

INTERFACE PLANNING STUDY

Part 1: Impact Assessment

February 2011

Note: Ku-ring-gai Council accepts no liability for the content of this report, or for the consequences of any actions taken on the basis of the information provided.



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1.0 INTRODUCTION

1.1 BACKGROUND

The Minister's gazettal of Local Environmental Plans No 194 and No 200 (LEP 194 and 200) in 2004 made provisions which allowed development up to 5 storeys to occur on land zoned Residential 2(d3). This has created a situation whereby 4 and 5 storey apartment buildings can be developed immediately adjacent to 1 and 2 storey single residential dwellings. These adjoining low density sites are known as interface sites.

The situation creates the potential for development that occurs on a 2(d3) zoned site to have a significant impact on the amenity currently experienced by adjoining residential properties on the interface sites. In particular, this would include: the impact of the scale experienced by viewing the new higher density development from the low density property; the reduction in sunlight access to the low density residential property - overshadowing; the privacy impacts caused by the windows; and recreation spaces of the adjoining development orientated towards and in close proximity to the single residential dwelling. Further, the streetscape will be negatively impacted due to the sharp change in scale between development on the differently zoned sites.

Council recognised the possible impacts associated with the gazetted form of LEP 194 and 200 on adjoining residential dwelling house development and at the time resolved to investigate the potential impacts with a view to providing solutions where appropriate. In 2005, Urban design and architecture firm Habitation was engaged to undertake an assessment of interface issues with the view to prepare an amending LEP.

The development of the Ku-ring-gai Local Environmental Plan (Town Centres) 2010 (Town Centres LEP) incorporated planning solutions for the interface sites that fell within town centres boundaries. The most common approach was the use of the R3 medium density housing zones which will facilitate the development of townhouses on the interface of existing high density and low density areas.

Council is now in the process of developing a principal local environmental plan (Principal LEP) to cover all land in Ku-ring-gai that falls outside the area covered by the Town Centres LEP. This provides the opportunity to develop and implement planning solutions for the remaining interface sites outside of the town centres.

However, before zoning or other planning strategies can be developed to deal with interface issues, it is necessary to undertake a full assessment of the impact of existing and potential future 4 and 5 storey developments on the identified interface sites, which is the intent of this report.

1.2 PURPOSE OF STUDY

This report forms **stage one** of the *Interface Planning Study*. This will eventually inform the development of strategies to include in Council's Principal LEP to address

issues faced by interface sites, including those created by LEP 194 and 200 and the Town Centres LEP

The purpose of this report is to provide a detailed assessment of the impact of existing and potential future 4 and 5 storey developments on the identified interface sites.

This report also identifies the planning consideration and potential planning options that could be used to address interface issues. It **does not** make any recommendations on what, if any, planning options or solutions should be used any particular precinct or interface site.

This report is for public consultation to seek community feedback on the impact assessment and on the planning considerations and options presented. The outcomes of the community consultation will then inform **stage 2** of the *Interface Planning Study*. This second stage will then make specific recommendations on zoning changes and other planning strategies to be incorporated into the Principal LEP to address interface issues.

In relation to interface sites, the planning strategy will include special research and planning for the interface sites including those created by LEP 194 and 200 and the Town Centres LEP. The purpose of having these examined under this process is to provide a strategic context for considering a range of factors, including the interface study, urban design, heritage, streetscape, housing choice etc, for the purpose of developing appropriate zoning and development standards for these sites within the Principal LEP.

1.3 SCOPE OF STUDY

This report provides a detailed impact assessment of sites that are currently zoned 2(c), 2(b), 2(c1) or 2(c2) which share a common boundary with, or are directly across the street from land zoned for residential flat buildings with a 4 and 5 storey height potential. It includes sites where development has already occurred as well as those sites where development may occur in the future.

It covers all sites which are outside of the areas covered by the Town Centres LEP. While the Town Centres LEP addressed the interface sites that fell within town centres boundaries, there are a small number of sites where the higher density zoning end on the boundary of the Town Centres LEP, for example, Beaconsfield Pde/Gladstone Pde, Lindfield. In such cases it was not possible to implement interface solutions for these areas via the Town Centres LEP, and as such will be dealt with under the Principal LEP and addressed by this study.

The impact assessment has been undertaken by an integrated team of staff with expertise in urban planning, urban design, heritage planning and environmental planning. The intent of the integrated approach to the assessment is to ensure all relevant planning consideration are examined, including bulk, overlooking, overshadowing, streetscape, heritage, and biodiversity and other environmental matters.

This study does not make any recommendations on future zonings or other planning strategies for interface sites. The findings of this report and the community feedback will need to be considered in conjunction with the outcomes of other planning strategies informing the Principal LEP, including those studies on heritage conservation areas and heritage items, biodiversity, riparian and bushfire. That will be the purpose of Stage 2 of the *Interface Planning Study*. As such this report does not make recommendations on any zoning changes and therefore, it is not possible to provide any estimate of likely dwelling yield increases that may result from up-zonings recommended in the final interface planning study.

2.0 METHODOLOGY

2.1 SITE SELECTION CRITERIA

The original Council interface study (Habitation, 2005) was limited to those properties on the interface that share both a common boundary and a street frontage with a site that is zoned Residential 2(d3) (up to 5 storeys in height). Properties that have a Pacific Highway frontage were not included in the study.

This study forms a more comprehensive analysis and addresses impacts created where any past zoning has left single dwellings adjoining land zoned for apartment buildings. Additional low density residential properties were identified based on the following site selection criteria:

- property sharing a common boundary with, or being separated by an access handle from, a site that is zoned to allow developments of 4 storeys or more (greater than 11.5m high);
- property fronting a local residential street directly opposite a site that is zoned to allow developments of 4 storeys or more (greater than 11.5m high).

For the purpose of interface planning, the study has excluded low density properties that are adjacent to a medium density site with a maximum 3-storey height limit as building of this scale is considered an appropriate and complementary form of development to single dwellings.

In addition, it is important to note that the site selection criteria only applies to low density residential sites within 2(b), 2(c), 2(c1) and 2(c2) zones that contain single dwellings. The low density sites that have been redeveloped into multi-unit developments such as townhouses or SEPP Seniors Living developments were excluded from the study given the compatible scale of these developments to existing areas.

Approximately 200 individual properties have been identified which satisfy the site selection criteria. These have been grouped into 16 precincts which are shown in the maps contained in Part 3 of this report. This includes 3 precincts in Wahroonga, 1 in Warrawee, 1 in Turramurra, 2 in Pymble, 1 in Gordon, 5 in Killara, 1 in Lindfield, 1 in Roseville and 1 in St Ives.

