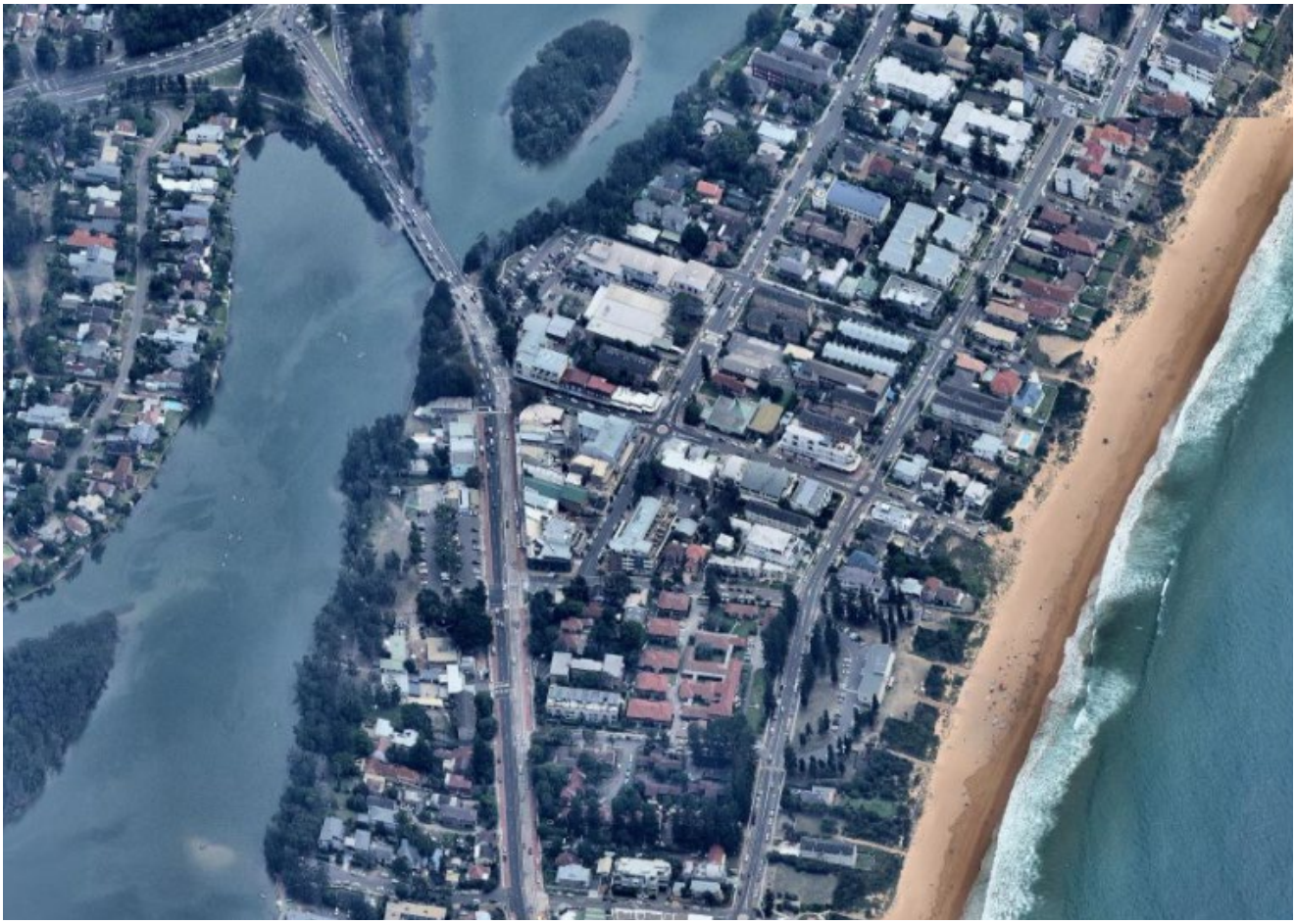


Figure 229. Narrabeen Built Form Site Photos

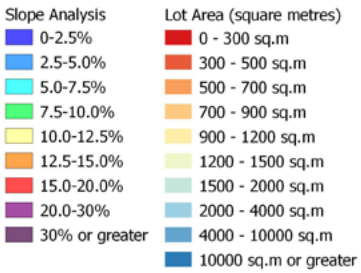
Figure 230. Narrabeen Building Height

- Narrabeen Centre Boundary Proposed In NBLCS
- Pittwater Road
- Local Street / Grid Pattern
- Pedestrian/Cycle Through Site Link
- Active Street Frontage & Awnings
- Key walking route
- Key Corner
- Gateway
- Bus Stop
- Major Developments

Figure 231. Narrabeen Local Centre Urban and Built Form Analysis

14.10 Belrose Local Centre

Belrose is a Local Centre identified by the LSPS as "Arts and Creative Precinct". The centre is anchored by Glenrose Village Shopping Centre and has strong connection with local natural landscape.



