

ATTACHMENT H(5)

Draft Kingsford South HIA Urban Design Analysis Report



STRATEGIC PLANNING
Kingsford South
Housing Investigation Area Urban
Design Report
Planning Proposal

May 2022

Contents

1. Location	3
1.1. The HIA	3
1.2. Local context	3
2. Existing characteristics	5
2.1. Description of the investigation area	5
2.2. Topography	6
2.3. View corridors	8
2.4. Building typology	8
2.5. Subdivision pattern	9
3. Existing planning controls and considerations	11
3.1. Land use zoning	11
3.2. Height of building	11
3.3. Floor space ratio	12
3.4. Heritage	13
3.5. Flooding	14
3.6. Significant trees	17
3.7. Aircraft noise	18
3.8. Transport	18
4. Draft local character area	21
4.1. Description of the investigation area	21
5. Analysis	22
5.1. Opportunities and constraints	22
6. Strategic justification	23
7. Planning strategy	25
7.1. HIA areas of no change	25
7.2. Desired future built form character	25
7.3. Site consolidation	26
7.4. Transition to surrounding areas	26
7.5. Landscape character	26
7.6. Hill PDA Feasibility Assessment	26
8. Conclusion	28
8.1. 3D built form testing	28



8.2. Indicative Envelopes	32
8.3. Recommendation	32

1. Location

1.1. The HIA

- The Kingsford South Housing Investigation Area (HIA) is located in the central south of Randwick City, bounded by Rainbow Street, Botany Street, Apsley Street, Bunnerong Road, Sturt Street and Wallace Street.
- The HIA is divided into an eastern and western section with Anzac Parade running through the middle of the HIA. The western section of the HIA borders the Bayside LGA.

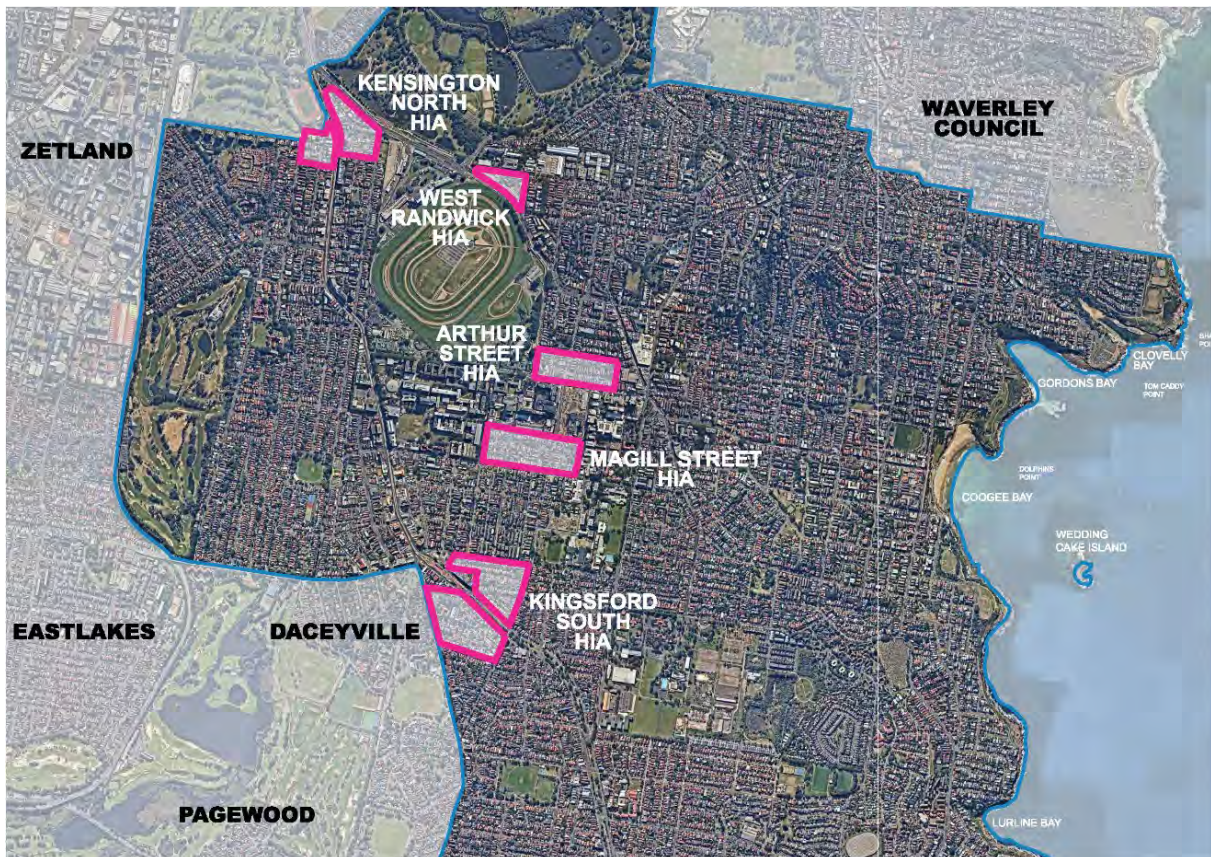


Map 1: Housing Investigation Area

1.2. Local context

- The Kingsford South HIA is located to the south of the Kingsford Town Centre, a significant urban centre with a variety of business and residential uses. A comprehensive review of the planning controls within the Kensington and Kingsford Town Centres has been recently completed (2020) with new planning controls and a development control plan that will support sustainable growth of the centres. The Strategy for the two centres establishes a new vision that will transform the two centres into vibrant, dynamic, and liveable areas with substantial community benefits valued.
- The Kingsford South HIA is directly adjacent to the 'Juniors Kingsford' terminus station of the L3 Sydney CBD and South East light rail line. The Light rail route link the HIA to Central and the CBD via Moore Park.

- The HIA is also well serviced by the local bus network, with many services running along Anzac and Bunnerong Road. The site is well connected to the north toward the city as well as the south and south-west suburbs of Maroubra, Little Bay, Eastgardens, Mascot and Sydney Airport.
- The HIA is mainly surrounded by residential land uses. Along the western boundary of the HIA is the Daceyville garden suburb, a conservation area located within the Bayside City Council LGA. In the north east corner of the HIA is Paine Reserve, an open green space and sports field. The Kingsford Souths Juniors and 11 Rainbow Street sites are located just outside the north western boundary which are included within the K2K centre.



Map 2: Local context – location of the five Housing Investigation Areas

2. Existing characteristics

2.1. Description of the investigation area

- The Kingsford South HIA is a primarily low-density residential neighbourhood. Residential lots typically comprise small building footprints, large backyards, and small landscaped frontages.
- Some commercial land uses are present within the HIA, particularly along major roads such as Anzac Parade.
- A variety of medium density residential developments also exist within the HIA such as the Land and Housing Corporation (LAHC) owned housing site on Bunnerong Road. There are also medium density walk-up apartments in the south west of the HIA on Bunnerong Road and Apsley Lane as well as some townhouse developments.
- Most residential streets are wide, two-lane thoroughfares with parking on both sides. The residential streets have many triangular connection points resulting in some irregular shaped lots.
- The HIA is strategically located and accessible, supported by excellent infrastructure including public transport options, schools, and universities as well as local commercial land uses.



Photo 1: Anzac Parade looking South East towards the HIA (Oct 2020)



Photo 2: Anzac Parade looking South West towards the HIA (Oct 2020)



Photo 3: Bunnerong Road looking South East at unused green space (Oct 2020)



Photo 4: Intersection of Jacques Street and Hayward Street, looking East (Oct 2020)



Photo 5: Wallace Street and Wallace Lane, looking East (Oct 2020)



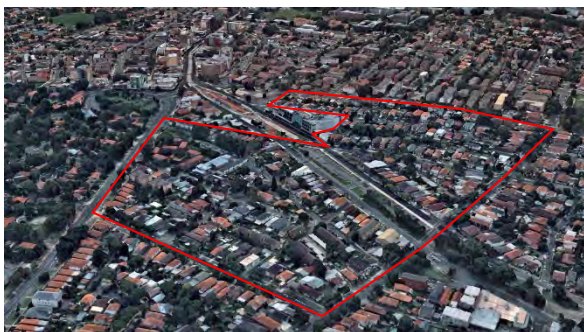
Photo 6: Intersection of Sturt Street and Botany Street (Oct 2020)



Photo 7: View with Wallace St looking West towards Anzac Pde. August 2020 (Oct 2020)



Photo 8: North eastern view from Sturt Street, showing topography management. (Oct 2020)



3D image 1, Overview of the HIA (February 2020)



3D image 2, Close up on the Juniors Kingsford site (February 2020)