2.2 ASSESSMENT CRITERIA

A detailed assessment has been undertaken on each interface site identified by the site selection criteria outlined in Part 2.1 in terms of impact imposed by development

on the adjoining or opposite high density site. The assessment process involved a site inspection, photographic survey and examination of aerial photographs, cadastral survey and relevant development application drawings. The detailed assessments for each precinct are contained in Appendices 1 to 16 of this report.

No detailed impact assessment was required on those single dwelling sites that are located adjacent to or opposite sites currently occupied by existing 3-storey walk-up strata unit development or other substantial development such as schools and health facilities. In these circumstances it is assumed that these developments would not adversely impact on their adjoining dwellings given the current development forms and that they are unlikely to realise their full development potential permissible under the high density zoning.

The architectural and urban design assessment of impact focuses on amenity issues concerning overshadowing and overlooking, whilst recognising the impact of the overpowering scale experienced by viewing the new higher density development from the low density residential property. In particular, it concerns the reduction in sunlight access to the single dwelling site as well as the privacy impact caused by the windows, balconies and recreation spaces of the adjoining development orientated towards, and in close proximity to, the existing dwelling.

Assessment criteria

A number of essential architectural and urban design assessment criteria were established to ensure a consistent and balanced assessment, broadly comprising:

- the site orientation;
- the development form on the high density site;
- the topographical conditions which may exacerbate the amenity impact; and
- the condition along the common boundaries in regards to the provision of separation and buffer.

The key specific criteria are outlined as below:

1) Boundary with high density zone

The impact assessment initially took into account the development potential of the adjoining or opposite high density site based on current zoning. It should be noted that the development height can vary within the same zoning subject to the land size requirement as part of the LEP provisions. The majority of the low density properties are or will be impacted by high density sites that are zoned High Density Residential R4 or 2(d3) with a potential for residential flat development of up to 4 to 5 storeys (except for one R4 site (also a Minister's site) in Pymble where 7 storeys is permitted). There are some interface properties located opposite the B7 Business Park zone which permits commercial development of up to 8 or 9 storeys. Generally it was assumed that the higher the development the greater the impact unless there is mitigation provided by screening vegetation or other elements.

2) Location relative to high density site

This is a key determinant for the assessment of overshadowing impact. It also assisted in assessing the overlooking impact by taking into consideration the building

facade design of the new development corresponding to their orientation. While it is more advantageous for the interface properties that are located to the north of the adjoining or opposite high density site in terms of overshadowing, they are more likely to experience increase privacy impacts, subject to the separation and buffer provision, being overlooked by the large openings and balconies provided on the northern façade of adjoining new development to maximise solar access to the apartments.

3) High density sites redeveloped / DA approved

For those high density sites with development applications (DA) approved (whether constructed or not), further impact assessment was provided by examining how each of the development proposal addressed the potential impact on its neighbouring low density site(s) in terms of site layout and building design. In addition, the shadow diagrams that accompanied the development application provided a sound basis for the assessment of overshadowing impact. It should be acknowledged that all of these development applications have been assessed against a set of the relevant LEP and DCP objectives and controls which seek to minimise impact on the neighbouring site(s).

4) Likelihood of redevelopment of high density site (low / high)- potential development height

In assessing the impact, it was assumed that the remaining high density sites would be redeveloped to their full potential in accordance with the relevant planning controls. The only exception was for those sites occupied by service stations which are considered highly unlikely to redevelop in the short to medium term. Much of the assessment undertaken made assumptions to the likely form of proposed development on the high density sites based on the LEP and DCP provisions. It has been noted that, despite the high density zoning, a few of the R4 or 2(d3) sites may not be able to achieve the full development potential given the site configuration and existing vegetation (eg. STIF and BGHF), hence reducing the potential interface impact of the new development.

5) Slope to the interface site (gentle / moderate / steep)

The topography of the locality, particularly the slope of the interface site in relation to their adjoining or opposite high density sites, was one of the main considerations for impact assessment. The single dwelling sites located on steep slopes, down slope of the high density development sites, are more likely to be substantially impacted, both in terms of amenity and streetscape, due to their increased relative difference in building height. The perceived height of the high density developments when viewed from the low density sites will also be accentuated given the considerable level difference.

6) Screening vegetation along common boundary (heavy / light / little to none)

For the purpose of impact assessment, it was assumed that the privacy impact would be alleviated by existing large mature vegetation located along the common boundary, acting as visual buffer between properties. It was also assumed that the interface impact would be further reduced with increased buffer by requiring

additional landscaping on the development site to screen new development from any adjoining property.

7) Building setback on interface site to common boundary (>6m / <6m)

The proximity of the single dwelling to the common boundary where it adjoins high density site was one of the key determining factors on interface impact. The dwellings built close to common boundary are likely to have more significant impact due to a lack of adequate separation, subject to the extent of boundary vegetation screening. It should be noted that the R4 or 2(d3) developments are required to have additional setbacks to top storeys from any boundary of the lower density residential site. This specific control seeks to minimise the impact between buildings of different zones by ensuring an appropriate building separation.

Impact rating

A separate assessment rating was provided on both overshadowing and overlooking impact based on the degree (ie. low, medium or high) to which single dwelling site has been or will be impacted by adjoining or opposite high density developments. Generally 'low' impact means some indirect impact, for example, resulting from higher density on opposite side of the road. 'Medium' impact suggests some overlooking or partial overshadowing. 'High' impact indicates severe overlooking or overshadowing.

The significance of the overall impact (ie. significant or not significant) was concluded for each interface site in accordance to the individual assessment rating on overshadowing and overlooking impact. Sites with 'significant' impact refer to those which experience medium to high overshadowing or privacy impact. On the contrary, sites with low overshadowing and overlooking impact are regarded as having an impact identified as 'not significant'. A series of tables and maps, which summarise the impact assessment on each site identified, is provided in the Appendices.

3.0 SITE IMPACT ASSESSMENT

3.1 WAHROONGA: PRECINCTS 1 AND 2



Interface sites that are located within Precincts 1 and 2 include:

Precinct 1

- 8 Woniara Avenue, Wahroonga
- 10 Woniara Avenue, Wahroonga
- 5 Burns Road, Wahroonga
- 7, 9, 11, 15 Burns Road, Wahroonga
- 92, 94, 96, 98, 100 Coonanbarra Road, Wahroonga

Precinct 2

- 14 Woonona Avenue South, Wahroonga
- 10 Warwilla Avenue, Wahroonga
- 12 Warwilla Avenue, Wahroonga

Precincts 1 and 2 within Wahroonga, which sit north of the Pacific Highway and divided by the railway line, are characterised by their relatively flat terrain.