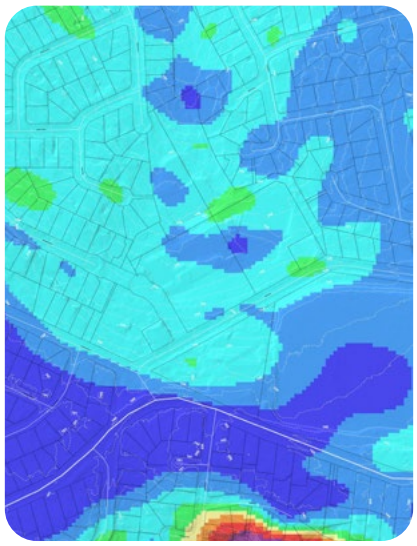


Figure 232. Belrose Slope

Figure 233. Belrose Lot Size

14.10.1 Landform and Natural Features

Belrose Local Centre Place Boundary is located upon a broad ridgeline with slight fall to the north. The opportunity to obtain desirable views of natural assets such as the local bushland is inhibited due to permissible building heights and surrounding canopy from large native tree plantings.

The retention of large native tree plantings has resulted in strong connection with the natural landscape character.

Source: Northern Beaches Local Character Study, Tract Consultants, 2020

14.10.2 Urban Form and Built Form

Street Pattern: Blackbutts Road is the major collector supported by Glen Street. The street pattern has a significant number of disconnected cul-de-sacs.

Streetscape: Glen Street as the street to access the main retail/ community facilities is dominated by surface parking on its northern side.

Density: Belrose Local Centre Place Boundary is suburban in scale and predominantly comprised of retail, surrounded by recreational open space to the north and south east, residential to the east and west, and community services to the south west.

The local centre is surrounded by suburban residential comprising 1-2 storey single dwellings with exception to a single 3-storey urban residential multi-dwelling unit block to the east.

Architectural Styles: Currently experiencing a gentrification process resulting in a combination of Post-War and Contemporary building types.

Source: Northern Beaches Local Character Study, Tract Consultants, 2020

Figure 234. Belrose Built Form Site Photos

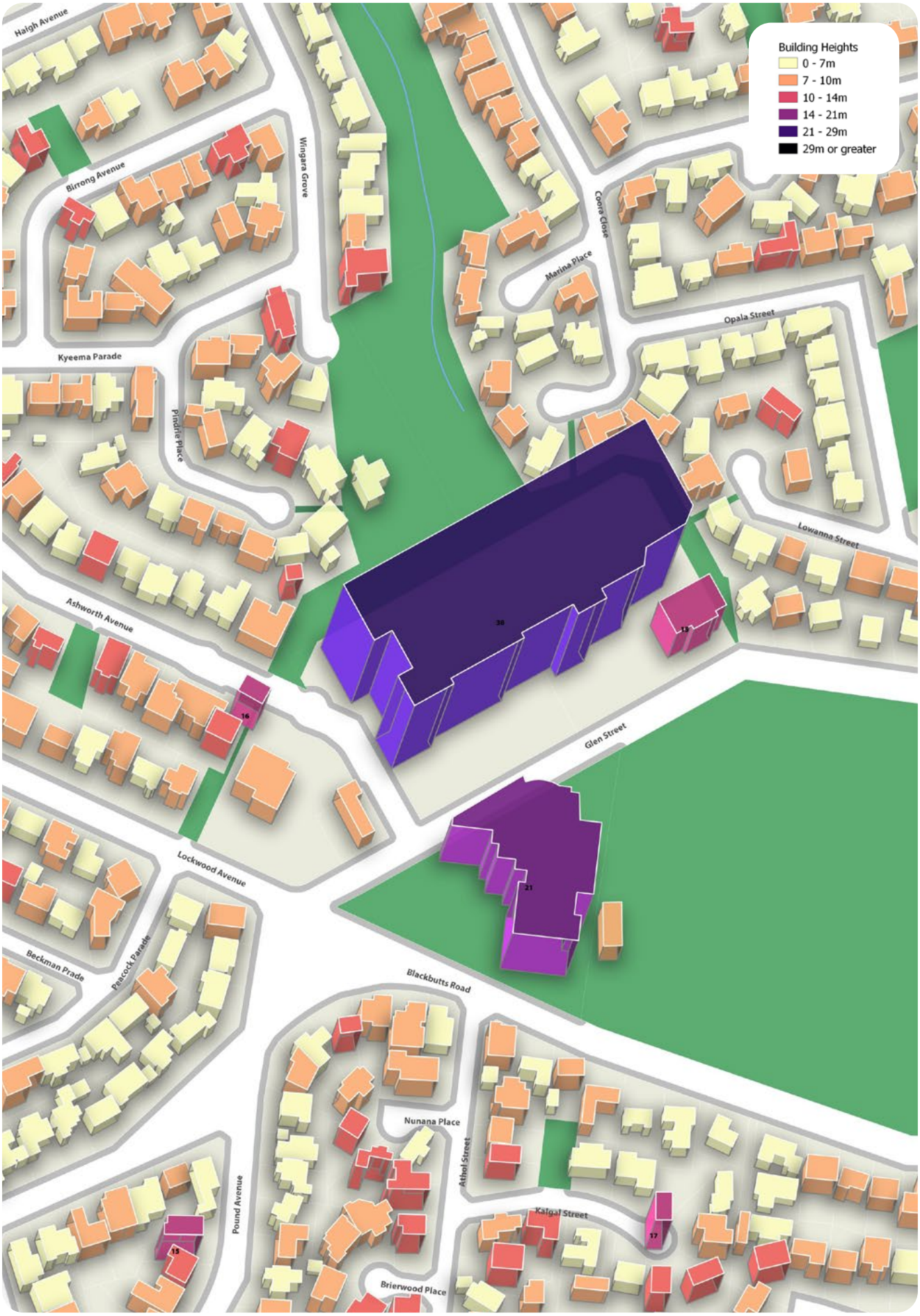
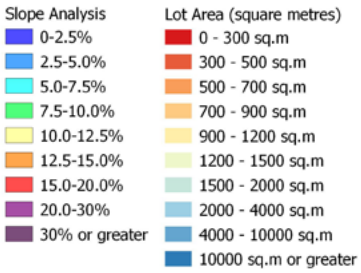