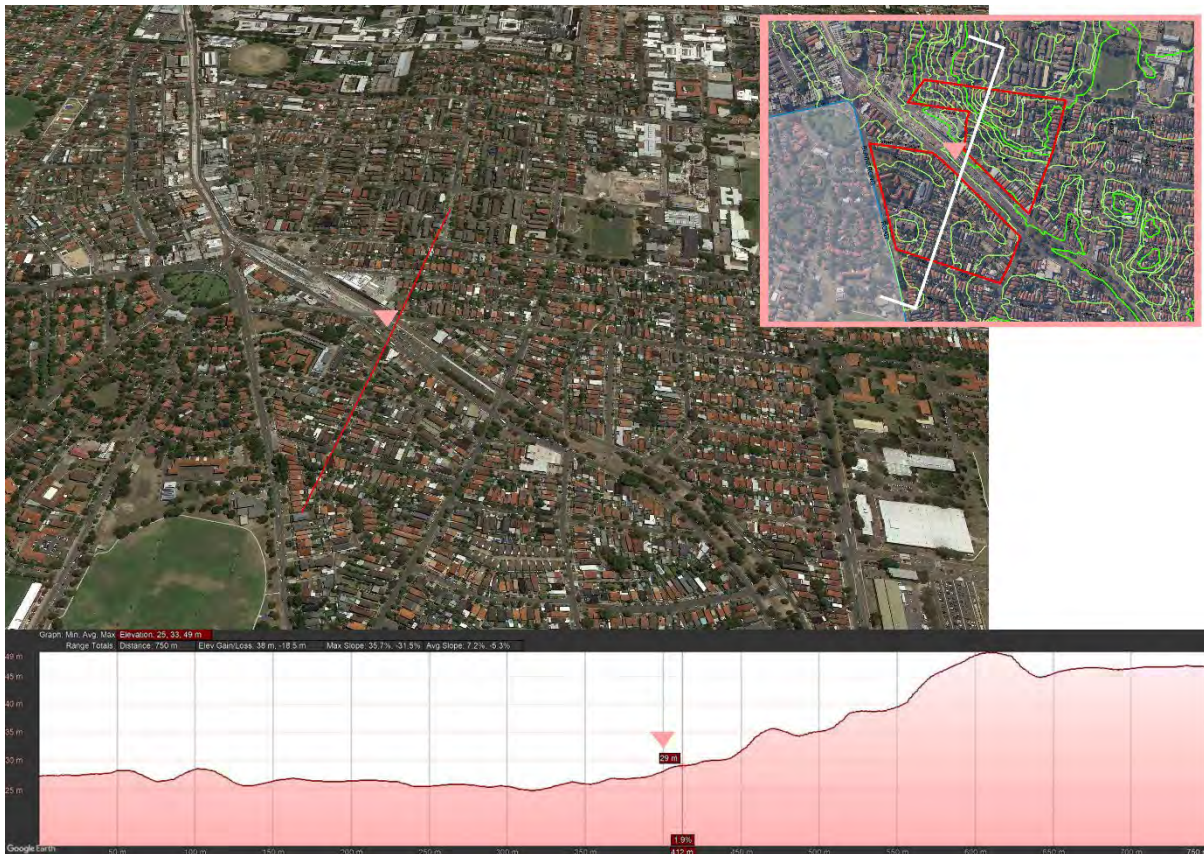
2.2. Topography

- The topography of the Kingsford South HIA differs greatly between the western and eastern sections of the HIA.
- To the west of Anzac Parade, the HIA has no significant topographic features. The terrain is relatively flat apart from a small crest on Bunnerong Road.
- The eastern section of the HIA however has very significant topographic features that impact on land use and built form of structures.

- As shown on Map 4, there is a gradual slope starting from its peak at the intersection of Rainbow Street and Kennedy Street and gradually declining in a south western direction.
- The topography is managed in a variety of ways through the HIA. Along Sturt Street, properties on the northern side of the road have retaining walls built to the property boundary or street level garages that level out the terrain.



Map 3: Topography



Map 4: Topography

2.3. View corridors

- The only significant view in the HIA is the view onto Paine Reserve from the corner of Rainbow Street and Botany Street. Beyond this, The Kingsford South HIA has no significant view corridors.

2.4. Building typology

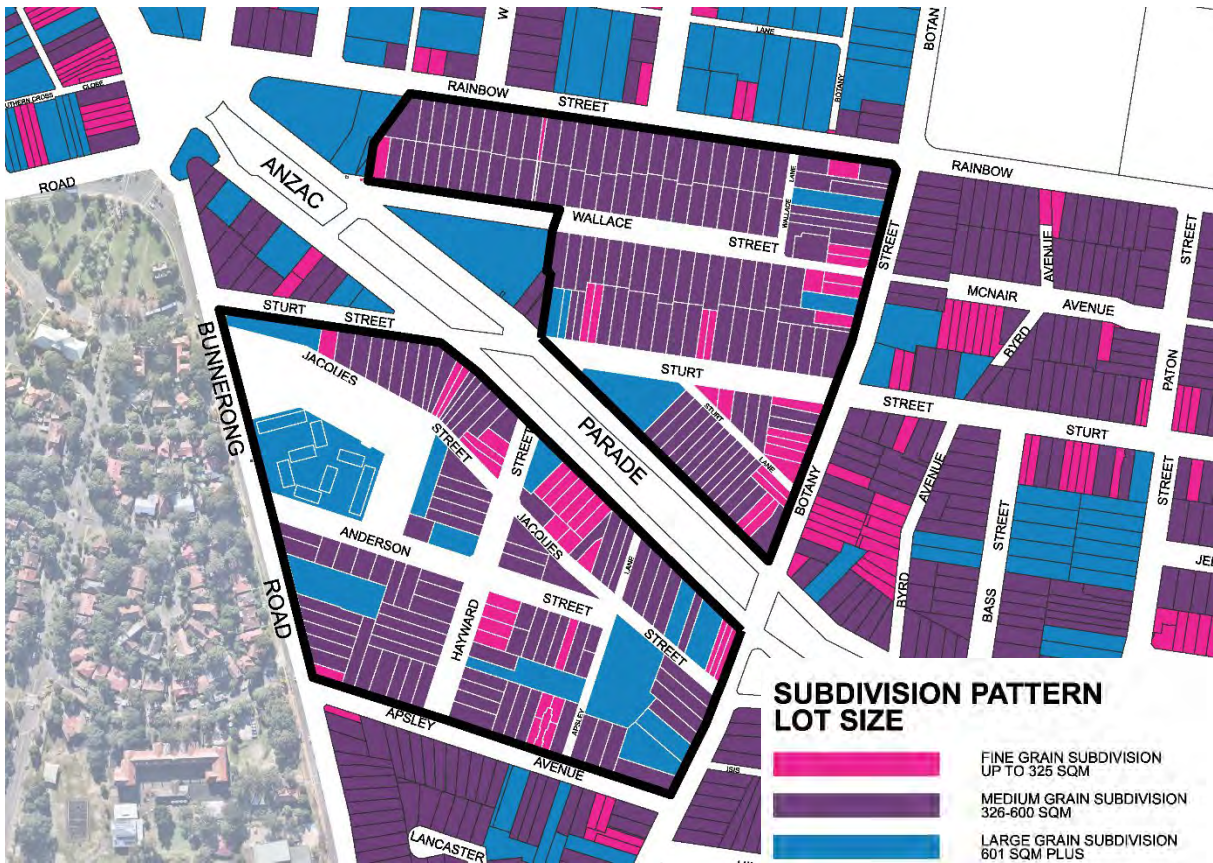
- As shown in Map 5, most of the properties in the HIA are 1-2 storey single dwelling houses. There are also some 1-2 storey semi-detached and dual occupancies present.
- Additionally, the HIA contains a small number of 3 and 4 storey walk up apartments, mainly located on the intersection of Bunnerong Road and Anderson Street.
- Of the few commercial land uses in the HIA, most are mixed use 'shop top' housing.
- The eastern section of the HIA has a consistent frontage and back yard typology pattern. Most lots have private front yards with large setbacks with high fences.
- In the western section of the HIA, there is more diversity in frontage typology. Most low-density residential lots have high front facing walls and the larger number of medium density flat buildings means that common yards are more prevalent.