Within Precinct 1, the impact from high density development sites is minor due to adequate separation provided by deep rear yards on the interface sites. In most cases, there is substantial boundary vegetation providing an effective visual buffer between properties. Interface properties 8 and 10 Woonona Avenue, despite being surrounded by high density sites, are unlikely to experience any significant impacts. This is due to the limited development potential on their adjoining high density sites given the intensity of the existing development (to the west) and inefficient site configuration (to the south). Furthermore, the 2(d3) developments have been or can be designed and orientated to mitigate overlooking and overshadowing on neighbouring properties.

Precinct 2 contains three interface sites that are heritage listed. This includes 14 Woonona Avenue South, which has very minimal impact although sharing three common boundaries with high density sites. This is because these high density sites are either being developed as a park or unable to realise their full development potential due to strata titling. The other two heritage properties at Warwilla Street are identified as low impact sites as well because of the position of the dwellings in relation to the future 2(d3) development and the presence of some green buffer along the common boundaries.

Refer to Appendices 1 and 2 for detailed site assessment tables and maps for Precincts 1 and 2 respectively.

3.2 WAHROONGA: PRECINCT 3



Legend

- Interface
- High Density Residential

Interface sites that are located within Precinct 3 include:

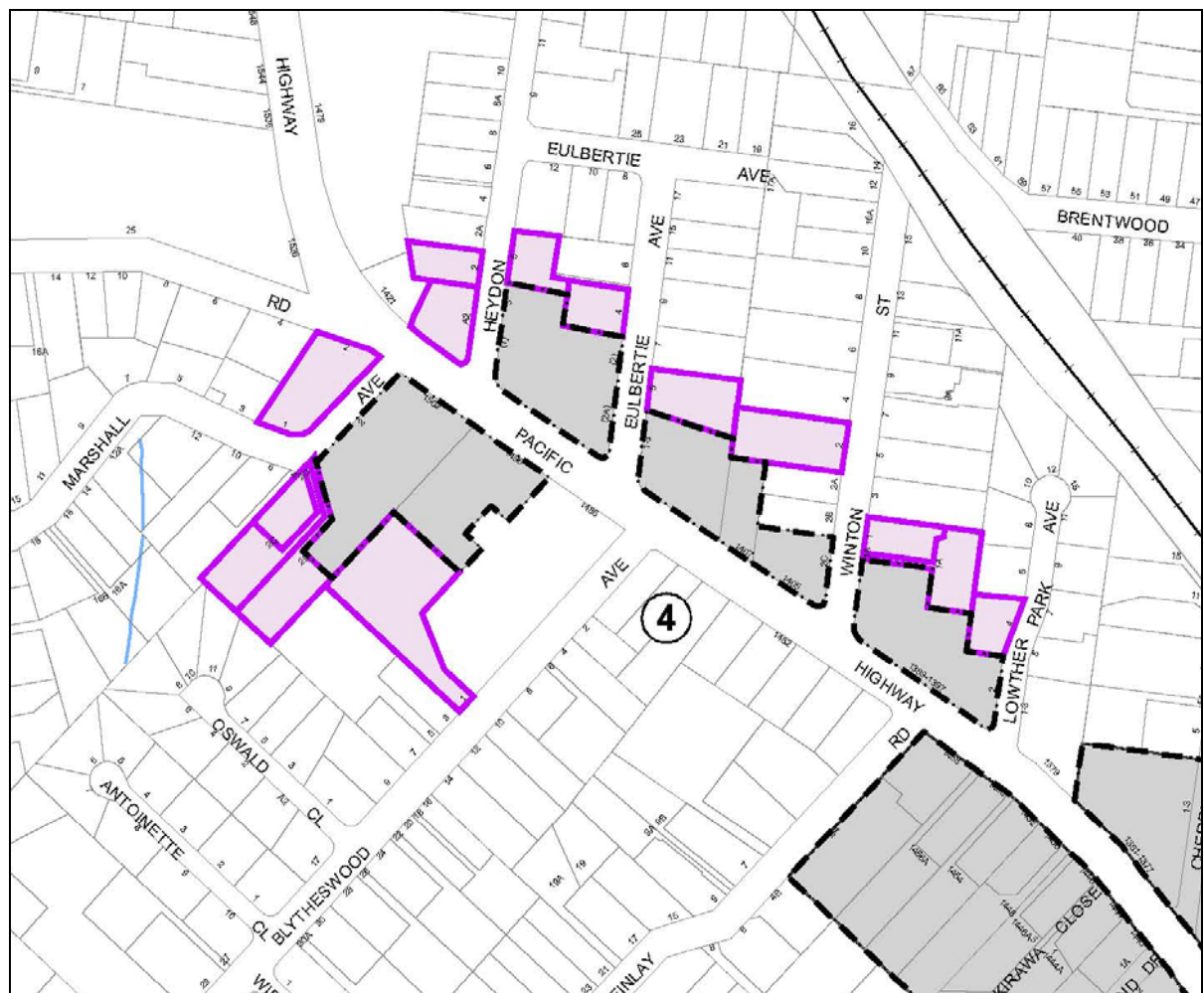
- 1578 Pacific Highway, Wahroonga
- 1574 Pacific Highway, Wahroonga
- 9A Gilda Avenue, Wahroonga
- 7, 9, 10 Rhonda Close, Wahroonga
- 2 Munderah Street, Wahroonga
- 2A, 2B Munderah Street, Wahroonga
- 4, 4A Munderah Street, Wahroonga
- 6, 6A, 8, 10 Munderah Street, Wahroonga

Precinct 3, to the west of the Pacific Highway, has a marked slope with high density development sitting adjacent to the Highway on the high land. This exacerbates the impact on the neighbouring sites that are located down slope of the high density development, and which share a common boundary with it. The low density sites that adjoin the high density site are mostly impacted to a significant level although the 2(d3) development has stepped down buildings towards the common boundaries. The

interface sites fronting Munderah Street, which are separated by road from the high density development, have a much lower impact due to sufficient distance and screening elements. The 2(d3) developments have also provided generous street setbacks for increased separation and buffer and / or lower built form along the street boundary thus reducing their overall impact when viewed from their opposite low density sites.

Refer to Appendix 3 for the detailed site assessment table and map for Precinct 3.

3.3 WARRAWEE: PRECINCT 4



Interface sites that are located within Precinct 4 include:

- 4 Lowther Park Avenue, Warrawee
- 1A Winton Street, Warrawee
- 1 Winton Street, Warrawee
- 2 Winton Street, Warrawee
- 5 Eulbertie Avenue, Warrawee
- 4 Eulbertie Avenue, Warrawee

- High density developments within Precinct 4 in Warrawee are focussed along the Pacific Highway. To the north of the Highway where the interface sites are located to the rear of the high density sites, the impact is generally greater due to lack of boundary screening and close proximity of the existing dwellings to the common boundaries.