Figure 235. Belrose Building Height

Figure 236. Belrose Local Centre Urban and Built Form Analysis

14.11 Forestville Local Centre

Forestvillle is a neighbourhood retail centre structured around an outdoor pedestrian mall faced with shops on both sides. It is designated as a Local Centre, with NBC identifying it for one of its first centre activation plans to establish partnerships with businesses and the community.



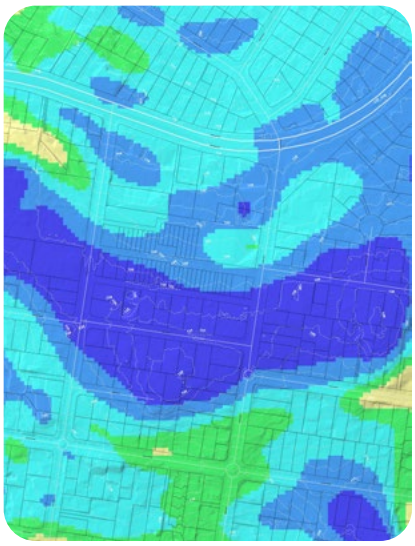


Figure 237. Forestville Slope

Figure 238. Forestville Lot Size

14.11.1 Landform and Natural Features

Forestvillle Local Centre is within the Landscape Bushland Character Zone.

The Local Centre is located upon a broad ridgeline with a slight fall to the north. The opportunity to obtain desirable views of natural assets such as the local bushland escarpment to the north is limited due to surrounding building heights but remains obtainable looking along Darley and Starkey Streets.

Source: Northern Beaches Local Character Study, Tract Consultants, 2020

14.11.2 Urban Form and Built Form

Street Pattern: Warringah Road is the main arterial road to the north of the local centre. The east and west edges of the centre are defined by Starkey and Darley Streets. Key public domain of Forestville is The Centre, a fully pedestrianised main street connecting between Starkey and Darley Streets.

Streetscape: Standard width comprising road with kerb, parallel parking and verge with street tree planting and footpath.

Density: The Local Centre is suburban in scale and predominantly comprised of retail as well as essential services, religious services, and urban residential (Northscape and Russel Place developments).

The Local Centre is predominantly surrounded by suburban residential comprising 1-2 storey single dwellings with the exception of suburban educational precinct (i.e. Forestville Public School and UnitingCare Preschool) to the west.

Architectural Styles: Bushland Character Area -Predominantly Post-War with some contemporary building types as demonstrated by urban residential redevelopments and prefabricated Coles supermarket redevelopment.

Source: Northern Beaches Local Character Study, Tract Consultants, 2020

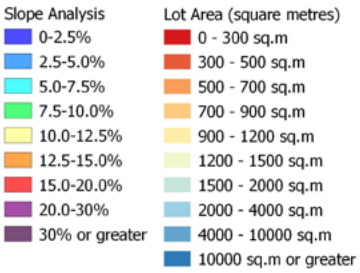
Figure 239. Forestville Built Form Site Photos

Figure 240. Forestville Building Height

Figure 241. Forestville Strategic Centre Urban and Built Form Analysis

14.12 Manly Vale Local Centre

Manly Vale is a Local Centre undergoing changes. More mixed use facilities, such as large format retail, Park and Ride facilities, have been developed along Condamine Street to take advantage of this transport corridor.