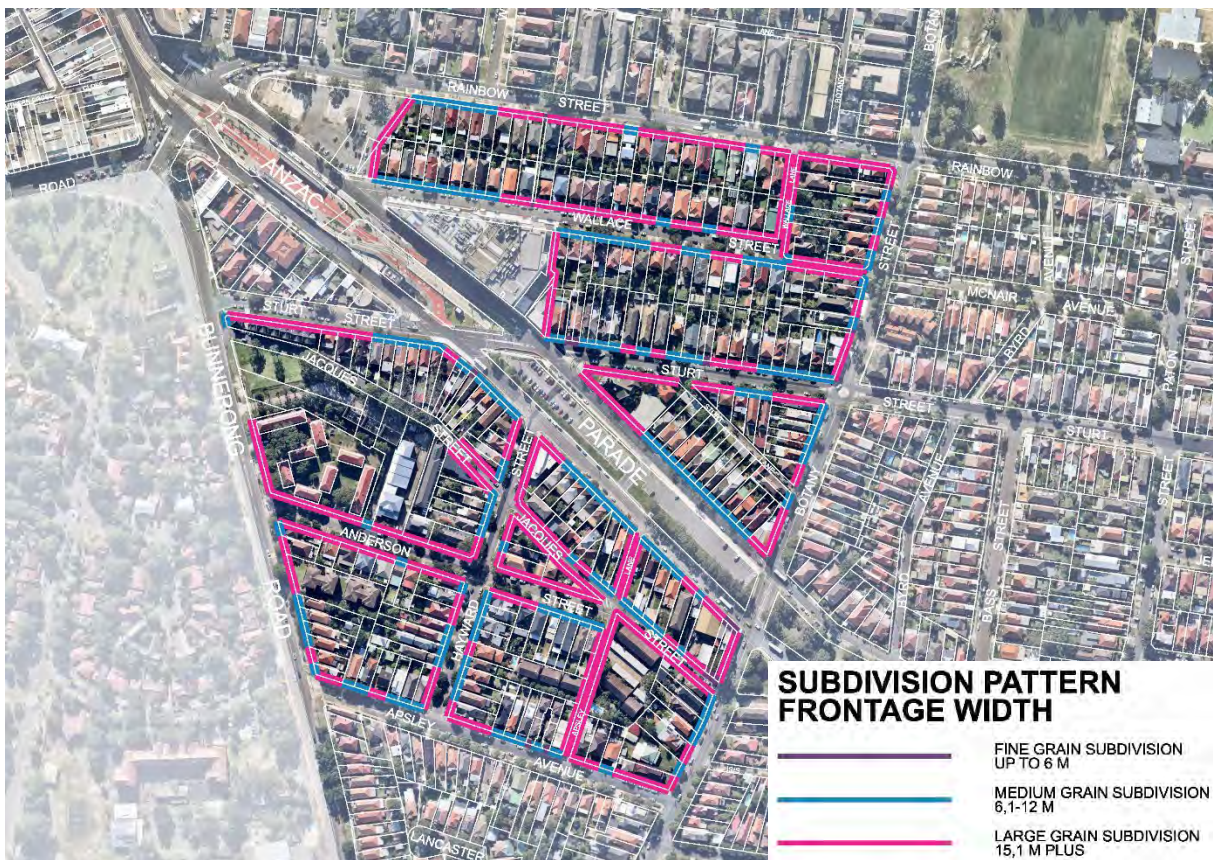
Map 5: Building typology (indicative only)

2.5. Subdivision pattern

- The Kingsford South HIA contains medium grain subdivision lots sizes, between 300 to 600m² in area.
- There are a smaller number of large and small lots scattered throughout the HIA. There is a general pattern of large lots on corners of streets as well as along main roads.
- Of the fine grain subdivision lots, many of these are semi-detached houses, particularly in the eastern section of the HIA.



Map 6: Lot sizes

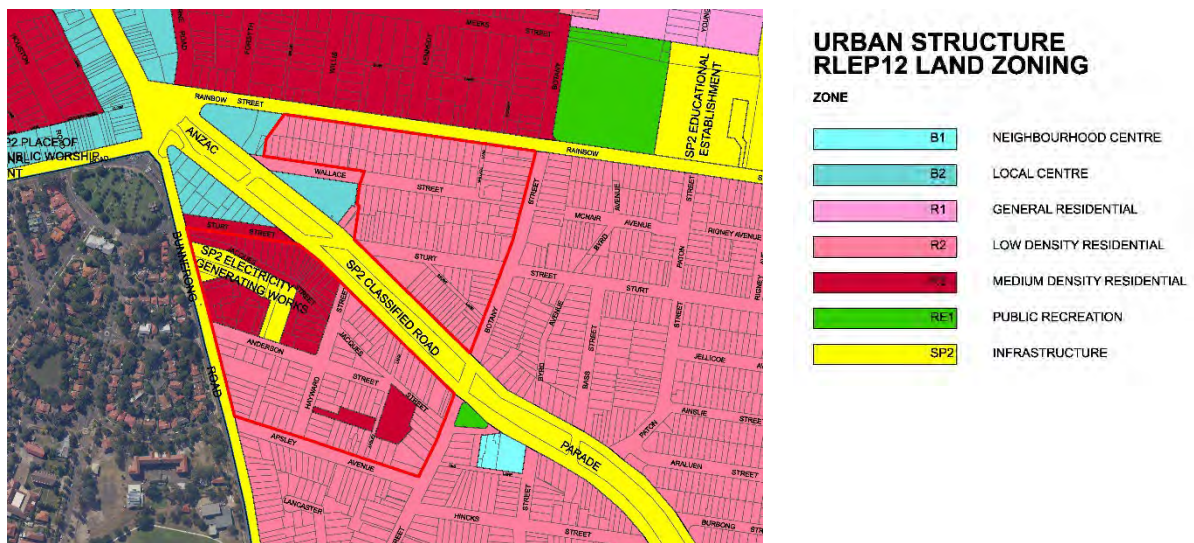


Map 7: Frontage widths

3. Existing planning controls and considerations

3.1. Land use zoning

- Most of the lots within the Kingsford South HIA are zoned R2 low density residential under Randwick LEP 2012.
- A small number of lots in the southern section of the HIA are zoned R3 Medium Density Residential, including the LAHC lands on Bunnerong Road.
- A small section of the HIA is zoned SP2 Infrastructure, in reference to the electricity generating works.

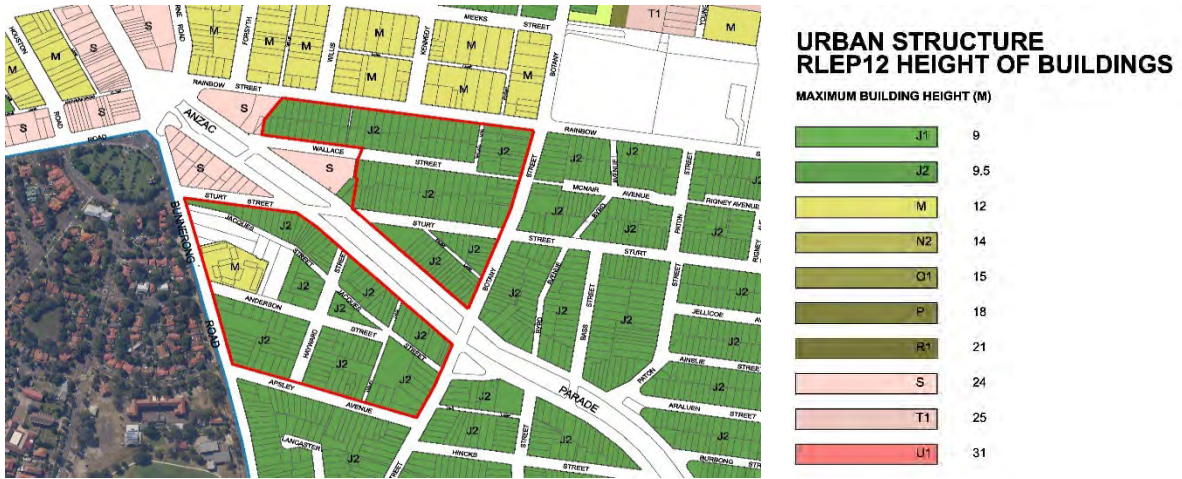


Map 8: Land use zoning under Randwick LEP 2012

Land use zoning key

3.2. Height of building

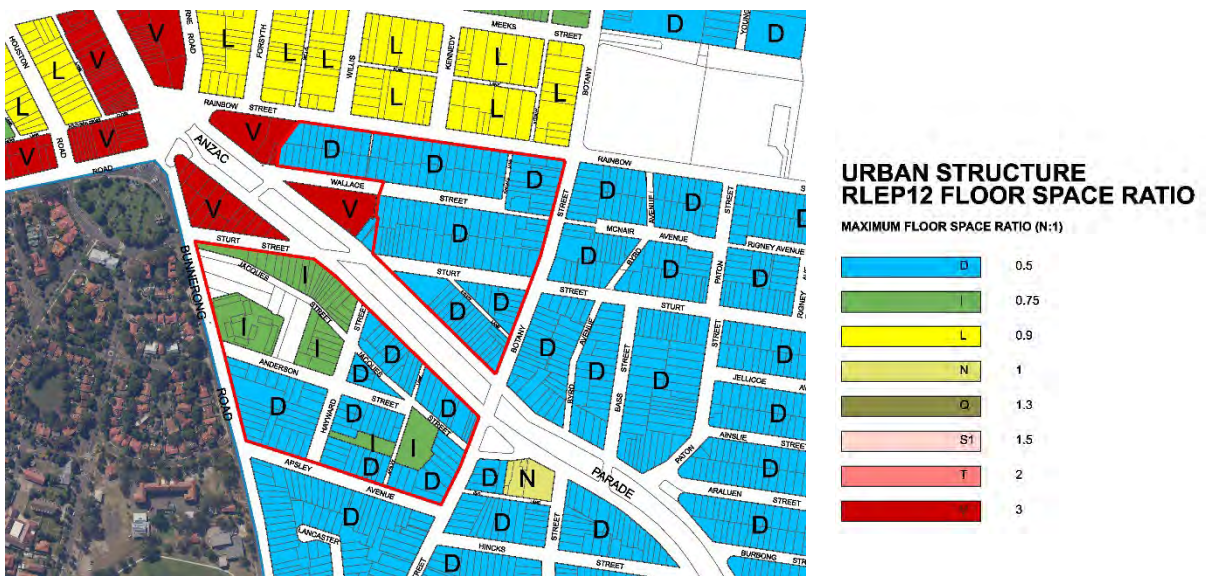
- All lots within the HIA, apart from one, have an LEP height limit of 9.5m under the Randwick LEP 2012.
- The LAHC lands on Bunnerong Road is the only lot within the HIA with a height limit of 12m.
- Some of the existing lots, specifically the 3 & 4 storey walk up apartments exceed the 9.5m height limit, reflective of when they were built (prior to the existing controls being established)