Refer to Appendix 4 for the detailed site assessment table and map for Precinct 4.

Legend

- Interface
- High Density Residential

The map shows the proposed Warragul Highway running diagonally from the top left to the bottom right. The highway is shown as a dashed line. The map includes a legend and a scale bar. The map shows the proposed Warragul Highway and surrounding streets. The map highlights 'Interface' areas in pink and 'High Density Residential' areas in grey. The proposed highway is shown as a dashed line. The map includes a legend and a scale bar.

Interface sites that are located within Precincts 5 and 6 include:

Precinct 5

- 1187 Pacific Highway, Turramurra
- 8 Warrangi Street, Turramurra
- 10 Warrangi Street, Turramurra
- 12 Warrangi Street, Turramurra
- 14A Warrangi Street, Turramurra
- 3 Womerah Street, Turramurra
- 3A Womerah Street, Turramurra
- 5, 9, 11 Womerah Street, Turramurra
- 23, 25, 27, 29 Jersey Street, Turramurra

Precinct 6

- 10 Bobbin Head Road, Pymble
- 12A Bobbin Head Road, Pymble
- 2 Bannockburn Road, Pymble
- 3 Warrangi Street, Turramurra
- 1161 Pacific Highway, Pymble
- 1163 Pacific Highway, Pymble

High density developments in Precincts 5 and 6 are concentrated along the north-eastern side of the Pacific Highway, with the majority of interface sites being located to their rear. Despite the relatively flat terrain of the locality, these sites are generally moderately impacted caused by a lack of adequate separation and buffer. Interface sites located opposite high density development are less impacted as the road provides good separation and existing mature vegetation gives good screening to front gardens.

One of the anomalies in this area is the highly impacted heritage property at 1187 Pacific Highway. This is surrounded by high density sites and is effectively an isolated site, having no adjacent similar scale development. There are two other heritage-listed interface properties on the Highway that are impacted by high density developments. The property at 1161 Pacific Highway, in particular, is greatly compromised due to its small lot size and lack of screening and separation from the development which has no design features that reduce its towering effect over the heritage home. The adjacent heritage home, 1163 Pacific Highway, is also similarly impacted, although the presence of the road next to it somewhat reduces the impact of the opposite development. In a similar way the one interface site on Bannockburn Road has a much reduced impact due to the separation that Richard Porter Way provides and the unlikelihood of the redevelopment of the opposite 2(d3) site currently occupied by a service station.

Refer to Appendices 5 and 6 for detailed site assessment tables and maps for Precincts 5 and 6 respectively.

3.5 PYMBLE: PRECINCT 7



Legend

- Interface
- High Density Residential

Interface sites that are located within Precinct 7 include:

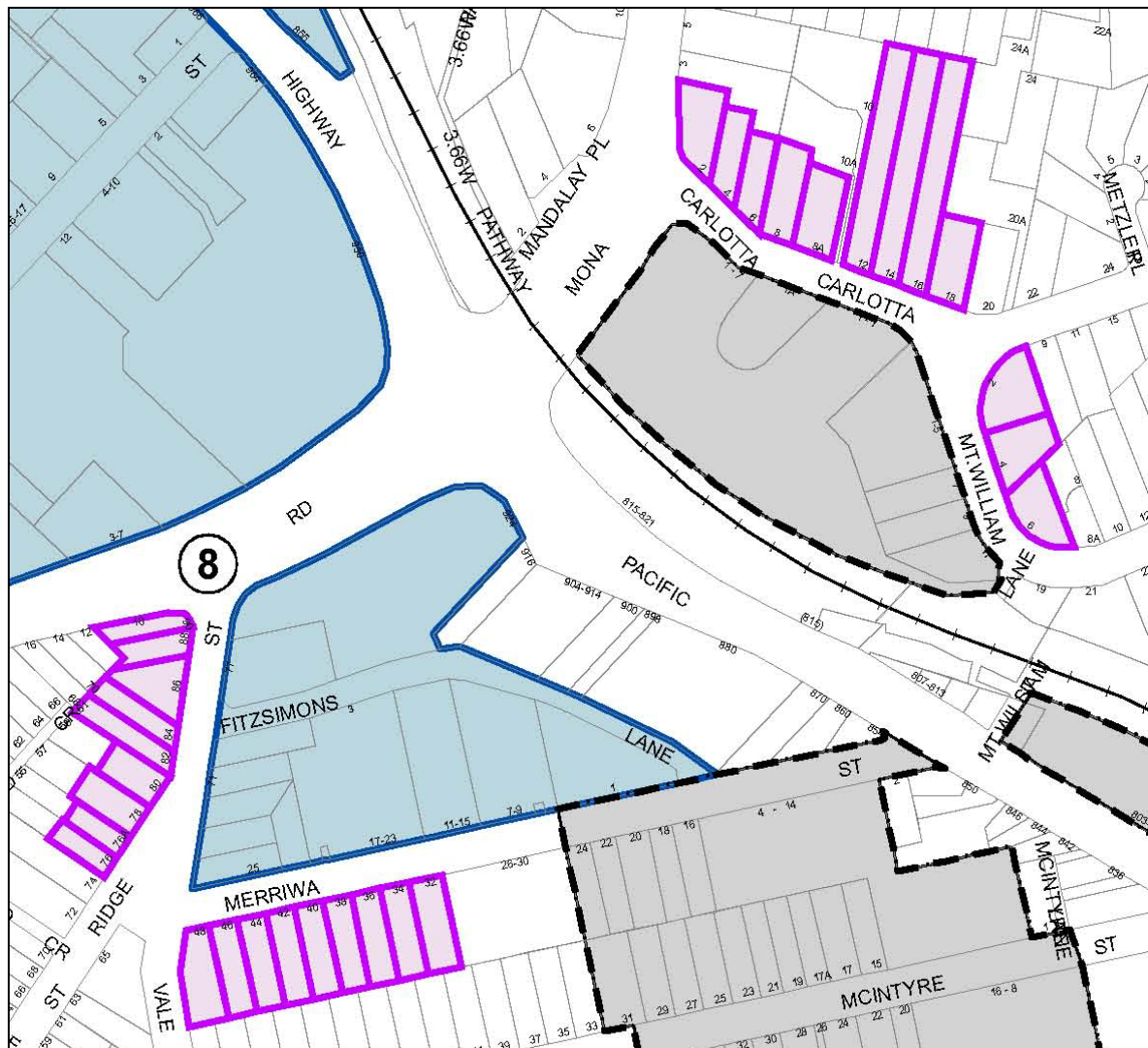
- 11 Avon Road, Pymble
- 15 Avon Road, Pymble
- 1A Arilla Road, Pymble
- 3, 5, 7, 9, 11 Arilla Road, Pymble
- 10 Mayfield Avenue, Pymble
- 8A Beechworth Road, Pymble
- 10A Beechworth Road, Pymble
- 10B, 10C Beechworth Road, Pymble
- 1A, 3, 5, 7 Beechworth Road, Pymble

Precinct 7 in Pymble is located to the south-west of the railway corridor with the high density development site sitting adjacent to that corridor. The interface sites are situated adjacent to and opposite this development.