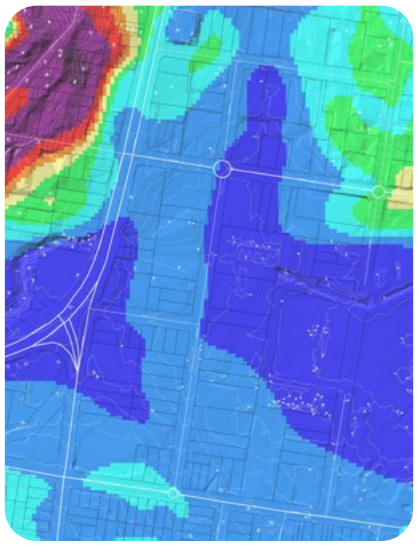


Figure 242. Manly Vale Slope

Figure 243. Manly Vale Lot Size

14.12.1 Landform and Natural Features

Manly Vale Local Centre is within the General Landscape Character Zone.

The Local Centre Place Boundary is located at the base of a valley with little topographical variation which restricts the opportunity to obtain desirable views of natural assets such as the coast or bushland.

The natural landform in association with lack of views provided the ideal opportunity for [industrial development] to occur.

Source: Northern Beaches Local Character Study, Tract Consultants, 2020

14.12.2 Urban Form and Built Form

Street Pattern: Grid Development Pattern with large impermeable blocks resulting in a coarse grain of disconnected streets providing restricted north-south movement and no east-west movement east of Roseberry Street.

Streetscape: Wide width comprising road with kerb, parallel parking and verge with footpath and limited street tree planting

Density: Predominantly 2 storey urban development throughout the Local Character Precinct with 1-4 storey urban development along [Condamine Street].

The Local Centre is predominantly urban and constrained by; urban residential to the north, suburban residential / recreational open space (Manly Golf Course) to the east and predominantly suburban residential (with some urban residential) to the west and south.

Architectural Styles: General Character Area - With a mix of Urban Mixed Use, Urban Industrial, Urban Retail, Urban Recreational Open Space and Urban Essential Services