Map 9: Maximum height of buildings under Randwick LEP 2012 Height of buildings key

3.3. Floor space ratio

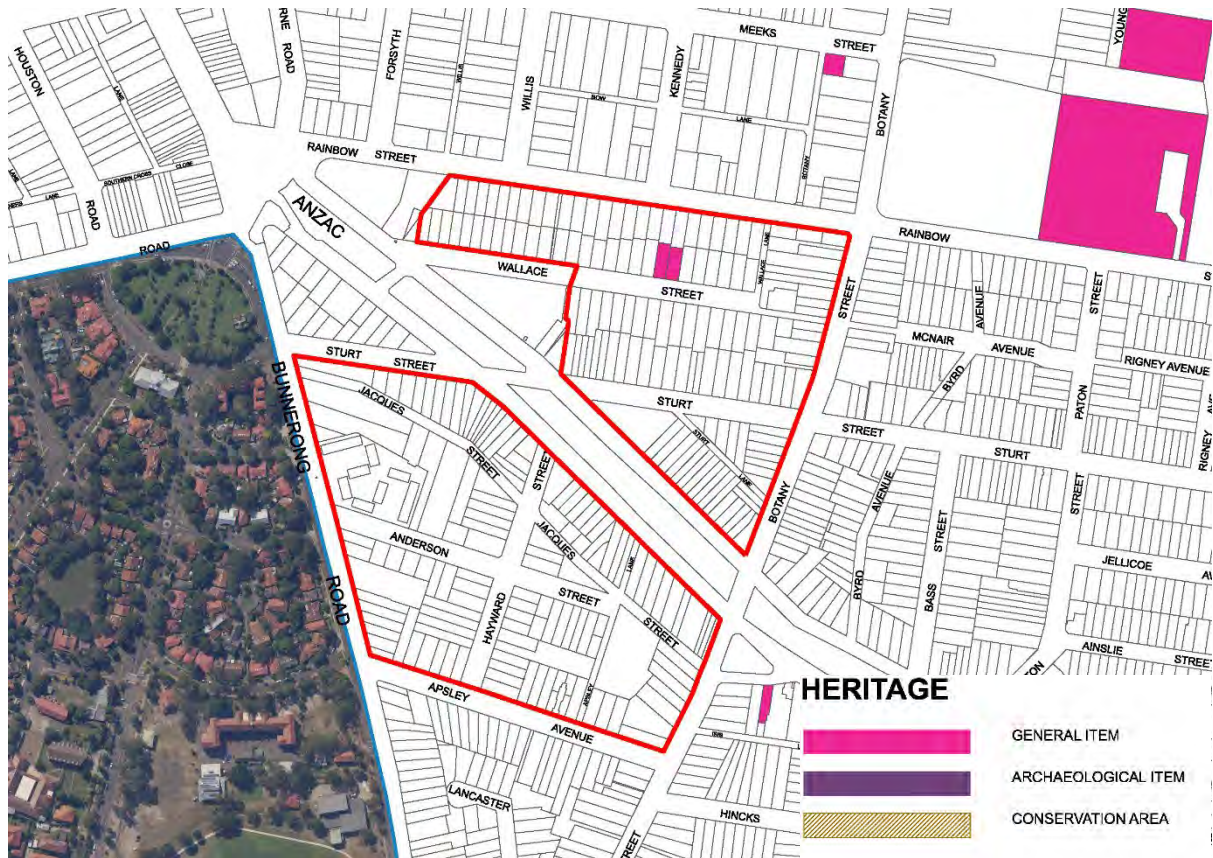
- The majority of lots within the HIA have a LEP floor space ratio of 0.5:1.
- The LAHC lands and a small number of lots in the south section of the HIA have a floor space ratio of 0.75:1.



Map 10: Maximum floor space ratio under Randwick LEP 2012 Floor space ratio key

3.4. Heritage

- As shown in Map 11, there are two lots with heritage listed items under Randwick LEP 2012 known as 42 & 44 Wallace Street.
 - 42 Wallace Street is a free standing 1 storey house, with white column features.
 - 44 Wallace Street is a 2 storey walk up residential flat building with glass detailing and white columns.



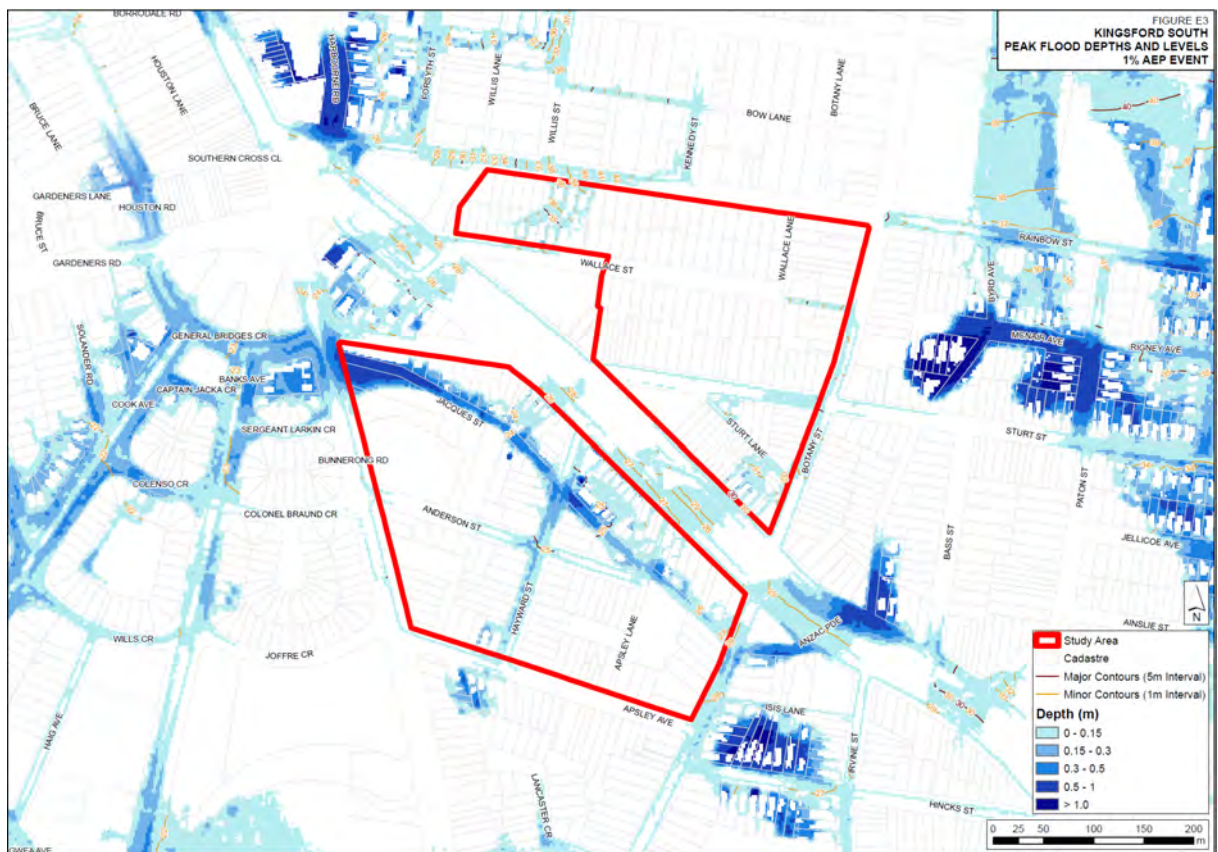
Map 11: Heritage items and conservation areas under Randwick LEP 2012