This precinct is subject to an application under Part 3A of the Environmental Planning and Assessment Act which is currently under consideration of

the Department of Planning. In order to ensure a more accurate assessment, the potential impact of the development potential of the development site on the adjoining interface sites will be undertaken after the determination of the Part 3A application.

3.6 GORDON: PRECINCT 8



Legend

- Interface
- High Density Residential
- High Density Commercial

Interface sites that are located within Precinct 8 include:

- 32, 34, 36, 38, 40, 42, 44, 46, 48 Merriwa Street, Gordon
- 76, 76A, 78, 80, 82, 84, 86, 88, 90 Ridge Street, Gordon
- 2, 4, 6, 8, 8A, 12, 14, 16, 18 Carlotta Avenue, Gordon
- 2, 4, 6 Mt William Street, Gordon

The B7 – Business Park sites within Precinct 8 in Gordon, to the south-west of Pacific Highway, are earmarked for high density commercial development of 8 to 9 storeys

maximum. Despite the proposed new height, these developments will generally impose minimal impact to the surrounding low density residential sites due to adequate separation and buffer provided by the road and trees along sides. The exception to this are the sites located to the south of the B7 sites along Merriwa Street which are likely to be subjected to greater overshadowing and privacy impact given the site orientation and topography of the locality.

On the north-east side of the Highway, the impact from the high density (R4) sites on the neighbouring properties is considered minor, having a road separation and good green buffer.

Refer to Appendix 8 for the detailed site assessment table and map for Precinct 8.

3.7 KILLARA: PRECINCTS 9 AND 10



Legend

- Interface
- High Density Residential

Interface sites that are located within Precincts 9 and 10 include:

Precinct 9

- *5 Powell Street, Killara*
- *7 Powell Street, Killara*
- *9 Powell Street, Killara*
- *11 Powell Street, Killara*
- *12, 14, 16, 20 Powell Street, Killara*
- *23 Powell Street, Killara*
- *24 Powell Street, Killara*
- *4, 6, 8, 10, 12, 14, 16, 18 Greengate Road, Killara*
- *20, 22, 24, 26 Greengate Road, Killara*
- *33 Greengate Road, Killara*
- *35 Greengate Road, Killara*

Precinct 10

- *1 Locksley Street, Killara*
- *5 Locksley Street, Killara*
- *6A Locksley Street, Killara*
- *1 Maples Avenue, Killara (33 Werona Avenue, Killara)*
- *3 Maples Avenue, Killara*
- *19, 21 Marian Street, Killara*
- *6, 8, 10, 14 Lorne Avenue, Killara*
- *25A Werona Avenue, Killara*
- *21 Lorne Avenue, Killara*

In Killara, the interface sites located in the tract of land between the Highway and the railway corridor, within Precincts 9 and 10, have a range of levels of impact levels from the high density development. In general low impacted sites are located opposite the development sites with adequate separation and buffer provided by the road and trees. The exception to this are the sites backing onto the narrow Greengate Lane which does not provide sufficient separation to the dwellings' elevated rear facades, with their multiple windows and openings facing the Lane. Other low impacted sites are those located up slope of the high density development, generally with deep garden areas and good screening vegetation. Interface sites that have a medium to high impact generally have high density development surrounding them on two or more boundaries compromising the privacy and sun access of the dwelling. In particular, the heritage dwelling at 21 Lorne Avenue is completely surrounded by 2(d3) sites and will be significantly compromised by the adjacent high density developments in terms of overshadowing and overlooking.

Interface sites located to the east of the rail corridor vary in impact with the moderately to highly impacted sites generally being heritage sites that are located down slope or share a long common boundary with the high density site. Low impacted sites in this area are ones that have good separation and buffer to the development site by ways of roads, large gardens and screening vegetation, or have a relatively small common boundary with the development site.

Refer to Appendices 9 and 10 for detailed site assessment tables and maps for Precincts 9 and 10 respectively.

3.8 KILLARA: PRECINCTS 11, 12 AND 13



Interface sites that are located within Precincts 11, 12 and 13 include:

Precinct 11

- 1 Caithness Street, Killara
- 24 Marian Street, Killara
- 29, 33, 35, 37, 39 Marian Street, Killara
- 20 Marian Street, Killara
- 8A Buckingham Road, Killara
- 10 Buckingham Road, Killara
- 11 Buckingham Road, Killara

Precinct 12

- 2 Stanhope Road, Killara
- 4A Stanhope Road, Killara
- 6A Stanhope Road, Killara
- 10 Stanhope Road, Killara
- 14A Stanhope Road, Killara
- 16A Stanhope Road, Killara
- 18 Stanhope Road, Killara

- *20 Stanhope Road, Killara*
- *23, 25 Stanhope Road, Killara*
- *3 Arnold Street, Killara*
- *5 Arnold Street, Killara*
- *10 Culworth Avenue, Killara*
- *12 Culworth Avenue, Killara*

Precinct 13

- *2A Treatts Road, Lindfield*
- *10A, 12A, 14, 16A, 18, 20, 22 Treatts Road, Lindfield*
- *2 Killara Avenue, Killara*
- *3 Killara Avenue, Killara*
- *5 Killara Avenue, Killara*
- *1B Fiddens Wharf Road, Killara (512 Pacific Highway)*
- *1A Fiddens Wharf Road, Killara*
- *1 Stanhope Road, Killara*