Source: Northern Beaches Local Character Study, Tract Consultants, 2020

Figure 244. Manly Vale Built Form Site Photos

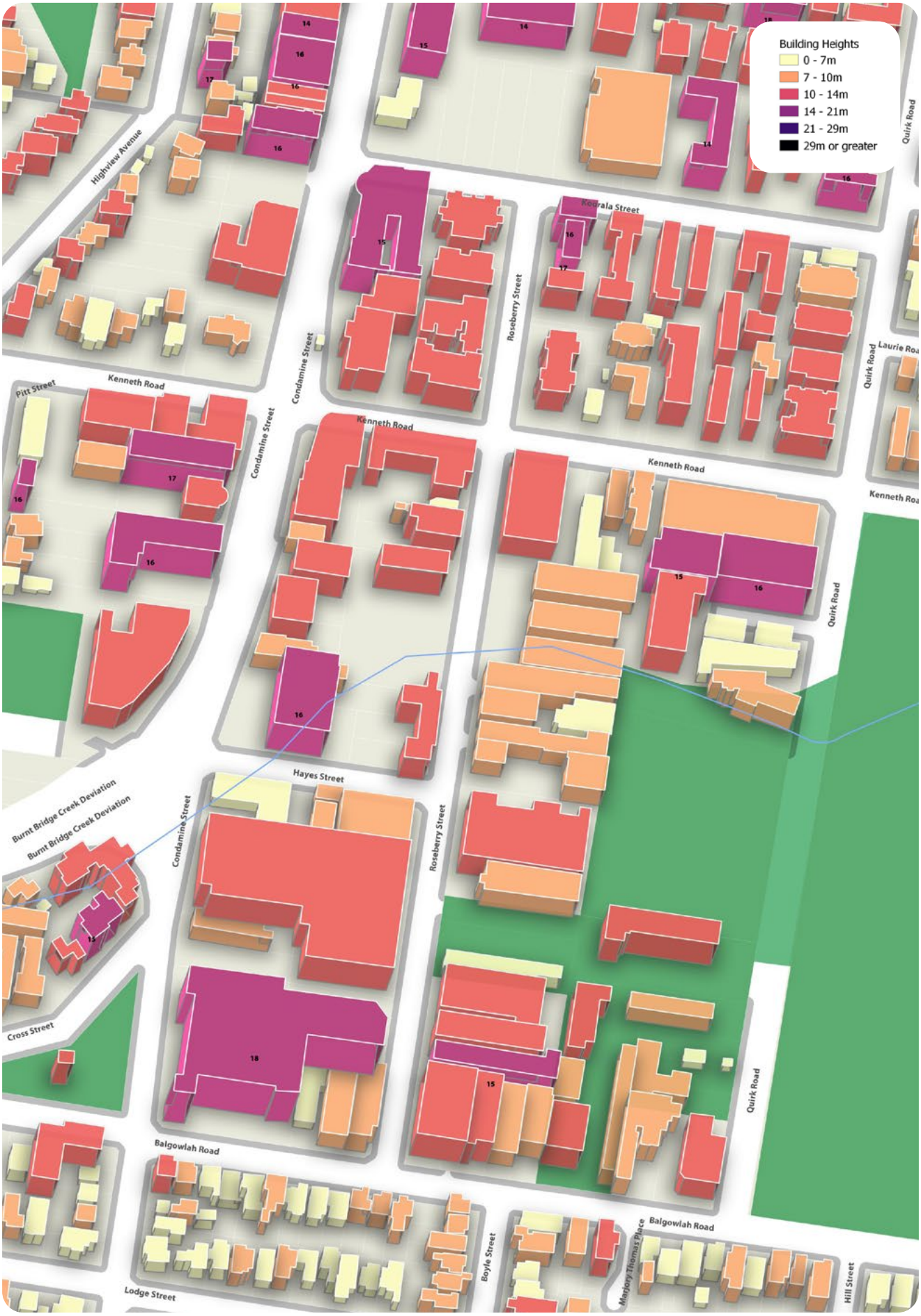


Figure 245. Manly Vale Building Height

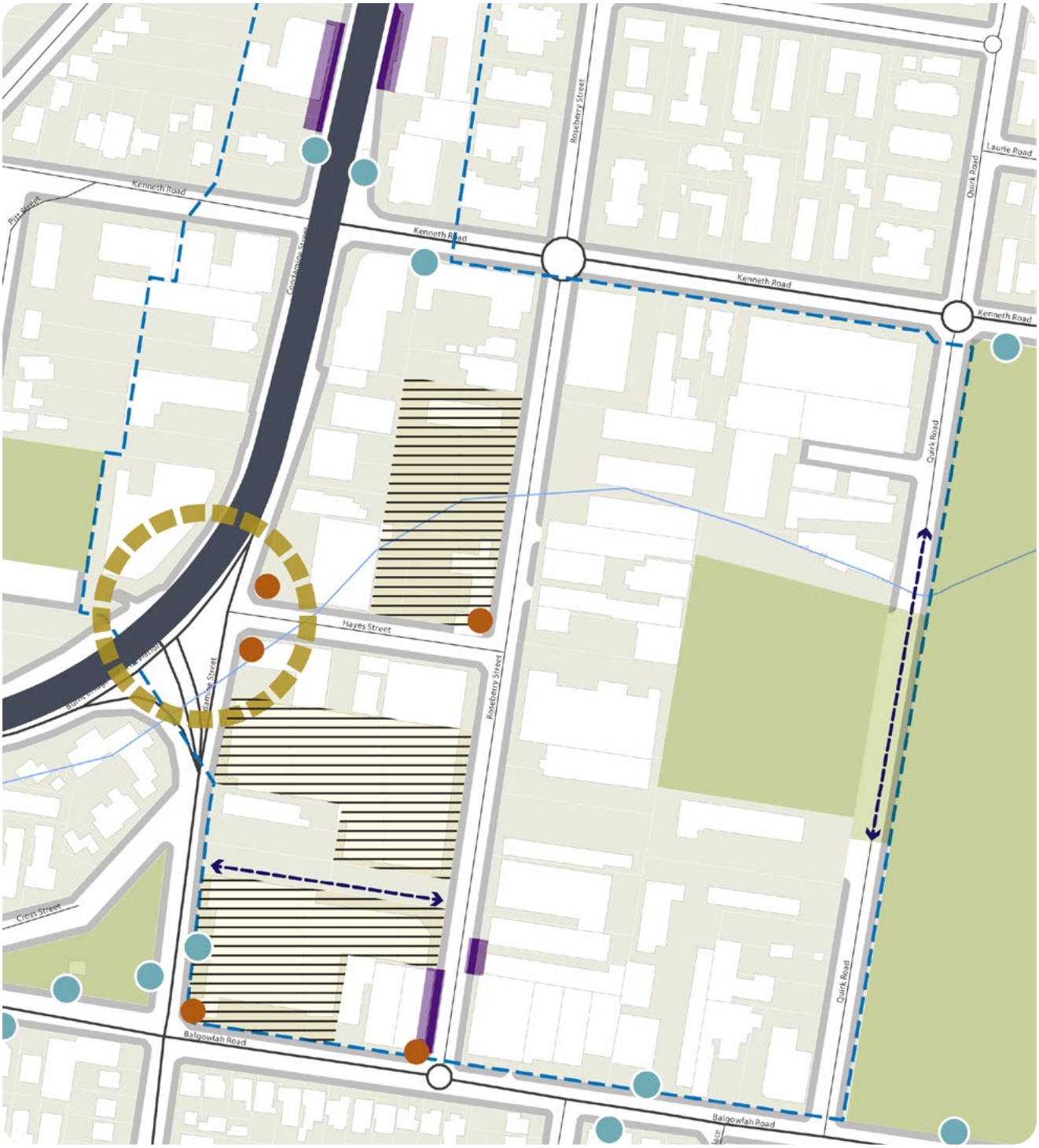
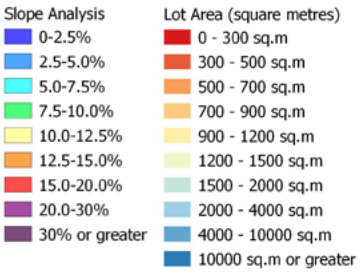