3.5. Flooding

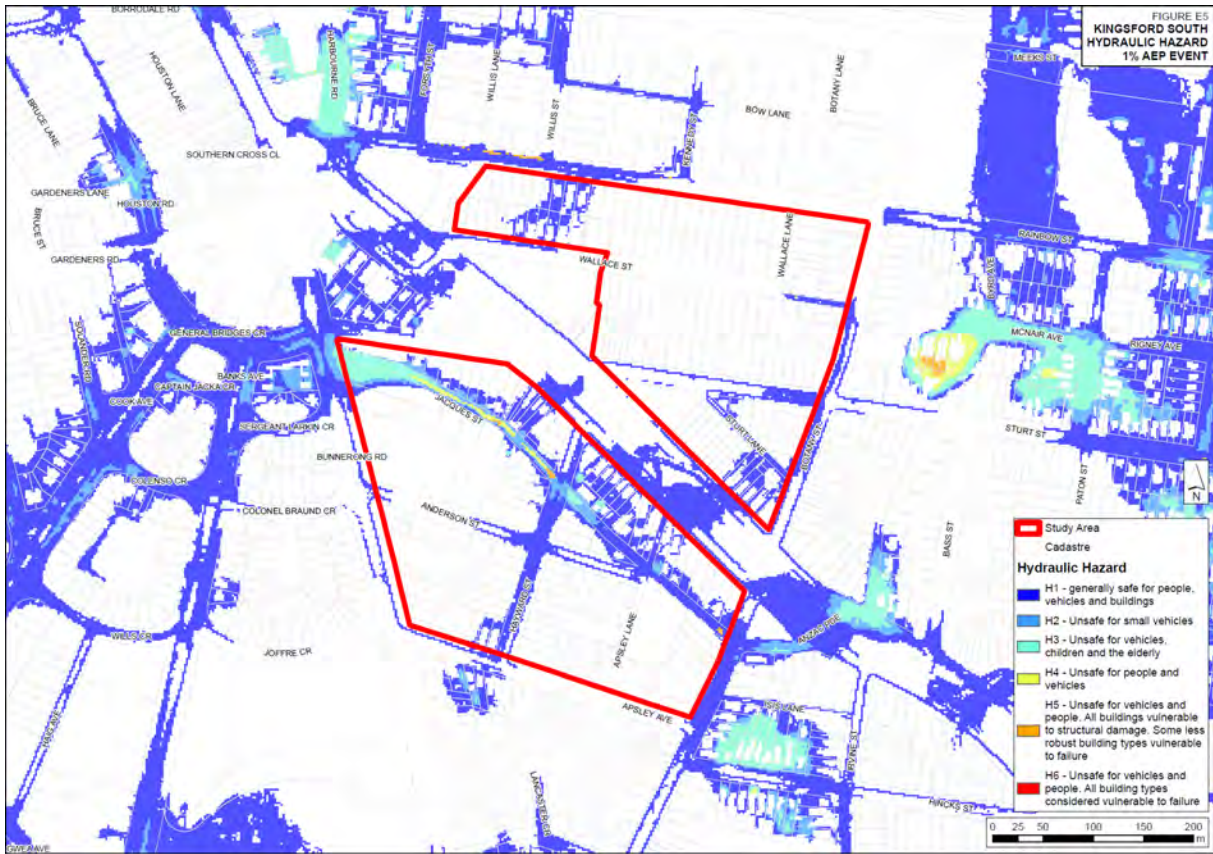
- Council commissioned WMA Water to undertake a Flood Constraints Review of the five HIAs, which was completed in Nov 2021 (refer to Attachment K – Flood Constraints Review). The key conclusions of the report, regarding this HIA, are summarised below.
- Flooding considerations in the HIA primarily apply to the area south of Anzac Parade on Jacques Street. The primary Birds Gully catchment drainage stormwater line runs directly underneath Jacques Street. This pipe drains a significant catchment area to the northwest extending up to The Spot (see Map 12).
- In severe storm events like the 1% Annual Exceedance Probability (AEP), runoff will exceed the capacity of this drainage line forming a major overland flow path along Jacques Street with a depth of 0.5 - 1m (see Map 13).
- There is an additional minor overland associated with a smaller localised catchment that drains in Sturt Lane adjacent to 144 Botany Street. Shallow overland flow will occur along the gully through private property to Anzac Parade and further through private property in Jacques Street.
- Apart from the major overland flow along Jacques Street, hazards in the HIA are very low. Along Jacques Street, there would be a higher degree of hazards in a 1% AEP event with potential hazards along the road (see Map 14).
- Flood hazard is significantly higher in a Probable Maximum Flood (PMF) event with lots on Jacques Street affected by hazards combining flood depths and velocity (see Map 15).
- Lots fronting Jacques Street or otherwise affected by overland flow will be subject to the minimum floor level controls for ground floor levels and basement entry points. The minimum floor levels will be dependent on the development proposal and subject to assessment on a case-by-case basis.
- It will be necessary to ensure that development does not obstruct or divert areas of floodway or fill in storage. Flooding impacts will be subject to further detailed assessment at the Development Control Plan (DCP) stage with further controls and design requirements considering the potential impacts of flooding up to the PMF.



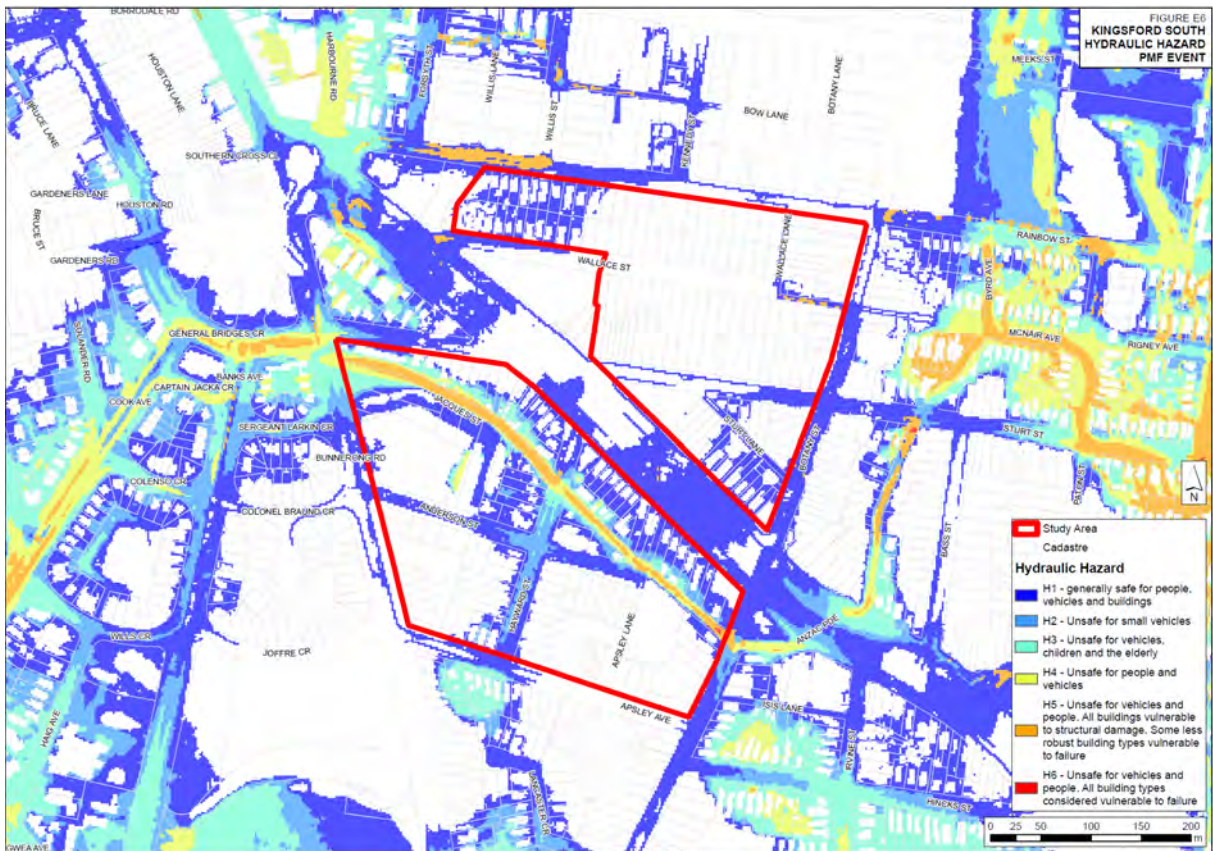
Map 12: 1% AEP overland flow directions



Map 13: Peak flood depths and levels 1% AEP event



Map 14: Hydraulic hazard 1% AEP event



Map 15: Hydraulic hazard PMF event

3.6. Significant trees

- According to the Randwick City Register of Significant Trees, there are no significant trees identified within the HIA boundary.
- The HIA is predominantly covered by 10-20% canopy coverage with some sections possessing 20-30% coverage.



Map 16: Proportion of tree canopy cover

3.7. Aircraft noise

- As shown in Map 15, most of the Kingsford South HIA falls within the Australian Noise Exposure Forecast (ANEF) 20 rating.
- The ANEF buffer determines the extent to which an area would be exposed to aircraft noise in a forecasted year.
- An ANEF rating of 20 means that most development is conditionally acceptable with consent given that it is consistent with the controls of the relevant Environmental Planning Instrument (being Randwick LEP 2012).