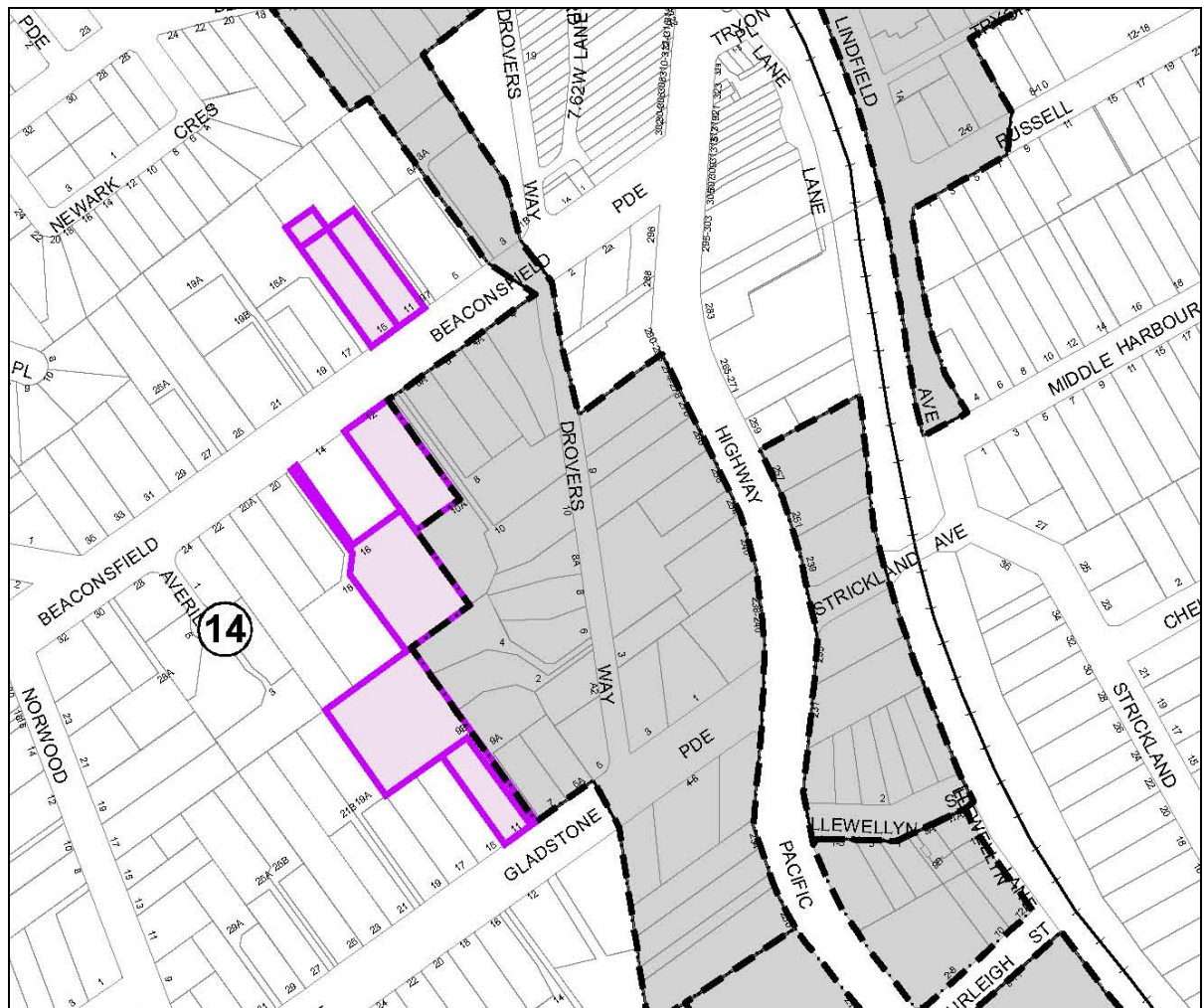
Within Precincts 11, 12 and 13 in Killara, the majority of the interface sites are located with the stretch of land between the Highway and the railway corridor. Low impacted sites are generally located across the road from the high density sites or contain deep gardens with good boundary screening. The interface sites with significant impact generally share two or more boundaries with high density sites. These include the heritage listed property at 1 Caithness Street.

The interface sites located to the west of Pacific Highway are generally highly impacted due to the steep slope away from the Highway placing the interface sites down slope from the high density developments. This creates a dichotomy of scale resulting in overlooking, and in some cases overshadowing impacts.

On the eastern side of the rail corridor, interface sites generally have minimal impact being separated from the high density development site by a road or access handle, except for the heritage site at 3 Arnold Street that is located down slope and share a long common boundary with the high density site.

Refer to Appendices 11, 12 and 13 for detailed site assessment tables and maps for Precincts 11, 12 and 13 respectively.

3.9 LINDFIELD: PRECINCT 14



Legend

- Interface
- High Density Residential

Interface sites that are located within Precinct 14 include:

- 9B Gladstone Parade, Lindfield
- 11 Gladstone Parade, Lindfield
- 12 Beaconsfield Parade, Lindfield
- 16 Beaconsfield Parade, Lindfield
- 11, 15 Beaconsfield Parade, Lindfield

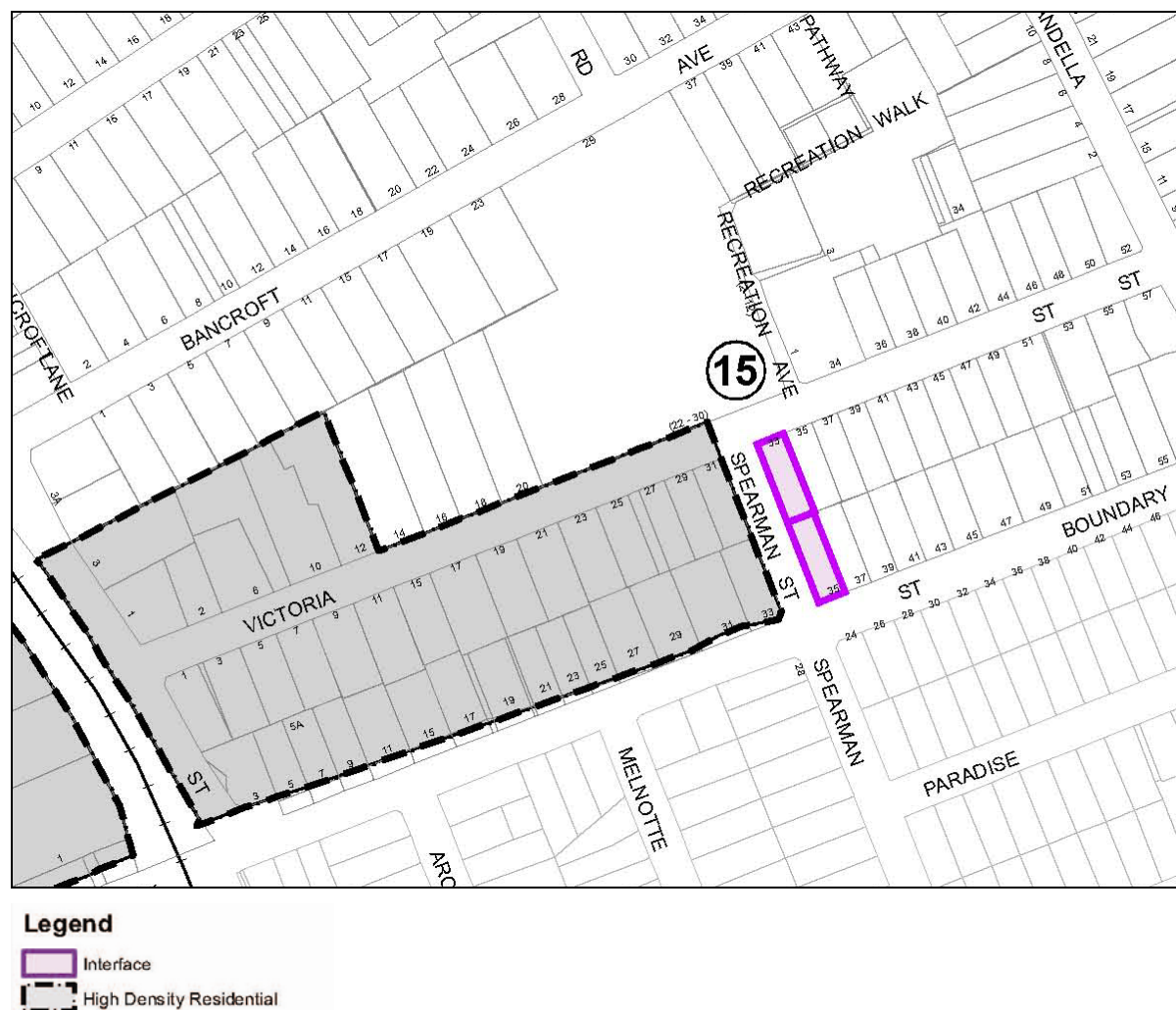
The interface issues are evident around the single dwelling area adjacent to the R4 sites bounded by Drovers Way, Beaconsfield Parade and Gladstone Parade which falls outside the Ku-ring-gai Planning Panel boundary. Particularly 11 Gladstone Parade, despite being separated from the high density site by an access handle, is the most adversely impacted site due to a lack of separation and buffer.