Figure 246. Manly Vale Local Centre Urban and Built Form Analysis

14.13 Balgowlah Local Centre

The local centre Balgowlah has undergone significant change in recent years which has seen an expansion of the centre to the north, away from its historic centre along Sydney Road towards an inward-facing mixed-use retail development, the Stockland Balgowlah Shopping Centre.



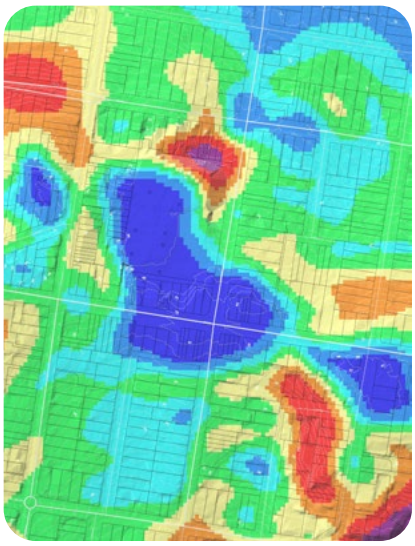


Figure 247. Balgowlah Slope

Figure 248. Balgowlah Lot Size

14.13.1 Landform and Natural Features

Balgowlah Local Centre is within Harbour and General natural character zones.

The Local Centre is located either side of a ridgeline (Sydney Road) – however, the vast majority of the centre is located on a moderate escarpment to the north of Sydney Road.

The opportunity to obtain desirable views of distant natural assets is best achieved from privately elevated positions such as residential towers but are also obtainable from podium of Stockland Balgowlah Shopping Centre and also along Condamine Street.

Source: Northern Beaches Local Character Study, Tract Consultants, 2020

14.13.2 Urban Form and Built Form

Street Pattern: Grid Development Pattern with Sydney Road acting as the local arterial road servicing east/west direction intersected with Condamine street servicing north south direction.

Streetscape: Standard width comprising road with kerb, parallel parking and verge with street tree planting and footpath.

Density: The Local Centre has experienced significant transformation from traditionally low-scale urban density associated with established built forms (as found on Sydney Road) to high-scale urban density as demonstrated in more recent developments such as Stockland Balgowlah Shopping Centre.

Architectural Styles: Harbour Character Area - Typically, 2 storey Pre-War shop-top.