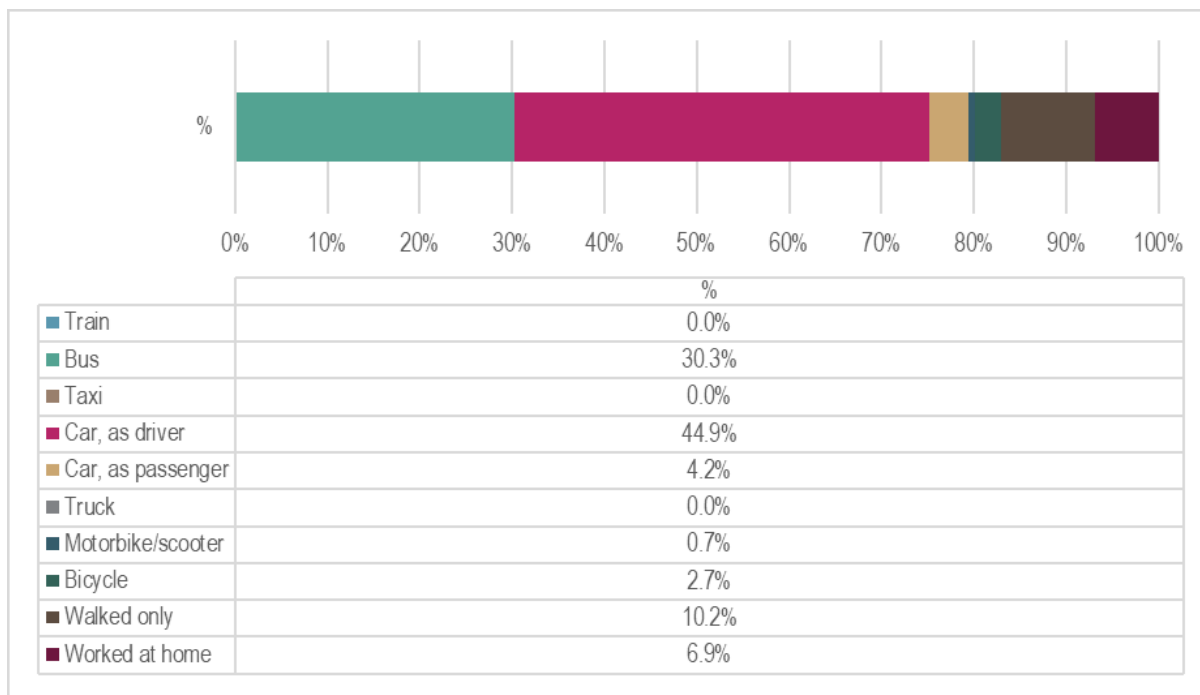


Map 17: Aircraft noise buffer

3.8. Transport

Existing travel patterns

- The table below shows the 'Method of Travel to Work' mode share results for residents living in the Kingsford South HIA in 2016. Relative to other HIAs, Kingsford South's mode share for each mode category generally falls in the middle of the set.
- Compared to other HIAs, Kingsford South has the highest proportion of households owning three or more motor vehicles (10.3%), reflective of its low-density residential nature. 23% of households own two motor vehicles, 38.3% own one, and 28% don't own a car.



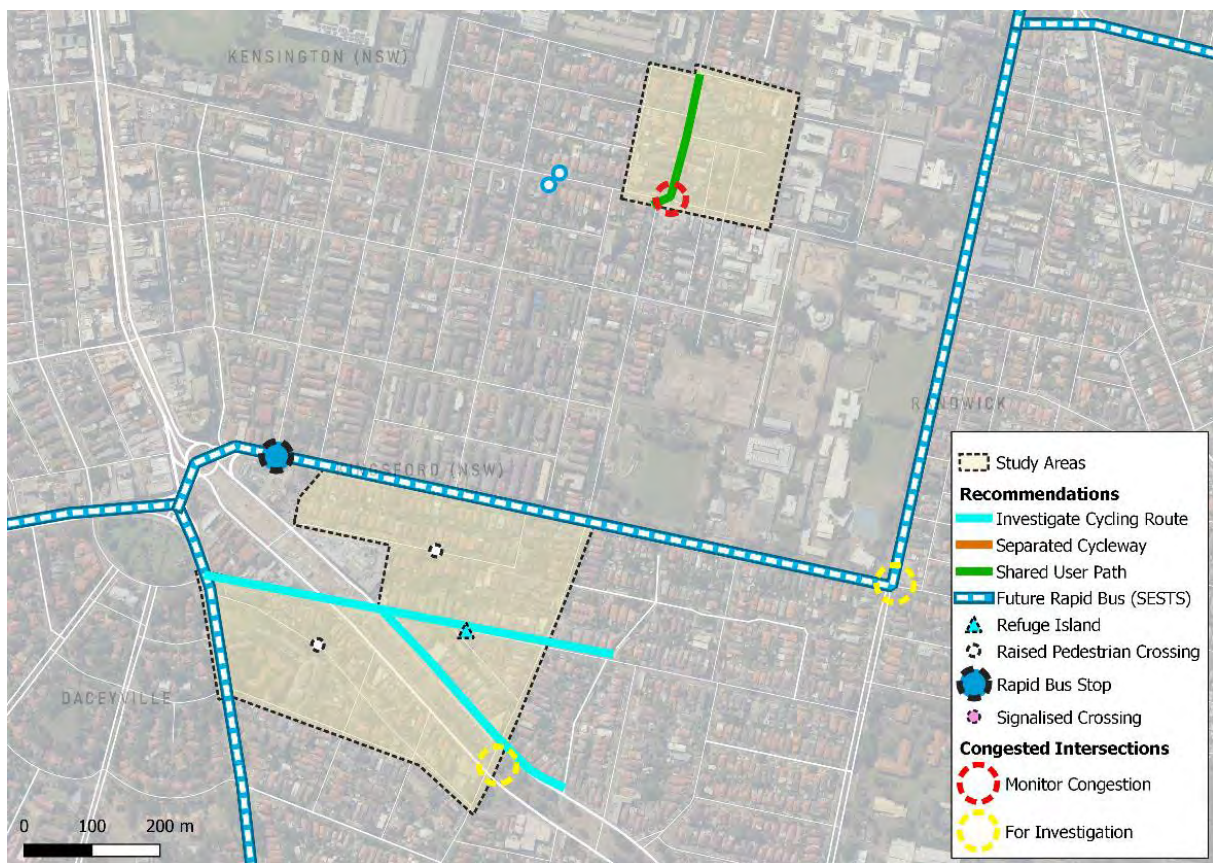
Kingsford South – Method of Travel to Work – Local Transport Study (Stantec 2022)

- All links within the study area have a VCR of less than 0.80, meaning that congestion is not expected to be so severe as to extend the peak period in the future.
- The Kingsford South HIA is centred around the L3 Light Rail terminus at Kingsford Juniors. Surrounding a light rail and bus transport junction, the HIA has ample opportunity to access public transport. Further, two future rapid bus routes are planned that will travel via Kingsford. One route, going east-west on Rainbow Street, will take passengers to Sydenham via Mascot to the west, and Bondi Junction via Randwick to the east. The second proposed rapid bus route heads south to La Perouse via Maroubra Junction, while existing local bus routes go to nearby suburbs, such as Eastlakes and Eastgardens.
- Regarding the pedestrian environment, there are numerous signalised crossings across Anzac Parade and the Nine Ways junction, and there are refuge islands on all four legs of the Botany Street/Sturt Street intersection. In the reporting years of 2015 to 2019, there were some pedestrian crashes, on streets classified as ‘main roads’, however there were no crash clusters of concern.
- Regarding active transport infrastructure, of note is the existing on-road mixed cycleway to the east of the HIA at Byrd Avenue, as well as the dual-proposed Council and Principal Bicycle Network routes on Anzac Parade and Sturt Street.

Future travel and transport study recommendations

- Considering the estimated net increase of 549 dwellings by 2036 as a result of changes proposed in the Planning Proposal, the ‘Do Nothing’ scenario in the Local Transport Study, estimates 143 private vehicle trips will be added in the peak hour ‘journey to work’ traffic. Whilst this is the largest increase in comparison to the other HIA’s, this is still considered a negligible increase on the existing and forecast traffic volume.
- The Local Transport Study recommends key intersections within the precinct – such as Rainbow Street/Botany Street and Anzac Parade/ Botany Street – are investigated and their performance better understood due to the lack of recent detailed traffic modelling.

- The ‘Do Nothing’ scenario also estimates a public transport peak hour net trip increase of 87 people. Based on both the distribution of routes and stops, as well as the wide network coverage, the Kingsford South HIA is well-placed to support a higher use of public transport and higher residential density. No resident will be more than a 10-minute walk from the Kingsford Juniors Light Rail stop. Similarly, no resident will be more than a 15-minute walk from a bus route corridor.
- Regarding the future pedestrian experience, within a more fine-grain walking network away from Anzac Parade, there is the opportunity for a greater density of formal pedestrian crossings, including at Sturt Street, Wallace Street, Rainbow Street and Jacques Street.
- A critical recommendation from the study is that cycleways on both Anzac Parade and Sturt Street are delivered in the medium-term, preferably separated from vehicle traffic. These two cycleways would create a spine of cycling infrastructure through the HIA and provide critical links to other regional, existing, and proposed facilities.