The slope away from the Highway placing the interface sites down slope from the high density developments. This has a potential to exacerbate the scale and amenity impact, however in most cases there is substantial vegetation along the common

boundaries mitigating any impact. The low impacted sites are located across the road from the high density site.

Refer to Appendix 14 for the detailed site assessment table and map for Precinct 14.

3.10 ROSEVILLE: PRECINCT 15



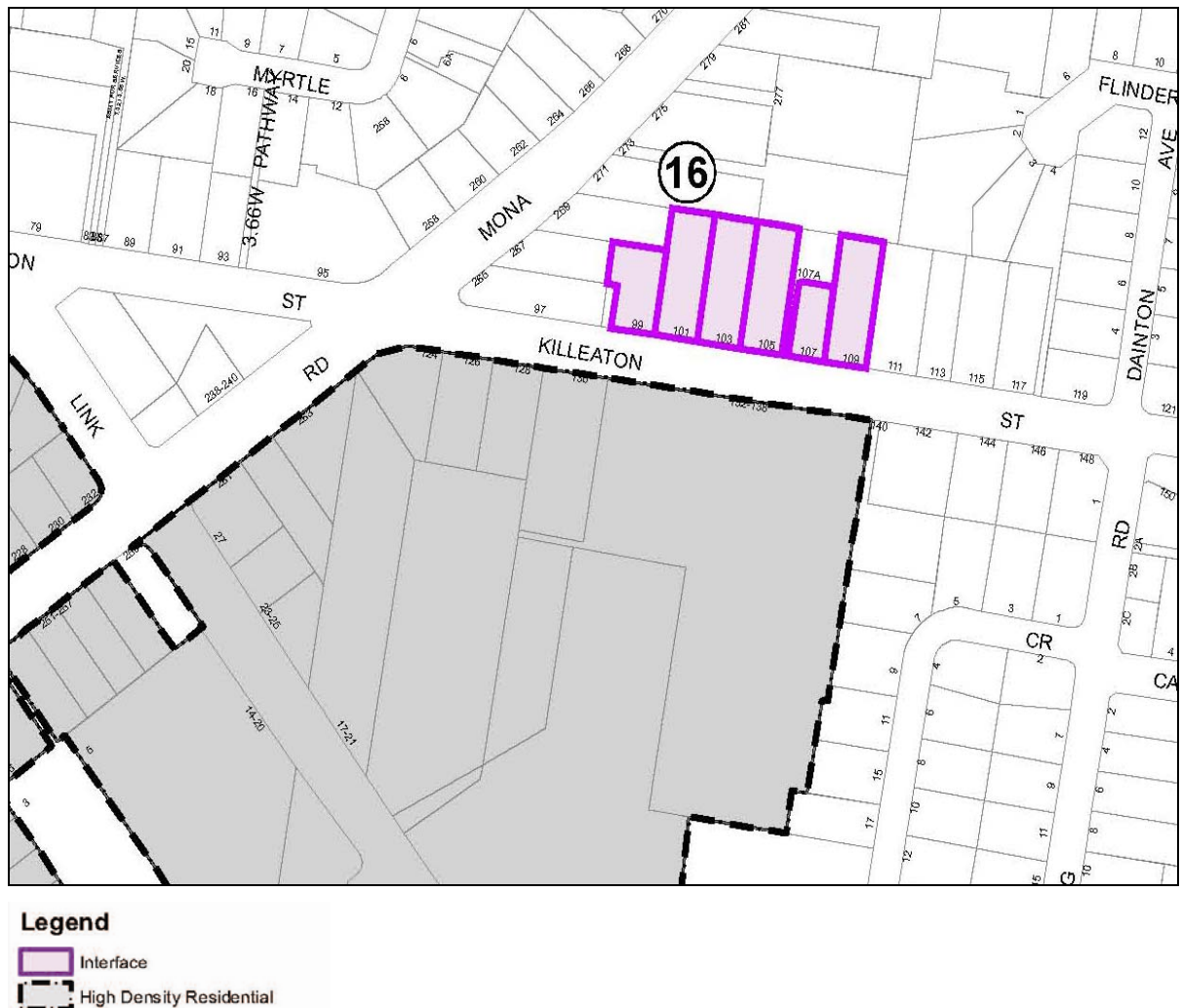
Interface sites that are located within Precinct 15 include:

- 35 Boundary Street, Roseville
- 33 Victoria Street, Roseville

Overall the interface issues are much less evident for Precinct 15 in Roseville compared to other precincts. The two interface properties that are opposite R4 sites within the Ku-ring-gai Planning Panel Area, have minimal potential interface impact given the road separation and some tree buffer.

Refer to Appendix 15 for the detailed site assessment table and map for Precinct 15.