General Character Area: Predominantly 1-2 storey Pre-War buildings,

Source: Northern Beaches Local Character Study, Tract Consultants, 2020

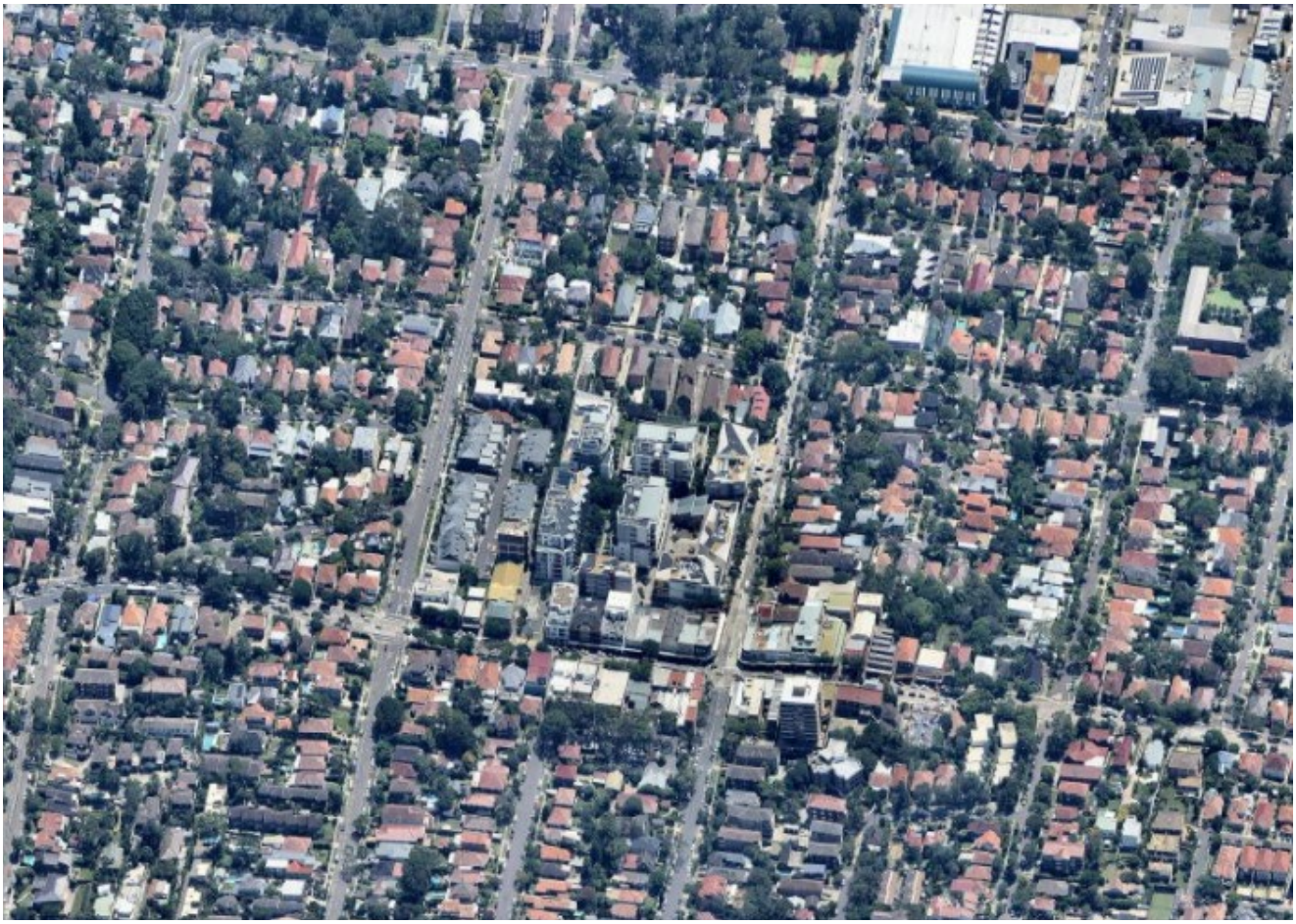


Figure 249. Balgowlah Built Form Site Photos

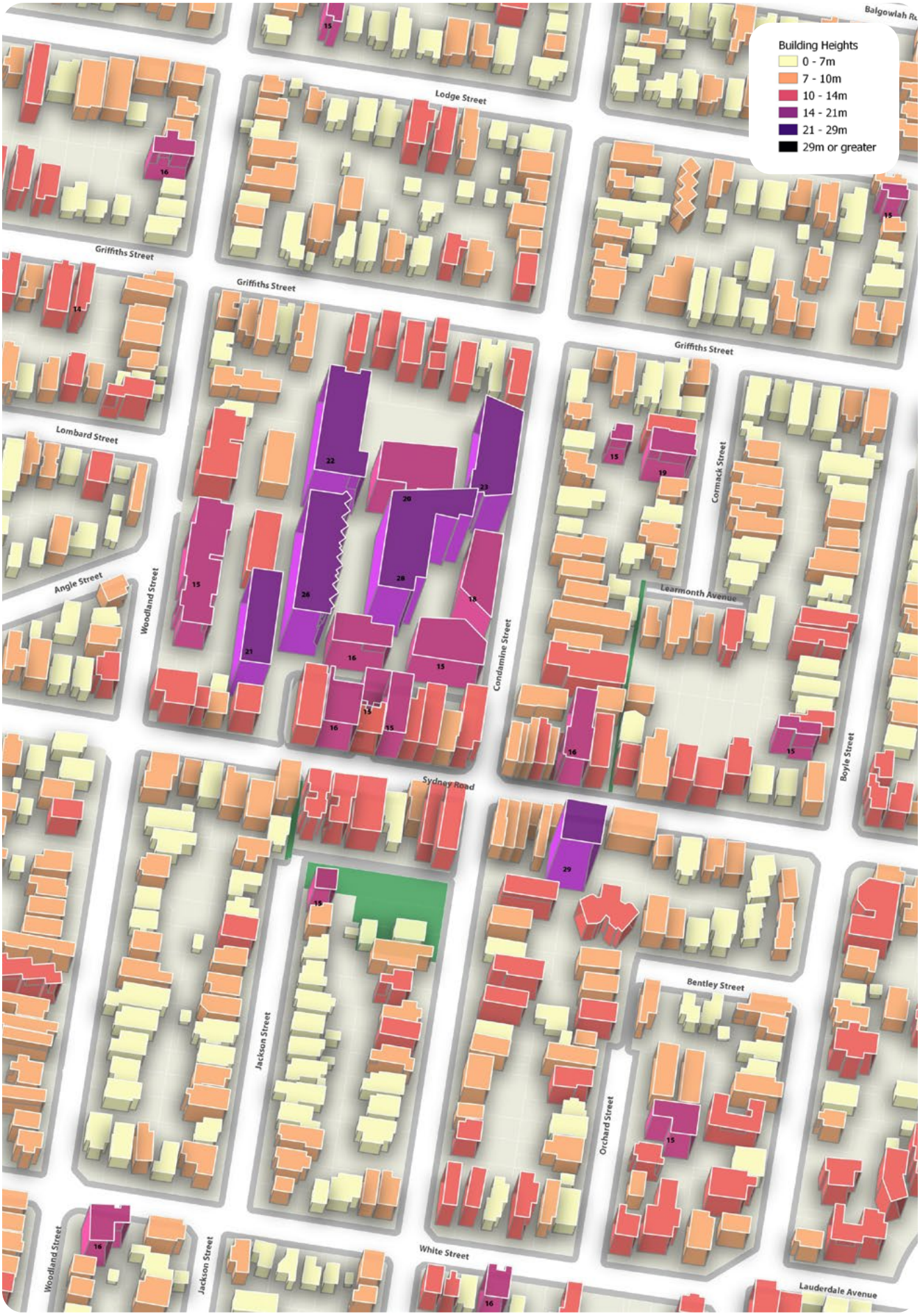


Figure 250. Balgowlah Building Height

Balgowlah Centre Boundary Proposed In NBLCS

Sydney Road

Local Street / Grid Pattern

Pedestrian/Cycle Through Site Link

Active Street Frontage & Awnings

Key walking route

Key Corner

Gateway

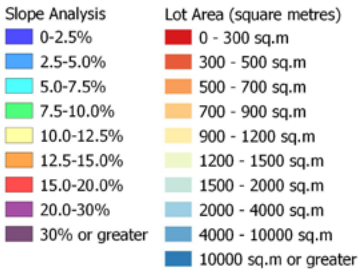
Bus Stop

Major Developments

Figure 251. Balgowlah Local Centre Urban and Built Form Analysis

.14 Freshwater Local Centre

Freshwater has been identified as a Local Centre. It is located across Albert St and is linked to Queenscliff Bay via Moore Road. It is a relatively quiet village away from the main roads of this area, such as Pittwater Road. Freshwater services the local community with a variety of shops, offices and businesses.



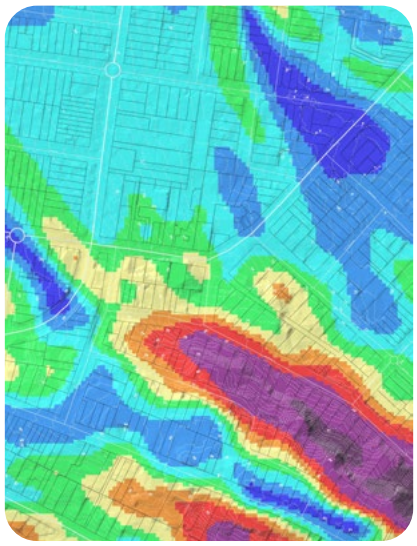


Figure 252. Freshwater Slope

Figure 253. Freshwater Lot Size

14.14.1 LandformandNatural Features

Freshwater Local Centre is within the Coastal Landscape Character Zone.

The Local Centre is located upon a shallow escarpment at the base of Queenscliff Headland as it transitions to valley.

The local centre has been developed either side of Lawrence Street / Albert Street.

Source: Northern Beaches Local Character Study, Tract Consultants, 2020

14.14.2 UrbanFormandBuilt Form

Street Pattern: Modified Grid Development Pattern Lawrence Street / Albert Street is the main collector road which runs through the middle of the local centre/retail strip and intersects with Oliver Street which acts as another collector road to the west.

Streetscape: Standard width comprising road with kerb, parallel parking and verge with street tree planting and footpath.

Density: Freshwater Local Centre is continuing to transition from predominantly suburban to urban centre.

The local centre has variation in built form which is limited between 1-3 storeys and reflects a mix of styles and functions that are representative of a predominantly post-war period.

The local centre is currently experiencing a gentrification process as demonstrated by recent developments such as Oceans Freshwater.

Architectural Styles: Coastal Character Area -Combination of predominantly 1-2 storey Post-War buildings with Contemporary 2-3 storey shop-top housing

Source: Northern Beaches Local Character Study, Tract Consultants, 2020

Figure 254. Balgowlah Built Form Site Photos

Figure 255. Freshwater Building Height

Figure 256. Freshwater Strategic Centre Urban and Built Form Analysis