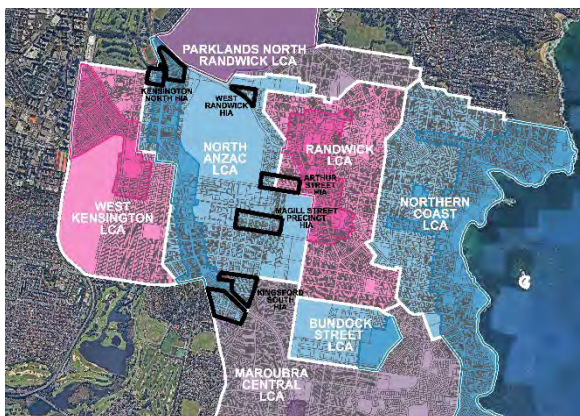


Map 18: Magill Street and Kingsford South – Recommendations Map

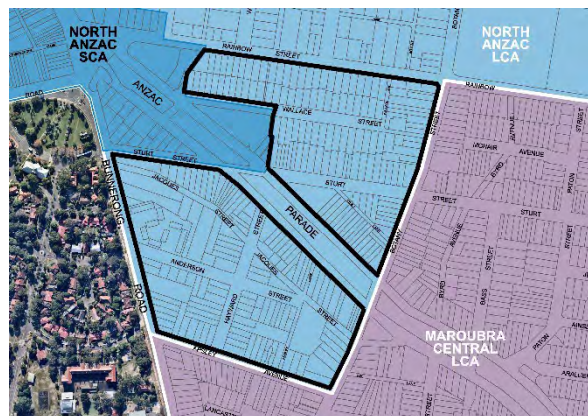
4. Draft local character area

4.1. Description of the investigation area

- The Kingsford South HIA is located in the draft North Anzac Local Character Area (LCA).
- The North Anzac LCA is comprised of Randwick City’s major health, education, transport, and economic infrastructure as well as the residential and commercial precincts adjacent to them. These include the Randwick Health and Education Precinct, Randwick Boys and Girls High Schools, Kensington and Kingsford town centres, Randwick Racecourse, TAFE, and Bus depot.
- The strong economic corridors and large number of institutional land uses within the North Anzac LCA are poorly integrated into their surroundings. This creates a sense of disconnection between residential and commercial/institutional land uses.
- Key character feature of the LCA relevant to the HIA include The L3 Light rail route which runs along the established commercial corridor of Anzac parade as well as the Kingsford town centre.
- Draft North Anzac LCA character principles:
 - Greater activation along Anzac Parade through new development.
 - Increased active transport connections and infrastructure for a growing population.
 - Reinstating Anzac Parade as a tree-lined boulevard and increased street tree canopy across the LCA.
 - Greater interaction between the community and the key institutions within the LCA Improvements to the public domain.
 - Increase in arts and cultural facilities to support the local population and visitors.
 - Improvements to the economic vibrancy in the Kingsford and Kensington town centres.



Map 19: Excerpt of draft local character areas (northern part of the LGA)

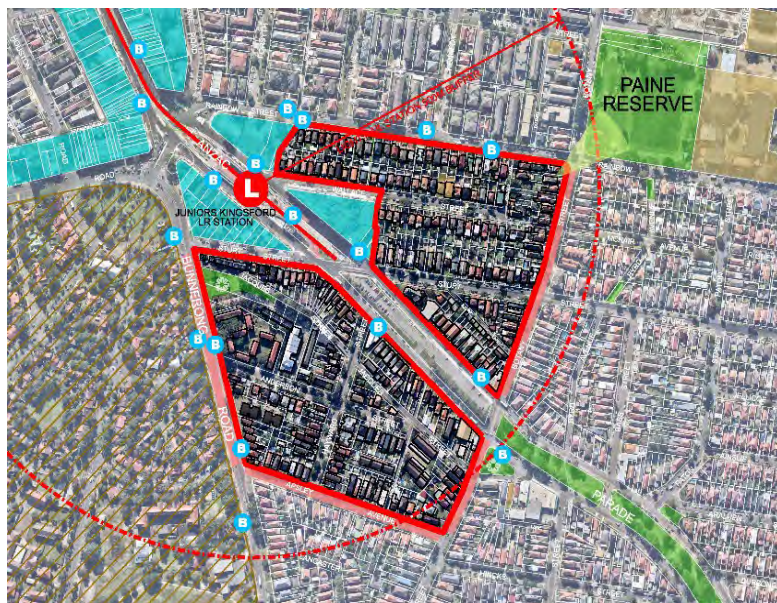


Location of Kingsford South HIA within North Anzac LCA

5. Analysis

5.1. Opportunities and constraints

- The increased public transport capacity of the light rail, as well as the completed K2K Town Centre planning strategy, creates an opportunity for additional uplift in the Kingsford South HIA.
- There is an opportunity to allow for transitional heights within the HIA, given its location adjoining the Kingsford Town Centre with permissible heights up to 9 storeys.
- The Kingsford South HIA has several areas where public domain improvements would be valuable. The interface between the footpath and the road on the southern side of Anzac Parade is split levelled and creates a poor pedestrian experience. Furthermore, the open green space on the corner Jacques Street and Bunnerong Road could be better utilised or improved with better facilities.
- The existing shops on the corner of Anzac Parade and Botany Street have the capacity to service a greater population.



Map 20: Opportunities and constraints

OPPORTUNITIES AND CONSTRAINTS

	HERITAGE ITEM
	HERITAGE CONSERVATION AREA
	OPEN SPACE AND RECREATIONAL AREA
	TOWN CENTRE
	INSTITUTIONAL PRECINCT
	PLACE MARKER
	VIEW AND VISTA
	PUBLIC DOMAIN OPPORTUNITY
	LIGHT RAIL ROUTE AND STATION WITH 900M BUFFER
	BUS STOP
	SEPARATED CYCLEWAY ROUTE
	PLANNED SEPARATED CYCLEWAY ROUTE
	STRATA WITH MORE THAN 20 UNITS
	RESIDENTIAL AREA INTERFACE
	INSTITUTIONAL AREA INTERFACE
	COMMERCIAL AREA INTERFACE
	OPEN SPACE INTERFACE

Opportunities and constraints key

6. Strategic justification

An examination of the opportunities and constraints across the Kingsford South area has identified areas capable of change to provide new housing and public domain benefits within convenient walking distance of the Juniors Kingsford light rail station, Kingsford Town Centre, and in proximity to several sports fields and major parks.

The analysis has established that a new B1 Neighbourhood Centre zone at the corner of Anzac Parade and Botany Street, and a change from R2 Low Density Residential to R3 Medium Density Residential zoning, with new height of buildings and FSR controls in the identified areas of the HIA would sit comfortably within the urban context. These would also have minimal environmental impact on existing residential properties and could provide new shops and potential through-block pedestrian links.



Map 21: Proposed built form and height diagram (heights shown in storeys)

LEGEND

	EXISTING HERITAGE ITEM WITH STOREY NUMBER
	EXISTING STRATA ITEM WITH STOREY NUMBER
	INDICATIVE BUILDING FOOTPRINT WITH STOREY NUMBER
	INDICATIVE BUILDING FOOTPRINT WITH STOREY NUMBER
	PUBLIC DOMAIN OPEN SPACE OPPORTUNITY
	PRIVATE GARDEN
	HOUSING INVESTIGATION AREA BOUNDARY

The advantages of the Kingsford South HIA in providing medium-density residential development and associated facilities and services, and small-scale retail/business uses at the corner of Anzac and Botany Street are:

- It is within easy walking distance of Juniors Kingsford light rail station and public bus services.
- It adjoins several important hubs such as Kingsford Town Centre and recreational open spaces such as Jacques Street Park, Rowland Park and Dacey Gardens.
- It has access to major roads such as Anzac Parade, Bunnerong Road and Rainbow Street, facilitating vehicular and general access.
- The proposed uplift can be used to incentivise an improved urban built form outcome potentially comprised of permeable residential blocks, pedestrian friendly urban streets with front and rear gardens; providing access to light, natural ventilation and green space.
- It provides a transition in scale to heritage listed properties through introducing setbacks and landscape buffer zones.

7. Planning strategy

7.1. HIA areas of no change

Residential blocks in the Kingsford South HIA that extend along Anzac Parade and are in close walking distance of the Juniors Kingsford light rail station and Kingsford Town Centre, have been assessed to be appropriate for redevelopment. This would be achieved through rezoning and permitting additional building height and density, to contribute towards the overall dwelling targets for Randwick LGA.

No change is proposed to the residential blocks to the south of Anderson Street. The residential blocks situated to the south of Anderson Street are located at a larger walking distance (generally 400m) from the Kingsford Town Centre (defined by the B2 zoning) and the Juniors Kingsford light rail terminus hub.

There are two heritage residential properties at 42 and 44 Wallace Street, Kingsford. Side and rear setbacks are proposed to provide a landscape buffer between these properties and the proposed new medium density development to the east, west and north. A new north-south pedestrian through block link (from Sturt Street, and the Anglican Church precinct, through to Rainbow Street) is proposed, to the east of the two properties.

7.2. Desired future built form character

The future desired character of the HIA is for new development to be consistent with the aims of the R3 Medium Density Residential zone, that provides for a variety of medium density housing types, and the B1 Neighbourhood Centre zone that permits small local retail businesses.

The proposed mid-rise typology (generally 5 or 6 storey) can enhance the character of the neighbourhood by encouraging high quality design outcomes in an area of high amenity.