3.11 ST IVES: PRECINCT 16



Interface sites that are located within Precinct 16 include:

- 99, 101, 103, 105, 107, 109 Killeaton Street, St Ives

Precinct 16 In St Ives contains a small group of interface properties which are located across a road from the R4 site. The new development will be screened by the heavy vegetation in front of the R4 site thus there is minimal potential interface impact.

Refer to Appendix 16 for the detailed site assessment table and map for Precinct 16.

4.0 PLANNING CONSIDERATIONS AND OPTIONS

4.1 PLANNING CONSIDERATIONS

For those interface sites that are identified with significant impact, further assessment of the sites in terms of their suitability for potential redevelopment will be undertaken during the next phase of the study. A series of key planning considerations (as below) will be taken into account in formulating an appropriate solution for each of the site.

4.1.1 HERITAGE AND HERITAGE CONSERVATION AREA

Heritage item

Special consideration will be given to heritage items at interface locations which are the subject of a re-assessment of their heritage status within the potential future context. A heritage item's loss of curtilage and setting from current or future adjacent higher density development warrants further assessment. This will be to ascertain the degree of impact on a heritage item's cultural significance and the ongoing viability of its use and future conservation.

Heritage Conservation Area

The boundaries of potential future heritage conservation areas should give consideration to the location of existing sites zoned for higher density development to provide interface zones which conserve the cultural significance and protect the visual setting and amenity of places within the heritage conservation area.

4.1.2 BIODIVERSITY, RIPARIAN AND BUSHFIRE

In considering the potential for the redevelopment of the interface site itself, the location and extent of any endangered ecological communities and the presence of waterways and buffers will be assessed to determine the extent to which they may constrain any up-zoning and redevelopment of the interface site. Bushfire will also be identified as a potential constraint.

4.1.3 STREETScape

In addition to amenity impact, Council has expressed concern about the impact of the existing streetscape due to the considerable difference in scale between the developments on high density and single residential sites, especially on the steep slopes.

In conjunction with Heritage Conservation Area study, further investigation will be undertaken to identify streetscape of significance or special characteristics to avoid any potential conflicts. It will also involve investigating the existing established streetscape character to help determine the future desirable character. It has been noted that some residential streets are undergoing transformation in terms of

streetscape with an increasing number of multi-unit developments and therefore it may be appropriate to consider rezoning the street to enable 'completion' of the streetscape.

4.1.4 TRANSFER OF IMPACT

In making the recommendations for rezoning, a major consideration will be given to ensure that any rezoning would not result in transferring any impact onto other adjoining properties. In most cases, rezoning and redevelopment of the interface sites would create an appropriate buffer between high density and single residential zones as well as provide a transition zone in terms of "stepping" of building heights.

4.1.5 SITE CONSIDERATIONS

The physical site conditions, such as land size, street frontage width and slope, will be examined to ensure the provision of efficient and feasible development. In some cases, additional sites adjacent to the interface properties may be included in the rezoning in order to satisfy the relevant planning instrument objectives and controls, particularly if a site is 'sandwiched' between (or sharing two or more common boundaries with) interface properties and is adjacent to an interface property with less than 1200m² site area and/or less than 20m street frontage width. This will facilitate site amalgamation for ensuring an improved site configuration for future development.

4.2 PLANNING OPTIONS

A range of planning options will be explored to provide effective mechanism in minimising the impact of high density development on the existing single dwellings. The proposed changes as part of the interface strategy will be incorporated into the draft Principal LEP.

4.2.1 ZONING TO R3 - MEDIUM DENSITY RESIDENTIAL

The main aspect of the R3 rezoning approach is to provide a hierarchy of medium density residential zone which would mitigate the scale of high density development where it adjoins dwelling houses, whilst having regards to the potential knock-on effect on adjoining properties. The R3 zone proposes townhouse development up to 3 storeys that act as a transitional development site. It does not permit the development of apartments. This zoning option would also assist in providing more diverse housing choice within the Ku-ring-gai local government area.

In general, the zoning approach will be guided by the following strategies based on sound planning and urban design principles:

- Provide transition zone by stepping down building height to the adjoining low density residential areas.
- Utilise roads as the boundary to a zone and as a buffer (to avoid further impacts); and
- Utilise heritage items as the boundary to a zone where the item is on a large property and has an adequate curtilage around it.

4.2.2 ZONING TO R4 – HIGH DENSITY RESIDENTIAL

In very limited cases, minor expansion of the High Density Residential R4 zone may be considered to avoid potential isolated site issue. This may apply to some of the sites left out from the LEP 194 rezoning process due to the heritage listing. In some circumstances rezoning the site but retaining the heritage listing may produce a greater curtilage to the heritage item as the development can be distributed to parts of the site where the impact can be reduced (such as the rear).

The R4 rezoning option may facilitate an orderly and feasible development by allowing amalgamation with the adjoining R4 sites. It may also allow future potential adaptive re-use of the heritage items.

4.2.3 ZONING TO OPEN SPACE

Open space/parkland may be used as an interface in situations where the site satisfies the locational criteria contained in Council's Open Space Acquisition Strategy. This approach would also be subject to funding availability and Council's adopted development contributions plan.

4.2.4 NO CHANGE TO ZONING

Subject to further investigation, rezoning may not be a practical option for a number of interface sites identified with significant impact which are deemed inappropriate for redevelopment based on the following issues and concerns, but not limited to:

- the presence of significant environmental constraints, such as vegetation or waterways with high and special ecological value within and around the interface site;
- potential conflict within proposed Heritage Conservation Area;
- possible transfer of interface problems with the rezoning or redevelopment due to significant slope in the area;
- potential streetscape impact in a single residential context.

In addition, zoning changes may not be recommended to those heritage items situated within the interface sites which have significant curtilage around it, especially in a heavily treed setting. This is consistent with the principles identified in Part 5.2.1 of the report that is to cease zone at the nearest heritage item that has an adequate curtilage around it.

5.0 NEXT STEPS

This study has been placed on public exhibition to seek community feedback on the findings of the impact assessment that has been conducted on the identified interface sites and on the planning considerations and options presented.

Stage two of the Interface Planning Study will examine the findings of this report and the community feedback, along with the outcomes of other planning strategies informing the Principal LEP, including the studies on the heritage conservation areas and heritage items, biodiversity, riparian and bushfire. Based on the integrated consideration of the findings of these studies, potential zoning changes and other planning mechanisms will be developed.

The results of this process will be reported back to Council as Stage 2 of the *Interface Planning Study*, including the recommendations on proposed zoning changes and other planning mechanisms to be used. This will in turn inform the drafting of the draft Principal LEP.

The community will then be notified again to provide feedback on the interface zonings as part of the formal exhibition of the draft Ku-ring-gai Principal Local Environmental Plan, which is expected to be exhibited in October 2011.