The proposed new built form would be of consistent height and define the key residential street frontages and street corners. The mid-rise residential apartment buildings would generally be setback 6m from the primary street frontage to allow ground floor level apartments to have private front gardens. The block layout will support buildings with rear common gardens, with deep soil tree planting, in the mid-block.

Heritage properties would be integrated within the new residential precinct. The fine urban 'grain' of the city blocks would be preserved by retaining the series of smaller streets and laneways and by introducing a new pedestrian through-block link.

A small local mixed-use building (B1 Neighbourhood Centre) is proposed at the corner of Anzac Parade and Botany Street, where shops are currently located. The new building would be at a similar mid-rise height and built to the street frontages, with shops at ground floor level and apartment accommodation above.

The Anglican Church group of buildings at the corner of Anzac Parade and Sturt Street, and the electricity substation at 12-14 Anderson Street are expected to remain as is, in the medium to long term.

7.3. Site consolidation

A level of site consolidation would be necessary to achieve the desired optimum urban design and feasibility outcomes. Provisions addressing minimum frontage width and discouraging isolation of sites (which may be difficult to develop on their own) are recommended to be included in the Randwick DCP to ensure that future redevelopment achieves the desired urban design, built form outcome, access to natural light and ventilation, and achieve reasonable efficiencies in building structure and parking configuration.

7.4. Transition to surrounding areas

There would be a step down in scale from the taller K2K tower buildings to the northwest, immediately adjacent to the Juniors Kingsford light rail station (9 and 17 storeys in height) down to 5 or 6 storeys in the Kingsford South HIA. This would provide an appropriate transition in scale to the adjoining low-density residential areas further to the south.

There are currently many examples of 3 and 4 storey apartment buildings along the north side of Rainbow Street. New buildings are proposed along the south side of the street of 5 or 6 stories, which would provide an appropriate transition in scale to the new precinct.

7.5. Landscape character

The new apartment buildings would have front, side, and rear gardens. Buildings would be consistently setback 6m from the primary street frontage to allow ground floor level apartments with private front gardens. The mid-block would be characterised by sunny private common gardens with mature tree plantings in deep soil conditions.

The rear common garden spaces of apartment buildings are an opportunity for the planting of mature trees that would create a refuge from traffic along Anzac Parade and other busy streets.

Street tree planting is inconsistent along Anzac Parade and the streets of the HIA city blocks. The interplanting of new street trees, on a consolidated theme, and with a scale of street tree suited to the width of the street would enhance these streetscapes. The street tree planting along Anzac Parade needs to be bold and large in scale to address the scale of the urban thoroughfare. The amenity of the existing park at the corner of Bunnerong Road and Jacques Street could be enhanced with a clear program of uses established and catered for in its design.

7.6. Hill PDA Feasibility Assessment

Following Council's place-based analysis of the five HIAs and investigations into suitable planning controls to increase development capacity, economic planning consultants - Hill PDA, were engaged to assess the economic feasibility of new development and undertake a review of officers' built form scenarios in terms of the resulting yield achieved in each HIA. The assessment identified the likely 'tipping point' for redevelopment to occur considering the application of an affordable housing contributions scheme at a rate of 0%, 3% and 5%.

The assessment estimates the potential land value of several sites within each of the HIAs based on comparable land sale evidence. Through market research, the end sale values for new development in each of the HIAs has also been identified. It is important that any proposed controls ensure that the purchase of sites and future development is feasible, otherwise turnover of sites for development will not occur and Council may not be able to meet the community's need for new housing in accessible areas.

The assessment sets a target project Internal Rate of Investment of 16% to 18% p.a. as the primary indicator for the modelling*. The results for Kingsford South HIA are outlined below.

Zone	FSR required with a 3% affordable housing contribution	Proposed height (storeys) 3%	FSR required with a 5% affordable housing contribution	Proposed height (storeys) 5%
B1 Neighbourhood Centre	2:1**	17.5m (5)	2.1:1	20.5m (6)
R3 Medium Density Residential	1.6:1	16.5m (5)	1.65:1	19.5m (6)

The assessment found that development of the proposed B1 Neighbourhood Centre zoned land (corner of Botany Street and Anzac Parade) with a 3% and 5% affordable housing contribution would be viable at an FSR of 2:1 and 2.1:1 respectively. The assessment also found that the development of the proposed R3 Medium Density Residential zoned land would require an FSR of 1.6:1 to be marginally viable with a 3% affordable housing contribution, and an FSR of 1.65:1, to be viable with a 5% affordable housing contribution. To achieve a 5% affordable housing contribution in this HIA requires an increase in the height/number of storeys from five storeys to six storeys when compared to a 3% affordable housing contribution.

*The Internal Rate of Investment is a developer’s actual return on investment on an annualised basis and expressed as a percentage. The approach considers the cost of time in its calculation and indicates the average return for a developer over a period of time.

**While the assessment recommends a FSR of 2:1 for the proposed B1 Neighbourhood Centre, a FSR of 1.7:1 is recommended to ensure the character of the area is retained. A review of the proposed 1.7:1 FSR will be undertaken following public exhibition to confirm the viability of the proposed FSR.

8. Conclusion

8.1. 3D built form testing






Two building density and height options, representing a 3% and 5% Affordable Housing (AH) contribution, were modelled by computer in 3D computer to illustrate the maximum building envelopes and assess their relative urban design merit. The maximum building height applies to both the R3 and B1 zones. The two options tested in 3D were:

- Option 1 - 3% AH - Maximum 5 storey height
- Option 2 - 5% AH - Maximum 6 storey height



Map 22: Option 1 – Plan View – Maximum 5 Storeys








LEGEND

	EXISTING HERITAGE ITEM WITH STOREY NUMBER
	EXISTING STRATA ITEM WITH STOREY NUMBER
	R3
	B1
	INDICATIVE BUILDING FOOTPRINT WITH STOREY NUMBER
	PUBLIC DOMAIN OPEN SPACE OPPORTUNITY
	PRIVATE GARDEN
	HOUSING INVESTIGATION AREA BOUNDARY



Map 23: Option 2 – Plan View – Maximum 6 Storeys

LEGEND

-  EXISTING HERITAGE ITEM WITH STOREY NUMBER
-  EXISTING STRATA ITEM WITH STOREY NUMBER
-  R3
-  B1
-  PUBLIC DOMAIN OPEN SPACE OPPORTUNITY
-  PRIVATE GARDEN
-  HOUSING INVESTIGATION AREA BOUNDARY



Map 24: Option 1 – 5 storeys – View northwest - 3D modelling of building envelope scenarios



Map 25: Option 2 – 6 storeys – View northwest - 3D modelling of building envelope scenarios



Map 26: Option 1 – 5 storeys – View southeast - 3D modelling of building envelope scenarios



Map 27: Option 2 – 6 storeys – View southeast - 3D modelling of building envelope scenarios

8.2. Indicative Envelopes

The 3D aerial views of the HIA illustrate proposed indicative block ‘envelopes’ and address the Apartment Design Guide (ADG) requirements. The envelopes comply with ADG minimum building-to-building separation guidelines and take into consideration best practice maximum building width to ensure apartments have good access to sunlight and natural cross ventilation.

As recommended in the ADG, a 70% factor has been applied in converting the building ‘footprint’ (and envelopes) to Gross Floor Area (GFA) and Floor Space Ratio (FSR) to account for overall building articulation, unenclosed balconies, building structure, services, and circulation (lifts, stairs, common corridors). Setbacks and height transitions to heritage properties and to sensitive adjoining low-density residential areas have been considered and addressed in the urban planning and yield calculations. Properties constrained by strata ownership (20 or more apartments), established church buildings and an electricity substation (if relevant) are likely to remain undeveloped in the medium term and have been removed from the calculation of dwelling yield.

In developing the building envelopes, the minimum heights recommended for residential and non-residential uses in the ADG has been applied, whereby extra floor-to-ceiling height is needed for the ground floor and a minimum height (3.1m floor-to-floor) is set for the residential upper levels of buildings. Some additional height is included (generally 1m) to allow for roof level articulation.

Reasonable assumptions have been made regarding the optimum amalgamation of sites for redevelopment that would realise good urban design outcomes. The planning of the HIAs incorporates building setbacks, building-to-building separation, new pedestrian through block links, plaza, and green spaces. The envelopes illustrate potential development scenarios for site amalgamation that avoids isolated sites and provides access to sunlight and natural ventilation, reasonable efficiencies in structure, vehicular access, and parking provision.

8.3. Recommendation

It is recommended that the optimum urban design outcome (building massing and height) for the Kingsford South HIA, taking into consideration the existing and future surrounding built form context, is Option 1 (maximum 5 storeys). Feasibility testing has demonstrated that this built form scenario is viable with a 3% Affordable Housing contribution.

The remainder of the HIA study area is not recommended for uplift and excluded from this Comprehensive LEP Planning Proposal. If a significant shortfall in the delivery of new dwellings in the LGA occurs in the short to medium term, the excluded areas of the HIA study area may be reviewed for its potential to contribute to the overall LGA dwelling shortfall. This review would be undertaken at the same time as the 7 year review of the Randwick Housing Strategy.

